



November 2018
Seattle Aquarium Ocean Pavilion

Final Environmental Impact Statement

Prepared for City of Seattle Department of Parks and Recreation and Seattle Aquarium Society



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Final Environmental Impact Statement

Prepared for

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November 15, 2018

Dear Agencies, Tribal Governments, and Members of the Public,

The Seattle Aquarium Society (SEAS), in coordination with the City of Seattle Parks and Recreation Department (Seattle Parks and Recreation), is proposing the Seattle Aquarium Ocean Pavilion (Ocean Pavilion) to further its mission of Inspiring Conservation of our Marine Environment, accommodate an expected increase in future attendance, provide a continuous connection with the existing Seattle Aquarium, support programming, and offer opportunities for public open space and enjoyment of the shoreline.

On August 30, 2018, SEAS and Seattle Parks and Recreation issued a Washington State Environmental Policy Act (SEPA) Draft Environmental Impacts Statement (EIS) for the Ocean Pavilion. The Draft EIS evaluated three alternatives, including a No Action Alternative and two action alternatives, and included an analysis of potential impacts and mitigation measures for the proposed action. The Draft EIS comment period ended on October 1, 2018.

SEAS and Seattle Parks and Recreation is now issuing the Final EIS to document the final evaluation of the Ocean Pavilion under SEPA to assist decision-makers and permit authorities in assessing the environmental effects associated with the Preferred Alternative (Alternative 3). The Final EIS describes potential effects and mitigation measures for constructing and operating the Preferred Alternative and includes some minor clarifications and grammatical edits from the Draft EIS.

This Final EIS has been prepared and is being distributed in compliance with SEPA. No action will be taken based on this document for at least 7 days in accordance with SEPA and Seattle Municipal Code 25.05.460. Thank you for your interest in this exciting project.

Sincerely,

A handwritten signature in black ink that reads "Chris Williams".

Christopher Williams, Interim Superintendent
Seattle Parks and Recreation

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ABBREVIATIONS

ADA	Americans with Disabilities Act
AWPOW	Alaskan Way, Promenade, and Overlook Walk
AWVRP	Alaskan Way Viaduct Replacement Program
bgs	below ground surface
BMP	best management practice
City	City of Seattle
CSO	combined sewer overflow
DPS	distinct population segment
EBSP	Elliott Bay Seawall Project
Ecology	Washington State Department of Ecology
EIS	Environmental Impact Statement
ESU	evolutionarily significant unit
gpm	gallon per minute
LOS	Level of Service
Metro	King County Metro
MLLW	mean lower low water
NRHP	National Register of Historic Places
NPDES	National Pollutant Discharge Elimination System
NPGIS	non-pollutant generating impervious surface
Ocean Pavilion	Seattle Aquarium Ocean Pavilion
PCB	polychlorinated biphenyl
POTW	publicly owned treatment works
RCW	Revised Code of Washington
SDOT	Seattle Department of Transportation
SEAS	Seattle Aquarium Society
Seattle Parks and Recreation	City of Seattle Department of Parks and Recreation
SEPA	State Environmental Policy Act
SMC	Seattle Municipal Code
SPU	Seattle Public Utilities
SR	State Route
WAC	Washington Administrative Code
WHR	Washington Heritage Register
WSDOT	Washington State Department of Transportation
WSF	Washington State Ferries

FACT SHEET

Project Name

Seattle Aquarium Ocean Pavilion

Proposed Action

The proposed action would create a new building to the east of the existing Seattle Aquarium, which is located on Piers 59 and 60, and east of the future Waterfront Promenade. The proposed building would be adjacent to the City of Seattle's future Overlook Walk and would include approximately 48,000 gross square feet of public aquarium exhibits and associated support space. The proposed action would also include an off-site Animal Care Center to address both short- and long-term animal care, veterinary, and rehabilitation needs.

Project Proponent

Seattle Aquarium Society
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Seattle, Washington 98101

State Environmental Policy Act Lead Agency

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Department of Parks and Recreation
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Date of Issuance for the Final EIS

November 15, 2018

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Document Availability and Cost

The Final EIS is available online at: <https://www.seattleaquarium.org/planning>.

Printed copies of the Final EIS and supporting are available for review at no cost at the following locations:

Seattle Department of Construction and Inspections
Public Resource Center

700 Fifth Avenue, Suite 2000
Seattle, Washington 98124

Seattle Public Library, Central Library
1000 Fourth Avenue
Seattle, Washington 98104

Additional copies may be purchased for the cost of reproduction (email opeiscomments@seattleaquarium.org).

Permits and Approvals

- Clean Water Act Section 402 National Pollutant Discharge Elimination System (NPDES) Construction Stormwater General Permit (Washington State Department of Ecology [Ecology])
- NPDES Industrial Wastewater Discharge Permit (Ecology, if required)
- Master Use Permit with Shoreline Substantial Development component (City of Seattle)
- Building Permit (City of Seattle)
- Term Permit (Seattle City Council)
- Street Use Permit (City of Seattle)
- Seattle Design Commission review (City of Seattle)

Related Documents

Background data and materials used for this Final EIS are listed in Section 5. Key documents used in this analysis include the following:

- Seattle Department of Transportation (SDOT) Alaskan Way, Promenade, and Overlook Walk Draft EIS (SDOT 2015a), Supplemental Draft EIS (SDOT 2016a), Final EIS (SDOT 2016b), and appended discipline reports
 - Documents available at: <https://waterfrontseattle.org/environmental>
- Washington State Department of Transportation Alaskan Way Viaduct Replacement Program environmental documentation, including Draft EIS (WSDOT 2004), two Supplemental Drafts (WSDOT 2006, 2010), Final EIS (WSDOT 2011), and appended discipline reports
 - Documents available at: <http://www.wsdot.wa.gov/Projects/Viaduct/Library/Environmental>
- SDOT Elliott Bay Seawall Project Draft EIS (SDOT 2012), Final EIS (SDOT 2013a), Draft Supplemental EIS (SDOT 2013b), Final Supplemental EIS (SDOT 2014), and appended discipline reports
 - Documents available at: <https://waterfrontseattle.org/seawall>

Environmental Review

The Seattle Aquarium Society, in coordination with City of Seattle Department of Parks and Recreation, published the Draft EIS on August 30, 2018. The Draft EIS public comment period was held from August 30 to October 1, 2018. A public hearing was held on September 27, 2018. Responses to comments received during the public comment period are appended to this Final EIS.

Authors and Principal Contributors

The list of authors and principal contributors can be found in Section 6.



Executive Summary

Introduction

The Seattle Aquarium Society (SEAS), in coordination with the City of Seattle Parks and Recreation Department (Seattle Parks and Recreation), is proposing the Seattle Aquarium Ocean Pavilion (Ocean Pavilion) to further its mission of *Inspiring Conservation of our Marine Environment*, accommodate an expected increase in future attendance, provide a continuous connection with the existing Seattle Aquarium and support programming, and offer opportunities for public open space and enjoyment of the shoreline.

This Washington State Environmental Policy Act (SEPA) Environmental Impact Statement (EIS) has been prepared to evaluate a range of alternatives for the proposed Ocean Pavilion. The proposed Ocean Pavilion would be located along Seattle's central waterfront, just east of the existing Seattle Aquarium facilities on Piers 59 and 60 (Figure ES-1). The proposed action also includes an off-site Animal Care Center, which may be located on Harbor Island at the former Fisher Flour Mill or a similar facility, to address both short- and long-term animal care and veterinary and rehabilitation needs, and to meet the Association of Zoos and Aquariums' standards. The Animal Care Center would support the objectives of the proposed action by providing necessary animal care for ongoing and future Seattle Aquarium exhibits and programs.



**Figure ES-1
Vicinity Map**

As the SEPA lead agency, Seattle Parks and Recreation had initially determined during scoping that this proposed action would likely have a significant adverse impact on the environment. Therefore, this EIS has been prepared to meet the SEPA procedural requirements outlined in Revised Code of Washington Chapter 43.21C and Seattle Municipal Code (SMC) Chapter 25.05. SEPA requires lead agencies to evaluate how the proposed action would be implemented, along with the potential impacts and mitigation that could result from the implementation of the action alternatives and the No Action Alternative, prior to making a project decision. Existing environmental documents are incorporated by reference, to the extent practicable, to support the evaluation of proposed actions, alternatives, or environmental impacts, consistent with SMC 25.05.600 and Washington Administrative Code (WAC) 197-11-635. The construction of an “Aquarium Pavilion” was reviewed by the City of Seattle (City) as part of the Alaskan Way, Promenade, and Overlook Walk (AWPOW) SEPA EIS (SDOT 2016a, 2016b). Information and analysis from the AWPOW EIS is incorporated by reference into the analysis and findings of this EIS, in accordance with the previously referenced regulations.

Based on a technical evaluation of the alternatives that occurred after scoping, the Draft EIS indicated that no significant adverse impacts are anticipated to occur from the proposed action. This was confirmed at the conclusion of the Draft EIS public comment period, based on the nature of comments received. According to SMC 25.05.440(E) and WAC 197-11-440(6)(a), elements of the environment that are not significantly affected do not need to be evaluated. However, Seattle Parks and Recreation and SEAS believe that it is important to provide this information to decision-makers and the public.

Background

The Seattle Aquarium opened on May 20, 1977, and was initially owned and operated by Seattle Parks and Recreation. SEAS assumed management and operations of the Seattle Aquarium in 2010 under an agreement with Seattle Parks and Recreation. Since then, Seattle Parks and Recreation has continued to provide design support and funding to SEAS for expansion of the Seattle Aquarium through subsequent agreements, including the east end renovation of the shell and core of Pier 59 in 2007 and the replacement of piling and decking on the finger pier of Pier 60 in 2014.

The proposed Ocean Pavilion represents a culmination of recent master planning efforts, starting in 2014, in coordination with the City. This refined concept is based on outreach to tribes, regulatory agencies, and the affected community and results in a reduced level of impacts as compared to previous Seattle Aquarium overwater expansion planning efforts. The Ocean Pavilion is being proposed as a separate and independent project from Waterfront Seattle, including the AWPOW projects, and other ongoing projects. However, the proposed action is intended to anchor these projects and reconnect the city with Puget Sound and its central waterfront.

Proposal Objectives

The following Ocean Pavilion objectives will be used as the basis for evaluating the alternatives:

- Accommodate a 40% increase in expected attendance and visitors, which requires an approximately 48,000-square-foot building and pedestrian and Americans with Disabilities Act (ADA) pathways
- Provide a continuous connection with the existing Seattle Aquarium to facilitate movement of visitors, volunteers, and staff, and to support Seattle Aquarium programming

- Provide opportunities for public open space and enjoyment of the shoreline
- Create a space that supports the Seattle Aquarium’s mission of *Inspiring Conservation of Our Marine Environment* and provides the public with a global ocean experience

Community, Agency, and Tribal Engagement

Seattle Parks and Recreation and SEAS issued a Determination of Significance and Scoping Notice for the Ocean Pavilion on May 7, 2018. As part of the scoping process, Seattle Parks and Recreation and SEAS invited comment from agencies, tribal governments, and members of the public during the scoping period (May 7 to May 28, 2018). During this time, interested parties were encouraged to provide input on the EIS scope relating to the objectives, range of alternatives, probable significant adverse impacts, and elements of the affected environment to be analyzed in this EIS. A public scoping meeting was held on May 24, 2018, which included a presentation introducing the proposed action, informational poster boards, and comment forms and boxes. SEAS also conducted individual outreach to parties in the community to discuss the proposed action.

The Draft EIS was published on August 30, 2018. A notice of availability for the Draft EIS and public hearing was published in accordance with the Draft EIS issuance and public notice procedures per SMC 25.05.455 and 25.05.510. The Draft EIS public comment period was held from August 30 to October 1, 2018. A public hearing was held on September 27, 2018, which included a presentation describing the Draft EIS process and results, informational poster boards, and comment forms and boxes. SEAS, Seattle Parks and Recreation, and consultant staff were available to take comments and answer questions. A court reporter was also present to record public comments.

Tribal outreach included notification to local tribes during scoping as well as Draft EIS and Final EIS outreach efforts. In addition, SEAS has engaged a consultant team focused on tribal engagement for the design and refinement of the proposed action.

Alternatives Evaluated

Development of Alternatives

In 2015, SEAS published a master plan showing design concepts that included renovating Pier 59, renovating and expanding Pier 60 over water, and introducing a Seattle Aquarium facility aligned with the future Overlook Walk—the City’s planned pedestrian bridge between the Seattle waterfront and Pike Place Market (SEAS 2015). The range of potential action alternatives for the Ocean Pavilion were refined during and after development of the 2015 master plan and are based on the results of scoping.

The following three alternatives have been evaluated in this EIS:

- Alternative 1: No Action Alternative
- Alternative 2
- Alternative 3

Alternative 1: No Action Alternative

Under Alternative 1 (No Action Alternative), the Ocean Pavilion would not be built. However, conditions in the area would be different from those that exist at the time this EIS is published (2018). The analysis for the No Action Alternative is based on the expected conditions in 2030, which is the year used for the assessment of future conditions. The following major changes are assumed to be in place under the No Action Alternative:

- The AWPOW projects identified in the preferred alternative within the AWPOW EIS would be completed. The AWPOW projects would continue to be refined through the Office of the Waterfront and Civic Projects' design process.
- The Alaskan Way Viaduct Replacement Program (AWVRP) would be completed, with the viaduct eliminated and the State Route 99 tunnel in operation.
- The Elliott Bay Seawall Project (EBSP) would be completed.
- Ongoing public and private development projects that are currently being permitted through the Seattle Department of Construction and Inspections would be completed, with an additional projected baseline growth of 1% per year.

A description of the AWPOW's selected preferred alternative is included in Section 2.3 of the AWPOW EIS (SDOT 2016a and 2016b). The main difference between the two proposals is that the No Action Alternative for the Ocean Pavilion does not include construction of the "Aquarium Pavilion," which was one option described as part of the AWPOW's preferred alternative. Descriptions of the AWVRP and EBSP are included in Section 2.2 of the AWPOW EIS (SDOT 2016a, 2016b).

Office of the Waterfront and Civic Projects' Potential Design Refinements

As stated previously, the AWPOW projects would continue to be refined through the Office of the Waterfront and Civic Projects' design process. As of the publication of this EIS, the conceptual design of the Overlook Walk lid (or bridge) connecting the waterfront to Pike Place Market over Elliott Way would be narrower (90 feet versus 190 feet) and higher (50 feet versus 40 feet) than the design in the AWPOW EIS. In addition, Building B would be replaced by a smaller one-story building with a covered outdoor café and seating area on its roof. Public stairs and elevators would maintain connections from the Overlook Walk to the waterfront. These refined conditions were used in assessing the range of impacts of the action alternatives as compared to No Action Alternative and potential design refinements.

Action Alternatives

Alternative 2

Alternative 2 includes the Ocean Pavilion concept evaluated as one option for the preferred alternative under the AWPOW EIS (referred to as the "Aquarium Pavilion" in the AWPOW EIS).

Alternative 3

The Ocean Pavilion concept in Alternative 3 would be located farther south from Pine Street than Alternative 2, with closer connections to the existing Seattle Aquarium facility, enhanced public access and views of the water, and better integration with the future Overlook Walk design refinements.

Preferred Alternative Selection

Seattle Parks and Recreation and SEAS have selected Alternative 3 as the preferred alternative. The Ocean Pavilion design best meets the objectives with the least environmental impacts during construction and in the long term.

As compared to the other alternatives, Alternative 3 provides closer connections to the existing Seattle Aquarium, enhanced public access and views of the water, and better integration with the future Overlook Walk design refinements.

Comparison of Action Alternatives

Table ES-1 provides a comparison of the action alternatives based on orientation, height, floors, dimensions, façade, rooftop public open space, and public circulation.

Table ES-1
Comparison of Design Features for Alternative 2 and Alternative 3

Feature(s)	Alternative 2	Alternative 3
Orientation	<ul style="list-style-type: none"> The Ocean Pavilion would be located farther north toward Pine Street than Alternative 3, resulting in a greater distance from the entrance to the existing Seattle Aquarium entrance, thereby slightly reducing accessibility for visitors, volunteers, staff, and Seattle Aquarium programs compared to Alternative 3. The north and westward orientation of the Ocean Pavilion from the future Overlook Walk would constrict the public open space between the building and Pier 60, Piers 62/63, and the Elliott Bay shoreline. 	<ul style="list-style-type: none"> The Ocean Pavilion would be located farther south from Pine Street than Alternative 2, resulting in a shorter distance from the entrance to the existing Seattle Aquarium entrance, thereby improving accessibility for visitors, volunteers, staff, and Seattle Aquarium programs compared to Alternative 2. The orientation of the Ocean Pavilion would provide additional public open space between the building and Pier 60, Piers 62/63, and the Elliott Bay shoreline, including space to provide a wider stairwell in the future Overlook Walk design.
Height	The 40-foot building height would provide partially obstructed public views of Elliott Bay from the rooftop.	The 50-foot building height would provide unobstructed public views of Elliott Bay from the rooftop.
Floors	The Ocean Pavilion would have three aboveground floors and one basement floor.	Same as Alternative 2 with a smaller basement floor
Dimensions	48,000 gross square feet; approximately 165 feet long and 140 feet wide (at maximum, width varies); basement approximately 26,100 square feet (0.6 acre)	48,000 gross square feet; approximately 180 feet long and 106 feet wide (at maximum, width varies); basement approximately 17,400 square feet (0.4 acre)
Façade	Various façades, with reinforced concrete for the structural components of the building	Same as Alternative 2
Rooftop Public Open Space	<ul style="list-style-type: none"> The rooftop public open space would be approximately 13,100 square feet (0.3 acre). The roof would include limited landscaping. 	<ul style="list-style-type: none"> The rooftop public open space would be approximately 17,400 square feet (0.4 acre). The roof would include approximately 3,500 square feet of landscaped area.
Public Circulation	<ul style="list-style-type: none"> An interior public elevator and stairs (accessible from the exterior of the building) would be located on the exterior of the southwest corner of the Ocean Pavilion building. 	<ul style="list-style-type: none"> A public elevator and stairs would be located on the exterior of the southeast corner of the Ocean Pavilion building. Additional interior elevator(s) would be provided for visitor access in the Ocean Pavilion (for ticketed guest use only).

Feature(s)	Alternative 2	Alternative 3
	<ul style="list-style-type: none"> The public elevator and south stairs would provide a direct connection from the Aquarium Plaza and promenade to the Elliott Bay shoreline, while the north stairs would connect the Pike Place Market to Elliott Bay. Direct views to the water from the public stairs may be blocked by the Ocean Pavilion building. 	<ul style="list-style-type: none"> The exterior public elevator would be more visible than Alternative 2, and both the elevator and stairs would connect directly to the new public open space created by the Ocean Pavilion roof as well as the sidewalk on the west side of the new Alaskan Way, adjacent to the plaza and promenade, near the Elliott Bay shoreline. Direct views to the water from the exterior public elevator and stairs would be provided.

Off-Site Animal Care Center for Alternatives 2 and 3

As previously described, an off-site Animal Care Center is proposed to address both short- and long-term animal care, veterinary, and rehabilitation needs and to meet the Association of Zoos and Aquariums' standards. The most immediate need is to provide necessary animal care to support the opening of the Ocean Pavilion and the turtle rehabilitation program. The Animal Care Center would also be a long-term care facility that supports SEAS' exhibit animal population, animal rehabilitation, and research efforts.

The Animal Care Center would be designed to meet peak animal care demand for the Seattle Aquarium exhibits and programs. The center is intended to meet the care needs of both warm- and cold-water fish, birds and mammals, and rehabilitating animals. The center would also provide long-term care, including life support systems, with flexibility in the design to accommodate future needs.

Alternatives Considered but Not Carried Forward

As part of the 2014-2015 Seattle Aquarium master planning process, expansion alternatives included two overwater options (north and south of the Seattle Aquarium facilities) and one upland location. All of the alternatives were determined to offer sufficient site area to accommodate future growth. However, the overwater options were not carried forward due to the permitting challenges, cost and complexity of in-water construction, and potential impacts on the aquatic environment. Additionally, SEAS determined that an expansion at the south location could affect views of Elliott Bay and the Olympic Mountains from Waterfront Park. The overwater options were also determined to be inconsistent with the objective of providing increased opportunities for public open space.

SEAS also considered alternatives to expand the Seattle Aquarium facilities off site from the Seattle central waterfront location. It was determined through the alternatives evaluation process that constructing the Ocean Pavilion, or a similar building, at an off-site location would break up the campus and be inconsistent with the objective of providing a continuous connection with the existing Seattle Aquarium to facilitate movement of visitors, volunteers, and staff, and to support Seattle Aquarium programming.

Summary of Impacts and Mitigation

Table ES-2 provides a summary of construction, long-term, and cumulative benefits and impacts for the three alternatives. These impacts are described in more detail following the table.

Table ES-2
Summary of Construction, Long-Term, and Cumulative Benefits and Impacts for Alternatives

Element of the Environment	Type of Impact	Alternative 1: No Action	Alternative 2	Alternative 3	Comparison of Alternatives
Transportation and Parking	Construction	No Adverse Impact	Minor to Moderate Impact	Minor to Moderate Impact	No substantive difference
	Long-Term	No Adverse Impact ¹	Minor Impact	Minor Impact	No substantive difference
	Cumulative	No Adverse Impact	Minor Impact ²	Minor Impact ²	No substantive difference
Land Use	Construction	No Adverse Impact	Minor Impact	Minor Impact	No substantive difference
	Long-Term	No Adverse Impact ¹	Minor Benefit	Minor Benefit	<p>As compared to Alternative 2, Alternative 3 would:</p> <ul style="list-style-type: none"> • Further the goals of applicable land use plans and policies (such as increased multimodal connectivity, open space, and recreation) to a greater degree • Provide unobstructed public views (versus partially obstructed) of Elliott Bay over Pier 59, preserving views of the water consistent with policies and goals of the City's Comprehensive Plan • Provide improved access to Pike Place Market from the waterfront to a greater degree, because pedestrian access would have a more level connection with the Overlook Walk and a more visible elevator connection • Include more landscaping on the Ocean Pavilion roof
	Cumulative	No Adverse Impact	Minor Impact ² / Minor Benefit	Minor Impact ² / Minor Benefit	No substantive difference
Aesthetics and Scenic Resources	Construction	No Adverse Impact	Moderate Impact	Moderate Impact	No substantive difference
	Long-Term	Moderate Benefit ³	Minor Impact	Minor Impact	<ul style="list-style-type: none"> • SEPA-protected views of the downtown skyline to the north from Waterfront Park's adjacent sidewalk may be affected for both action alternatives, but SEPA-protected views of Puget Sound from Victor Steinbrueck Park will not be affected. • As compared to Alternative 3, Alternative 2 would obstruct slightly less of the view of the water and background landforms from viewpoints looking west. Alternative 3 will provide unobstructed public views of Elliott Bay from the rooftop and better visual integration within the Overlook Walk.
	Cumulative	No Adverse Impact	Minor Impact	Minor Impact	No substantive difference

Element of the Environment	Type of Impact	Alternative 1: No Action	Alternative 2	Alternative 3	Comparison of Alternatives
Historic and Archaeological Resources	Construction	No Adverse Impact	Minor to Moderate Impact	Minor to Moderate Impact	As compared to Alternative 2, Alternative 3 has slightly less potential for disturbance due to the reduced horizontal footprint of the basement and reduced potential disturbance of archaeological resources during construction.
	Long-Term	No Adverse Impact ¹	No Adverse Impact	No Adverse Impact	No substantive difference
	Cumulative	No Adverse Impact	Minor to Moderate Impact ²	Minor to Moderate Impact ²	No substantive difference
Water Quality	Construction	No Adverse Impact	Minor Impact	Minor Impact	No substantive difference
	Long-Term	No Adverse Impact	No Adverse Impact	No Adverse Impact	No substantive difference
	Cumulative	No Adverse Impact	Minor Impact ²	Minor Impact ²	No substantive difference
Fish and Aquatic Resources	Construction	No Adverse Impact	Minor Impact	Minor Impact	No substantive difference
	Long-Term	No Adverse Impact	No Adverse Impact	No Adverse Impact	No substantive difference
	Cumulative	No Adverse Impact	Minor Impact ²	Minor Impact ²	No substantive difference

Notes:

1. No additional adverse impacts beyond what was previously analyzed in the AWPOW EIS
2. Minor cumulative effects would be temporary during construction, due to ongoing construction projects occurring in the area. With the implementation of best management practices during Alternative 2 or 3 construction, these effects are anticipated to be minor.
3. Alternative 1 would maintain public open space and access consistent with the goals of applicable land use plans and policies, as analyzed in the AWPOW EIS.

Transportation and Parking

Construction

Under Alternative 1: No Action Alternative, the Ocean Pavilion would not be constructed and no construction activities would occur. Therefore, no adverse impacts on transportation and parking related to construction from Alternative 1 are anticipated. Construction of the Ocean Pavilion under either action alternative is anticipated to have minor to moderate impacts related to truck trips, construction employee trips and parking, and short-term lane or sidewalk closures during some construction activities. Because estimates are preliminary, impacts are conservatively high. Construction activities associated with the Animal Care Center would generate a small number of trucks that would be spread out and would not have a noticeable effect on traffic operations. Construction-generated parking needs for the Animal Care Center would be accommodated on site and would not result in adverse impacts.

For the action alternatives, the contractor would be required to develop and implement a Construction Management Plan to avoid and minimize impacts.

Long Term

Alternative 1 would have no additional transportation or parking impacts beyond what was previously analyzed in the AWPOW EIS. For the action alternatives, minor impacts on transportation or parking are anticipated from operation of the Ocean Pavilion and off-site Animal Care Center. The additional vehicle trips generated by additional visitors to the Ocean Pavilion are projected to add a small amount of average delay to some intersections, but are not expected to change their overall level of service.

New visitors and employees would generate additional parking demand. Parked vehicles generated by Seattle Aquarium visitors would be spread throughout the day and would not all be parked at the same time. With the additional parking demand generated by either of the action alternatives, the Pike Place Market Garage is expected to have more than 300 spaces available throughout the weekday to accommodate demand generated by increased visitors and employees. It is expected that additional visitors to the Ocean Pavilion would also generate parking demand at other private and public lots and garages throughout downtown (as visitors often include a visit to the Seattle Aquarium with visits to other downtown attractions), but there is ample capacity to accommodate the expected increases. Additional pedestrians, bicyclists, and transit riders would be accommodated by improvements planned by the AWPOW to support those modes of travel. The action alternatives would be designed in accordance with the City's standards for bus loading and truck deliveries; no adverse impacts related to loading are anticipated from the Ocean Pavilion.

No significant long-term transportation or parking impacts are anticipated to result from Alternatives 1, 2, or 3; therefore, no mitigation is proposed.

Land Use

Construction

Under Alternative 1: No Action Alternative, the Ocean Pavilion would not be constructed and no construction activities would occur. Therefore, no adverse impacts on land use related to construction from Alternative 1 are anticipated. For construction of the Ocean Pavilion building, the action alternatives would have minor impacts due to effects associated with noise, dust, congestion, loss of parking, and access. The Animal Care Center would have no adverse impacts on land use given the minimal construction activity and industrial setting.

Mitigation measures for construction impacts would include maintaining access to businesses and recreational facilities, communicating with residents, businesses, and stakeholders, and applying measures developed for other environmental topics, such as controlling noise, light and glare, and dust.

Long Term

No long-term adverse impacts on land use are anticipated from any of the alternatives. Alternative 1 would maintain public open space and access consistent with the goals of applicable land use plans and policies as analyzed in the AWPOW EIS. The action alternatives are anticipated to provide minor long-term benefits because the Ocean Pavilion would increase educational opportunities, multimodal connectivity, and open space and recreation, and support anticipated land uses in the area. Alternative 3 would have slightly more benefit because it preserves unobstructed public views of Elliott Bay (versus partially obstructed in Alternative 2) and would also provide improved access to the Pike Place Market from the waterfront to a greater degree than Alternative 2 because pedestrian access would have a more level connection with the Overlook Walk and a more visible elevator connection.

Under both action alternatives, public right-of-way would be reduced because the Ocean Pavilion would occupy a greater extent of the Aquarium Plaza space. However, both action alternatives would provide additional public open space on the roof of the Ocean Pavilion, which is a partially dedicated right-of-way. Therefore, no land use or access restrictions related to public space are identified with the action alternatives.

The operation of the Animal Care Center would continue industrial uses of Harbor Island and is consistent with land use plans and policies and would not convert or restrict land use.

No significant long-term land use impacts are anticipated to result from Alternatives 1, 2, or 3; therefore, no mitigation is proposed.

Aesthetics and Scenic Resources

Construction

Under Alternative 1: No Action Alternative, the Ocean Pavilion would not be constructed and no construction activities would occur. Therefore, no adverse impacts on aesthetics and scenic resources related to construction from Alternative 1 are anticipated.

For the action alternatives, moderate construction-related impacts are anticipated from construction equipment, temporary facilities and staging, soil/dust/exhaust, temporary lighting, and traffic pattern changes. Additionally, SEPA-protected views of portions of the city skyline and Puget Sound from Waterfront Park's adjacent sidewalk and Victor Steinbrueck Park may be affected by the construction of the building and construction equipment (e.g., crane) depending on the height and location of equipment. Because changes to the Animal Care Center are all interior to an existing building, no visual impacts are anticipated to occur during construction.

Mitigation measures to avoid or minimize construction-related impacts for the action alternatives could include the following:

- Protecting visual resources through the development of a Construction Screening Plan, which could include integrating temporary public artwork murals and select windows into construction areas to provide an attractive screen and opportunities for interested parties to observe construction progress
- Limiting nighttime construction activities and thus lighting, and considering light barriers or directing lighting away from residential buildings that could be disturbed by glare

Long Term

No long-term impacts are anticipated from Alternative 1: No Action Alternative beyond those analyzed in the AWPOW EIS, although moderate benefits to the general public are anticipated from increasing the visual quality of existing important views of the water, sky, and background landforms.

SEPA-protected views of the downtown skyline (to the north) from Waterfront Park's adjacent sidewalk may be affected for both action alternatives, but SEPA-protected views of Puget Sound from Victor Steinbrueck Park will not be affected. Minor long-term impacts from the two action alternatives are anticipated from slight impacts on visual quality, which would be most pronounced from viewpoints looking south or looking east, due to the Ocean Pavilion building projecting out from the Overlook Walk. The potential difference in height of the Ocean Pavilion in the action alternatives may result in impacts to public views of the water and background landforms from viewpoints looking west; though again, no SEPA-protected views of Puget Sound from Victor Steinbrueck Park will be affected. For Alternative 3, the building would have better visual integration with the Overlook Walk to a much greater degree compared to Alternative 2.

Alternative 3's building height would allow for enhanced public views from the roof by elevating the viewpoint above Pier 59, allowing unobstructed public views of the water. Alternative 3 also has a more level connection with the Overlook Walk as well as connections to Pike Place Market that increases legibility and wayfinding at this location. With the building located farther south, there would be closer proximity and more direct connection to the existing Seattle Aquarium, contributing to project coherence.

Because changes to the Animal Care Center would be to the interior of an existing building, no visual impacts are anticipated during construction or in the long term.

No significant adverse impacts on aesthetic and scenic resources are anticipated from SEPA-designated viewpoints; however, limited views of the downtown skyline from Waterfront Park's adjacent sidewalk would be partially blocked and thus impacted by the proposed Ocean Pavilion building for both action alternatives. No mitigation measures are proposed. However, as the preferred design for the Ocean Pavilion

is selected and undergoes review through the Design Commission process, design refinements to minimize potential impacts would be incorporated.

Historic and Archaeological Resources

Construction

Under Alternative 1: No Action Alternative, the Ocean Pavilion would not be constructed and no construction activities would occur. Therefore, no adverse impacts on historic and archaeological resources related to construction from Alternative 1 are anticipated. For the action alternatives, minor impacts on historic buildings during construction of the Ocean Pavilion are anticipated due to impacts associated with construction noise, dust, and/or access limitations. Potential moderate impacts on unrecorded archaeological sites may occur, associated with excavation in sediment with archaeological potential between 22 to 40 feet below ground surface (bgs). Alternative 2 has slightly more potential to affect archaeological materials than Alternative 3, because the horizontal footprint of the basement is larger (26,100 square feet [0.6 acre] for Alternative 2 versus 17,400 square feet [0.4 acre] for Alternative 3). The build out of the Animal Care Center would not result in any modifications to the exterior of the building, and therefore has no potential to affect the potential historic integrity of the building. No ground disturbance is proposed, so there is no potential to affect archaeological materials.

Mitigation measures to address potential impacts on archaeological materials between 22 to 40 feet bgs during the installation of drilled shafts for piles could include preparation of an Archaeological Monitoring Plan to provide monitoring of any sediments that are safely visible and accessible, if any. An Inadvertent Discovery Plan would be prepared and maintained on-site during construction.

Long Term

No long-term impacts are anticipated from Alternative 1: No Action Alternative beyond those analyzed in the AWPOW EIS. The Ocean Pavilion would not operate in, or affect the use of, any historic buildings. The operation of the Animal Care Center would not include any activities that would alter or diminish the Fisher Flour Mill building. No long-term impacts on archaeological sites, historic buildings, or traditional cultural properties are anticipated under any of the alternatives; therefore, no mitigation measures are proposed.

Water Quality

Construction

Under Alternative 1: No Action Alternative, the Ocean Pavilion would not be constructed and no construction activities would occur. Therefore, no adverse impacts on water quality from Alternative 1 are anticipated. The action alternatives would have similar water quality impacts, including minor impacts on water quality during construction. Construction activities with the potential to affect water quality in Elliott Bay include nearby staging of construction materials, ground-disturbing activities with the potential to release dust or affected groundwater if improperly dewatered, overwater work, and potential leaks or spills from construction equipment. The duration of excavation and associated stockpile areas for Alternative 2 may be greater than Alternative 3. It is anticipated that any stormwater runoff from upland construction activities would be contained by the AWPOW projects' drainage system and treated prior to discharge to

Elliott Bay. No in-water work is currently proposed and would be avoided or minimized to the extent practicable. No new or modified outfalls are proposed as part of the action alternatives.

With implementation of best management practices (BMPs), construction-related impacts associated with the action alternatives are anticipated to be minor. Therefore, no mitigation measures are proposed.

Long Term

Under Alternative 1, the area would be maintained as an open plaza covered with a non-pollutant generating impervious surface, or similar a surface, to accommodate pedestrian traffic. Stormwater would be managed by the AWPOW projects' drainage system and treated prior to discharge to Elliott Bay. Therefore, no long-term impacts on water quality from Alternative 1 are anticipated.

During operation of the Ocean Pavilion, there would be a minor increase (less than 10%) in saltwater intake and discharges from the current Seattle Aquarium operations to Elliott Bay at Piers 59 and 60. Water that encounters non-native invertebrates and any other water used for maintenance would continue to be discharged to the sanitary sewer and publicly owned treatment works (POTW). SEAS will continue consulting with the Washington State Department of Ecology, King County Wastewater Treatment Division, and Seattle Public Utilities to determine the appropriate level of engineering controls required to pre-treat and/or sterilize Ocean Pavilion discharges to the sanitary sewer and POTW. No long-term impacts on water quality are anticipated from the action alternatives, and no mitigation is proposed.

Fish and Aquatic Resources

Construction

Under Alternative 1: No Action Alternative, the Ocean Pavilion would not be constructed and no construction activities would occur. Therefore, no adverse impacts on fish and aquatic resources related to construction from Alternative 1 are anticipated. The action alternatives would have similar impacts on fish and aquatic resources, including minor impacts during construction such as barging, staging, stockpiling, ground-disturbing activities, overwater work, and potential leaks or spills from equipment. It is expected that any stormwater runoff from upland construction activities would be contained by the AWPOW projects' drainage system and treated prior to discharge to Elliott Bay. No in-water work is currently proposed and would be avoided or minimized to the extent practicable. With implementation of BMPs, construction-related impacts associated with the action alternatives are anticipated to be minor. Therefore, no mitigation measures are proposed.

Long Term

No long-term impacts to fish and aquatic resources from Alternative 1 are anticipated beyond what was previously analyzed in the AWPOW EIS. Potential long-term impacts from operation of the Ocean Pavilion are anticipated to be commensurate for the action alternatives. Under the action alternatives, the minor increase in saltwater intake and discharges to Elliott Bay at Piers 59 and 60 would occur (as described in Section 2.6). No long-term impacts on fish and aquatic resources from the minor increase in intake and discharges for the Ocean Pavilion are anticipated from the action alternatives, and no mitigation is proposed.



1 Introduction

This Washington State Environmental Policy Act (SEPA) Environmental Impact Statement (EIS) has been prepared to evaluate a range of alternatives for the proposed Seattle Aquarium Ocean Pavilion (Ocean Pavilion). The proposed Ocean Pavilion would be located along Seattle's central waterfront, just east of the existing Seattle Aquarium facilities on Piers 59 and 60 managed and operated by the Seattle Aquarium Society (SEAS; Figure 1-1). The Seattle Aquarium—funded by King County Forward Thrust funds in 1968—opened its doors in 1977 and has been serving its mission of *Inspiring Conservation of our Marine Environment* through exhibits, education, outreach, and research ever since. SEAS, in coordination with the City of Seattle Department of Parks and Recreation (Seattle Parks and Recreation), is proposing the Ocean Pavilion to further that mission, accommodate an expected increase in future attendance, provide a continuous connection with the existing Seattle Aquarium and support programming, and offer opportunities for public open space and enjoyment of the shoreline.

The proposed action also includes an off-site Animal Care Center, which may be located on Harbor Island at the former Fisher Flour Mill or a similar facility, to address both short- and long-term animal care veterinary and rehabilitation needs, and to meet the Association of Zoos and Aquariums' standards. The Animal Care Center would support the objectives of the proposed action by providing necessary animal care for ongoing and future Seattle Aquarium exhibits and programs.

This introductory section provides information on the location of the proposed action, background on the previous planning efforts to expand and modernize the Seattle Aquarium, the relationship of the proposed Ocean Pavilion to other waterfront projects, an explanation of the environmental review process for the proposed action, and a summary of community, agency, and tribal engagement conducted to date.



Figure 1-1
Vicinity Map

1.1 Background

The Seattle Aquarium opened on May 20, 1977, and was initially owned and operated by Seattle Parks and Recreation. The Seattle Aquarium has undergone several planning efforts to modernize its facilities, beginning in 1994. The timeline on the following pages illustrates some of the history of the planning processes and design concepts that have been considered for new and renovated Seattle Aquarium facilities. These planning efforts have included coordination with many parties to accommodate ongoing transformations along the Seattle waterfront.

As shown in the timeline on the following page, SEAS assumed management and operations of the Seattle Aquarium in 2010 under an agreement with Seattle Parks and Recreation. Since then, Seattle Parks and Recreation has continued to provide design support and funding to SEAS for expansion of the Seattle Aquarium through subsequent agreements, including the east end renovation of the shell and core of Pier 59 in 2007 and the replacement of piling and decking on the finger pier of Pier 60 in 2014.

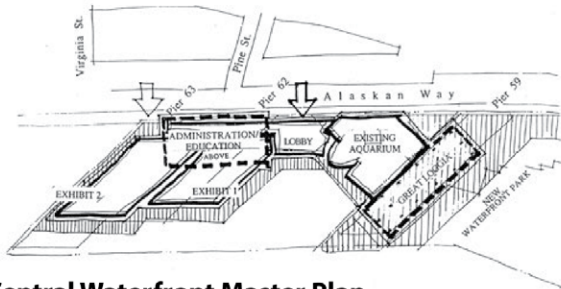
In 2013, a Memorandum of Understanding between the City of Seattle (City) and SEAS identified four main options being considered for expansion of the Seattle Aquarium: Pier 59 west end renovation; Pier 60 renovation and new elements; a new building on the Aquarium Plaza and partially underneath the Overlook Walk; and a new south wing (south of Pier 59). The subsequent 2014-2015 master planning process for the Seattle Aquarium included options for renovating the Pier 60 superstructure to construct an expanded exhibit space and improve circulation with Pier 59 (SEAS 2015). The master plan also included options for a new upland pavilion concept across from the existing Seattle Aquarium facilities, situated at the future Overlook Walk to the north of the proposed Aquarium Plaza.

1.2 Relationship to Other Waterfront Projects

Several important infrastructure projects are underway along the Seattle waterfront, led by the Washington State Department of Transportation (WSDOT) and the City. WSDOT, in coordination with the City and Federal Highway Administration, is demolishing the existing Alaskan Way Viaduct and replacing it with a new underground State Route (SR) 99 bored tunnel as part of the Alaskan Way Viaduct Replacement Program (AWVRP). With the removal of the viaduct, designs for the open space created along the Seattle waterfront have been developed through the Alaskan Way, Promenade, and Overlook Walk (AWPOW) projects, which are part of the Waterfront Seattle program led by the City's Office of the Waterfront and Civic Projects. Waterfront Seattle is a multi-year, multi-project program featuring projects such as the Pike Place MarketFront, Elliott Bay Seawall Project (EBSP), Piers 62/63 Rebuild, AWPOW projects, Pike Pine Renaissance: Act One, and the Waterfront Park Rebuild. Other waterfront projects include Washington State Ferries' (WSF's) Seattle Multimodal Terminal at Colman Dock Project, which is under construction and expected to be completed by 2023. Seattle Public Utilities (SPU) is also planning the Vine Basin Combined Sewer Overflow (CSO) Control Project, to be completed by 2025.

The Ocean Pavilion is being proposed as a separate and independent project from Waterfront Seattle and other ongoing projects. However, the proposed action is intended to anchor these projects and reconnect the city with Puget Sound and its central waterfront. Locations of other waterfront projects near the proposed Ocean Pavilion are shown in Figure 1-2.

Since opening in 1977, the Seattle Aquarium has participated in several planning efforts to improve and expand marine experiences and conservation education, while considering ongoing transformations along the waterfront.

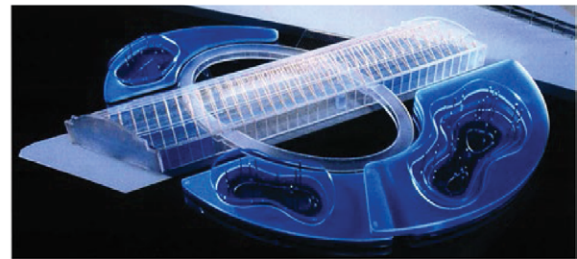


Central Waterfront Master Plan

As the first major effort for expansion of the Seattle Aquarium, the 1994 Master Plan included options to integrate Waterfront Park with the Seattle Aquarium and expand the Seattle Aquarium overwater, with a connection to Pier 62/63. The Seattle City Council approved the plan in 1997 for further planning and development.

Central Waterfront Parks Master Plan

Seattle Parks and Recreation issued a Draft EIS in 2006 for the Central Waterfront Master Parks Plan that evaluated a No Action Alternative and four build alternatives. The alternatives for expansion in the Draft EIS looked similar to the 2001 design concept, showing modifications with modern wings on both the north and south sides of Pier 59. These design alternatives were not carried forward to a Final EIS.

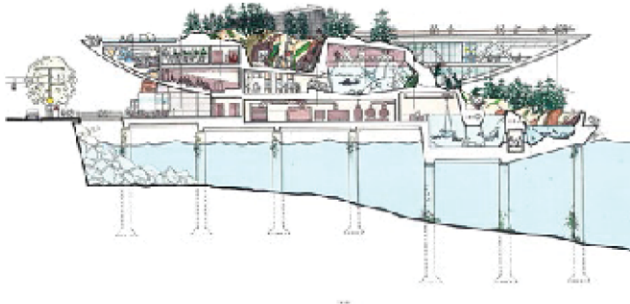


1990s

2000s

Pier 62/63 Expansion Design Concepts

A new Seattle Aquarium building was proposed in 2000 on Pier 62/63—the design included creating an open basin and multistory facility. Community concerns over impacts to water views led to a revised plan focused on Pier 59 modifications with wings on the north and south sides of the pier. Neither design was carried forward as the City's finances focused on the Nisqually earthquake response.



Pier 59 Improvements

Substantial maintenance and improvements were completed at the Seattle Aquarium on Pier 59 in 2007. Nearly 800 derelict piles were replaced and 18,000 square feet of new space was added to the facility that included a new entrance, flexible entry hall and gathering space, and the 120,000-gallon Window on Washington Waters exhibit.



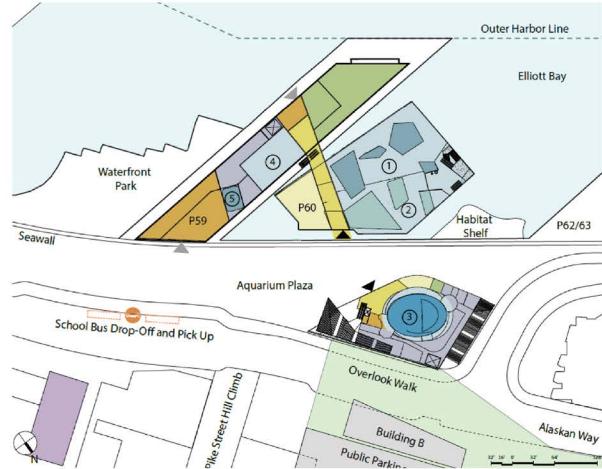
Seattle Aquarium Timeline

Aquarium Operations

On July 1, 2010, the nonprofit Seattle Aquarium Society (SEAS) assumed management of the Seattle Aquarium under an operations and maintenance agreement with the City of Seattle, which identified a master plan process to guide future improvements, long-range capital projects, and potential future expansion.

Strategic Plan

SEAS published the Seattle Aquarium Strategic Plan 2011-2030, providing goals and strategies for targeted growth over the next 20 years. The plan's facilities outlook included expanding beyond Piers 59 and 60 to provide for new programming and visitor capacity, consistent with the City's Central Waterfront design.



Expansion Master Plan

Following extensive stakeholder outreach and planning sessions, SEAS published A Master Plan for Expansion in 2015, including design concepts for renovating Pier 59, renovating and expanding Pier 60, creating a major new exhibit building, and connections to an improved public waterfront. The plan was designed to align with the City of Seattle's future Overlook Walk and proposed pedestrian improvements.

2010s

Renovated Harbor Seal Exhibit Opens

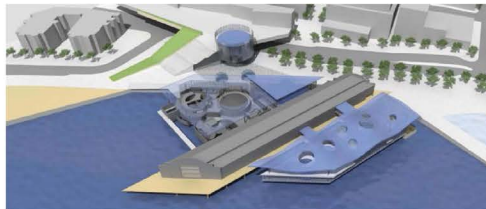
Seattle Aquarium opened the renovated harbor seal exhibit in 2013, the first step in the 20-year strategic plan.

Pier 60 Improvements

On the finger pier of Pier 60, the Seattle Aquarium replaced approximately 100 creosote-treated timber pilings with 35 steel piles and timber decking with concrete decking in 2014.

Concept Design Planning

SEAS began early visual concepts of expansion locations to the north and south of Pier 59 in 2012. The upland expansion and integration of the Seattle Aquarium into the City's proposed Overlook Walk was incorporated into the Waterfront Seattle Framework Plan for the Central Waterfront Committee.



Office of the Waterfront Ordinance

In 2017, the City of Seattle Office of the Waterfront passed an ordinance (which was an amendment to the 2013 Memorandum of Understanding) to continue a cost-share agreement through the completion of the Aquarium Expansion Project, known as the "Ocean Pavilion," as a key element of the Waterfront Seattle vision, confirming the close coordination between Waterfront Seattle projects and the separate and independent Seattle Aquarium expansion efforts.



- | | |
|--|--|
| 1 Alaskan Way, Promenade, and Overlook Walk Projects | 6 Pike Pine Renaissance: Act One |
| 2 Alaskan Way Viaduct Replacement Program | 7 Waterfront Park Rebuild |
| 3 Elliott Bay Seawall Project: Central Seawall | 8 Seattle Multimodal Terminal at Colman Dock Project |
| 4 Elliott Bay Seawall Project: North Seawall | 9 Vine Basin Combined Sewer Overflow Control Project |
| 5 Pier 62/63 Rebuild | |



Figure 1-2
Map of Other Waterfront Projects near the Ocean Pavilion

1.3 Environmental Review Process

As the SEPA lead agency, Seattle Parks and Recreation had initially determined during scoping that this proposed action would likely have a significant adverse impact on the environment. Therefore, a Draft EIS was prepared to meet the SEPA procedural requirements outlined in Revised Code of Washington (RCW) Chapter 43.21C and Seattle Municipal Code (SMC) Chapter 25.05. SEPA requires lead agencies to evaluate how the proposed action would be implemented, along with the potential impacts and mitigation that could result from the implementation of the action alternatives and the No Action Alternative, prior to making a project decision. Existing environmental documents are incorporated by reference, to the extent practicable, to support the evaluation of proposed actions, alternatives, or environmental impacts, consistent with SMC 25.05.600 and Washington Administrative Code (WAC) 197-11-635. The construction of an “Aquarium Pavilion” was reviewed by the City as part of the AWPOW SEPA EIS (SDOT 2016a, 2016b). Information and analysis from the AWPOW EIS is incorporated by reference into the analysis and findings of this Final EIS, in accordance with the previously referenced regulations.

In accordance with SEPA, a scoping period was conducted in May 2018 to provide input on the content and scope of this EIS. Information related to the scoping process is described in Section 1.4. Details on the information provided during the scoping period are further described in the Scoping Summary Report (see Appendix A).

Based on a technical evaluation of the alternatives that occurred after scoping, the Draft EIS indicated that no significant adverse impacts are anticipated to occur from the proposed action. This was confirmed at the conclusion of the Draft EIS public comment period, based on the nature of the comments received. Responses to comments are included in the Comment Response Report (Appendix B). According to SMC 25.05.440(E) and WAC 197-11-440(6)(a), elements of the environment that are not significantly affected do not need to be evaluated. However, Seattle Parks and Recreation and SEAS believe that it is important to provide this information to decisionmakers and the public.

1.3.1 Objectives

The following objectives of the Ocean Pavilion will be used as the basis for evaluating the alternatives:

- Accommodate a 40% expected increase in future attendance and visitors, which requires an approximately 48,000-square-foot building and pedestrian and Americans with Disabilities Act (ADA) pathways
- Provide a continuous connection with the existing Seattle Aquarium to facilitate movement of visitors, volunteers, and staff, and to support Seattle Aquarium programming
- Provide opportunities for public open space and enjoyment of the shoreline
- Create a space that supports the Seattle Aquarium’s mission of *Inspiring Conservation of Our Marine Environment* and provides the public with a global ocean experience

1.4 Community, Agency, and Tribal Engagement

Seattle Parks and Recreation and SEAS issued a Determination of Significance and Scoping Notice for the Ocean Pavilion on May 7, 2018. As part of the scoping process, Seattle Parks and Recreation and SEAS

invited comment from agencies, tribal governments, and members of the public during the scoping period (May 7 to May 28, 2018). During this time, interested parties were encouraged to provide input on the EIS scope relating to the objectives, range of alternatives, probable significant adverse impacts, and elements of the affected environment to be analyzed in this EIS. A public scoping meeting was held on May 24, 2018, which included a presentation introducing the proposed action, informational poster boards, and comment forms and boxes. A court reporter was also available at the scoping meeting to receive and transcribe comments from participants. A summary of the scoping outreach process is included in Appendix A.

Seattle Parks and Recreation and SEAS published the Draft EIS on August 30, 2018. A notice of availability for the Draft EIS and public hearing was published in accordance with the Draft EIS issuance and public notice procedures per SMC 25.05.455 and 25.05.510. The Draft EIS public comment period was held from August 30 to October 1, 2018. A public hearing was held on September 27, 2018, which included a presentation describing the Draft EIS process and results, informational poster boards, and comment forms and boxes. A court reporter was also present to record public comments. A summary of the Draft EIS outreach process is included in Appendix B.

Tribal outreach included notification to local tribes during scoping as well as Draft EIS and Final EIS outreach efforts. In addition, SEAS has engaged a consultant team focused on tribal engagement for the design and refinement of the proposed action.

Continued outreach, through meetings and emails, to businesses and residents near the proposed action is ongoing, to keep interested parties up to date on the status of the planning and design processes.

1.5 EIS Scope and Organization

The rest of this EIS is organized into the following sections to meet the requirements of SEPA:

- **2 – Project Alternatives:** Describes the range of alternatives evaluated during the EIS process as well as alternatives that were considered but not carried forward
- **3 – Affected Environment, Impacts, and Mitigation Measures:** Describes the existing environment, analyzes potential impacts of the alternatives, and provides proposed avoidance, minimization, and mitigation measures
- **4 – Cumulative Effects:** Describes cumulative impacts of the proposed action relative to the No Action Alternative and identifies potential mitigation measures to reduce potential cumulative effects of the proposed action
- **5 – References:** Provides a list of references used to support preparation of this EIS
- **6 – List of Preparers:** Identifies individuals who participated in the preparation of this EIS



2 Project Alternatives

2.1 Development of Alternatives

In 2015, SEAS published a master plan showing design concepts that included renovating Pier 59, renovating and expanding Pier 60 over water, and introducing a Seattle Aquarium facility aligned with the future Overlook Walk—the City’s planned pedestrian bridge between the waterfront and Pike Place Market (SEAS 2015). The refined direction, consistent with SEAS’ objectives, is to focus on coordination with the Waterfront Seattle program. As an integrated yet separate component of the future Overlook Walk, the location for the Ocean Pavilion was chosen because it would provide the most benefit with the least environmental impacts.

The range of potential action alternatives for the Ocean Pavilion were refined during and after development of the 2015 master plan and are based on the results of scoping, resulting in the two action alternatives described in the following sections. A comparison of both action alternatives is included in Section 2.5.

2.2 Alternative 1: No Action Alternative

Under Alternative 1 (No Action Alternative), the Ocean Pavilion would not be built. However, conditions in the area would be different from those that exist at the time this EIS is published (2018). The analysis for the No Action Alternative is based on the expected conditions in 2030, which is the year used for the

assessment of future conditions. The following major changes are assumed to be in place under the No Action Alternative:

- The AWPOW projects identified in the preferred alternative within the AWPOW EIS would be completed. The AWPOW projects would continue to be refined through the Office of the Waterfront and Civic Projects' design process.
- The AWVRP would be completed, with the viaduct eliminated and the SR 99 tunnel in operation.
- The EBSP would be completed.
- Ongoing public and private development projects that are currently being permitted through the Seattle Department of Construction and Inspections would be completed, with an additional projected baseline growth of 1% per year.

A description of the AWPOW's selected preferred alternative is included in Section 2.3 of the AWPOW EIS (SDOT 2016b). The main difference between the two proposals is that the No Action Alternative for the Ocean Pavilion does not include construction of the "Aquarium Pavilion," which was one option described as part of the AWPOW's preferred alternative. Descriptions of the AWVRP and EBSP are included in Section 2.2 of the AWPOW EIS (SDOT 2016b).

Figure 2-1 shows the No Action Alternative, which serves as the baseline against which the potential impacts of the action alternatives are evaluated.

2.2.1 Office of the Waterfront and Civic Projects' Potential Design Refinements

As stated previously, the AWPOW projects would continue to be refined through the Office of the Waterfront and Civic Projects' design process. As of the publication of this EIS, the conceptual design of the Overlook Walk lid (or bridge) connecting the waterfront to Pike Place Market over Elliott Way would be narrower (90 feet versus 190 feet) and higher (50 feet versus 40 feet) than the design in the AWPOW EIS. In addition, Building B would be replaced by a smaller one-story building with a covered outdoor café and seating area on its roof. Public stairs and elevators would maintain connections from the Overlook Walk to the waterfront. These refined conditions were used in assessing the range of impacts of the action alternatives as compared to No Action Alternative and potential design refinements.

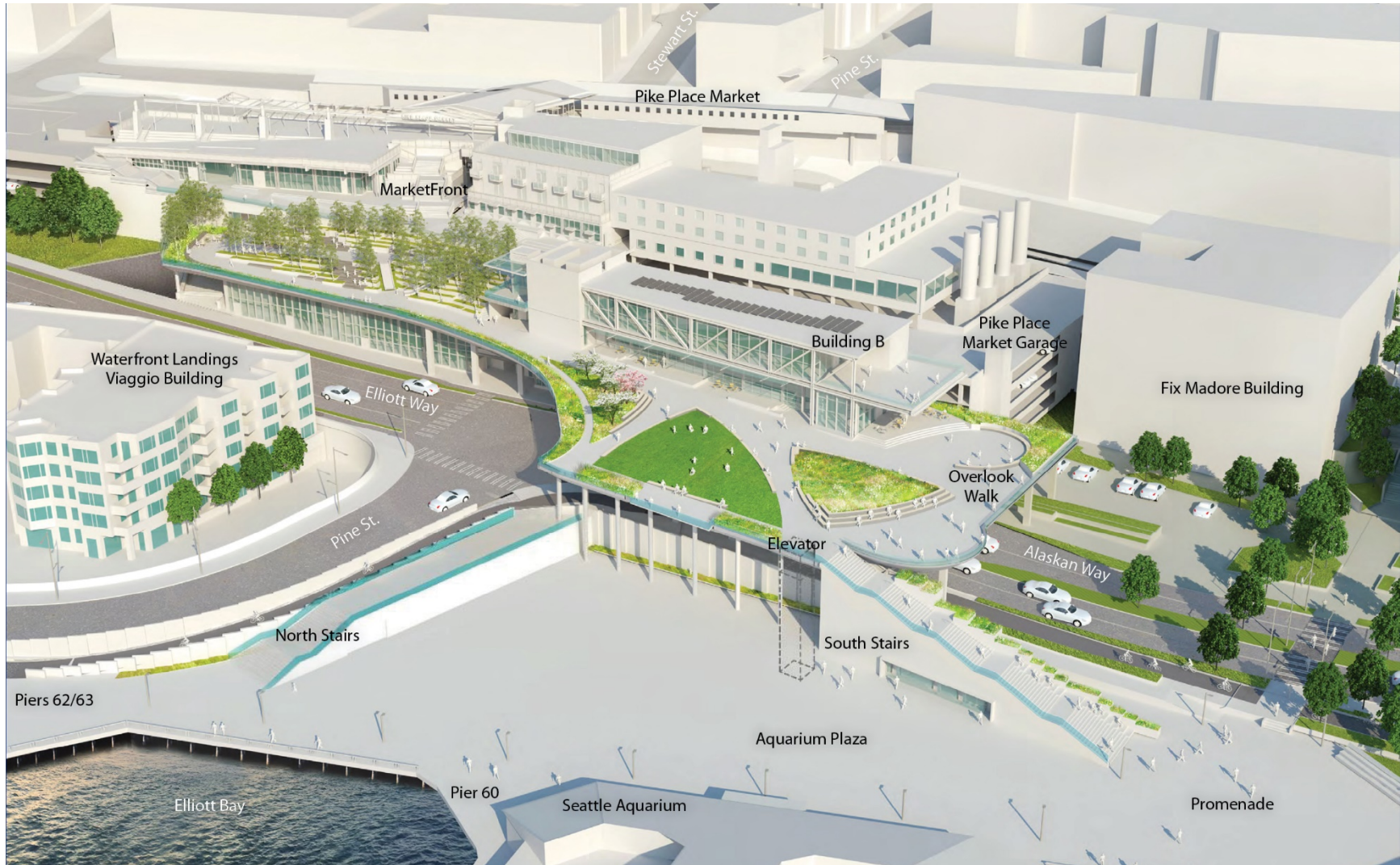


Figure 2-1
Alternative 1 (No Action)

Source: LMN Architects

2.3 Alternative 2

Alternative 2 (Figure 2-2) includes the Ocean Pavilion concept evaluated as one option for the preferred alternative under the AWPOW EIS (referred to as the “Aquarium Pavilion” in the EIS). The proposed building would include an approximately 48,000-square-foot public aquarium featuring exhibits and associated support space, which is expected to accommodate a 40% increase in attendance and visitors. The orientation of the proposed building would place it farther north and closer to Pine Street compared to Alternative 3, which would be located farther south. The building would be approximately 40 feet tall, or a height that would comply with applicable height restrictions, and would feature three floors, plus a subgrade basement floor, with public space and a view area on the roof that would be contiguous with and accessible from the future Overlook Walk. The height of the building would provide some views of Elliott Bay; however, these views would be partially obstructed by the existing Seattle Aquarium building on Pier 59.

Under Alternative 2, the interior of the building would include a flexible design for future exhibits and associated support space, including a large central tank as the main exhibit with multiple other exhibits throughout the building. Reservoirs for animal care, water storage, and transfer would also be installed within the building.

The entrance would be located at the south side of the building at the Aquarium Plaza. An ADA-accessible public elevator and stairs (accessible via the exterior of the building) is included in the design to provide access between the Aquarium Plaza’s ground level and rooftop, to the future Overlook Walk. The rooftop would be approximately 13,100 square feet (0.3 acre) and include limited landscaping. The basement floor would be larger than the footprint of the above-grade portion of the building (approximately 26,100 square feet [0.6 acre]) and would provide additional necessary space for animal life support, reservoirs, and building mechanical systems.

Service routes to the Ocean Pavilion would be primarily on the east side of the building, with an entrance from Alaskan Way that would allow service vehicles to access the Seattle Aquarium facilities. An off-site Animal Care Center would be included under the action alternatives, as described in Section 2.7.



Figure 2-2
Alternative 2

Source: LMN Architects

2.4 Alternative 3

Alternative 3 (Figure 2-3) includes building the Ocean Pavilion east of the existing Seattle Aquarium on Alaskan Way and the future Waterfront Promenade. The proposed building would include an approximately 48,000-square-foot public aquarium featuring exhibits and associated support space, which is expected to accommodate a 40% increase in attendance and visitors. The building would be approximately 50 feet tall and would feature three floors plus a subgrade basement floor, with public space and a viewing area on the roof that is contiguous with and accessible from the future Overlook Walk. The height of the building would provide unobstructed public views of Elliott Bay over the existing Seattle Aquarium on Pier 59.

Preferred Alternative Selection

Seattle Parks and Recreation and SEAS have selected Alternative 3 as the preferred alternative. The Ocean Pavilion design best meets the objectives with the least environmental impacts during construction and in the long term.

As compared to the other alternatives, Alternative 3 provides closer connections to the existing Seattle Aquarium facility, enhanced public access and views of the water, and better integration with the future Overlook Walk design refinements.

Under Alternative 3, the interior of the building would include a flexible design for future exhibits and associated support space, including an approximately 330,000-gallon tank as the main exhibit and multiple other exhibits throughout the building. Reservoirs for animal care, water storage, and transfer would also be installed within the building. A portion of the main exhibit would be integrated into the exterior of the Ocean Pavilion and viewable from the entrance on the south side of the building at the Aquarium Plaza.

The façade on the western-facing side of the Ocean Pavilion would replicate the design of the future Overlook Walk and accommodate public stairs, which would wrap around the façade from the rooftop to the ground level. An exterior, ADA-accessible public elevator and stairs would be included in the design to provide ground-level and rooftop access for visitors. The Ocean Pavilion entrance would be on the south side of the building. The east side of the building would face Alaskan Way and house the mechanical components and utilities. The rooftop would be approximately 17,400 square feet (0.4 acre), with public open space facing Elliott Bay and approximately 3,500 square feet of open space with landscaping. The basement floor would be similar in size to the above-grade footprint of the building (approximately 17,400 square feet [0.4 acre] in size) and would provide animal life support services, reservoirs, and building mechanical systems.

Service routes to the Ocean Pavilion would be primarily on the south side of the building, with an entrance near the intersection of Alaskan Way and Pine Street that would allow service vehicles to access the Seattle Aquarium facilities via the promenade and Aquarium Plaza. An off-site Animal Care Center would be included under the action alternatives, as described in Section 2.7.



Figure 2-3
Alternative 3

Source: LMN Architects

2.5 Comparison of Action Alternatives

Table 2-1 provides a comparison of the action alternatives based on orientation, height, floors, dimensions, façade, rooftop public open space, and public circulation.

Table 2-1
Comparison of Design Features for Alternative 2 and Alternative 3

Feature(s)	Alternative 2	Alternative 3
Orientation	<ul style="list-style-type: none"> The Ocean Pavilion would be located farther north toward Pine Street than Alternative 3, resulting in a greater distance from the entrance to the existing Seattle Aquarium entrance, thereby slightly reducing accessibility for visitors, volunteers, staff, and Seattle Aquarium programs compared to Alternative 3. The north and westward orientation of the Ocean Pavilion from the future Overlook Walk would constrict the public open space between the building and Pier 60, Piers 62/63, and the Elliott Bay shoreline. 	<ul style="list-style-type: none"> The Ocean Pavilion would be located farther south from Pine Street than Alternative 2, resulting in a shorter distance from the entrance to the existing Seattle Aquarium entrance, thereby improving accessibility for visitors, volunteers, staff, and Seattle Aquarium programs compared to Alternative 2. The orientation of the Ocean Pavilion would provide additional public open space between the building and Pier 60, Piers 62/63, and the Elliott Bay shoreline, including space to provide a wider stairwell in the future Overlook Walk design.
Height	The 40-foot building height would provide partially obstructed public views of Elliott Bay from the rooftop.	The 50-foot building height would provide unobstructed public views of Elliott Bay from the rooftop.
Floors	The Ocean Pavilion would have three aboveground floors and one basement floor.	Same as Alternative 2 with a smaller basement floor
Dimensions	48,000 gross square feet; approximately 165 feet long and 140 feet wide (at maximum, width varies); basement approximately 26,100 square feet (0.6 acre)	48,000 gross square feet; approximately 180 feet long and 106 feet wide (at maximum, width varies); basement approximately 17,400 square feet (0.4 acre)
Façade	Various façades, with reinforced concrete for the structural components of the building	Same as Alternative 2
Rooftop Public Open Space	<ul style="list-style-type: none"> The rooftop public open space would be approximately 13,100 square feet (0.3 acre). The roof would include limited landscaping. 	<ul style="list-style-type: none"> The rooftop public open space would be approximately 17,400 square feet (0.4 acre). The roof would include approximately 3,500 square feet of landscaped area.
Public Circulation	<ul style="list-style-type: none"> An interior public elevator and stairs (accessible from the exterior of the building) would be located on the exterior of the southwest corner of the Ocean Pavilion building. The public elevator and south stairs would provide a direct connection from the Aquarium Plaza and promenade to the Elliott Bay shoreline, while the north stairs would connect the Pike Place Market to Elliott Bay. Direct views to the water from the public stairs may be blocked by the Ocean Pavilion building. 	<ul style="list-style-type: none"> A public elevator and stairs would be located on the exterior of the southeast corner of the Ocean Pavilion building. Additional interior elevator(s) would be provided for visitor access in the Ocean Pavilion (for ticketed guest use only). The exterior public elevator would be more visible than Alternative 2, and both the elevator and stairs would connect directly to the new public open space created by the Ocean Pavilion roof as well as the sidewalk on the west side of the new Alaskan Way, adjacent to the plaza and promenade, near the Elliott Bay shoreline. Direct views to the water from the exterior public elevator and stairs would be provided.

2.6 Utilities and Water Management for Alternatives 2 and 3

The Seattle waterfront includes a major utility corridor with access to most utilities. The Ocean Pavilion would require connections to electricity, gas, internet, sewer, and water. Existing utility connections would be maintained to the extent practicable. Although not included in the AWPOW EIS, it is assumed that utilities and water management requirements would be similar for the action alternatives.

The Ocean Pavilion exhibits would connect to the existing Seattle Aquarium water intake, filtration, and discharge system. The existing intake pumping station is at the southwest corner of Pier 59 and includes an intake pump system that extracts saltwater from Elliott Bay at a rate of approximately 2,200 gallons per minute (gpm). The Ocean Pavilion would require an increase of approximately 200 gpm (approximately 10%) using the existing intake system, for a total of approximately 2,400 gpm. The saltwater is directed to filtration systems at Piers 59 and 60 that remove particulates and distribute the water to the Seattle Aquarium exhibits. Saltwater is circulated through the exhibits by a series of pipes and pumps. Fish exhibit and holding tank overflow water and filter backwash is discharged from various locations on Piers 59 and 60 back to Elliott Bay.

The connection from the existing water management system to the Ocean Pavilion would occur at dedicated utility pipe penetration areas at the face of the adjacent seawall under Pier 60. This feature was constructed between Piers 59 and 60 for the EBSF to allow new utility pipes to pass through the seawall for future upland connections. The connection between the existing filtration system and the Ocean Pavilion would be made by a belowground pipe that distributes filtered seawater to a heating system at the Ocean Pavilion. The heating system would heat the water to approximately 78°F to 80°F, or a similar temperature suitable for tropical animal exhibits. It is expected that the existing intake pumping station would be sufficient to feed saltwater to the Ocean Pavilion. Similar to the existing operations, saltwater would be routed back to Piers 59 and 60 through underground pipes, for discharge of approximately 200 gpm to Elliott Bay. To the extent practicable, heat exchange would be engineered into the incoming and outgoing Ocean Pavilion water piping system to reduce water temperature prior to discharge back into Elliott Bay. Similar to the existing facilities, water that encounters invertebrates, warm water exhibit filter return water, freshwater filter backwash, and other water used for maintenance would likely be discharged to the sanitary sewer and publicly owned treatment works (POTW). No new or modified outfalls are proposed as part of the action alternatives. Figure 2-4 shows a conceptual layout of the existing and proposed water management system.

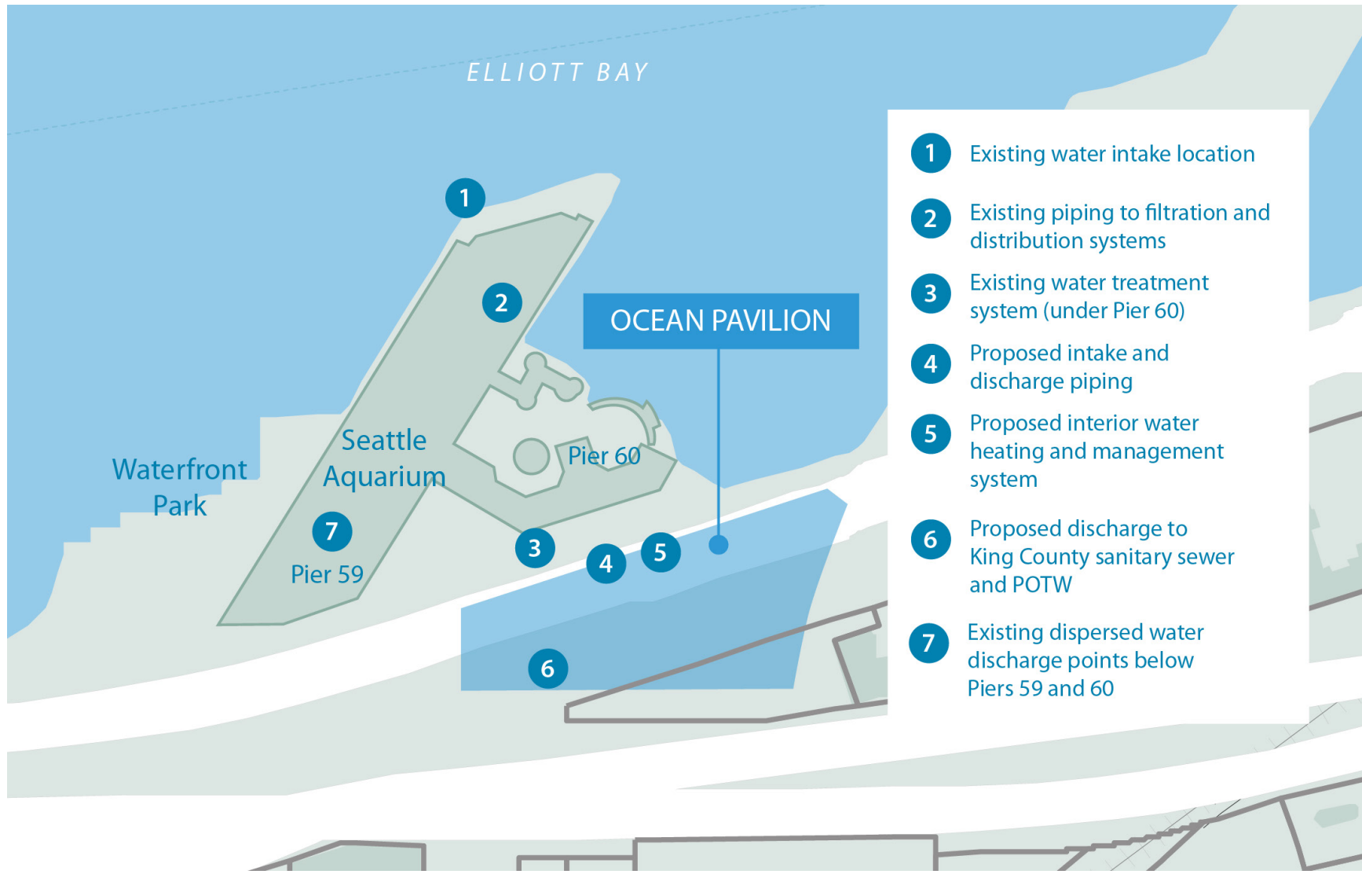


Figure 2-4
Conceptual Layout of Existing and Proposed Water Management System

2.7 Off-Site Animal Care Center for Alternatives 2 and 3

An off-site Animal Care Center is proposed to address both short- and long-term animal care, veterinary, and rehabilitation needs and to meet the Association of Zoos and Aquariums' standards. The most immediate need is to provide necessary animal care to support the opening of the Ocean Pavilion and the turtle rehabilitation program. The Animal Care Center would also be a long-term care facility that supports SEAS' exhibit animal population, animal rehabilitation, and research efforts.

The Animal Care Center would be designed to meet peak animal care demand for the Seattle Aquarium exhibits and programs. This would include approximately 15,000 square feet of interior space, plus an additional 5,000 to 7,000 square feet of area surrounding the facility for outdoor animal holding, water storage, and parking. The center is intended to meet the care needs of both warm- and cold-water fish, birds and mammals, and rehabilitating animals. The center would also provide long-term care, including life support systems, with flexibility in the design to accommodate future needs.

SEAS plans to have the Animal Care Center constructed and operational 2 to 3 years prior to the opening of the Ocean Pavilion. This would allow for coral propagation, animal quarantine, and acclimation of the animals for the exhibits. SEAS has identified a potential site at the former Fisher Flour Mill property on Harbor Island, which is owned by King County. While the Fisher Flour Mill site is a potential location for the center, a similar location could be pursued. It is not anticipated that the impacts identified in this analysis would differ at a similar location.

2.8 Construction Methods for Alternatives 2 and 3

Construction methods for the action alternatives are described in the following subsection. It is anticipated that construction methods would be similar for both action alternatives. During construction, access to existing utilities would be maintained for surrounding property uses.

2.8.1 Construction Activities

It is anticipated that construction at the Ocean Pavilion would require the following activities:

- Open excavation for the basement of the Ocean Pavilion, which would reach about 20 feet below ground surface (bgs), with 48-inch-diameter piles extending at varying depths
 - It should be noted that for Alternative 2, the AWPOW EIS shows 60 to 80 feet of excavation proposed in this area (SDOT 2016b: Figure 10-2, page 245). It is expected that this depth is specific to the future Overlook Walk and other improvements, and depths of that magnitude would not be required to construct the Ocean Pavilion.
- Dewatering of excavation areas below the water table or implementing soil freezing treatments to provide a dry work area as necessary
- Protecting, relocating, and/or connecting utilities
- Using best management practices (BMPs) to protect water quality and reduce erosion (may include installation of silt fencing, covering of stockpiled soil, and collection and treatment of construction stormwater runoff)
- Drilling shafts for piers to support the building, including exterior elevators or stairs as necessary

- Removing existing knock-outs in the adjacent seawall under Pier 60 to connect the overwater intake pipe, seawater discharge, and utilities and infrastructure between the Ocean Pavilion and existing Seattle Aquarium buildings
- Erecting structural components and installing mechanical and other building features, using a crane tower for hoisting
- Potentially using one barge for 3 to 8 weeks, located between Piers 62/63 and Pier 60, for delivery of acrylic windows for the exhibits

Construction at the Animal Care Center would be limited to the building interior. No substantial modifications or new construction would be required to the exterior or surrounding areas.

Table 2-2 includes a typical list of construction equipment and uses that could be employed during construction.

Table 2-2
Typical Construction Equipment and Uses

Equipment	Typical Use
Backhoe	General construction
Concrete pump	Concrete placement
Concrete saw	Concrete removal and utility access
Crane	Materials handling, removal, and replacement
Excavator	General construction and materials handling
Forklift	Staging area work and materials hauling
Generator	General construction work
Haul truck	Materials delivery and fill and excavated material transport
Jackhammer	Pavement removal
Loader	General construction and materials handling
Pump	General construction use and excavation dewatering
Pneumatic tools	Miscellaneous construction work (e.g., air compressors)
Service truck	Equipment repair and maintenance
Tractor trailer truck	Material removal and delivery
Utility truck	General project work
Vibratory or impact drivers	Support pile installation

2.8.2 Construction Staging

It is anticipated that areas within or near the proposed action (e.g., Aquarium Plaza) would be used for staging construction and storing materials, equipment, and temporary construction trailers.

2.8.3 Construction Timing

Construction of the Ocean Pavilion is expected to take up to approximately 4 months for early foundation work and 24 months for general construction. Preparation of the off-site Animal Care Center is expected to take approximately 9 months and would occur in advance of construction of the Ocean Pavilion.

2.8.4 Worker Parking, Access, and Haul Routes

The Ocean Pavilion contractor is expected to establish a worksite office, which could be located in existing office space near the Seattle Aquarium or in a mobile facility in the established staging area or nearby. A limited number of construction workers may be able to park at the worksite office or on the work site; others could use off-street parking garages near the Seattle Aquarium, and some may use transit and walk to the work site. The Animal Care Center contractor is anticipated to establish a construction office in existing space within the building that would house the Animal Care Center. Very little parking demand is expected to be generated during build out of the Animal Care Center.

Construction activities would generate traffic for equipment and removing debris and soil. The contractor would determine the best construction methods, as permitted by the City and in conformance with the project construction plans.

2.9 Alternatives Considered but Not Carried Forward

As part of the 2015 Master Plan (see timeline in Section 1.2), expansion alternatives included two overwater options (north and south of the Seattle Aquarium facilities) and one upland location (see Figure 2-5). All of these alternatives were determined to offer sufficient site area to accommodate future growth. However, the overwater options were not carried forward due to the permitting challenges, cost and complexity of in-water construction, and potential impacts on the aquatic environment. Additionally, SEAS determined that an expansion at the south location could affect views of Elliott Bay and the Olympic Mountains from Waterfront Park. The overwater options were also determined to be inconsistent with the objective of providing increased opportunities for public open space.

SEAS also considered alternatives to expand the Seattle Aquarium facilities off site from the Seattle central waterfront location. It was determined that constructing an Ocean Pavilion, or similar building, at an off-site location would break up the campus and be inconsistent with the objective of providing a continuous connection with the existing Seattle Aquarium to facilitate movement of visitors, volunteers, and staff, and to support Aquarium programming.

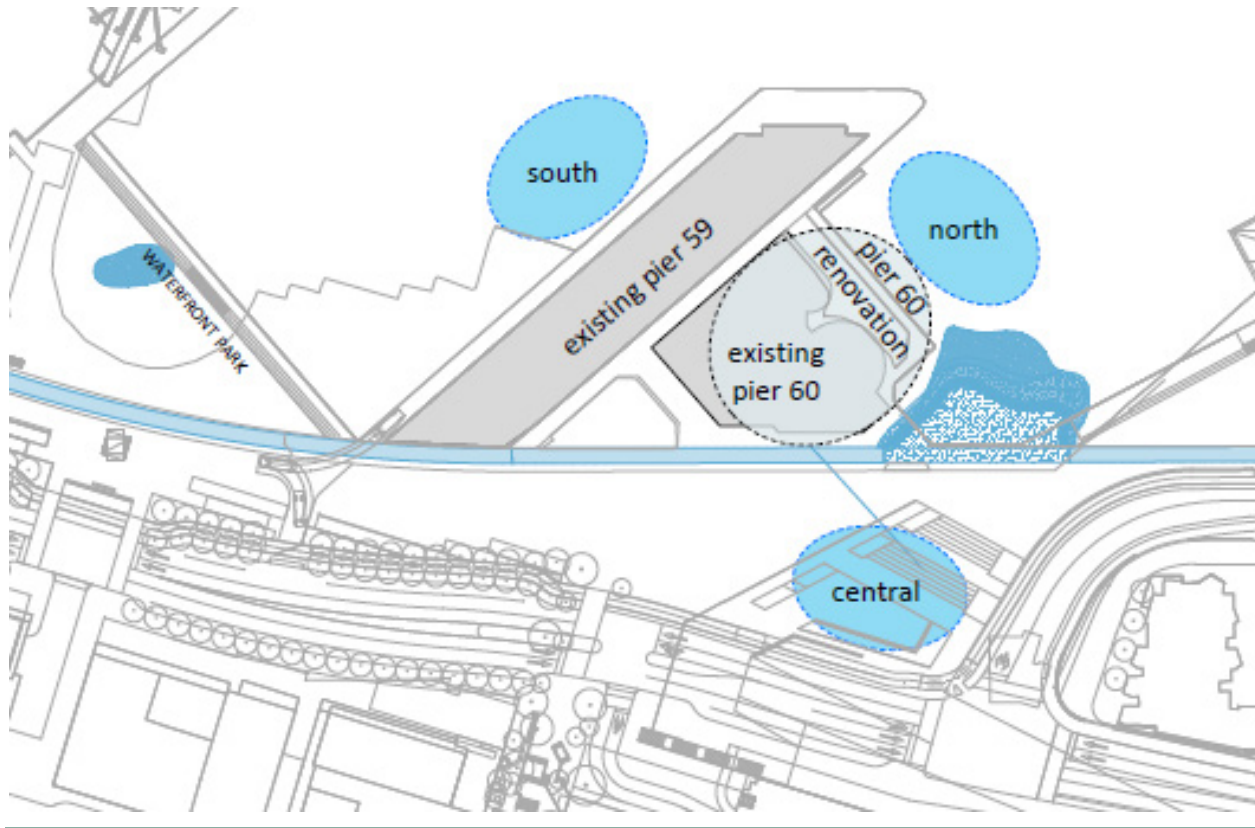


Figure 2-5
South and North Alternatives at Piers 59 and 60

Source: SEAS 2015

2.10 Elements of the Environment Determined to Have No Probable Adverse Impact

The following elements of the environment were considered, but it was determined during the public scoping period that no further evaluation was necessary as part of this EIS due to no probable adverse impacts:

- Air Quality
- Vegetation and Wildlife
- Energy Resources
- Public Services and Utilities
- Noise
- Hazardous Materials



3 Affected Environment, Impacts, and Mitigation Measures

The proposed action would be located on Seattle's central waterfront, a developed urban corridor that abuts the marine waters of Elliott Bay. This section describes the affected environment and the proposed action's potential construction and long-term impacts on elements of the built and natural environment. Avoidance, minimization, and compensatory mitigation measures are provided to demonstrate how the proposed action would address potential impacts on these elements of the environment. The following elements of the environment are evaluated in this EIS :

- Transportation and Parking
- Land Use
- Aesthetics and Scenic Resources
- Historic and Archaeological (Cultural) Resources
- Water Quality
- Fish and Aquatic Resources

Mitigation Considerations

When considering mitigation, the first step is to avoid or minimize impacts through design or siting. The next step is to rectify the impact by repairing the affected environment. For impacts that cannot be avoided or minimized, compensatory mitigation is identified, which could include restoration or rehabilitation, preservation, or monitoring the impact and taking appropriate corrective measures.

This analysis draws from information provided in the technical memoranda prepared for and appended to this EIS, including Transportation and Parking (Appendix C); Land Use (Appendix D); Aesthetics and Scenic Resources (Appendix E); and, Cultural Resources (Appendix F).

3.1 Transportation and Parking

This section provides a summary of the findings within Appendix C. Existing transportation and parking facilities within the vicinity of the proposed Ocean Pavilion are expected to be modified by completion of the AWVRP and AWPOW projects, with construction anticipated to begin for these projects in late 2018 and mid-2019, respectively, as of the publication of this EIS. Because the action alternatives are located within an area being modified by the AWPOW projects, this analysis incorporates by reference the AWPOW EIS documents (SDOT 2015a, 2016a, and 2016b) and AWPOW EIS *Appendix A: Transportation Discipline Report* as applicable (SDOT 2016c).

3.1.1 *Affected Environment*

The study area for the transportation and parking analysis includes the site access points (vehicular and non-motorized) and nearby off-site intersections in the area bounded by Alaskan Way to the west, Lenora Street to the north, Western Avenue to the east, and Union Street to the south. The Pike Place Market Garage, which is located across the street from the Seattle Aquarium, provides the nearest available public parking. This parking facility includes the original garage combined with the garage expansion that was completed in 2017 as part of the MarketFront project. The garages connect internally and share driveways on Western Avenue and Alaskan Way; together they have 820 spaces. The parking and transportation study area is shown in Figure 3-1.

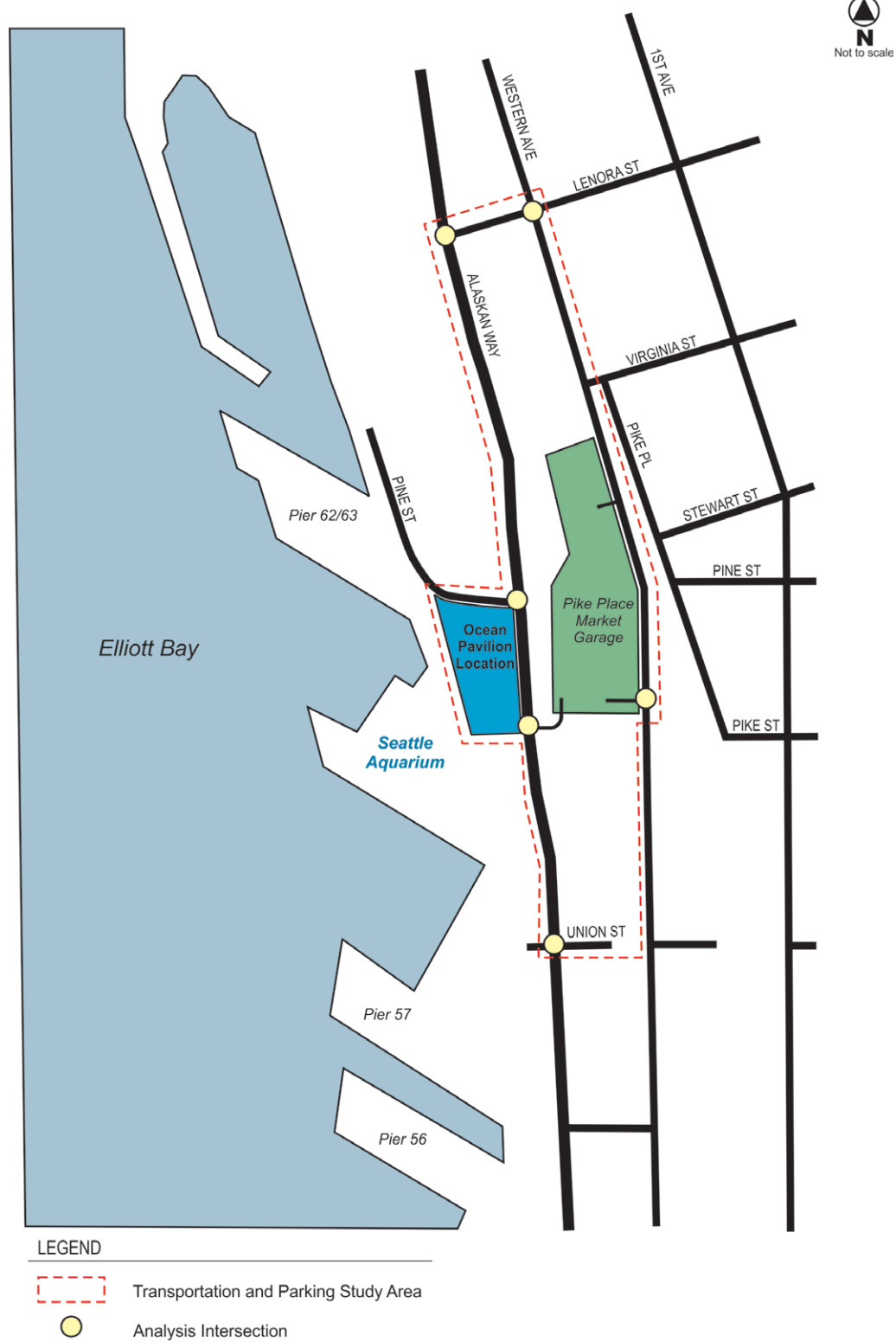


Figure 3-1
Transportation and Parking Study Area with Completion of AWPOW Projects

Source: Heffron Transportation, July 2018

3.1.1.1 Streets

The following key roadways are within the transportation study area (described as reconfigured following completion of the AWPOW projects; Figure 3-1):

- **Alaskan Way** is a Principal Arterial that is oriented roughly parallel to the waterfront between Broad Street to the north and Yesler Way to the south. It will have two vehicle lanes in each direction, sidewalks on both sides, and a two-way protected bicycle lane on the east side.
- **Western Avenue** is a Minor Arterial that is parallel to Alaskan Way, one block to the east. Between Lenora Street and Yesler Way, it has one travel lane in each direction with left-turn pockets at some intersections; on-street parking is allowed along much of its length. It has sidewalks on both sides and is marked with a combination of painted bicycle lanes where street width allows, and sharrows (pavement markings that indicate vehicles and bicyclists should share the travel lane) along the other portions. A new Elliott Way Connector will be constructed between Western Avenue at Bell Street and Alaskan Way at Pine Street.
- **Lenora Street** is a Minor Arterial that provides a connection between Western Avenue and Denny Way. It has a southwest-northeast orientation. Between First Avenue and Western Avenue, it has one travel lane in each direction, sidewalks on both sides, and angled parking on the south side. East of First Avenue, Lenora Street is a one-way in the southwest direction. Its intersection with Western Avenue is signalized. The Lenora Street pedestrian bridge connects from Elliott Avenue at the top of the bluff to the Pier 66 building, with elevators connecting to grade on the east and west sides of Alaskan Way. With the completion of the AWPOW projects, the pedestrian bridge will remain largely intact, with just the east end rebuilt to connect to the new segment of Elliott Way. There is an existing pedestrian signal across Alaskan Way at Lenora Street.
- **Pine Street** has a short segment within the study area designated as a local access street that provided access to some on-street parking across Alaskan Way from Piers 62/63 prior to the construction of the AWPOW projects. The segment of Pine Street near the Seattle Aquarium will provide direct local access to Piers 62/63 on the west side of Alaskan Way; its intersection with Alaskan Way will be signalized. The study area does not include the portion of Pine Street east of Pike Place Market.
- **Union Street** within the study area is also separated from the primary portion that connects downtown and Capitol Hill. There is a stairway for pedestrians that provides a connection from just west of First Avenue to Alaskan Way, but no through vehicular access is provided. The intersection of Union Street and Alaskan Way will be improved with a stair and elevator connection for pedestrian traffic, and it will continue to provide local access. Its intersection with Alaskan Way is signalized.

The transportation analysis reflects expected conditions in 2030, which is the year used for the assessment of future conditions, including the completion of the AWPOW projects. In addition to the transportation improvements described in Appendix C, the AWPOW projects will also signalize the intersection of the Pike Place Market Garage driveway at Alaskan Way, adjacent to the Seattle Aquarium.

3.1.1.2 Parking

The Seattle Aquarium does not have dedicated on-site parking. All parking is provided off site by surface parking lots and garages throughout downtown as well as on-street parking. Most of the existing on-street parking along Alaskan Way will be eliminated by the AWPOW projects.

As part of WSDOT's SR 99 Tunnel Project Parking Mitigation Program, off-street parking utilization of surface lots and garages along the waterfront and in Pioneer Square is monitored annually in late summer and during midweek days when commuter parking demand generated by downtown employees and visitors is the highest. The SR 99 Tunnel Project Parking Mitigation Program area extends approximately from Alaskan Way to First Avenue and from Wall Street to King Street. The WSDOT data indicate that parking occupancy (number of vehicles parked divided by the number of parking spaces) in the Pike Place Market Garage was 29% in the morning and 50% in the afternoon. Within the entirety of the SR 99 Tunnel Project Parking Mitigation Program area, parking occupancy was 58% in the morning and 71% in the afternoon. During the peak afternoon period when occupancy was highest, there were more than 500 unused parking spaces within 0.25 mile of the Seattle Aquarium, most in the adjacent Pike Place Market Garage.

More detailed analysis was completed specifically for the Pike Place Market Garage (see Appendix C). A full month of driveway entry and exit data were compiled for July 2017, and the last week in that month had the highest volumes. Saturday and Sunday had slightly higher occupancy than the peak weekday. This is expected at Pike Place Market, which attracts local and regional visitors on weekends. However, throughout the rest of downtown, the volume of weekend parking is much lower than on a weekday. Because the cumulative demand among downtown office and recreational parking is highest overall on weekdays, the peak weekday condition was evaluated for the Ocean Pavilion alternatives. During the peak three weekdays in July, the Pike Place Market Garage had an average occupancy of 440 vehicles, with a peak occurring midday. This is about half of the garage's capacity of 820 parking stalls. Even on the peak season weekday, more than 300 parking stalls were unused during the period of highest parking demand.

3.1.1.3 Transit

Downtown serves as the largest transit hub in Seattle, with bus transit, light rail, streetcar, commuter rail, ferries, and water taxis all servicing this area.

Bus transit service in Seattle is primarily provided by King County Metro (Metro) and Sound Transit. Snohomish County's Community Transit and Pierce County's Pierce Transit also provide limited bus service to and from Seattle, typically during the weekday commute periods. Metro has implemented ongoing plans to enhance transit service along high-demand corridors with RapidRide bus service, which provides frequent two-way bus service along high-demand routes, with amenities that include buses with low floors to facilitate faster passenger loading and unloading, ORCA card readers at stations that allow riders with cards to pay before they board, and electronic signs that provide arrival time information (King County Metro 2018). Metro is evaluating re-establishing transit along Alaskan Way to replace service on SR 99 that will be lost with the removal of the Alaskan Way Viaduct. There are several options being evaluated, including extending other routes to this corridor.

The Seattle Streetcar provides fixed-guideway service between Westlake and South Lake Union, and between Pioneer Square and Capitol Hill. The City's Center City Connector project plans to connect these two separate systems with a streetcar line along First Avenue and Stewart Street in downtown Seattle. Construction of the connector is being reviewed and could be resumed after the Alaskan Way Viaduct demolition is complete.

Sound Transit operates Link light rail service that serves downtown Seattle. The light rail connects the University of Washington and Angle Lake, with stops in the Capitol Hill, downtown, Central Seattle, and South Seattle neighborhoods as well as SeaTac Airport. Light rail service will be extended north to the University District, Roosevelt, and Northgate neighborhoods in 2021, and north to Lynnwood by 2024. East Link will extend light rail service to Overlake in 2023. Additional light rail lines have been approved as part of Sound Transit's ST3 program, with the largest element of that plan creating new lines to Ballard and West Seattle and a new transit tunnel through downtown Seattle scheduled to open in 2035. Sound Transit also operates the Sounder commuter rail service, which operates Monday through Friday during commute peak hours. In Seattle, the Sounder trains stop at the King Street Station, downtown at South King Street and Second Avenue South. Sounder trains travel between Lakewood and Seattle and between Everett and Seattle (Sound Transit 2018).

WSF operates ferry service accommodating both vehicle and walk-on traffic. Two ferry routes operate from the Colman Dock Terminal in downtown Seattle: the Seattle-Bainbridge ferry and the Seattle-Bremerton ferry. Metro operates the King County Water Taxi, which provides service between Pier 50 at the Seattle waterfront to West Seattle and Vashon Island. The ferry and water taxi terminals are about 1,500 feet walking distance from the Seattle Aquarium.

3.1.1.4 Non-Motorized Use

Very high levels of bicycle and pedestrian activity characterize the Seattle downtown and waterfront areas. The downtown sidewalk system is generally complete. Marked crosswalks with pedestrian crossing signals are provided at all signalized intersections. The City has constructed protected bicycle lanes along Second Avenue and continues to implement bicycle facility improvements throughout the downtown area. In addition to protected bike lanes, the AWPOW projects include constructing pedestrian enhancements along the waterfront such as crossing improvements, buffers between pedestrian and vehicle travel ways, and pedestrian amenities along the sidewalks. The Alaskan Way non-motorized improvements will also provide connection between the sections of the Elliott Bay Trail located along the waterfront to the north and south of the corridor.

3.1.2 Summary of Potential Impacts

Construction-related activities under the action alternatives may have impacts related to truck trips, construction employee trips and parking, and short-term lane or sidewalk closures. The transportation and parking impact analysis also considers the long-term effects the Ocean Pavilion could have on elements of the transportation system that include the different modes of travel visitors may use to access the Ocean Pavilion, including walking, biking, driving, or taking transit. Table 3 in Appendix C describes the impact indicators for transportation and parking. Based on a combination of quantitative and qualitative assessments,

the degree of impact is determined as minor, moderate, or significant. Table 3-1 provides a summary of anticipated construction and long-term impacts for each alternative related to transportation and parking.

Table 3-1
Transportation and Parking Impacts Summary

Alternative	During Construction	Long Term
1 (No Action)	No Adverse Impact No construction, therefore no construction impacts	No Adverse Impact No additional transportation or parking impacts beyond what was previously analyzed in the AWPOW EIS
2	Minor to Moderate Impact Potential temporary impacts associated with truck and construction employee trips, construction employee parking, and street lane or sidewalk closures adjacent to construction activities; impacts can be reduced through implementation of a Construction Management Plan and are anticipated to be minor to moderate depending on the construction activity	Minor Impact Additional visitors accommodated by Alternative 2 would generate additional vehicle, transit, and non-motorized trips, which could be accommodated by existing and planned future infrastructure without the need for transportation capacity improvements, and additional vehicle parking demand which could be accommodated by available parking garage capacity
3	Same as Alternative 2	Same as Alternative 2

3.1.3 *Construction Impacts and Mitigation Measures*

Alternative 1 would not include construction beyond what was analyzed in Section 3.3 of the AWPOW EIS, which considered the transportation and parking impacts of the overall improvements along the waterfront between Wall Street and South King Street, but did not explicitly consider the potential impacts of construction of the Ocean Pavilion. No additional construction impacts are identified for this alternative. The following impact analysis addresses the action alternatives.

3.1.3.1 **Construction-Generated Vehicle Trips and Parking**

For the action alternatives, estimates of vehicle trips generated by construction activities—including trucks hauling site materials and construction employee trips—were based on the preliminary design and construction phasing anticipated for these alternatives. Because estimates are preliminary, they are conservatively high. For the action alternatives, trips would be generated by trucks traveling to support construction activities and also by construction workers commuting to and from the work site. Trucks are expected to average between about 10 and 20 round trips per day, over the duration of the 28-month construction period. The highest daily truck trips (about 50 round trips per day) are expected to occur during the period when excavation and foundation construction occurs.

It is anticipated that construction workers would arrive at the work site before the morning peak traffic period on area streets and depart the work site prior to the evening commute peak period. Vehicle trips generated by construction workers may be constrained by the amount of available parking at the work site; if measures are needed to eliminate potential parking overspill, they would also serve to reduce vehicle trips. An average of 100 construction employees are expected to be at the work site on any given day; the exact number would vary from day to day depending on the construction activities taking place.

Construction employees who drive to the work site would generate parking demand. For downtown projects, any employee parking that cannot be accommodated at the work site may require the use of off-site parking and transit or employee shuttles between the parking location and the work site, to prevent overspill to the public parking supply. However, it may be possible for some construction-generated parking to occur within the Pike Place Market Garage during periods or times of year when there is excess capacity. With mitigation in place (as described in the following section), construction-generated parking impacts would be minor.

Construction-generated trips and parking demand were estimated based on preliminary design and anticipated construction phasing. They would be refined as part of ongoing design.

3.1.3.2 Street Lane or Sidewalk Closures

For the action alternatives, construction would be coordinated along the Alaskan Way frontage with the AWPOW projects to minimize lane and sidewalk closures. To the extent possible, truck staging would be located off Alaskan Way.

No major street closures are expected to occur with construction of the action alternatives. If necessary, lane or sidewalk closures during construction would be localized and limited in duration. Any closures that occur would need to be managed through measures developed as part of a Construction Management Plan, described in the following mitigation section. With mitigation measures in place, impacts related to street lane or sidewalk closures are anticipated to be minor to moderate, depending on the duration, level of capacity reduction, and length of detour.

3.1.3.3 Animal Care Center

Construction activities associated with the Animal Care Center would generate a small number of trucks that would be spread out and would not have noticeable effect on traffic operations. Construction-generated parking for the Animal Care Center would be accommodated on site and would not result in adverse impacts.

3.1.3.4 Mitigation

For the action alternatives, the contractor would be required to develop and implement a Construction Management Plan, which could potentially include, but not be limited to, the following avoidance and minimization measures:

- Prepare Maintenance of Traffic plans for any work within the public right-of-way that affects vehicular, transit, bicycle, or pedestrian traffic. These plans would be required to show the location of traffic cones, traffic control personnel, and signs; and indicate special treatments for pedestrian and bicycle access.
- Coordinate with the City to determine appropriate times of travel and haul routes for construction-generated truck traffic. In general, construction-generated truck traffic may be prohibited during weekday peak periods (6:00 a.m. to 9:00 a.m. and 3:00 p.m. to 6:00 p.m.). Haul routes generally would be on arterial streets through commercial areas and consist of the most direct path to and from the state highway system.
- Maintain access for driveways near the work site.
- Provide adequate staging areas for construction-related vehicles.

- Provide on-site loading areas for removal and delivery of material.
- Encourage construction workers to commute via alternative modes, or provide shuttle service to and from the site for construction employees, to minimize added vehicle trips and parking demand at or near the site.
- Maintain pedestrian and bicycle access and circulation during project construction.
- Provide access for emergency vehicles at all times. During lane closures, notify police and fire departments of construction locations to ensure that alternative evacuation and emergency routes are designed to maintain response times during construction periods, if necessary.

Through its Street Use Permit process and consistent with SMC 15.32.050, SDOT would coordinate the construction needs and potential construction-related impacts of this project with the other infrastructure and development projects in the study area, including potential overlapping elements of the AWPOW projects' construction. SEAS would participate in construction coordination processes that SDOT establishes for major projects. Implementation of these measures is expected to reduce construction traffic and parking impacts to less-than-significant levels. Therefore, no mitigation measures are proposed.

3.1.4 Long-Term Impacts and Mitigation Measures

3.1.4.1 Traffic Volume

Traffic volume impacts were analyzed by estimating visitor and employee trips as well as travel mode, average vehicle occupancy, and parking data to determine changes likely to occur at peak volumes.

For Alternative 1, PM peak hour volumes at the study area intersections were obtained from Section 3.4.2 of the AWPOW EIS (SDOT 2016a, 2016b) and reflect the AWPOW's selected preferred alternative in 2030 without the proposed Ocean Pavilion. The forecast volumes at the Pike Place Market Garage driveways were refined based on the July 2017 usage data and analysis that was completed for the garage expansion. The forecast volumes at the Pike Place Market Garage driveways used in that analysis assumed traffic associated with the increased garage capacity and reflected growth in area visitors as well as vehicles that may be displaced from nearby on-street parking. Some of this growth could be associated with the existing Seattle Aquarium. Figure 7 in Appendix C shows the projected 2030 PM peak hour volumes for Alternative 1.

The action alternatives reflect different configurations of the Ocean Pavilion; however, it is anticipated that the future visitor volumes with the Ocean Pavilion, and in turn the trips they would generate to and from the facility, would be the same for both alternatives.

Traffic forecasts for the action alternatives were based on existing and projected future Seattle Aquarium visitor data combined with visitor travel survey data collected by the Seattle Aquarium. Travel surveys indicated that about 51% of aquarium visitors travel by car, with an average of 3.4 persons per car. Vehicle trips generated by aquarium visitors are spread throughout the day, peaking in mid-afternoon. Future visitor volumes are projected to increase with the addition of the Ocean Pavilion. It is likely that some level of increase would occur without the Ocean Pavilion, but for the purpose of this analysis, the increased traffic volumes are conservatively attributed entirely to the two action alternatives. Overall, future visits are expected to increase by slightly more than 40% compared to existing conditions.

With Alternative 1, about 140 current paid employees and about 50 part-time volunteers would continue to work at the Seattle Aquarium on a typical peak season day. This daily number is projected to increase by about 60 staff persons and 40 volunteers with the Ocean Pavilion in full operation. With the action alternatives, additional employees are projected to generate 14 vehicle trips departing during the PM peak hour.

The additional trips taken by visitors and employees that would be generated by this growth was added to the Alternative 1 study area volumes to estimate the projected 2030 PM peak hour volumes for the action alternatives. The trip projections assume that new visitors and employees would travel directly to the Seattle Aquarium before their visit or work shift and depart directly after; and that all trips to and from the Pike Place Market Garage via Western Avenue would occur at one driveway. This results in a conservatively high estimate of PM peak hour vehicle trips and operating conditions associated with garage access. Table 3-2 shows the projected increase in vehicle trips as a result of the operation of the action alternatives. Figure 9 in Appendix C shows the projected 2030 PM peak hour volumes for the action alternatives.

Table 3-2
Projected Increase in Vehicle Trips Generated by Alternatives 2 and 3

	Typical Day			Peak Season Day		
	In	Out	Total	In	Out	Total
Daily Vehicle Trips						
Visitor Rideshare and Taxi Trips	82	82	164	102	102	204
Visitor Trips to/from Pike Place Market Garage	49	49	98	63	63	126
Staff/Volunteer Commute Trips to/from Pike Place Market Garage	25	25	50	25	25	50
Visitor Trips to/from On-Street Parking and Other Garages (Outside Study Area)	209	209	418	266	266	532
Increase in Vehicle Trips per Day	365	365	730	456	456	912
PM Peak Hour Vehicle Trips (4-5 p.m.)						
Visitor Rideshare and Taxi Trips	11	11	22	15	15	30
Visitor Trips to/from Pike Place Market Garage	4	8	12	4	11	15
Staff/Volunteer Commute Trips to/from Pike Place Market Garage	0	14	14	0	14	14
Increase in PM Peak Hour Vehicle Trips within Study Area	15	33	48	19	40	59
Visitor Trips to/from On-Street Parking and Other Garages (Outside Study Area)	17	34	51	17	47	64
Total Increase in Vehicle Trips in PM Peak Hour	32	67	99	36	87	123

Source: Heffron Transportation 2018

3.1.4.2 Intersection Level of Service

Level of Service (LOS) designations are qualitative descriptions of traffic operating conditions, designated with letters ranging from LOS A, which is indicative of good operating conditions with little or no delay, to LOS F, which is indicative of stop-and-go conditions with frequent and lengthy delays.

All study area intersections are expected to operate at LOS D or better with Alternative 1. The additional vehicle trips generated in the study area by the action alternatives are projected to add a small amount of average delay to some intersections but are not expected to change their overall LOS (Table 3-3). Based on these results, the long-term traffic impacts resulting from the action alternatives are anticipated to be minor.

Table 3-3
Level of Service Summary – 2030 Conditions – PM Peak Hour

Intersection	Alternative 1		Alternative 2 or 3	
	LOS	Delay ¹	LOS	Delay ¹
Signalized				
Western Avenue/Lenora Street	D	39	D	39
Elliott Avenue/Lenora Street	B	16	B	16
Alaskan Way/Pine Street	C	34	C	35
Alaskan Way/Pike Place Market Garage driveway	A	5	A	6
Alaskan Way/Union Street	B	12	B	13
Stop Sign-Controlled				
Western Avenue/Pike Place Market Garage driveway (<i>overall</i>)	A	1	A	1
Eastbound movement	C	19	C	20
Northbound left-turn movement	A	9	A	9

Source: Heffron Transportation, June 2018

Note:

1. Average seconds of delay per vehicle

3.1.4.3 Site Access and Circulation

The site access evaluation addresses deliveries and buses accessing the existing Seattle Aquarium and proposed Ocean Pavilion. A loading configuration was developed as part of the AWPOW projects and is used here with Alternatives 1, 2, and 3.

A loading area would be provided on the west side of Alaskan Way, next to the proposed Ocean Pavilion, and separated from the adjacent sidewalk (to the west) and Alaskan Way vehicle lanes (to the east) by landscaped buffers. The loading area would accommodate both delivery vehicles and buses. A curb cut within the loading area would allow direct east-west access to the waterfront piers via the Waterfront Promenade (located between Piers 59 and 60 and the Ocean Pavilion) for emergency, freight, delivery, garbage, and recycling vehicles. These vehicles would have access to the piers at all times, but any loading directly on or off the Waterfront Promenade would be discouraged during peak pedestrian periods, and loading activities would be managed by staff, to maintain safety. Alternative 1 is expected to generate 4 to 6 truck deliveries per day, and the action alternatives are expected to generate about 6 to 8 trucks per day. Deliveries primarily are spread out during off-peak periods and are expected to have a minor effect on traffic operations. All three alternatives include service routes to the Seattle Aquarium that cross the Aquarium Plaza that would be used by a small number of trucks per day.

Alternative 1 is expected to result in about 8 to 10 buses per day that carry groups to and from the Seattle Aquarium, and the action alternatives are expected to result in an increase to about 15 to 20 buses per day during peak day conditions. Bus traffic is typically generated by the Seattle Aquarium during daytime hours, between 9:00 a.m. and 3:00 p.m., to correspond with typical school hours and is not expected to affect PM peak hour traffic conditions for all three alternatives.

With either action alternative, delivery and passenger loading infrastructure would be designed to meet City standards and would adequately accommodate loading without adversely affecting pedestrian or vehicle circulation at and near the Ocean Pavilion. Because delivery and passenger loading activities are not expected to adversely affect traffic operation at site access points and loading needs would be adequately accommodated through adherence to City standards, impacts resulting from loading activities are anticipated to be minor.

3.1.4.4 Parking

With Alternative 1, there would be no changes to parking demand or supply, beyond what was evaluated in Section 3.7 of the AWPOW EIS.

With the action alternatives, new visitors and employees would generate additional parking demand: an additional 258 vehicles parked per day on a typical day and 329 vehicles parked per day on a peak day. Parked vehicles generated by Seattle Aquarium visitors would be spread throughout the day and would not all be parked at the same time. Applying the visitors by hour of day, as well as the typical duration of stay reflected in the Seattle Aquarium visitor surveys, results in a peak hour demand of 89 parked vehicles on a typical day and 116 parked vehicles on a peak day. Based on employee vehicle trip projections, each action alternative is expected to generate an additional 25 vehicles parked by aquarium staff and volunteers per peak season day.

On a typical weekday during the peak visitor season, when parking demand is highest in the downtown core area of Seattle, including garages along the waterfront, the action alternatives are projected to generate an additional peak parking demand of about 45 vehicles in the Pike Place Market Garage at mid-afternoon, compared to Alternative 1.

With the additional parking demand generated by either of the action alternatives, the Pike Place Market Garage is expected to have more than 300 spaces available throughout the weekday to accommodate demand generated by other uses. While the Pike Place Market Garage would have adequate capacity to accommodate all increased parking demand, the action alternatives are projected to generate about 94 additional vehicles at other locations spread throughout downtown during the peak demand hour. However, the visitor travel survey showed that these vehicles would be spread out between on-street parking and private lots and garages throughout the downtown area and would be less concentrated than the demand generated within the study area. Downtown parking capacity illustrated in Table 2 of Appendix C shows that there is ample capacity in private lots and garages to accommodate this demand. Because parking capacity would be available to accommodate the additional parking demand generated by the action alternatives, parking impacts are anticipated to be minor.

3.1.4.5 Freight

Consistent with the AWPOW EIS analysis, and as described in Section 4.4.2 of the *Appendix A: Transportation Discipline Report* (SDOT 2016c) prepared for that document, the Alternative 1 operational analysis assumes

the same percentage of heavy (freight) vehicles in the study area as under 2017 existing conditions. Action alternative analysis assumes the same percentage of heavy (freight) vehicles in the study area as under 2017 existing conditions. None of the alternatives would affect citywide freight routes because they are outside of the study area. Therefore, no freight impacts are anticipated.

3.1.4.6 Transit

With Alternative 1, there would be no changes to transit demand or supply, beyond what was evaluated in the AWPOW EIS.

The action alternatives are projected to result in an increased number of visitors who travel to and from the Seattle Aquarium by transit. The 224 (typical day) to 285 (peak day) additional visitors who travel by transit translates to 448 to 570 new transit trips per day, as each visitor makes one inbound transit trip to the Seattle Aquarium and one outbound trip at the end of their visit. The peak transit demand would occur mid-day and would not overlap with the commuter peak hours into and out of downtown.

The collective transit options for downtown Seattle provide capacity that is more than adequate to support the increased transit demand generated by the action alternatives. Increased transit ridership is considered beneficial because it supports, local, regional, and statewide policies that encourage the use of alternative transportation modes instead of driving. None of the alternatives would affect transit stops, stations, or routes. No adverse transit impacts are anticipated to result from the proposed action.

3.1.4.7 Non-Motorized Travel

With Alternative 1, there would be no changes to non-motorized facilities or conditions, beyond what was documented in Section 3.4.2 of the AWPOW EIS. The existing Seattle Aquarium would be incorporated into the extensive pedestrian and bicycle improvements that are being constructed along the waterfront as part of the AWPOW projects.

Additional non-motorized demand generated by the action alternatives was estimated by applying the survey travel mode data previously described to the forecast visitor increases. Since the site has no added parking, all new patron trips are assumed to be non-motorized trips between the site and parking, transit, or other walking destinations. The impact of the increased demand was qualitatively evaluated with respect to available non-motorized facilities in the area, including pedestrian connections and at-grade crossings of Alaskan Way, and also consistency with local and regional policies (described in the Regulatory Context section of Appendix C) that encourage use of alternative travel modes.

Both action alternatives are projected to result in an increased number of visitors who travel to and from the Seattle Aquarium by walking or biking. The 482 (typical day) to 613 (peak day) additional visitors who travel by walking or biking translates to 964 to 1,226 new walking and biking trips per day, as each visitor makes one inbound trip to the Seattle Aquarium and one outbound trip at the end of their visit. In addition, since the Seattle Aquarium has no on-site parking, all new patron trips would include a non-motorized component. With the action alternatives, the Ocean Pavilion would be integrated with the AWPOW projects' improvements, providing additional pedestrian space and meeting all accessibility standards. The existing and planned future pedestrian and bicycle facilities would adequately accommodate additional non-motorized demand generated by the expanded facility. Increases in people walking or biking is

considered beneficial because it supports, local, regional and statewide policies that encourage the use of alternative transportation modes instead of driving. No adverse non-motorized impacts are anticipated to result from the action alternatives.

3.1.4.8 Event Conditions

The Seattle Aquarium currently hosts special events, and the Ocean Pavilion could increase event capacity. The existing facility has an event capacity of 800 guests. In 2017, 113 events were held over the course of the year, with an average attendance of 230. In July 2017, the month with the highest level of overall visitor activity, 19 events were held, ranging in size from 15 to 800 guests, with an average attendance of 176. With the action alternatives, event capacity would increase to about 1,200 guests. The frequency of events is not expected to materially change, but an average attendance of about 600 is projected with full operation of these alternatives. Because these events primarily occur during off-peak hours (during weekends or weekdays after the Seattle Aquarium is closed to the general public, after the PM peak hour) the overall typical traffic volumes are expected to be lower than the PM peak hour condition, and intersection operations would typically be better than the results summarized in Table 3-3. Therefore, no operational analysis was conducted for event conditions.

Typically, peak parking occupancy at the Pike Place Market Garage and other garages in the area occurs in the mid-afternoon and occupancy steadily declines later in the afternoon on all days of the week. During the evening hours, there is ample parking capacity available to accommodate event parking demand, and no adverse impacts on parking are anticipated from event activities.

3.1.4.9 Animal Care Center

The proposed Animal Care Center may be located on Harbor Island or a similar warehouse location, about 5 miles from the Seattle Aquarium. It is expected that up to 2 to 4 employees would typically generate about 2 to 4 commute trips per day. Fewer than 3 trips per day would typically be generated by operation of the facility and would primarily occur during off-peak periods. Because trips generated by the Animal Care Center would be small in number and spread through the day, they would have a negligible effect on traffic operations. On-site parking supply and loading facilities would meet City code requirements and standards; therefore, no adverse impacts related to parking or loading are anticipated.

3.1.4.10 Mitigation

No significant long-term transportation or parking impacts are anticipated to result from Alternatives 1, 2, or 3, or the Animal Care Center; therefore, no mitigation is proposed.

3.2 Land Use

This section provides a summary of the findings contained in Appendix D. The land uses surrounding the Ocean Pavilion are expected to be modified by completion of the AWVRP and AWPOW projects, with construction for these projects anticipated to begin in late 2018 and mid-2019, respectively, as of the publication of this EIS. Because the action alternatives are located within an area being modified by the AWPOW projects, this analysis incorporates by reference the AWPOW EIS documents (SDOT 2015a, 2016a, and 2016b).

3.2.1 *Affected Environment*

The land use study area includes the building footprints of the Ocean Pavilion and Animal Care Center (potential location), with a 500-foot buffer from the footprint boundaries to include adjacent properties where impacts may occur (Figure 3-2).

The two parcels in the footprint of the building in the action alternatives include King County Parcel No. 7666202380 at 1529 Alaskan Way, which is currently a parking lot, and the Alaskan Way right-of-way. The parcel at 1529 Alaskan Way is zoned Downtown Harborfront 2, as are the other parcels in the study area between Alaskan Way and the Alaskan Way Viaduct. Zoning of the remaining parcels in the study area is Downtown Harborfront 1 west of Alaskan Way, and Pike Market Mixed east of the Alaskan Way Viaduct. The study area is located entirely within the Downtown Fire District overlay district.

To the west, the building footprint and a portion of the surrounding study area is within the Shoreline District and regulated by the City's Shoreline Master Program. This area is designated as an Urban Harborfront shoreline environment. Pier 59 is also within the Urban Harborfront Historic Character Area.

The 1529 Alaskan Way parking lot and the Alaskan Way roadway are currently used for transportation purposes. According to King County Assessor's records and direct observation, land use of surrounding parcels includes the following:

- Museum (Seattle Aquarium)
- Park/Open Space (Piers 62/63 Park and Waterfront Park)
- Multifamily Residential (Waterfront Landings Viaggio building, Hillclimb Court Condominiums, and Fix Madore building)
- Parking (lot bounded by Union Street, Alaskan Way South, and Western Avenue)
- Commercial Office and Retail (antiques market at 1400 Alaskan Way, offices at 1415 Western Avenue and 1426 Alaskan Way)
- Mixed Use (MarketSpace development, consisting of multifamily residential, parking, and commercial space)

A parcel to the north of the Ocean Pavilion area was previously a commercial office building at 1528 Alaskan Way, but the building is scheduled for demolition under the AWVRP. The 1528 Alaskan Way parcel is currently identified for transportation use, and is a planned staging area for AWVRP. Two Seattle Parks and Recreation-owned and operated parks are located in the study area: Piers 62/63 Park and Waterfront Park.

The potential location of the Animal Care Center on Harbor Island is King County Parcel No. 7666703020, which is zoned Industrial General 1. The established land use of the parcel is Warehouse, and the building is currently used for light industrial activities and storage. Parcels to the north, west, and east are classified as Industrial, and to the south as Parking. Part of the parcel is within the Urban Industrial shoreline environment.

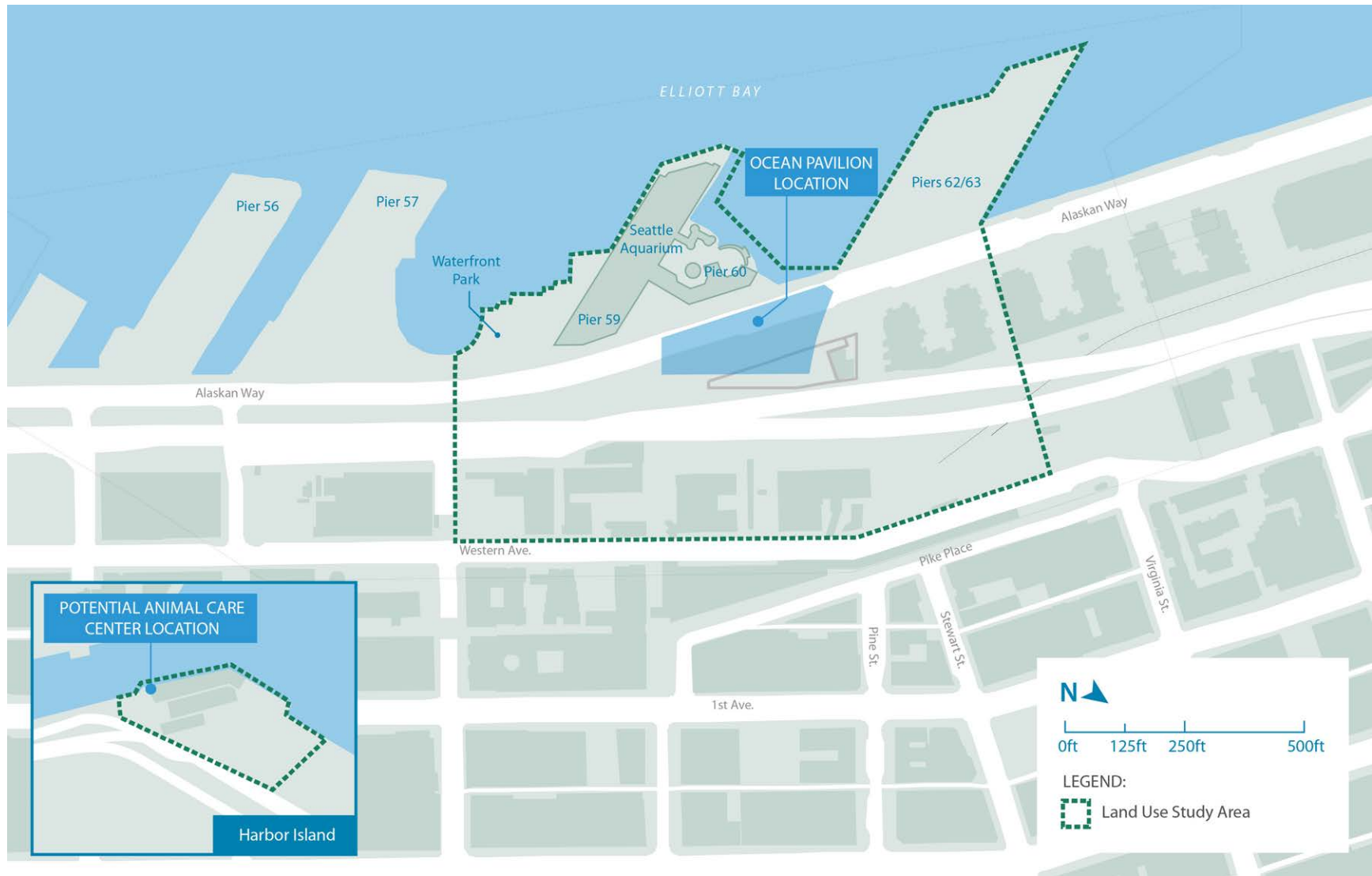


Figure 3-2
Land Use Study Area

3.2.2 Summary of Potential Impacts

The land use impact analysis considers whether the proposed action is consistent with existing plans and policies, and whether the proposed action includes land use conversions that disrupt communities or land use restrictions or changes. Table 2 in Appendix D describes the impact indicators for land use. These impacts may be adverse or beneficial, and are categorized as minor, moderate, or significant. Table 3-4 provides a summary of anticipated construction and long-term impacts for each alternative related to land use.

Construction of either action alternative would result in minor impacts. The action alternatives are anticipated to provide minor long-term benefits because the Ocean Pavilion would increase educational opportunities and support anticipated land uses in the area, consistent with local plans and policies. Alternative 3 would have slightly more benefit because it preserves unobstructed public views of Elliott Bay, whereas Alternative 2 would have partially obstructed public views. Additionally, both action alternatives would improve access to Pike Place Market from the waterfront, although this would occur to a greater extent with Alternative 3 because pedestrian access would have a more level connection with the Overlook Walk and a more visible elevator connection.

Table 3-4
Land Use Impacts Summary

Alternative	During Construction	Long Term
1 (No Action)	No Adverse Impact No construction, therefore no construction impacts	No Adverse Impact Would maintain public open space and access consistent with the goals of applicable land use plans and policies as analyzed in the AWPOW EIS (SDOT 2016b)
2	Minor Impacts Potential impacts associated with noise, dust, congestion, loss of parking, and access changes	No Adverse Impact, Minor Benefit <ul style="list-style-type: none"> • Would further the goals of applicable land use plans and policies for education, increased multimodal connections, and open space and recreation • Would provide public open space and access to the rooftop and partially obstructed public views of Elliott Bay, preserving some views of the water
3	Minor Impacts Potential impacts associated with noise, dust, congestion, loss of parking, and access changes	No Adverse Impact, Minor Benefit <ul style="list-style-type: none"> • Would further the goals of applicable land use plans and policies to a greater degree than Alternative 2 for increased multimodal connections and open space and recreation • Would provide public open space and access to the rooftop; the higher elevation would provide unobstructed public views of Elliott Bay over Pier 59, preserving views of the water consistent with policies and goals of the City's Comprehensive Plan • Would also provide improved access to the Pike Place Market from the waterfront to a greater degree than Alternative 2 because pedestrian access would have a more level connection with the Overlook Walk and a more visible elevator connection; there would also be more landscaping on the Ocean Pavilion roof as compared to Alternative 2

3.2.3 *Construction Impacts and Mitigation Measures*

No construction impacts are anticipated from Alternative 1: No Action Alternative beyond those analyzed in the AWPOW EIS. Therefore, no mitigation would be required.

Both action alternatives would have the same construction-related impacts and mitigation. Access to land uses such as residences, parks and recreational facilities, and the Seattle Aquarium would change temporarily during construction. None of these disruptions would change or convert any land uses. Temporary occupation of the right-of-way at sidewalks, streets, and utility corridors would occur; however, local access would be provided at all times. Other disruptions that could affect land uses include an increase in traffic congestion around work zones, road closures, traffic diversions, and detour routes affecting access to residences, parks and recreational facilities, and the Seattle Aquarium. Construction equipment, staging or stockpiling of materials, fencing, or scaffolding could make the area less convenient or appealing to potential visitors. Noise levels in areas of active construction could be intermittently high, resulting in higher ambient noise levels for nearby land uses. These impacts would be minor because there would be no conversions of existing land uses, land uses would remain consistent with existing plans and policies and land use changes (such as detours or short-term occupations of sidewalks) would be temporary.

Construction at the potential Animal Care Center would occur under either action alternative. Because no exterior construction is planned, construction would be of a much lesser magnitude. No disruptions to traffic patterns or access are anticipated. The area where the potential Animal Care Center would be located is already industrial in character; no residences, or recreational or educational facilities are in the immediate vicinity. Limited park space is available in the area, and includes the Terminal 18 Park immediately to the southeast along the shoreline. Given the minimal construction activity and industrial setting, construction at the potential Animal Care Center would have no adverse impacts on land use.

Avoidance and minimization measures for minor temporary construction impacts on land uses in the area include maintaining transportation and parking as well as access to residences and parks/open space (SDOT 2016b; Appendix C). These would include clearly marking roadway detours and pedestrian and bicycle routes, accommodating loading and delivery access, and use of traffic control devices and flaggers.

Avoidance and mitigation measures for minor impacts from increased noise levels and reduced visual quality would include minimizing light and glare (especially near condominium residences) through such means as directional lighting or light barriers, screening the construction area and adding interpretive display elements or viewing windows in screening, using low-noise emission equipment or installing silencers or sound-deadening materials, minimizing the use of generators, and limiting high-noise activities to daytime hours to the extent practicable. The contractor would need to comply with the City's Noise Ordinance for construction activities and would be anticipated to obtain any required variances from the City during construction, as necessary.

3.2.4 *Long-Term Impacts and Mitigation Measures*

All three alternatives are compatible with applicable land use plans and policies and are expected to accomplish the following:

- Improve pedestrian connections through the waterfront

- Encourage and support planned growth
- Develop water-oriented uses of the shoreline and waterfront public facilities
- Provide opportunities for public open space and enjoyment of the shoreline and water views (although this would occur to a greater extent for Alternative 3, as described in Appendix E, in particular because Alternative 3 would provide additional public open space between the building and Pier 60, Piers 62/63, and the Elliott Bay shoreline, including space to provide expanded stairs and viewing areas in the Overlook Walk design; additionally, the 50-foot building height in Alternative 3 would provide unobstructed public views of Elliott Bay, consistent with the goals and policies of the City's Comprehensive Plan [City of Seattle 2017])
- Improve access to the Pike Place Market from the waterfront, although this would occur to a greater extent with Alternative 3 because pedestrian access would have a more level connection with the Overlook Walk and a more visible elevator connection

Table 3-5 provides additional detail on the consistency of the three alternatives with land use goals, which shows that Alternative 3 has a greater beneficial impact than the other two alternatives, because it is more consistent with land use plans and policies and better promotes some of the stated goals.

Table 3-5
Summary of Consistency with Applicable Land Use Plan Goals

Alternative	Increased Multimodal Connectivity	Economic Development	Urban Growth	Environmental Protection and Education	Open Space and Recreation	Public Facilities and Services
1 (No Action)	No change to existing pedestrian connectivity	No additional infrastructure to draw visitors	Compatible with planned growth in the waterfront area	No changes related to environmental protection or enhancement; no environmental education component because there would be no Ocean Pavilion	No change in open space and recreation opportunities	No change in public facilities and services
2	No change to existing pedestrian connectivity as compared to the No Action Alternative	Provides substantial investment in infrastructure that supports tourist destinations and small businesses	Compatible with planned growth in the waterfront area	No changes related to environmental protection or enhancement; improved opportunity for environmental education	No change in open space and recreation opportunities; elevated viewpoint (40-foot building height) would provide partially obstructed public views of the water from the roof	Includes an exterior public elevator and stairs
3	Provides an enhanced connection with the Overlook Walk as well as connections to Pike Place Market	Provides substantial investment in infrastructure that supports tourist destinations and small businesses	Compatible with planned growth in the waterfront area	Allows for more landscaping on the public plaza and roof, improved opportunity for environmental education	Elevated viewpoint (50-foot building height) allows for 180-degree views of the water above Pier 59 from the roof; moving the building south creates direct public open space with public views of the water on the north side of the Ocean Pavilion	As a result of moving the public elevator and stairs to the south, there would be closer proximity and more direct connection to the existing Seattle Aquarium

Under both action alternatives, public right-of-way would be reduced because the Ocean Pavilion would occupy a greater extent of the Aquarium Plaza space. However, both action alternatives would provide additional public open space on the roof of the Ocean Pavilion, which is partially dedicated right-of-way. Therefore, no land use or access restrictions related to public space are identified with the action alternatives.

The two action alternatives would develop an Ocean Pavilion to accommodate an increase in future attendance and meet the objectives of the proposed action consistent with the *SEAS Seattle Aquarium Strategic Plan 2011-2030* (2011) and *A Master Plan for Expansion* (2015). These planning documents were developed in coordination with the City to integrate expansion of the Seattle Aquarium in concert with planned waterfront development.

The two action alternatives would also increase educational opportunities in the area. Providing opportunities for environmental education is identified as a goal (Land Use Goal 17.7) in the City's Comprehensive Plan (City of Seattle 2017a). Under the No Action Alternative, this goal would not be met by development at the site; whereas under either action alternative, an immersive environmental education opportunity related to conservation of the marine environment would be provided by the Ocean Pavilion.

The operation of the Animal Care Center would continue industrial uses of Harbor Island. It is consistent with land use plans and policies, and would not convert or restrict land use. No adverse impacts are anticipated from operation of the Animal Care Center.

No significant long-term land use impacts are anticipated to result from Alternatives 1, 2, or 3; therefore, no mitigation is proposed.

3.3 Aesthetics and Scenic Resources

This section provides a summary of the findings contained in Appendix E.

3.3.1 Affected Environment

The study area delineates places in the surrounding landscape where viewers may perceive a change in visual character and visual quality. Because changes to the Animal Care Center would be to the interior of an existing building, and no visual impacts are anticipated with the Animal Care Center, it is not included in the study area.

The study area for aesthetics and scenic resources is adapted from the project viewshed presented in the AWPOW EIS, using a smaller study area and refining project-level views to include a foreground view area where changes to the view would be more noticeable and, barring obstructions, would be seen from the street and public lands, and a background view area where view changes would be less perceptible to viewers, except for those looking west from upper floor windows. The aesthetics and scenic resources study area is shown in Figure 3-3.

The study area boundary is described herein, and defines the one "landscape unit" used for the analysis. Landscape units are the geographic unit of a visual assessment and have a particular visual identity

(U.S. Department of Transportation 2015). Because of the limited project footprint compared to AWPOW, only one landscape unit is established.

The project landscape unit is centered around the waterfront along Alaskan Way and is bounded by Puget Sound to the west, downtown's Fourth Avenue to the east, Belltown's Battery Street to the north, and Pioneer Square's Yesler Way to the south. The waterfront and Pike Place Market are regional destinations for tourism, and the surrounding area hosts a wide range of commercial, office, residential, and open space uses.

The affected environment represents the conditions in the study area as of 2018, before construction of the Ocean Pavilion, including the overall visual character, affected viewers, and visual quality levels (based on natural harmony, cultural order, and project coherence). The analysis compares the No Action Alternative with the action alternatives and is described in detail within Appendix E.

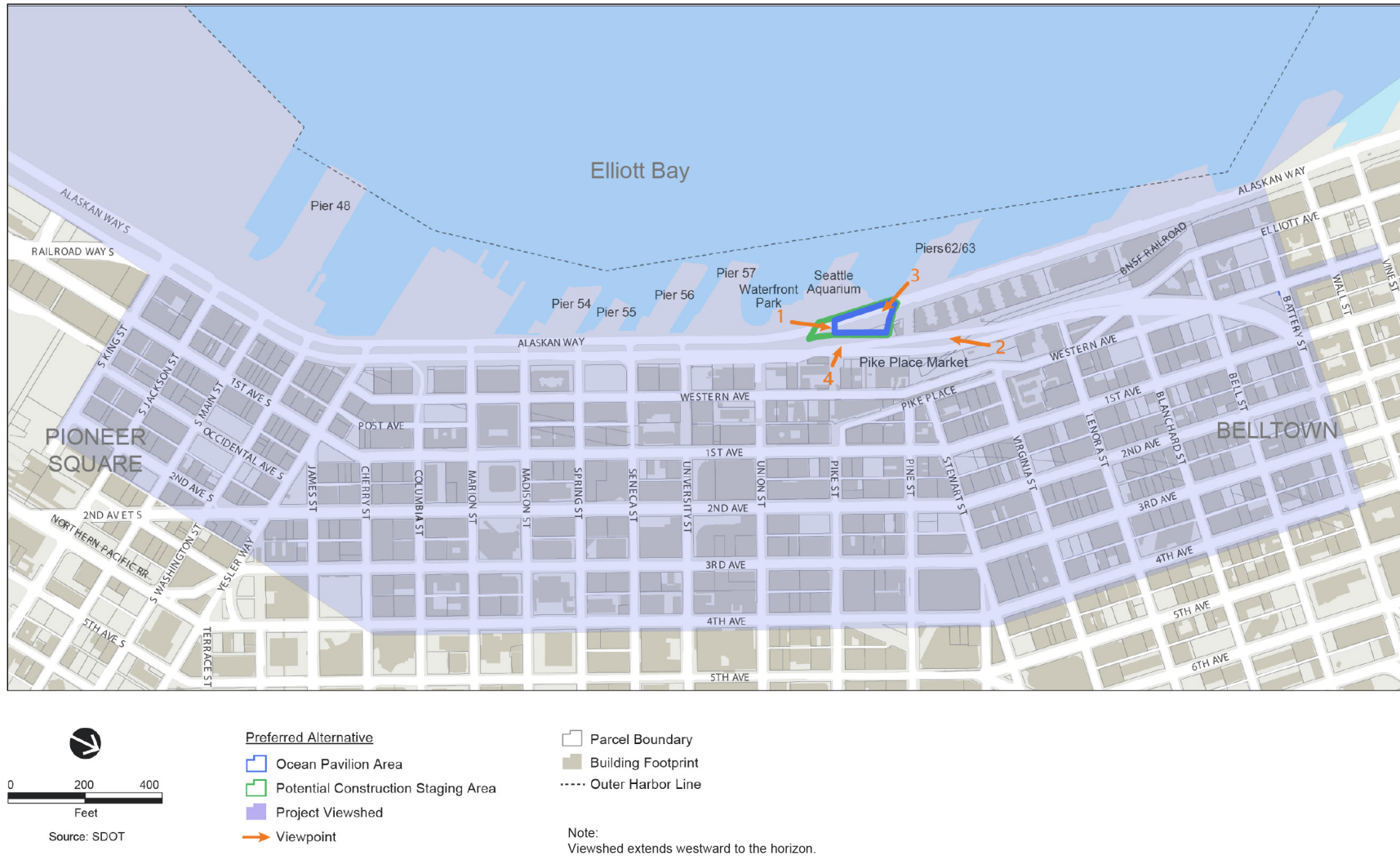


Figure 3-3
Project Viewshed and Viewpoints

Source: LMN Architects (modified from SDOT 2016b)

3.3.1.1 Visual Character

The natural environment is dominated by the open water of Puget Sound, views of West Seattle and Bainbridge Island, and background views of the Olympic Mountains to the south and west of Elliott Bay. The landform includes flat, filled land along the waterfront and steep, terraced hillsides rising up east of Alaskan Way to First Avenue. Given the highly urbanized landscape, vegetation is limited and mostly consists of ornamental species (e.g., a variety of mostly deciduous street trees, perennial plantings within medians), turf within Victor Steinbrueck Park, and west of Alaskan Way temporary grey-metal planter boxes with a variety of small trees and ornamental flowers and grasses.

The built environment is quite legible, aided by a strong street grid, though a grid that pivots at Stewart Street. Buildings and structures comprise a mixture of styles and ages, ranging from historic piers and low-rise buildings to modern steel and glass high-rises. In general, continuity of building heights exists with low-rise structures along the waterfront, predominately mid-rise structures in the hillclimb areas, and high-rise buildings farther east. The exception to this continuity on the waterfront is the Seattle Great Wheel, a Ferris wheel that stands 175 feet tall above Pier 57. Ground-level parking lots and loading areas are interspersed throughout the landscape unit, but are fairly limited given development trends in the city.

Affected viewers include a mixture of tourists, local workers, residents, and commuters. Viewers with closer proximity views, longer exposure to views (office workers or residents), or who are explicitly visiting the area for views (tourists) will be more sensitive to visual quality changes. Commuters passing through the area who have more limited view extents and/or limited duration of views will be less sensitive to visual quality changes.

3.3.1.2 Key Viewpoints

The terraced development and landforms combined with view protection policies (SMC 23.49.024, SMC 23.60A.170, and SMC 25.05.675.P) have preserved a number of view locations overlooking the project footprint. Within the study area, Waterfront Park and Victor Steinbrueck Park have SEPA-protected views of Puget Sound and the downtown skyline. Preservation of open space on piers and street or hillclimb rights-of-way also provide ground-level views of the project footprint. Four key viewpoints were selected based on the project footprint's visibility from them, their public accessibility and popularity of use, and, for some viewpoints, their protected status under SEPA. Two of these viewpoints are located in public open spaces with SEPA-protected views (Waterfront Park and Victor Steinbrueck Park), and two more viewpoints are in well-used public open spaces that have good visibility of the proposal and currently contain views of the city skyline (Piers 62/63) or limited peep-hole views of Puget Sound (Pike Street Hillclimb).

Although private views are not protected under SEPA rules and policies, an analysis was undertaken of the view impacts on adjacent residential uses, using the Waterfront Landings Viaggio building and the Fix Madore building as representative of private viewpoints.

3.3.2 *Summary of Potential Impacts*

Impacts on aesthetic and scenic resources relate to changes to the environment and how viewers perceive them. Specifically, the analysis examines whether alternatives are compatible with the surrounding environment and can be visually absorbed into the environment. How viewers perceive views includes an examination

of whether viewers will be sensitive to changes in the views and also relates to whether scenic views for this population will increase or decrease. Table 2 in Appendix E describes the impact indicators for aesthetics and scenic resources. Taken together, these changes define the degree of impact as either minor, moderate, or significant. Because changes to the Animal Care Center would be to the interior of an existing building, no visual impacts are anticipated to occur during construction. Table 3-6 provides a summary of anticipated construction and long-term impacts for each alternative related to aesthetics and scenic resources.

Table 3-6
Aesthetics and Scenic Resources Impacts Summary

Alternative	During Construction	Long Term
1 (No Action)	No Adverse Impact No construction, therefore no construction-related impacts	Moderate Benefit Beneficial effects to the general public from increasing the visual quality of existing important views of the water, sky, and background landforms as described in the AWPOW EIS (SDOT 2016b)
2	Moderate Impact Potential short-term impacts associated with construction equipment, temporary facilities and staging, soil/dust/exhaust, temporary lighting, and traffic pattern changes; SEPA-protected view impacts may include loss of some views of the downtown city skyline to the north from Waterfront Park's adjacent sidewalk and potential loss of some views of Puget Sound from Victor Steinbrueck Park dependent on the location and height of the construction crane and other equipment.	Minor Impact <ul style="list-style-type: none"> Views of the downtown skyline to the north from Waterfront Park's adjacent sidewalk may be affected, but SEPA-protected views of Puget Sound from Victor Steinbrueck Park will not be affected Slight impact from public and private views through the limited obstruction of natural and city skyline views (natural harmony), and obstruction of the street grid limiting viewer understanding and wayfinding cues (project coherence); these impacts would be most pronounced from viewpoints looking south or looking east and are due to the building location projecting out prominently from the Overlook Walk However, this alternative is currently designed to a 40-foot-tall building and adjoining Overlook Walk, while current code would allow for a 50-foot-tall building; this alternative's current height obstructs slightly less views of the water and background landforms from viewpoints looking west, compared to Alternative 3
3	Moderate Impact Potential short-term impacts associated with construction equipment, temporary facilities and staging, soil/dust/exhaust, temporary lighting, and traffic pattern changes; SEPA-protected view impacts may include loss of some views of the downtown city skyline to the north from Waterfront Park's adjacent sidewalk and potential loss of some views of Puget Sound from Victor Steinbrueck Park dependent on the location and height of the construction crane and other equipment.	Minor Impact <ul style="list-style-type: none"> Views of the downtown skyline to the north from Waterfront Park's adjacent sidewalk may be affected, but SEPA-protected views of Puget Sound from Victor Steinbrueck Park will not be affected Slight impact from public and private views through the limited obstruction of natural and city skyline views (natural harmony), and obstruction of the street grid limiting viewer understanding and wayfinding cues (project coherence); these impacts would be most pronounced from views looking west and looking north due to the building's location and taller height (50 feet) compared to Alternative 2 Unobstructed public views of Elliott Bay from the rooftop will be provided However, the building has better integration within the Overlook Walk compared to Alternative 2 Alternative 3 also has a more level connection with the Overlook Walk and connections to Pike Place Market that increases legibility and wayfinding at this location

3.3.3 *Construction Impacts and Mitigation Measures*

No construction impacts are anticipated from Alternative 1: No Action Alternative. The Ocean Pavilion would be constructed under the action alternatives. The action alternatives would have similar temporary adverse impacts on aesthetics. Visual quality would be temporarily degraded due to the following conditions:

- Construction equipment including a land-based crane, land-based equipment, and material staging and stockpiling areas around the site would obstruct some water and background landform views
- High-visibility (likely orange-colored) barriers and fencing for safety and sediment and erosion control would be installed and detract from the orderliness of the views
- Soil, dust, and exhaust from equipment and activities could detract from the air and visual quality
- Temporary lighting could brighten the area during nighttime construction activity (if needed)
- Traffic patterns for motorists, pedestrians, and cyclists would be disrupted, potentially leading to more congestion

In general, construction of both action alternatives has some potential to affect visual resources; but in both cases, impacts are likely to be moderate and there would not be substantial differences in impacts between the two action alternatives. Additional information regarding construction-related impacts on aesthetics and scenic resources from the action alternatives are included in Appendix E.

Measures to avoid or minimize construction-related impacts for both action alternatives could include the following:

- Protecting visual resources through the development of a construction screening plan, which could include integrating temporary public artwork murals and select windows into construction areas to both provide an attractive screen and opportunities for interested parties to observe the progress of construction
- Limiting nighttime construction activities and thus lighting, and considering light barriers or directing lighting away from residential buildings that could be disturbed by glare

3.3.4 *Long-Term Impacts and Mitigation Measures*

No long-term impacts are anticipated from Alternative 1: No Action Alternative beyond those analyzed in the AWPOW EIS, although moderate benefits to the general public are anticipated from increasing the visual quality of existing important views of the water, sky, and background landforms.

For Alternative 2, the AWPOW EIS identified substantial view benefits during operation but also moderate adverse impacts due to view blockages and changes to form, texture, and materials of the view within the AWPOW waterfront landscape unit. The “Aquarium Pavilion” described in the AWPOW EIS would contribute to potential impacts by blocking some views of the city skyline from a few viewpoints but was not identified as a primary contributor of impacts; these contributors were identified as the Overlook Walk, kiosks, and new street trees (SDOT 2016b, Section 5.3.2).

Alternative 3 provides a greater degree of aesthetic improvement as compared to Alternative 2 through the following components:

- The building's rooftop design would allow for rooftop landscaping that, together with the Overlook Walk public plaza landscaping, has more vegetation contributing to natural harmony
- Building height would allow for enhanced public views from the Overlook Walk/rooftop, by elevating the viewpoint above Pier 59, allowing 180-degree views of the water
- A more level connection with the Overlook Walk and connections to Pike Place Market would be provided and increases legibility and wayfinding at this location
- With the Ocean Pavilion located farther south, the following benefits would be provided:
 - The creation of a public open space directly opposite the opening between Piers 62/63 and Pier 60, providing direct public views to the water from the open space
 - Fewer waterfront views would be blocked from the public space on the Overlook Walk or from the public stairs
- Location of the public elevator to the south would provide more visible access for visitors on the Alaskan Way sidewalk, contributing to project coherence

SEPA-protected view impacts would include changes to the view of the downtown city skyline to the north from portions of Waterfront Park's adjacent sidewalk. No view impacts to Puget Sound from SEPA-protected view locations (e.g., Victor Steinbrueck Park) were identified.

The action alternatives would affect views of the open sky present in the No Action Alternative view at the base of the Pike Street Hillclimb, but only to a minor degree (approximately 6% of the view for Alternative 2 and 24% of the view for Alternative 3), the existing view has very limited views of the sky and water due to the existing Alaskan Way Viaduct. Background views of the city skyline and open sky present in the No Action Alternative view from Waterfront Park would be obstructed depending on a viewer's location in the park (approximately 18% of the view for Alternative 2 and 37% of the view for Alternative 3); but the proposed development would fit into the surrounding urban view, and a plaza rather than a street foreground view from this location would provide a visual benefit. The building would not obstruct views for visitors looking toward the city skyline from interior locations in the park (30 feet west of the sidewalk, note that the Waterfront Park assessment includes the adjacent sidewalk); approximately 49% of the pedestrian-accessible park (total area including the sidewalk portion of park but not the water portion) has views of the building.

Under the action alternatives, private waterfront views from the Fix Madore building would likely be moderately impacted, with the height of the proposed buildings reaching halfway past the second-highest floor; however, views from most of the west-facing windows appear to be obstructed by existing vegetation and the existing Alaskan Way Viaduct. Private city skyline views from the Waterfront Landings Viaggio building would likely be moderately impacted, though only limited waterfront views to the south may be obstructed.

Because changes to the Animal Care Center would be to the interior of an existing building, no long-term visual impacts are anticipated during construction.

Overall, the action alternatives would have minor adverse impacts on scenic views of the open water and background landforms from street-level views, due to existing waterfront buildings currently obstructing these views and the proposed building heights being low enough to avoid further view obstruction.

3.3.4.1 Mitigation Measures

No significant adverse impacts on aesthetic and scenic resources are anticipated; therefore, no mitigation measures are proposed. However, as the preferred design for the Ocean Pavilion is selected and undergoes review through the Design Commission process, design refinements to minimize potential impacts will be incorporated. These refinements may relate to the building envelope's material selection, landscaping, or changes to more prominent aspects of the building. The design refinement process will ensure that the Ocean Pavilion is integrated with the overall Waterfront Seattle program.

3.4 Historic and Archaeological Resources

This section provides a summary of the findings contained within Appendix F. Sensitive information on archaeological and tribal resources is exempt from public disclosure requirements and is described only in general terms in this section.

3.4.1 Affected Environment

Cultural resources include archaeological sites and objects as well as historic buildings and traditional tribal properties that have been determined eligible for national, state, or local preservation registers. The study area is defined using SEPA guidelines for cultural resources. It includes the area where project work would occur and a larger area to include indirect potential effects on cultural resources. This includes the geographic scope of potential construction effects from excavation and other ground disturbance, noise, dust, vibration, and changes in access or traffic patterns during construction and operation of the Ocean Pavilion and Animal Care Center. It also accommodates the City Historic Preservation Officer's adjacency review of potential impacts on City of Seattle Landmarks. The historic and archaeological resources study area is shown in Figure 3-4.

3.4.1.1 Ocean Pavilion Location

The combined footprint of Alternatives 1, 2 and 3 would have been under glacial ice until the late Pleistocene, after which it would have been an upland area due to lower sea levels. Sea levels stabilized around the mid-Holocene, and the bluffs that now host the Belltown neighborhood would have dropped to a narrow beach. The Ocean Pavilion area itself would have been in intertidal and subtidal waters. By the 1880s, this area was likely on piles as part of Railroad Avenue, and then filled by the construction of the Elliott Bay Seawall in 1934, and home to an office building and parking lot since 1947.

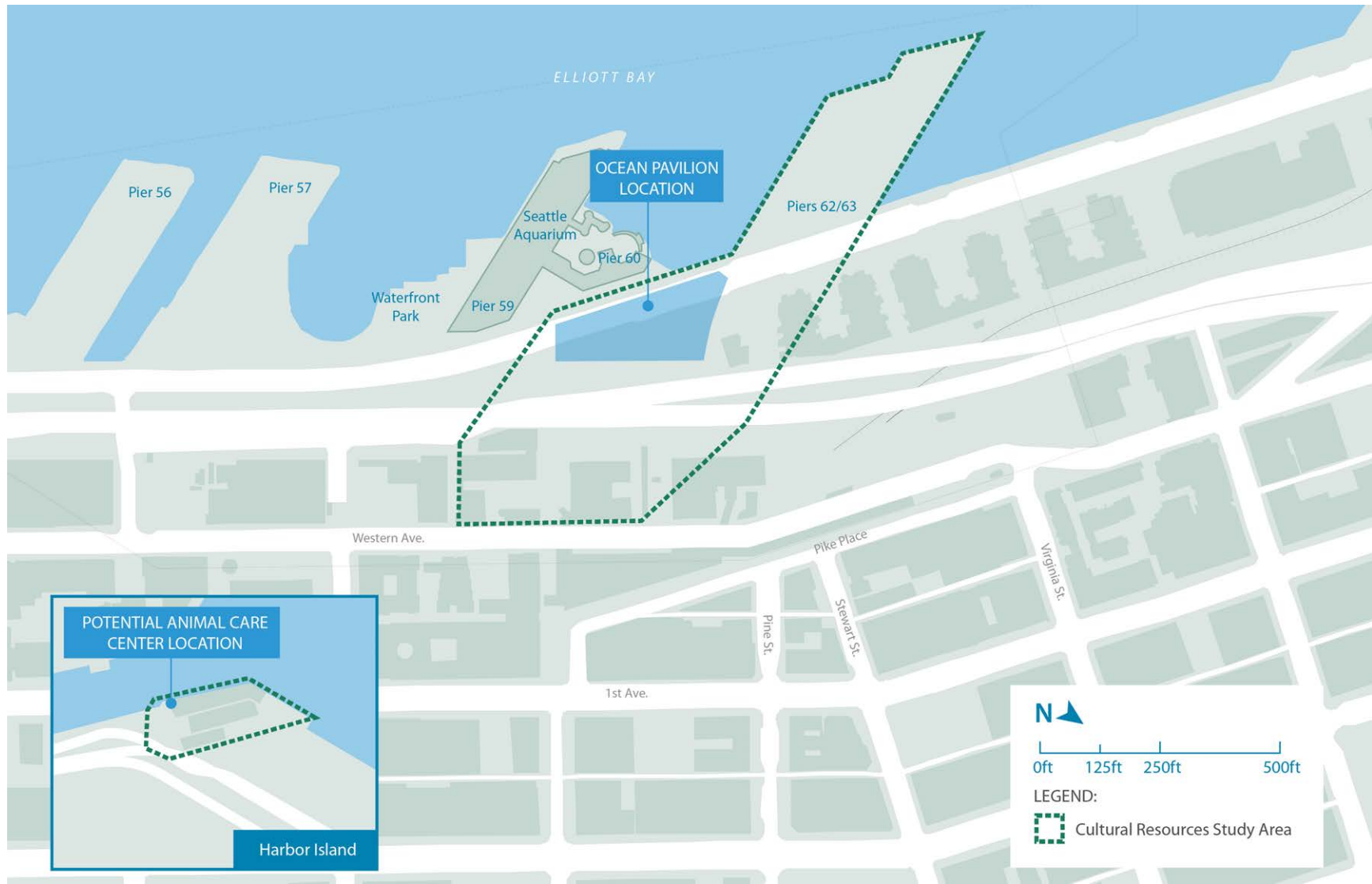


Figure 3-4
Cultural Resources Study Area

Consistent with this history, previous archaeological and geotechnical coring in the vicinity revealed buried beach deposits between approximately 28 and 40 feet bgs, between Pleistocene till below and historical/modern fill above (Hudson et al. 2013: Figure 5-34). Geotechnical investigations conducted for the Ocean Pavilion alternatives indicate that the buried beach deposits are thicker to the west (nearer the shoreline), and can be expected in the project area between 22 and 32 feet bgs (possibly as deep as 40 feet bgs). The historical/modern fill has limited potential for intact significant archaeological materials, and none will be found in Pleistocene till. Therefore, the buried beach deposits represent the only stratum where there is moderate potential for intact, significant cultural resources.

One archaeological site has been recorded in the study area (but not within an area of ground disturbance): 45K11099, a historic debris scatter, is located in water under Pier 62. Seven other archaeological sites have been recorded within 0.5 mile of the study area. They are primarily historic sites (remnants of structures and debris scatters/concentrations), with the notable exception of a site in Belltown where a shell midden and human remains were found.

Two historic buildings are located within the Ocean Pavilion portion of the study area, the Fix Madore building (1507 Western Avenue) and the Ton of Gold and Sailing of Willapa Site, a historic marker. The Fix Madore building has been determined eligible for listing in the National Register of Historic Places (NRHP). The Ton of Gold marker has been determined eligible for listing in the Washington Heritage Register (WHR). Neither is a designated City of Seattle Landmark.

Pier 62 is in the study area, but it was determined not eligible for listing in the NRHP and is not part of the Central Waterfront Piers Seattle Landmark (Piers 54, 55, 56, 57, and 59). The office building constructed in 1947 is expected to be demolished by the AWVRP.

The Ocean Pavilion portion of the study area is in the traditional territory of the Duwamish, a Southern Coast Salish group speaking the Southern Lushootseed language who lived in villages from Lake Washington to the Black River. No traditional cultural properties have been recorded in the Ocean Pavilion portion of study area. Tribal consultation for the proposed action would occur under SEPA requirements.

3.4.1.2 Potential Animal Care Center Location

The Harbor Island area near the potential site of the proposed Animal Care Center was deeply subtidal in the early Holocene. It was part of an embayment that extended south as far as present-day Auburn. The Duwamish River delta began to aggrade about 5,700 years ago after a large eruption of Mount Rainier. The eruption created the Osceola mudflow, which introduced massive amounts of sediment into the Duwamish drainage and caused the river mouth to move northward as the river valley filled with sediment. The Duwamish River delta was near its historical location by 1,500 to 2,200 years ago, and was a shifting intertidal zone prior to historic land modifications. Dredging of the East and West waterways of the Duwamish River occurred in 1895 to 1905, creating Harbor Island. Due to this history, there is minimal potential for significant archaeological resources to be present in the Harbor Island area.

William P. Fisher began the Fisher Flouring Mill on Harbor Island in 1910. Production and capacity at the mill grew steadily through the twentieth century (with a dip during the Great Depression). In the 1990s, the flour milling operation was moved to Portland, and the building was sold to the Pendleton Flour Mills in

2001. King County purchased the building in 2003 and currently leases the warehouse and office portions; the Animal Care Center may be located in this potentially historic building. Currently, the building is not a City of Seattle Landmark and has not been evaluated for listing in the WHR or NRHP.

The Harbor Island area is also within the traditional territory of the Duwamish. No traditional cultural properties have been recorded in the Harbor Island portion of study area. Tribal consultation for the proposed action would occur under SEPA requirements.

3.4.2 Summary of Potential Impacts

The impact indicators for assessing potential impacts on cultural resources are identified in Table 2 of Appendix F, along with the criteria that was used to determine the degree of impact. These indicators can also be used to identify differences between action alternatives and the associated potential impacts, including actions such as ground disturbance in areas with potential for buried archaeological resources; demolition modification of structures; increased noise, vibration, or dust that diminishes the integrity of the building; changes to vehicle or pedestrian access that affect the viability of a building; or impacts on the setting of a historic building. Table 3-7 provides a summary of anticipated construction and long-term impacts for each alternative related to historic and archaeological resources. In general, construction of the Ocean Pavilion under both the action alternatives has some potential to affect historic or archaeological resources. However, in both cases impacts are likely to be minor to moderate. Alternative 2 has slightly more potential to affect archaeological materials than Alternative 3, because the horizontal footprint of the basement is larger (26,100 square feet [0.6 acre] for Alternative 2 versus 17,400 square feet [0.4 acre] for Alternative 3).

Table 3-7
Cultural Resources Impacts Summary

Alternative	During Construction	Long Term
1 (No Action)	No Adverse Impact No construction, therefore no construction impacts	No Adverse Impact No ongoing effects beyond what was previously analyzed in the AWPOW EIS (SDOT 2016b)
2	Minor to Moderate Impacts <ul style="list-style-type: none"> Historic buildings: Potential minor impacts associated with construction noise, dust, and/or access limitations Archaeological sites: Potential moderate impacts associated with excavation in sediment with archaeological potential between 22 to 40 feet bgs; slightly more potential for disturbance than Alternative 3 due to the increased horizontal footprint of the basement (26,100 square feet [0.6 acre]) 	No Adverse Impact No ongoing effects
3	Minor to Moderate Impacts <ul style="list-style-type: none"> Historic buildings: Potential minor impacts associated with construction noise, dust, and/or access limitations Archaeological sites: Potential moderate impacts associated with excavation in sediment with archaeological potential between 22 to 40 feet bgs; slightly less potential for disturbance than Alternative 2 due to the reduced horizontal footprint of the basement (17,400 square feet [0.4 acre]) 	No Adverse Impact No ongoing effects

3.4.3 *Construction Impacts and Mitigation Measures*

3.4.3.1 **Ocean Pavilion Location**

No construction activities would occur under Alternative 1; therefore, no construction impacts on cultural resources are anticipated.

Potential minor impacts on historic buildings during construction may occur under both action alternatives. Potential impacts on the Fix Madore building could include those typical of large construction projects, such as noise, vibration, and airborne dust. There may be short-term access limitations, traffic congestion, and reduced parking in the study area. These impacts are considered minor because they are not expected to alter or diminish the historic significance or integrity of the property. Mitigation measures would include maintaining access to businesses, communicating with residents, and applying measures developed for other environmental topics, such as controlling noise and dust. No adverse impacts are anticipated on the Ton of Gold and Sailing of Willapa Site, a historic location and marker that would remain in place.

Potential moderate impacts during construction on archaeological resources may occur under both action alternatives due to ground-disturbing activities that may affect archaeological sites or objects. Ground disturbance for Alternative 2 could reach 60 to 80 feet bgs for the building basement and foundation. Under Alternative 3, ground disturbance is expected to extend approximately 40 feet bgs. Open excavation for the basement of the Ocean Pavilion would reach about 20 feet bgs, with 48-foot-diameter piles extending an additional 20 feet beneath the open excavation. The buried beach deposits in between (22 to 40 feet bgs) have moderate potential for archaeological materials. Alternative 2 has slightly more potential to affect archaeological materials than Alternative 3 because the horizontal footprint of the basement is larger.

Mitigation measures to address potential impacts on archaeological materials between 22 to 40 feet bgs during installation of drilled shafts for piles could include preparation of an Archaeological Monitoring Plan to provide monitoring of any sediments between 22 to 40 feet bgs that are safely visible and accessible, if any. An Inadvertent Discovery Plan would be prepared and maintained on-site during construction.

3.4.3.2 **Potential Animal Care Center Location**

The build out of the Animal Care Center would not result in any modifications to the exterior of the building, and therefore has no potential to affect the potential historic integrity of the building. No ground disturbance is proposed, so there is no potential to affect archaeological materials. The applicant for the Animal Care Center building permit will comply with all City requirements, including preparation of an Appendix A, if necessary.

3.4.4 *Long-Term Impacts and Mitigation Measures*

The Ocean Pavilion would not operate in, or affect the use of, any historic buildings. The operation of the Animal Care Center would not include any activities that would alter or diminish the Fisher Flour Mill building. No long-term impacts on archaeological sites, historic buildings, or traditional cultural properties are currently anticipated under any of the alternatives; therefore, no mitigation measures are proposed.

3.5 Water Quality

This section provides an analysis of potential impacts on water quality from the proposed alternatives. The topography and drainage system surrounding the Ocean Pavilion is expected to be modified by completion of the AWWRP and AWPOW projects, with construction anticipated to begin for these projects in late 2018 and mid-2019, respectively, as of the publication of this EIS. Because the action alternatives are located in an area being modified by the AWPOW projects, this analysis incorporates by reference the AWPOW EIS documents (SDOT 2015a, 2016a, 2016b), including *Appendix J: Water Quality Discipline Report* to the extent practicable (SDOT 2015b).

3.5.1 Affected Environment

The study area for water quality includes the footprint of the proposed Ocean Pavilion and extends west to include the saltwater intake/discharge connection with the existing Seattle Aquarium facilities and Piers 59 and 60. The water quality study area is shown in Figure 3-5.

Elliott Bay is a marine waterbody that extends from West Point to the north to Alki Point to the south and is characterized by developed shorelines supporting industrial and commercial activities dating back to the mid-1800s. Elliott Bay is an embayment of Puget Sound, which connects to the Pacific Ocean through the Strait of Juan de Fuca to the northwest and the Strait of Georgia to the north. Puget Sound and Elliott Bay provide habitat for a variety of aquatic and terrestrial species including birds, fish, invertebrates, and marine mammals. Elliott Bay also supports a variety of commercial, industrial, and recreational uses. The Duwamish/Green River is a riverine system to the south of Elliott Bay at Harbor Island and is the primary freshwater input into the bay. The Duwamish/Green River estuary is highly modified by dredging and industrial development since it was dredged and developed in the early-1900s. The area immediately surrounding the study area is developed, and no streams, wetlands, or other surface waters are present.

Relevant Water Quality Regulations

Ecology administers the Clean Water Act in Washington State, including Impaired Waters and Total Maximum Daily Loads (Section 303(d)), Water Quality Certification for discharge of dredge or fill material (Section 401), and National Pollutant Discharge Elimination System (Section 402). The primary Washington State Water Quality Standards are codified in the state's Water Pollution Control (RCW 90.48) and Water Quality Standards for Surface Waters of the State of Washington (WAC 173-201A). In the City of Seattle, water quality standards are promulgated under the Stormwater Code (SMC Title 22, Subtitle VIII). Water quality is also protected under the state and local Shoreline Management Act regulations (in RCW 90.58 and SMC 23.60A) and critical areas (in RCW 36.70a and SMC 25.09).

The Washington State Department of Ecology (Ecology) is the agency that oversees compliance with Washington State Water Quality Standards. According to WAC 173-201A-612, water quality in Elliott Bay is designated by Ecology as "Excellent" for supporting aquatic life uses and supports uses such as shellfish harvest, recreational uses, and other uses such as wildlife habitat, harvesting, commercial navigation, boating, and aesthetics. The study area is on Ecology's Clean Water Act 303(d) list as Category 5 for polychlorinated biphenyls (PCBs) and dioxin tissue impairments (Ecology 2016). Category 5 waters are impaired and require a water improvement project under the direction of Ecology.

The Seattle central waterfront also contains a network of major storm outfalls, CSOs and other minor storm outfalls that discharge into Elliott Bay. SPU owns the Pine Street 16-inch major storm outfall that discharges just north of Pier 60. Other nearby storm outfalls and CSOs include the University Street major storm and CSO outfall to the south and a network of minor storm outfalls to the north that discharge to Bell Harbor Marina. Water not discharged directly to the outfalls is conveyed to the sanitary sewer system and POTW. Figure 3-6 shows the location of nearby outfalls and associated drainage basin types within the study area.

The AWPOW projects will modify the topography and drainage system, and the area surrounding the Ocean Pavilion would be covered with non-pollutant generating impervious surfaces (NPGIS) or pervious landscaping (SDOT 2016b: page 11-5). Only a small portion to the north and east along the Alaskan Way corridor would be covered in a pollutant generating impervious surface and treated prior to discharging to Elliott Bay (SDOT 2015b: Figure 7-1, page 7-4). Stormwater runoff from the Overlook Walk would be diverted to a separated drain system (SDOT 2016b; page 11-6). Therefore, the drainage area would be limited to the immediate footprint of the Ocean Pavilion as shown in Figure 3-6.

As described in Section 2.6, the Ocean Pavilion would connect to the existing Seattle Aquarium water management system located at Piers 59 and 60 (see Figure 2-4). The existing intake pumping station, located at the southwest corner of Pier 59, includes an intake pump system that extracts saltwater from Elliott Bay at a rate of approximately 2,200 gpm. Saltwater is then circulated through filters and exhibits before discharging back to Elliott Bay at various locations under Piers 59 and 60. Consultation with Ecology previously indicated that a National Pollutant Discharge Elimination System (NPDES) permit would not be required due to demonstrated compliance with Washington State Water Quality Standards per WAC 173-201A (LeVander 2005). Based on ongoing consultation with Ecology, SEAS would obtain an NPDES permit for its existing Seattle Aquarium facilities and future Ocean Pavilion facilities if required. Filter return water from marine mammal exhibits and other freshwater filter backwash would be discharged to the sanitary sewer system and POTW.

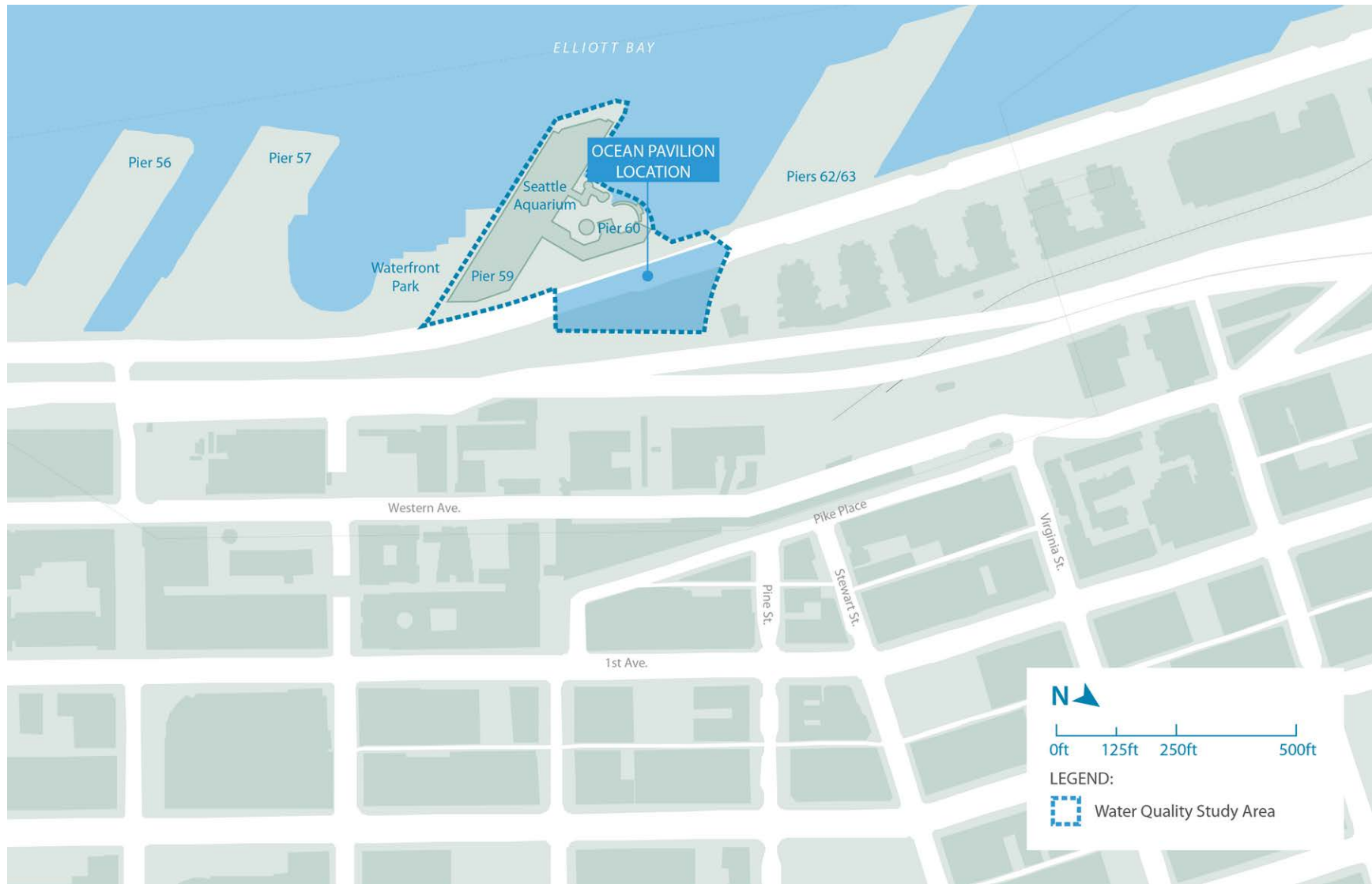


Figure 3-5
Water Quality Study Area

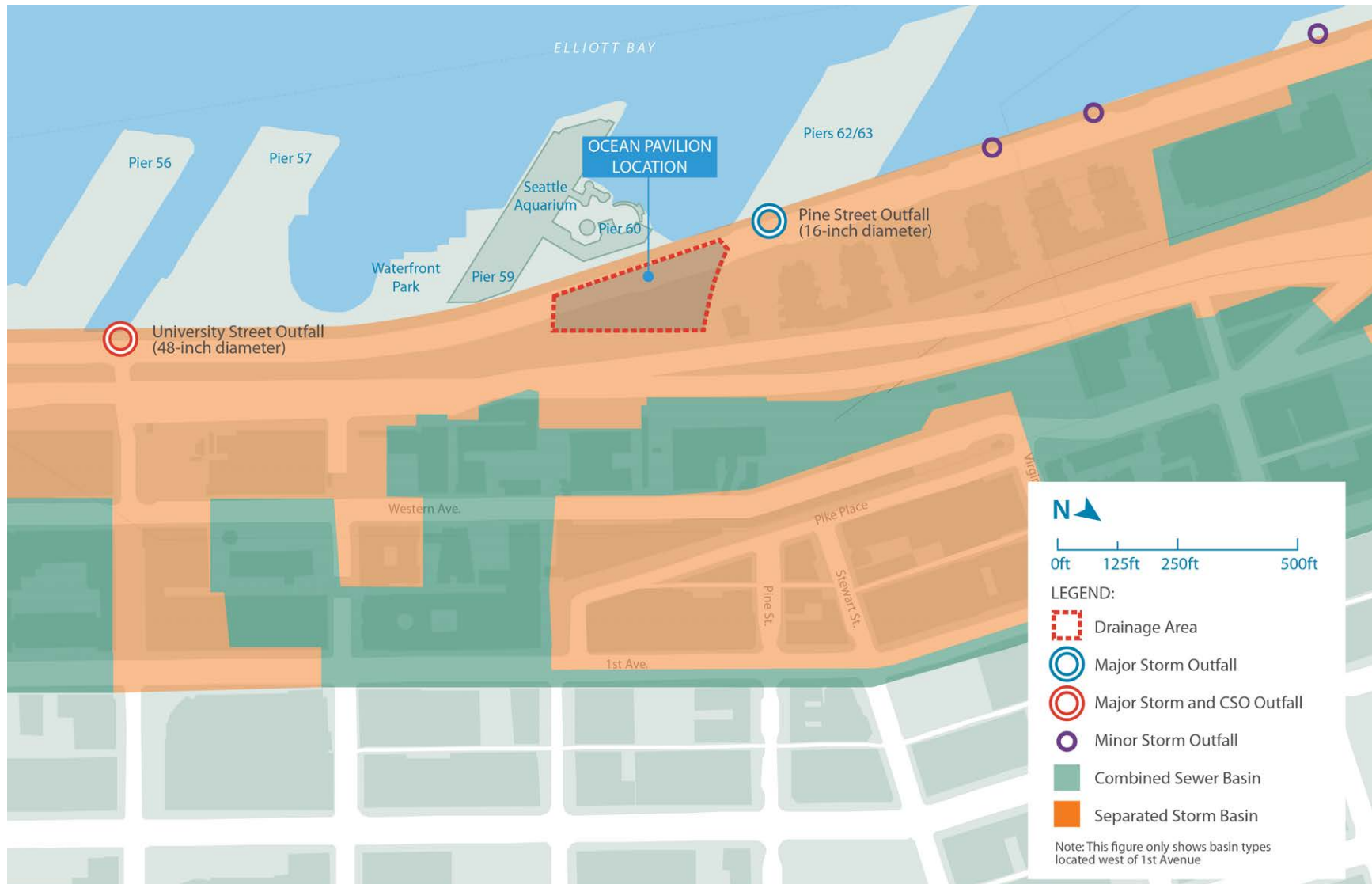


Figure 3-6
Existing Drainage Areas

3.5.2 *Summary of Potential Impacts*

The indicators for assessing potential impacts on water quality include stormwater runoff, work in or over water during installation of the pipe connection from the existing Seattle Aquarium to the future Ocean Pavilion, dust or debris entering surface waters, or potential leaks or spills from construction equipment, including the barge or skiffs. The indicators for assessing potential impacts on water quality during operation of the proposed facilities are related to stormwater treatment and saltwater intake and discharge. These potential impacts are classified as minor, moderate, or significant. Table 3-8 provides a summary of anticipated construction and long-term impacts for each alternative related to water quality.

Table 3-8
Water Quality Impacts Summary

Alternative	During Construction	Long Term
1 (No Action)	No Adverse Impact No construction; therefore, no construction impacts	No Adverse Impact No ongoing adverse effects beyond what was previously analyzed in the AWPOW EIS (SDOT 2016b)
2	Minor Impacts Minor impacts anticipated from construction activities including staging, stockpiling, ground-disturbing activities, overwater work, and potential leaks or spills from equipment; BMPs would be implemented to avoid or minimize impacts during construction, including avoiding or minimizing in-water work to the extent practicable	No Adverse Impact No ongoing adverse effects
3	Minor Impacts Same as Alternative 2	No Adverse Impact No ongoing adverse effects

3.5.3 *Construction Impacts and Mitigation Measures*

Under Alternative 1, no construction activities would occur; therefore, no construction impacts on water quality are anticipated.

The Ocean Pavilion would be constructed under the action alternatives, the action alternatives. The extent of construction and ground-disturbing activities is anticipated to be similar for both action alternatives, with more excavation and potential dewatering required under Alternative 2. The duration of excavation and associated stockpile areas for Alternative 2 may be greater than Alternative 3. Construction activities with the potential to affect water quality in Elliott Bay include nearby staging of construction materials, including stockpiles with the potential to release dust or stormwater runoff if not properly controlled; ground-disturbing activities with the potential to release dust or impacted groundwater if improperly dewatered; overwater work including sawcutting and installation of piping with the potential to release dust or debris into surface waters if not properly contained; potential leaks or spills from construction equipment, including the barge or skiffs. It is expected that any stormwater runoff from upland construction activities would be contained by the AWPOW projects' drainage system and treated prior to

discharge to Elliott Bay. No in-water work is currently proposed and would be avoided or minimized to the extent practicable; no new or modified outfalls are proposed as part of the action alternatives.

The following BMPs would be implemented to avoid or minimize potential impacts on water quality during construction of the action alternatives.

- All applicable permits would be obtained prior to construction. Construction activities would be performed according to the requirements and conditions of these permits.
- Construction activities would be completed in compliance with the City's Stormwater Code (SMC Title 22, Subtitle VIII) and *Stormwater Manual* (City of Seattle 2017b).
- The contractor would be responsible for the preparation of a Spill, Prevention, Control, and Countermeasures Plan to be used for the duration of the project to safeguard against unintentional spills of fuel, lubricants, or hydraulic fluid from construction equipment.
- Erosion control measures would be implemented during construction as part of a Temporary Erosion and Sediment Control Plan prepared for the project.
- No petroleum products, fresh cement, lime or concrete, chemicals, or other toxic or deleterious materials would be allowed to enter surface waters.
- Construction activities would comply with Washington State Water Quality Standards pursuant to WAC 173-201A.
- The contractor would implement dust control measures as needed during construction.

With implementation of BMPs, construction-related impacts associated with the action alternatives are anticipated to be minor. Therefore, no mitigation measures are proposed.

3.5.4 *Long-Term Impacts and Mitigation Measures*

Under Alternative 1, the area would be maintained as an open plaza covered with NPGIS, or a similar surface, to accommodate pedestrian traffic. Stormwater would be managed by the AWPOW projects' drainage system and treated prior to discharge to Elliott Bay. Therefore, no long-term impacts on water quality from Alternative 1 are anticipated.

Potential impacts from operation of the Ocean Pavilion are anticipated to be similar for both action alternatives. Under the action alternatives, there would be no increase in impervious surface compared to the No Action Alternative (Alternative 1) and stormwater would be managed by the AWPOW projects' drainage system and treated prior to discharge to Elliott Bay. Saltwater intake and discharges to Elliott Bay at Piers 59 and 60 from the Ocean Pavilion would increase by less than 10% from existing conditions (as described in Section 2.6). SEAS will continue ongoing Ecology consultation and obtain permits as necessary to maintain compliance with Washington State Water Quality Standards per WAC 173-201A. As described in Section 2.6, water that encounters non-native invertebrates and any other water used for maintenance would continue to be discharged to the sanitary sewer and POTW. SEAS will continue consulting with Ecology, King County Wastewater Treatment Division, and SPU to determine the appropriate level of engineering controls required to pre-treat and/or sterilize Ocean Pavilion discharges to the sanitary sewer and POTW. Therefore, no long-term impacts on water quality are anticipated from the action alternatives and no mitigation is proposed.

3.6 Fish and Aquatic Resources

This section describes existing fish and aquatic resources occurring in the study area and analyzes the potential construction-related and long-term impacts on these resources by the proposed alternatives. As the action alternatives are within an area being modified by the AWPOW projects, this analysis incorporates by reference the AWPOW EIS documents (SDOT 2015a, 2016a, and 2016b).

3.6.1 Affected Environment

The study area for fish and aquatic resources includes the footprint of the proposed Ocean Pavilion and extends west to include Piers 59 and 60 over Elliott Bay where the connection between the proposed Ocean Pavilion and the existing Seattle Aquarium saltwater intake, filtration, and discharge system would be made. The study area also includes the aquatic area north of Pier 60 where a barge would be temporarily moored during construction (up to 8 weeks). The fish and aquatic resources study area is shown in Figure 3-7.

The study area includes Elliott Bay, a marine waterbody that provides habitat to a variety of fish and aquatic resources. Elliott Bay also supports a variety of commercial, industrial, and recreational uses. The Elliott Bay shoreline also contains a network of major storm outfalls, CSOs, and other minor storm outfalls that discharge into Elliott Bay, as described in Section 3.5.1 and shown on Figure 3-6.

Fish and Aquatic Resources Regulatory Context

Several federal, state, and local laws and regulations exist to protect fish and aquatic resources. The Endangered Species Act (Section 7(a)(2)) and Marine Mammal Protection Act are federal laws that are intended to conserve and protect listed species and their habitats. State regulations to protect fish and aquatic resources include Water Quality Standards for Surface Waters of the State of Washington (WAC 173-201A), which are intended to ensure the purity of state waters and protect fish and other species that use waters of the state. The State and Protected Species (WAC 220-610) regulations are designed to protect state endangered, threatened, sensitive, or candidate species, or species proposed to be Endangered Species Act-listed. Fish and aquatic resources are also protected under the state and local Shoreline Management Act regulations (in RCW 90.58 and SMC 23.60A) and critical areas (in RCW 36.70a and SMC 25.09).

Elliott Bay provides habitat for several Endangered Species Act-listed fish species including Chinook salmon (*Oncorhynchus tshawytscha*) Puget Sound evolutionarily significant unit (ESU), steelhead (*O. mykiss*) Puget Sound distinct population segment (DPS), bull trout (*Salvelinus confluentus*) Coastal-Puget Sound DPS, bocaccio (*Sebastes paucispinis*) Puget Sound/Georgia Basin DPS, and yelloweye rockfish (*S. ruberrimus*) Puget Sound/Georgia Basin DPS (WSDOT 2018). Other Endangered Species Act-listed species that occur in Elliott Bay include the southern resident killer whale (*Orcinus orca*) and humpback whale (*Megaptera novaeangliae*) (WSDOT 2018). The Washington Department of Fish and Wildlife Priority Habitats and Species list shows additional state candidate fish species occurring in Elliott Bay to include chum salmon (*O. keta*) Puget Sound/Strait of Georgia ESU, sockeye salmon (*O. nerka*), canary rockfish (*S. pinniger*) Puget Sound/Georgia Basin DPS, and Pacific herring (*Clupea pallasii*) (WDFW 2016).

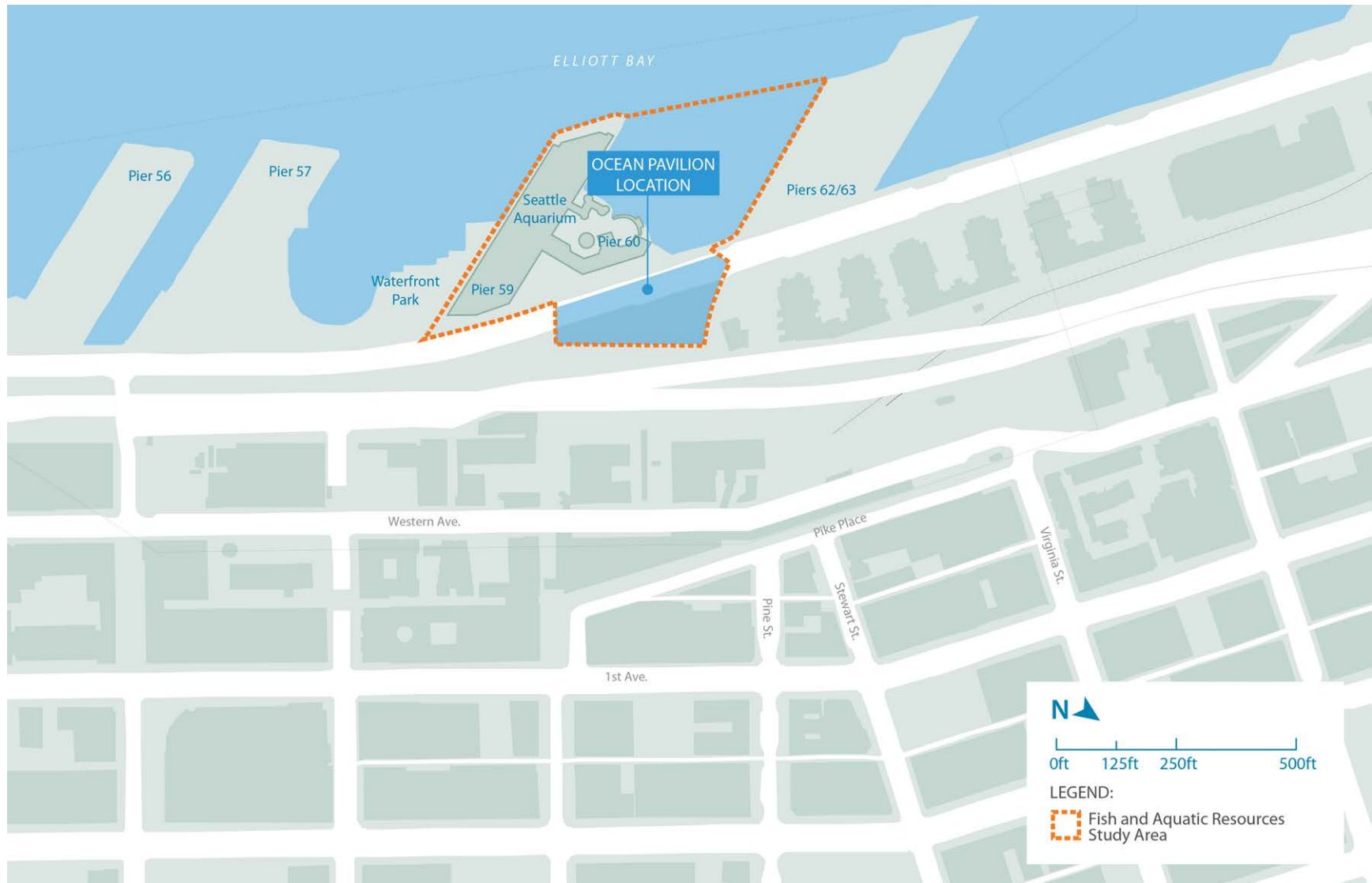


Figure 3-7
Fish and Aquatic Resources Study Area

Habitat conditions along the Elliott Bay shoreline are highly modified by development and the area along the Seattle central waterfront is defined by a vertical seawall face and large overwater piers extending to the outer harbor line. The recent replacement of the existing seawall as part of the EBSP provides some habitat opportunities including textured seawall face panels to support macroalgae growth and a 10- to 15-foot-wide habitat bench along the face of the seawall that is elevated to provide intertidal habitat for migrating salmonids. To the north of Pier 60, and between Pier 60 and Piers 62/63, is an intertidal habitat bench extending approximately 80 feet from the seawall face and consisting of modified loose substrate and quarry spalls.

Aquatic vegetation, including species of chlorophyta, phaeophyte, and rhodophyta, is generally present along the nearshore areas of Elliott Bay (Tetra Tech 2012). However, the presence of aquatic vegetation can be affected by overwater structures, waves and currents, substrate type, and nearshore development. Aquatic vegetation within the study area between Pier 60 and Piers 62/63 includes a variety of kelp and other species. Surveys completed for the EBSP indicate patches of bull kelp (*Nereocystis luetkeana*) located in the northern portion between approximately -21 and 2 feet mean lower low water (MLLW); red algae (*Rhodophyta phylum*) between approximately -23 and 2 feet MLLW, sea lettuce (*Ulva fenestrata*) between approximately -13 and 2 feet MLLW, and sugar kelp (*Laminaria saccharina*) between approximately -28 and 2 feet MLLW (SDOT 2011).

3.6.2 Summary of Potential Impacts

The indicators for assessing potential impacts on fish and aquatic resources include fish habitat impairment from stormwater runoff, work in or over water during installation of the pipe connection from the existing Seattle Aquarium to the future Ocean Pavilion, dust or debris entering surface waters, potential leaks or spills from construction equipment, including the barge or skiffs, or shading from barge moorage and use. Table 3-9 provides a summary of anticipated construction and long-term impacts for each alternative related to fish and aquatic resources.

Table 3-9
Fish and Aquatic Resources Impacts Summary

Alternative	During Construction	Long Term
1 (No Action)	No Adverse Impact No construction; therefore, no construction impacts	No Adverse Impact No ongoing adverse effects beyond what was previously analyzed in the AWPOW EIS (SDOT 2016b)
2	Minor Impacts Minor impacts anticipated from construction activities including staging, stockpiling, ground-disturbing activities, overwater work, potential leaks or spills from equipment, including barges and skiffs, and shading from barge moorage; BMPs would be implemented to avoid or minimize impacts during construction, including avoiding or minimizing in-water work to the extent practicable	No Adverse Impact No ongoing adverse effects
3	Minor Impacts Same as Alternative 2	No Adverse Impact No ongoing adverse effects

3.6.3 *Construction Impacts and Mitigation Measures*

Under Alternative 1, no construction activities would occur; therefore, no adverse impacts on fish and aquatic resources are anticipated.

The Ocean Pavilion would be constructed under the action alternatives, the action alternatives. Construction impacts would be temporary and vary in intensity based on the construction activity. Overall, minor impacts on fish and aquatic resources are anticipated under both action alternatives. Construction activities with the potential to affect fish and aquatic resources in Elliott Bay are similar to those described for water quality in Section 3.5 for staging, stockpiling, ground-disturbing activities, overwater work, and potential leaks or spills from equipment. It is expected that any stormwater runoff from upland construction activities would be contained by the AWPOW projects' drainage system and treated prior to discharge to Elliott Bay. No in-water work is currently proposed and would be avoided or minimized to the extent practicable.

The barge proposed during construction of the Ocean Pavilion is anticipated to be located between Pier 60 and Piers 62/63 for up to 8 weeks. Extended barge moorage has the potential to affect aquatic plant communities in the nearshore environment during the growing season, which generally occurs between late spring and fall (Mumford 2007; SDOT 2013c). Similar to overwater structures, salmonid species would be expected to avoid the shade cast by the barge and stay in unshaded areas between the piers (Anchor QEA 2012). The barge would be located outside of the intertidal and habitat areas provided by the EBSP to avoid potential impacts on fish use and habitat. Therefore, minor impacts on fish or fish use of the area are anticipated from barge use in the area.

In addition to those BMPs described in Section 3.5.2, the following BMPs would be implemented during construction of the action alternatives to avoid or minimize potential impacts on fish and aquatic resources:

- The barge would not be allowed to ground out during construction.
- The barge would be located to avoid potential impacts on the EBSP habitat bench and other habitat features between Pier 60 and Piers 62/63.
- The barge would be used outside of the growing season for macroalgae to the extent practicable and moored at depths greater than -20 feet MLLW when not in use to minimize potential impacts on aquatic vegetation.

With implementation of the BMPs, construction-related impacts associated with the action alternatives are anticipated to be minor. Therefore, no mitigation measures are proposed.

3.6.4 *Long-Term Impacts and Mitigation Measures*

No long-term impacts on fish and aquatic resources from Alternative 1 are anticipated beyond what was previously analyzed in the AWPOW EIS (SDOT 2016b).

Potential long-term impacts from operation of the Ocean Pavilion are anticipated to be commensurate for the action alternatives. Under the action alternatives, the minor increase in saltwater intake and discharges to Elliott Bay at Piers 59 and 60 would occur as described in Section 2.6. Similar to the analysis in Section 3.5.3, no long-term impacts on fish and aquatic resources from the minor increase in intake and discharges for the Ocean Pavilion are anticipated from the action alternatives, and no mitigation is proposed.



4 Cumulative Effects

This section describes how the effects of the proposed action may contribute to the environmental effects of other past, present, and reasonably foreseeable future actions. Cumulative effects are those that could result in the combination of effects from individual project actions occurring over time. If left unmitigated, the cumulative or incremental effects of these actions have the potential to result in significant environmental impacts. This analysis is also helpful for decision-makers evaluating the sustainability of a proposed action and how it may interact with other projects that are reasonably foreseeable but have not yet been built.

The following section describes the methodology, reasonably foreseeable future projects and consistency with SMC 25.05.670, and the potential cumulative effects of each element of the environment evaluated in this EIS.

Cumulative Effects Regulatory Context

The term “cumulative impacts” is defined in 40 CFR 1508.7 as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.”

SEPA requires a range of impacts to be evaluated as part of environmental review including direct, indirect, and cumulative impacts and associated mitigation measures per WAC 197-11-060 and 197-11-792. The City of Seattle requires the environmental review to include an analysis of cumulative effects of present, simultaneous, and known future actions on public facilities, public services, and natural systems per SMC 25.05.670.

4.1 Methodology

In order to address the potential for cumulative effects, the direct and indirect impacts of the EIS alternatives, as described in Section 3, were further evaluated in the context of other past, present, or reasonably foreseeable future projects. This analysis was completed for those elements of the environment, for which potential environmental effects may occur as determined by Seattle Parks and Recreation and SEAS, and refined during the scoping process. The study area used to address direct and indirect effects for each element of the environment in Section 3 was also used in the cumulative effects analysis, because it represents the area where the proposed action, in combination with other past, present, or reasonably foreseeable future development, could potentially result in cumulative impacts.

Past, present, and reasonably foreseeable future projects were identified using a variety of resources, including reviewing proposed infrastructure projects proposed along the Seattle central waterfront in coordination with the City's Office of the Waterfront and Civic Projects and performing web searches through resources such as the City's Department of Construction and Inspections database. The following includes an analysis of the cumulative effects of these reasonably foreseeable future projects and actions together with the direct and indirect impacts of the proposed action.

The methodology is designed to be consistent with the Cumulative Effects Policy per SMC 25.05.670, SEPA per RCW 43-21C, and SEPA Rules per WAC 197-11-060 and 197-11-792.

4.2 Past, Present, and Reasonably Foreseeable Future Projects

As described in Section 1.2, the proposed action is located within the Seattle central waterfront and in the vicinity of several important infrastructure projects that are transforming the area, including the AWVRP and Waterfront Seattle projects such as the Pike Place MarketFront, EBSP, Piers 62/63 Rebuild, AWPOW projects, Pike Pine Renaissance Act One, and the Waterfront Park Rebuild. Other projects include the WSF Seattle Multimodal Terminal at Colman Dock Project and SPU Vine Basin CSO Control Project. There is also a variety of planned commercial and residential developments proposed downtown and within the Seattle central waterfront. These planned developments are in various stages of planning, from Design Commission approval to building permits issuance. These reasonably foreseeable future projects and actions occurring near the study area are shown on Figure 4-1.



Figure 4-1
Reasonably Foreseeable Future Projects and Actions in the Vicinity of the Proposed Action

Construction of the Ocean Pavilion would take approximately 24 months to complete and is anticipated to occur in 2021-2023. Some early Ocean Pavilion foundation work may occur prior to that timeframe, in coordination with the AWPOW projects, and would take approximately 4 months to complete. There is a likelihood that construction of the Ocean Pavilion could overlap with present, simultaneous, and future infrastructure projects within or near the Seattle central waterfront.

Construction of past, present, and reasonably foreseeable future infrastructure projects is estimated to occur at the following times:

- AWVRP: 2018-2019
- AWPOW: 2019-2023
- Pike Place MarketFront: *Completed in 2017*
- EBSP (Central Seawall): 2018-2019
- EBSP (North Seawall): *On hold*
- Piers 62/63 Rebuild: 2018-2020
- Pike Pine Renaissance: Act One: 2019-2022
- Waterfront Park Rebuild: 2021-2024
- Seattle Multimodal Terminal at Colman Dock: 2018-2023
- Vine Basin CSO Control Project: 2019-2025

Each of these projects are required to conduct a separate, project-specific SEPA environmental review, as appropriate. It is anticipated that mitigation measures implemented for each project would decrease the potential for cumulative adverse effects on the environment.

Preparing the Animal Care Center would take approximately 9 months, and construction is anticipated around 2019-2020. This work is not expected to contribute to any cumulative effects because the analysis of impacts on elements of the environment in Section 3 indicates that no construction or long-term impacts from the Animal Care Center are anticipated.

In these cases, there is a potential for a cumulative impact, but the impact would only be during construction and would be temporary for the duration of the construction activity.

4.3 Consistency with Seattle Municipal Code

SMC 25.05.670 calls for an analysis of cumulative effects of prior, simultaneous, and known future actions on public facilities, public services, and natural systems.

4.3.1.1 Public Facilities

The present and planned capacity of public facilities was considered in the transportation and water quality analyses for the proposed action. The proposed action, along with other simultaneous projects, is anticipated to have temporary minor cumulative impacts on transportation and parking and water quality during construction, but no long-term cumulative impacts. Through its Street Use Permit process and consistent with SMC 15.32.050, SDOT would coordinate the construction needs and impacts of this project with the other infrastructure and development projects in the study area, including potential overlapping

elements of the AWPOW projects' construction. SEAS would participate in construction coordination processes that SDOT establishes for major projects. With this mitigation, no significant adverse cumulative effects from construction of the proposed action are anticipated.

Overall, transportation and parking within the study area would be improved by the AWPOW projects and would further the goals of regional and local land use and transportation plans (SDOT 2016b). It is also anticipated that there would be adequate long-term parking within the study area to accommodate the Ocean Pavilion and other simultaneous and planned projects. It is expected that the City would continue to assess parking needs and require parking be provided, as needed, for future development. Therefore, it is anticipated that there would be no cumulative effects from operation of the proposed action on transportation and parking, and no mitigation measures are proposed.

The Ocean Pavilion would result in a minor increase in discharges to the sanitary sewer and POTW as described in Section 2.6. SEAS would continue to coordinate with Ecology, King County Wastewater Treatment Division, and SPU to comply with applicable standards and ensure that the proposed action is coordinated with other present, simultaneous, and future known projects. Therefore, no cumulative effects on sewers are anticipated from the proposed action, and no mitigation measures are proposed.

No cumulative effects on storm drains, solid waste disposal, parks, schools, or utilities are anticipated from the proposed action, and no mitigation measures are proposed.

4.3.1.2 Public Services

The proposed action would have no cumulative effects on present and planned public services including transit, health, police and fire protection, and social services. As described in Section 3.1, downtown Seattle is the largest transit hub in the region; the waterfront area is served by light rail, streetcar, commuter rail, ferry, water taxi, and dozens of local, regional, and RapidRide bus routes provided by Metro, Sound Transit, Community Transit, and Pierce Transit. Therefore, it is expected that there would be adequate transit capacity to accommodate planned and future development in the area. Additionally, the AWPOW projects are anticipated to have a beneficial effect on access to the Seattle central waterfront by health, police and fire protection, and social services due to improvements to the Alaskan Way and Elliott Way improvements (SDOT 2016b).

4.3.1.3 Natural Systems

The capacity of natural systems to absorb the effects of the proposed action were considered in the water quality and fish and aquatic resource analyses in Section 3. The proposed action, along with other present, simultaneous, and future known projects, is anticipated to have minor temporary cumulative effects on natural systems during construction. As described in the AWPOW EIS, a variety of construction activities, including earthwork, stockpiling, material transport, utility work (e.g., storm drains), and the operation of heavy construction equipment have the potential to affect waters in Elliott Bay (SDOT 2016b: Section 15.11). Mitigation measures and BMPs described in Section 3 would be implemented to minimize potential individual and cumulative impacts on natural systems, including air, water, light, and land, during construction.

No cumulative effects on natural systems are anticipated from operation of the proposed action. As described in Section 2.6, the proposed action would not contribute to an increase in impervious surfaces

within the study area, and stormwater would be improved and managed by the City under the AWPOW projects. Saltwater intake and discharges to Elliott Bay at Piers 59 and 60 from the Ocean Pavilion would increase by less than 10% from existing conditions. SEAS would continue ongoing Ecology consultation and obtain permits, if necessary, to maintain compliance with Washington State Water Quality Standards per WAC 173-201A. As described in Section 2.6, water that encounters non-native invertebrates and any other water used for maintenance would continue to be discharged to the sanitary sewer and POTW. SEAS would also continue consulting with Ecology, King County Wastewater Treatment Division, and SPU to determine the appropriate level of engineering controls required to pre-treat and/or sterilize Ocean Pavilion discharges to the sanitary sewer and POTW. This coordination would also ensure that the proposed action is coordinated with other present, simultaneous, and future known projects. Therefore, no cumulative operational impacts on water quality are anticipated from the action alternatives, and no mitigation measures are proposed.

4.4 Transportation and Parking

There may be minor temporary cumulative construction effects on transportation and parking as described in Section 3.1. The AWPOW EIS identifies other planned and programmed projects with construction activities that could potentially overlap. These projects would be coordinated through the SDOT Street Use Permit process, as described in Section 4.3.1.1, which would mitigate for potential impacts on transportation and parking. With this mitigation, no significant adverse cumulative effects from construction of the proposed action are anticipated.

The transportation and parking analysis in this EIS builds on the AWPOW EIS, which included additional background traffic forecasted to result from regional development growth through 2030, and incorporates planned future actions and growth. No cumulative effects on public facilities related to transportation or parking are anticipated during operation of the proposed action, and no mitigation measures are proposed.

4.5 Land Use

A number of projects are expected to be completed before and during the construction and operation of the Ocean Pavilion as described previously. For most of the reasonably foreseeable future projects and actions, temporary construction impacts are anticipated. These are primarily due to temporary changes in access and use during construction. While there may be minor temporary cumulative effects on access and transportation and parking, these would be mitigated through avoidance and minimization measures as described Section 3.1. However, SDOT manages transportation and access through its Street Use Permit process to avoid or minimize impacts from projects constructed simultaneously or sequentially. With this mitigation, no significant adverse cumulative effects on land use from construction of the proposed action are anticipated.

The proposed action is consistent with land use goals and policies and planned future development. Additionally, none of the reasonably foreseeable future projects or actions have been identified as having long-term adverse impacts on land use. Most would be beneficial, increasing pedestrian and bicycle connectivity, promoting public use of and access to the waterfront, and protecting the environment. Because no moderate or significant long-term impacts are anticipated from any of the action alternatives

and no long-term impacts have been identified for other reasonably foreseeable projects, no long-term cumulative impacts are anticipated from the proposed action and no mitigation measures are proposed.

4.6 Aesthetics and Scenic Resources

There are multiple projects that could be near or built at the same time as the Ocean Pavilion, as described in Section 4.2. These projects would contribute additional minor temporary construction effects to aesthetics and scenic resources. The City's urban design goals and policies for the waterfront and downtown areas would be enforced through Design Commission review and the AWPOW projects, Piers 62/63 Rebuild, Waterfront Park, and CSO reduction projects in particular would contribute to an enhancement of visual resources when completed. No long-term cumulative effects are anticipated from the proposed action, and no mitigation measures are proposed.

4.7 Historic and Archaeological Resources

The proposed action is anticipated to have minor to moderate impacts on historic and archaeological resources during construction within the footprint or immediate vicinity of the Ocean Pavilion site. No long-term impacts or cumulative effects are anticipated, and no mitigation measures are proposed.

4.8 Water Quality

Minor cumulative effects on water quality from construction are anticipated. With the proposed avoidance, minimization, and mitigation measures described in Sections 3.1 through 3.6, no moderate or significant adverse cumulative effects from construction on water quality are anticipated from the proposed action.

The proposed action is anticipated to have no cumulative effects from operation on water quality and no mitigation measures are proposed. The proposed action would not contribute to an increase in impervious surfaces within the study area, and stormwater would be improved and managed by the City under the AWPOW projects. Additionally, saltwater intake and discharges to Elliott Bay at Piers 59 and 60 from the Ocean Pavilion would be coordinated with Ecology, King County Wastewater Treatment Division, and SPU to ensure that the proposed action is compliant with Washington State Water Quality Standards per WAC 173-201A and coordinated with other present, simultaneous, and future known projects.

4.9 Fish and Aquatic Resources

Minor cumulative effects on natural systems, including Elliott Bay waters that host a variety of fish and aquatic resources, from construction are anticipated. With the proposed avoidance, minimization, and mitigation measures described in Sections 3.1 through 3.6, no moderate or significant adverse cumulative effects from construction on fish and aquatic resources are anticipated from the proposed action.

Potential impacts on fish and aquatic resources are anticipated from impacts on water quality from the proposed action and other present, simultaneous, and future known projects. Therefore, similar to Section 4.8, the proposed action is anticipated to have no cumulative effects from operation on fish and aquatic resources, and no mitigation measures are proposed.



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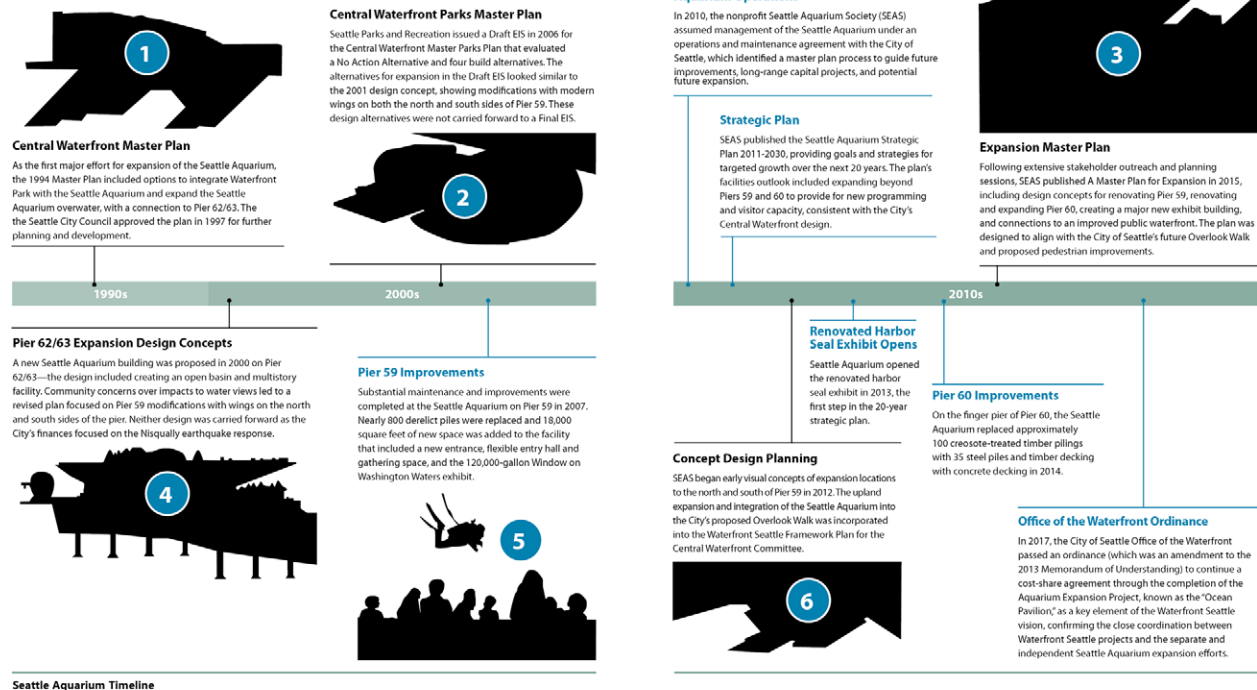
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Seattle Aquarium Timeline (pages 4 and 5):

Since opening in 1977, the Seattle Aquarium has participated in several planning efforts to improve and expand marine experiences and conservation education, while considering ongoing transformations along the waterfront.



- 1 City of Seattle
- 2 Terry Farrell and Partners
- 3 Seattle Aquarium Society
- 4 Terry Farrell and Partners
- 5 Seattle Aquarium Society
- 6 Mithūn



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