

Appendix B

Technical Supplement to the Economics Discipline Report

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FINAL

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Elliott Bay Seawall Project

TECHNICAL SUPPLEMENT TO THE ECONOMICS DISCIPLINE REPORT

Agreement No. T09-24

FINAL

December 2013

The Elliott Bay Seawall Project is a joint effort between the City of Seattle Department of Transportation (SDOT), and the U.S. Army Corps of Engineers. To conduct this project, SDOT contracted with:

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City of Seattle
Technical Supplement to the Economics Discipline Report

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ACRONYMS, ABBREVIATIONS, AND DEFINITIONS

AWVRP	Alaskan Way Viaduct Replacement Project
DEIS	Draft Environmental Impact Statement
EBSP	Elliott Bay Seawall Project
FEIS	Final Environmental Impact Statement
MID/DSA	Metropolitan Improvement District/Downtown Seattle Association
SDOT	Seattle Department of Transportation
SEIS	Supplemental Environmental Impact Statement
SEPA	State Environmental Policy Act
USGBC	U.S. Green Building Council
WADOR	Washington Department of Revenue

INTRODUCTION

This technical memorandum describes the economic effects of the Updated Preferred Alternative. The evaluation of effects considers the following:

- Limited evaluation of the temporary reduction in employment caused by closure of businesses on historic piers during construction, noting whether it is within the range described in the Final Environmental Impact Statement (FEIS).
- Evaluation of loss in sales tax revenue due to business closures.
- Qualitative assessment of the impacts on local businesses in Pioneer Square from seawall construction.
- Reevaluation of impacts on local businesses that remain open during summer construction in terms of economic impacts.

This memorandum focuses on direct local impacts of the Updated Preferred Alternative, which are different than those described in the FEIS. Along the waterfront, the evaluation is concerned with economic effects from late May 2014 through the end of construction, or the period in which the Updated Preferred Alternative's construction phasing differs from the FEIS. The evaluation of effect on Pioneer Square begins in July 2014, the earliest point at which traffic revisions differ from the FEIS and may affect the neighborhood.

The Updated Preferred Alternative is the result of ongoing design refinements and public coordination since publication of the FEIS. Proposed changes to the Preferred Alternative relevant to economics are described in the bullets below.

- Summer Shutdowns
 - There will be no summer shutdown during summer 2014 or 2015, and potentially into 2016. Construction will continue through the summer, but access will be maintained and parking provided as feasible.
- Business Closures
 - Most businesses on Piers 54 to 57 will close from October 2014 through June 2015, simplifying temporary access requirements during the period. This closure would eliminate many challenges related to maintaining pier access across an expansive construction zone and would thereby allow construction to proceed more efficiently.
- Construction Schedule
 - Central Seawall construction is anticipated to be substantially complete by mid-2016. However, if unanticipated delays were to occur, it is possible that the final construction activities could continue after that date until the project is completed.

These changes in the Updated Preferred Alternative drive the evaluation of economic effects described in the following subsections.

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CHAPTER 1. PROJECT DESCRIPTION

1.1 BACKGROUND

The Elliott Bay Seawall Project (EBSP) Final Environmental Impact Statement (EIS) was published in March 2013; it evaluated a No Action Alternative and three potential build alternatives for the project. As required by the Washington State Environmental Policy Act (SEPA), the build alternatives represented different ways of accomplishing the project purpose of protecting the shoreline and upland areas from damage due to coastal storms and seismic events, and improving the nearshore ecosystem of Elliott Bay. The three build alternatives (Alternative A, Alternative B, and Alternative C) encompassed a range of design ideas to establish “bookends” for the project, thereby capturing a suite of potential options and effects.

Alternative C was identified by the City as the Preferred Alternative and continued into final design and construction. Since publication of the FEIS, several changes have been proposed to the project design and construction methods. The City has determined that the proposed changes have the potential to result in significant adverse impacts that were not evaluated in the FEIS, and therefore is preparing a Supplemental Environmental Impact Statement (SEIS) to review only those project elements that have changed from the Preferred Alternative.

This addendum supplements the Economic Discipline Report from the FEIS. It discusses the potential impacts on economics from the Updated Preferred Alternative. Material already covered in the FEIS, including affected environment, impact analysis, and mitigation, is not reproduced in this document.

1.2 UPDATES TO THE PREFERRED ALTERNATIVE

The Preferred Alternative consists of three major components, including a new seawall, improvements to aquatic habitat, and enhanced upland areas. The Updated Preferred Alternative proposes changes to two of these components: the seawall and aquatic habitat. The proposed changes are summarized below; please see Chapter 2 of the SEIS for more detail.

Table 1-1 provides an overview of the differences between the Preferred Alternative and the Updated Preferred Alternative. Figure 1-1 at the end of this chapter depicts a typical construction sequence for the Updated Preferred Alternative.

1.2.1 Seawall

The seawall would be replaced as planned under the Preferred Alternative. However, the extent of the setback would change somewhat in Zones 1 and 2. The 15-foot setback in Zone 1 would be eliminated; instead, the existing gravity wall would be demolished down to the appropriate level to provide support for the habitat beach. In Zone 2, the setback would range from 10 to 15 feet landward, similar to the setback in Zone 3. The setback in all other zones would remain the same.

TABLE 1-1 PROPOSED CHANGES TO THE PREFERRED ALTERNATIVE

Project Feature	Preferred Alternative	Updated Preferred Alternative
Project Design		
Seawall improvements	15-foot landward setback in Zone 1	No setback in Zone 1 and slightly reduced setback in Zone 2
Roadway improvements	Southern terminus at S. Washington Street	Southern terminus at S. Main Street
Habitat improvements	Extended habitat benches between each of the piers	Modifications to minimize adverse effects, accommodate operational constraints at Colman Dock, and avoid conflicts with navigation
Construction Schedule		
Construction completed	Target completion date: mid-2016 Two summer shutdown periods (Memorial Day – Labor Day 2014 and 2015)	Target completion date: mid-2016 Work may continue through summers to ensure timely completion of the project
Waterfront business closures	Potential temporary closure of two businesses	Closure of most businesses on Piers 54 to 57, currently planned for the nine month off-peak period between October 2014 and June 2015
Pier access	Temporary access bridges to all piers required throughout construction	Reduced number of temporary access bridges during construction
Construction Methods		
Ferry Queuing	Ferry-queuing provided on Alaskan Way, north of Colman Dock, between Madison Street and Yesler Way	Beginning in summer 2014, ferry-queuing would switch to south of Colman Dock, between Yesler Way and S. Jackson Street
Temporary containment	Sheet pile containment wall would be installed prior to jet grouting and removed at the end of construction	Containment provided by sheet pile, turbidity curtain, and/or other methods as feasible and appropriate to protect water quality Containment wall would be cut to allow a portion to remain as vertical support for the habitat bench in some areas
Zone 1 beach stability	Geotextile used to support aquatic materials and increase stability of existing soils	Geotextile and sheet piles to support aquatic materials and increase stability of existing soils
Water management	Intermittent dewatering in excavation zone landward of existing seawall	Up to continuous dewatering in all excavation areas behind containment wall

Project Feature	Preferred Alternative	Updated Preferred Alternative
Soil improvement	Jet grouting from on top of the existing roadway prior to excavation	Jet grouting from on top of the existing roadway or within the excavated work zone in most areas along the seawall
Construction sequence	See Figure 2-10 in the Final EIS	See revised typical construction sequence example in Figure 1-1

1.2.2 Habitat Improvements

In response to conflicts with adjacent uses, the overall extent and design of the expanded habitat benches would be changed in the Updated Preferred Alternative.

The habitat beach located in Zone 1 is in close proximity to the Washington Street Boat Landing, which is a historic property listed in the National Register of Historic Places. To minimize the adverse effect to this property, the size of the beach, height of the confining rock sills, and extent of the riparian plantings would be slightly reduced. The beach would also be shifted slightly southward to provide a larger setback from Colman Dock. In addition, aesthetic design elements or treatments may be incorporated into the natural features of the beach in a form consistent with its purpose to enhance riparian and intertidal habitat.

To reduce potential conflict with existing boat moorage businesses in Zone 3, the waterward extent of the expanded habitat bench north of Pier 56 would be reduced. Also in Zone 3, the expanded habitat bench north of Pier 54 would be removed because it is located on privately owned property.

In Zone 6, the expanded habitat bench north of Pier 69 would be eliminated from the project design to minimize potential impacts to existing moorage space managed by the Port of Seattle. The expanded habitat bench north of Pier 66 is being evaluated for its potential to affect future moorage opportunities.

Despite the changes, the habitat enhancements are still expected to meet the project purpose of improving the nearshore habitat of Elliott Bay.

1.2.3 Upland Improvements

The Updated Preferred Alternative would not change the project's upland improvements.

1.2.4 Construction Schedule

Construction of the Central Seawall began in November 2013. Due to the seawall's importance as critical infrastructure and as a foundation for other independent waterfront improvement projects, the City is committed to completing Central Seawall replacement in 2016.

Because project construction is a complex and dynamic process, it is susceptible to schedule changes due to changed field conditions, availability of materials, extreme weather events, and many other factors. To ensure that the project is completed on time, construction is now likely to continue through

the summers of 2014 and 2015. The most critical construction activities would continue as needed during the summer months to recover any time lost to unanticipated schedule delays; additional efficiencies would also be gained by eliminating the need for demobilization and remobilization.

Summer activities could range from minor utility and roadway work to jet grouting and seawall reconstruction. The City would strive to minimize impacts on waterfront businesses, residents, and visitors by limiting summer activities to the greatest extent feasible that is consistent with timely project completion, and by implementing the access and wayfinding measures described in Chapter 8 of the Final EIS.

As described in the EIS, access to the piers will generally be provided throughout project construction. However, most businesses on Piers 54, 55, 56, and 57 are now expected to close for a period of approximately nine months, currently planned to extend from October 2014 through June 2015. This closure would eliminate many challenges related to maintaining pier access across an expansive construction zone and would thereby allow construction to proceed more efficiently. The Great Wheel and Argosy Cruises would remain open during this period, along with some office spaces (Argosy Cruises may move its passenger access to nearby piers). Limited access to Piers 54 through 57 would be provided during the business closure period for those businesses that remain open; access to all facilities on these piers would be available before and after the closure period. Access to the piers located outside of the business closure area would be maintained throughout project construction by way of temporary structures or revised access points.

With these modifications, Central Seawall construction is anticipated to be substantially complete by mid-2016, the target completion date identified in the EIS. However, if unanticipated delays were to occur, it is possible that final construction activities could continue after that date until the project is completed.

1.2.5 Construction Methods

1.2.5.1 Ferry Queuing during Construction

A new access route for Colman Dock is proposed as part of the Updated Preferred Alternative. Beginning in summer 2014, the U-turn at Madison Street would be eliminated; instead, all ferry-bound traffic would enter Colman Dock from the south. The new route would provide ferry-queuing spaces on Alaskan Way to the south. This change would relocate the ferry-queuing lanes to an area outside of the active work zone, and it could provide more queuing space than the Preferred Alternative. Relocating ferry-queuing lanes to the south would also provide additional space for parking within the project area.

1.2.5.2 Temporary Containment

Use of the temporary containment wall has changed in two aspects since the FEIS.

- The temporary containment wall would be used where feasible. However, other types of containment (such as a turbidity curtain) would be used to isolate construction activities from Elliott Bay when a containment wall is not feasible.

- Rather than being removed completely, the containment wall would be cut off just below the top of the habitat improvements in portions of Zone 4 and Zone 3.

1.2.5.3 Zone 1 Beach Stability

In coordination with Washington State Ferries, an analysis was done to address concerns related to the protection of Colman Dock from potential instability of the Zone 1 beach. The City concluded that additional geotechnical reinforcement would be necessary to strengthen the existing sediments and therefore increase the stability of the habitat beach. Before a geogrid reinforcement is placed, two parallel rows of sheet pile would be driven into the glacially overridden Quaternary deposits or dense soils. The geogrid and sheet piles would be buried beneath the mudline. The sheet pile rows would be positioned beneath the northern slope of the habitat beach, and each row would be approximately 100 to 200 feet in length. Vibratory pile drivers would be used for most of the installation, with only limited need for impact pile driving. In combination with the geogrid reinforcement, the sheet piles would stabilize the Zone 1 habitat beach, increasing stability during a seismic event and reducing potential impacts to adjacent structures.

1.2.5.4 Water Management

To create drier conditions for construction, the contractor has determined that a larger area would be dewatered. Dewatering generally involves pumping the water to a location where it can be settled and/or treated before discharge. The water treatment would occur onsite. Due to space limitations, treatment may be staged on land, as space allows, or on a barge, which would most likely be located at Piers 62/63 (although its location could change based on construction requirements). Once treated to meet the water quality requirements specified by the Department of Ecology, the water would be discharged to Elliott Bay. In some cases, water may be discharged to the King County wastewater treatment system or disposed of offsite.

1.2.5.5 Soil Improvement

To enhance constructability and overall understanding of site conditions, substantial portions of the construction work zone would be excavated before jet grouting begins. This technique would reduce the number of potential obstructions, eliminate void spaces, and provide more reliability for the final jet grout column layout compared to jet grouting from the roadway surface. Jet grouting would still occur from the roadway surface in some areas where major excavation is not reasonable.

1.2.5.6 Use of Barges

In addition to the activities described in the FEIS, barges may also be used for staging of some construction processes. For example, tanks and ancillary water treatment equipment could be placed on a barge. This would allow these types of operations to occur in close proximity to the project area, but outside of the confined construction work zone.

1.2.6 Construction Sequence

As design has progressed and construction techniques have been further developed by the project team and the contractor, a modified construction sequence has been developed to increase efficiency. The main construction steps described in the FEIS will continue to occur, but they may be in a different order in the overall construction sequence.

Figure 1-1 provides a typical overview of how the seawall would be built with the revised approach. Construction would generally follow these steps in sequence through the active work zone; however, the sequence and execution would vary between the different seawall types. It is also important to note that not all of the steps would occur at each location, and the construction sequencing may change depending on the site conditions and other factors encountered and evaluated during construction.

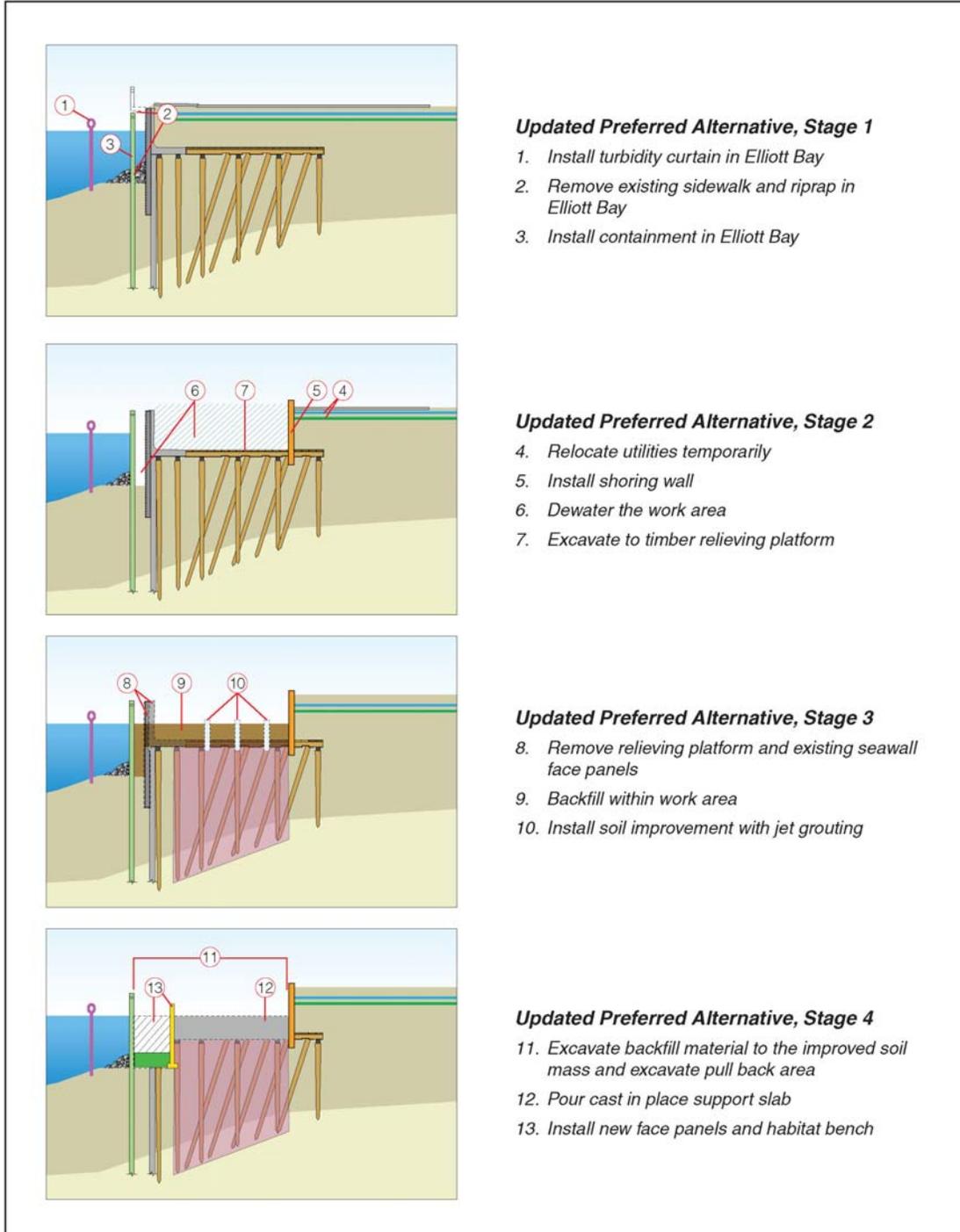
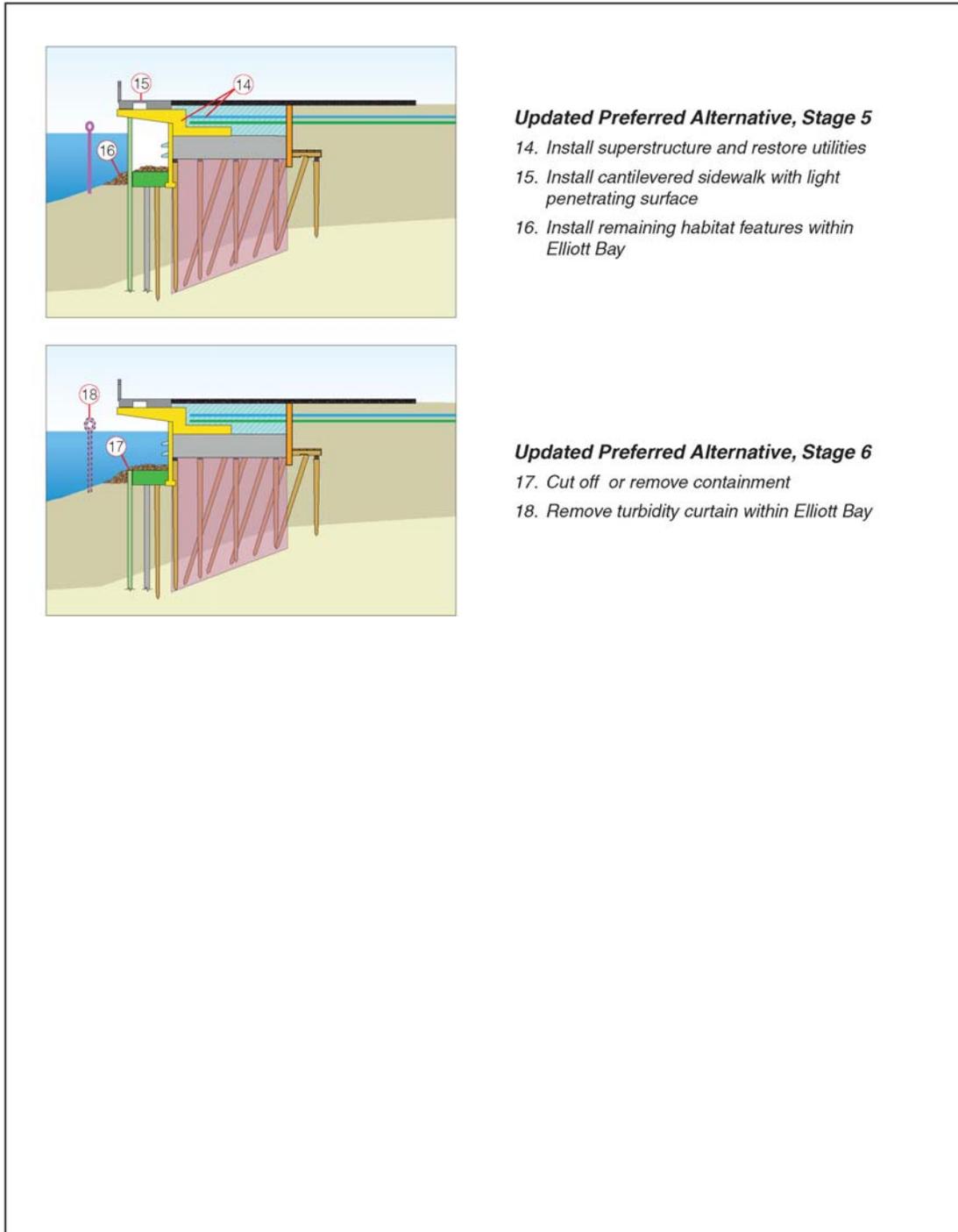


Figure 1-1 Typical construction Sequence for the Updated Preferred Alternative



Updated Preferred Alternative, Stage 5

- 14. Install superstructure and restore utilities
- 15. Install cantilevered sidewalk with light penetrating surface
- 16. Install remaining habitat features within Elliott Bay

Updated Preferred Alternative, Stage 6

- 17. Cut off or remove containment
- 18. Remove turbidity curtain within Elliott Bay

Figure 1-1 Typical construction Sequence for the Updated Preferred Alternative (continued)

CHAPTER 2. AFFECTED ENVIRONMENT

There are no changes to the affected environment since the FEIS.

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CHAPTER 3. CONSTRUCTION EFFECTS

3.1 TEMPORARY EMPLOYMENT IMPACTS DURING WATERFRONT BUSINESS CLOSURE PERIOD

Temporary employment impacts are evaluated based on a limited evaluation of the temporary reduction in employment caused by closure of businesses on historic piers during construction, noting whether it is within the range described in the FEIS. At the time of FEIS preparation, it was assumed that continuous access to the piers would be provided throughout the project construction, and businesses would remain open during construction. However, under the current revision to the construction phasing plan, most businesses on Piers 54 to 57 are now expected to close for a period of approximately nine months, currently planned to extend from October 2014 through June 2015.

This new closure period constitutes a change from the FEIS. The following discussion evaluates the economic effects of this new closure period on affected business employment during the 9-month period currently planned to extend from October 2014 through June 2015.

3.1.1 Affected Businesses

Businesses on Piers 54 through 57 include a mix of offices, retail, food service, and commercial recreation businesses. Effects on office building tenants/businesses are not evaluated because these businesses are not expected to be affected by the closure period. The businesses most affected by the closure period include the food and beverage, restaurant, retail shop, and commercial recreation businesses on Piers 54 to 57. For the purpose of discussion, these businesses are divided into three categories: 1) food/dining, 2) retail, and 3) attractions. There is approximately 65,000 square feet of business space on the piers in these categories, with about 25,000 square feet of retail, 31,500 square feet of food/dining, and 8,500 square feet of attractions. Attractions are not expected to require closure.

These businesses draw customers to the waterfront and are especially busy during the peak tourism season of July through September. Based on information provided by pier owners (Seattle Historic Waterfront Association 2013), it was estimated that these visitor-dependent businesses capture approximately 44 percent of their annual revenue during the 3-month peak summer season, and the remaining 56 percent is captured during the other 9 months of the year.

It was estimated that the food/dining and retail businesses expected to be included in the temporary closure on Piers 54 through 57 generate between \$26 and \$43 million in annual revenue¹. Based on a business survey conducted for the FEIS, it was estimated that on average there are between 0.0025 and 0.007 employees per square foot of business space on the waterfront, with a midpoint of 0.00475 employees per square foot. A second source, the Institute of Transportation Engineers (USGBC 2008), estimated 0.007 employees per square foot, and 0.002 employees per square foot at retail stores. The

¹ Based on available data, a range is used to present a conservative analysis.

Quality Restaurant (Sit Down) category was selected to represent the affected food/dining businesses. This category best reflects the types of businesses in the area, which focus on lunch and dinner and a sit down dining experience and would not be considered fast food or chain restaurants. The Institute of Transportation Engineers' land use code for Specialty Retail store was selected to represent the retail businesses, as most affected retail shops sell specialty goods and are not chains. Because of the limited number of businesses that responded to the FEIS business survey, both sources were used to estimate employment effects in order to corroborate the estimated effects.

3.1.2 Employment Effects of Closure

Based on evaluation of the Updated Preferred Alternative construction phasing, it was estimated that the closure period would affect approximately 51,600 square feet of these businesses, closing 27,000 square feet of food/dining business and 24,600 square feet of retail businesses. These estimates were based on pier maps and basic estimates by business type. Closure of the businesses is expected to last for 9 months, during which affected businesses would not earn revenue, would likely reduce staff levels (keeping only key employees), and would experience a reduction in operating costs (labor, inventory, utilities, etc.).

Employment effects would be temporary during the closure period. Businesses would likely reduce staff and maintain the minimum staffing level over the 9-month period. Based on the estimate of affected square footage and the employees per square foot multiplier from the waterfront business survey, it was estimated that the closure period would result in temporary layoff of 245 employees, 128 in food/dining, and 117 in retail jobs in the closure area. Based on the USGBC estimates of employees per square foot by business type, it was estimated that 201 food/dining employees and 45 retail employees would be affected, for a total of 246 affected employees. While the two methods result in slightly different proportions of food/dining and retail effects, the total estimate of effects differs by just one employee between the two estimation methods.

It is assumed that some key employees would remain on staff throughout the closure period, while others would be terminated for the duration. It is expected that these job losses would be temporary, and hiring would occur immediately following the closure period. Because terminated employees are likely to look for another job in the food or retail industry during the closure period, employees hired after the closure period may not be the same employees which were terminated.

Following the closure period, businesses will reopen beginning July 1, 2015, for peak tourist season. Initially, businesses would need to hire, restock, and prepare for reopening, meaning there may be a period of reduced revenue during the initial ramp-up after the closure period. Also, as noted in the Updated Preferred Alternative description, construction will not cease during the summers of 2014 and 2015. Instead, construction will continue until the project is complete in 2016. During the summer periods, it is expected that construction will take place to the north and south of Piers 54 through 57, and that additional parking spaces will be lined in front of the piers during this period to improve access to the reopened businesses.

3.1.3 Comparison to FEIS

At the closure period (fall 2014 through spring 2015), effects would be as described above, where businesses experience lost revenue and temporary reduction in employment. These effects during the 9-month closure period are estimated to be above and beyond the effect estimated in the FEIS for the same period.

Following the closure period (summer 2015), differences in the level of effects between the FEIS and the Updated Preferred Alternative are not expected to be substantial, but may be a net adverse effect. Though all businesses will be open and access provided, construction will continue through the summers to the north and/or south of the historic piers (no summer shutdown), which may increase congestion along the waterfront and reduce business patronage. The additional parking spaces to be added in front of Piers 54 through 57 will help to improve vehicular access to the businesses.

3.2 EVALUATION OF LOSS IN SALES TAX REVENUE DUE TO BUSINESS CLOSURES

The FEIS evaluated the adverse and beneficial sales tax effects on the regional economy from project construction. In the Updated Preferred Alternative, the business closure period between October 2014 and the end of June 2015 would be expected to result in additional adverse sales tax effects due to complete closure of a number of businesses that is expected to last for 9 months, rather than the FEIS assumption which estimated business reduction rather than total closure. This evaluation primarily considers the effects of the 9-month closure period on sales tax receipts from Piers 54 through 57. Effects during summer periods are discussed as well.

Sales tax on the waterfront is a combination of state and local taxes. At a total combined rate of 9.5 percent, the sales tax rate reflects the Washington State sales tax rate of 6.5 percent, the City of Seattle's tax rate of 2.6 percent, and the Regional Transit Authority's rate of 0.4 percent (WADOR 2013). For the purposes of evaluation, it was assumed that sales tax revenue was attributable to the food/dining, retail, and attraction businesses on the waterfront, as most office space tenants do not engage in business that would require collection of retail sales tax.

Sales tax effects are expected to be proportional to the effects on revenue during the 9-month closure period. For businesses that are closed completely, no sales tax revenue is generated during the period. All businesses expected to close on Piers 54 to 57 would be in the food/dining and retail industries, all of which would affect sales tax receipts during the closure period.

In order to provide a revenue base for sales tax losses, estimates of the effects on gross receipts were based on seasonality and the reduction in quantity of business with adjustments for expected reduction in variable operating costs and reopening costs. The base estimate of lost revenue was between \$14 and \$24 million. This value was then adjusted downward based on estimated operating cost savings of between \$3.2 and \$5.3 million after accounting for reopening costs. The adjusted adverse impact from lost revenue over the 9-month closure period could be between \$11 and \$19 million.

Based on these estimated revenue losses during the closure period, it is expected that sales tax losses would range from \$1.4 million to \$2.3 million. Under the construction phasing assumptions of the FEIS,

sales tax losses would have been approximately \$500,000 over the same period for Piers 54 to 57, making approximately \$860,000 to \$1.8 million of the closure period sales tax losses over and above the effects estimated in the FEIS.

In addition to sales tax losses during the closure period, the lack of construction shutdowns during summer 2014, 2015, and potentially 2016 would be expected to result in further marginal reductions in sales tax revenue over those periods relative to the FEIS, which assumed that construction would cease during summer 2014 and 2015, and that construction would be completed prior to summer 2016. The value of these losses would be expected to be proportional to the effects on revenue to businesses over these periods, discussed below in Section 3.4.

While these losses would be above and beyond those experienced in the FEIS, they would still be more than offset by the sales tax gained through regional spending for project construction (FEIS Chapter 4.2).

3.3 QUALITATIVE ASSESSMENT OF THE IMPACTS ON LOCAL BUSINESSES IN PIONEER SQUARE

Based on revisions to the construction phasing and traffic design following the publication of the FEIS, the team qualitatively evaluated the economic effects of project construction on the Pioneer Square neighborhood. This evaluation considers the potential effects of the revised construction phasing and traffic revisions planned to begin in July 2014 and continue through the end of the construction period. As part of the Updated Preferred Alternative, SDOT intends to move Colman Dock ferry queuing to a single route along Alaskan Way south of Yesler Street, turning east at S. Jackson Street. Additional traffic modeling was completed to analyze the effects of this revision on system traffic congestion, and these results informed this economic evaluation.

3.3.1 Pioneer Square Profile

Pioneer Square is located south of the commercial core, extending south from approximately Columbia Street/Yesler Way to S. Royal Brougham Way/S. Dearborn Street. The neighborhood extends as far east as Fourth Avenue.

The neighborhood is characterized by historic buildings, independent boutiques, art galleries, restaurants, bars, cafes, office space, and multi-family residences. The neighborhood borders Seattle's SoDo neighborhood, Century Link Stadium, and Safeco Field. It is located adjacent to regional and local public transportation, with daily pedestrian counts of between 2,000 and 4,000 per day along neighborhood arterials. In recent years, the neighborhood has attracted a number of technology companies, which in turn has led to a growth in residents. Between 2000 and 2010, Pioneer Square and the adjacent International District have experienced a 40 percent increase in the number of residents. In 2011, the top three employment sectors in the neighborhood were retail and services sector jobs (5,717; 84 percent), followed by government jobs (575; 8 percent), and then wholesale trade, transportation, and utilities (184, 3 percent). Small, street-level businesses dominate the retail/services sector, with 32 percent of street-level businesses in retail, 27 percent in restaurants/bars/cafes, and another 28 percent in other personal, professional, or other services (MID/DSA 2012).

3.3.2 Effects of the Updated Preferred Alternative

Potential effects of project construction on Pioneer Square are expected to be a function of pedestrian access, vehicular access, congestion, and parking availability. The evaluation considered these factors in qualitatively assessing the level of effect in Pioneer Square. Based on July 2014 traffic revisions to relocate ferry queuing south along Alaskan Way and then east along S. Jackson Street, Pioneer Square effects are summarized as follows:

- Increased volumes in the Pioneer Square area would result in slightly more congested operations than those described in the FEIS. The volume increases are not expected to change overall intersection delay.
- The intersection of First Avenue S. and S. Jackson Street would have a volume increase on both its southbound and westbound approaches, causing a small amount of additional delay to the intersection. However, planning level analysis shows that the intersection will operate within the mild to moderate threshold as defined in Chapter 4 of the FEIS.
- Operations along First Avenue S. could be affected by varying levels of pedestrian activity at the intersections.

Based on these traffic modeling results, effects on vehicular access/congestion in Pioneer Square are expected to be minor, and Pioneer Square businesses would not be expected to be adversely affected.

With regard to parking and pedestrian access, parking supply will remain at reduced levels, as initiated by the Alaskan Way Viaduct Replacement Project (AWVRP), throughout seawall construction. However, in addition to the parking mitigation described in section 3.1 of the EIS, the ongoing parking mitigation program for the AWVRP is scheduled to continue 2 years beyond the end of seawall construction, mitigating adverse parking effects for EBSP as well. The program partners with private garages and is designed to provide off-street parking at City on-street rates. It also provides other related benefits such as marketing, outreach, validation programs, way-finding signage, pedestrian lighting, and a complementary website. With no further reduction in parking supply, pedestrian access would not be limited further by the traffic revision.

With these considerations, it is expected that overall economic effects on Pioneer Square from seawall construction, and specifically from traffic revisions related to ferry queuing, will be minor. Traffic impacts do not appear to result in significant adverse effects and would not be expected to result in adverse business impacts. The ongoing parking mitigation program for the AWVRP will continue to increase off-street parking supply at reasonable rates in the neighborhood.

3.4 IMPACTS ON LOCAL BUSINESSES THAT REMAIN OPEN DURING SUMMER CONSTRUCTION

Under the Updated Preferred Alternative, summer construction may include summer 2014, includes summer 2015, and may include summer 2016. If construction were required in all three summers, the 2014 summer shutdown would not occur as planned in the FEIS, and the overall length of construction would be increased relative to the FEIS. It follows that adding two additional summers of construction

and an overall lengthening of the construction period would result in an additional level of adverse effects above and beyond those in the FEIS.

Summer 2014

Under the Updated Preferred Alternative, season 1 construction may not be completed by summer 2014. If construction activities continue as needed during the summer no summer construction shutdown would occur. The analysis assumes that parking would still be provided in front of Piers 54, 55, 56, and 57 during summer 2014. Pedestrian access to the historic piers would be provided, but on-going construction activities might deter overall waterfront visitation. Availability of additional parking would be expected to offset some, but not all, of the potential adverse effect.

Summer 2015

As noted in the Updated Preferred Alternative description, construction will not cease during summer 2015. Due to the planned business closure that concentrates construction between Piers 54 to 57 during October 2014 and June 2015, construction is expected to be completed in this area by the summer season. Consequently, the analysis assumes that construction would be located outside of this zone during summer 2015...

Following the closure period, businesses will reopen beginning July 1, 2015, for peak tourist season. Initially, businesses would need to hire, restock, and prepare for reopening. This may result in a period of reduced revenue during the initial ramp-up after the closure period.

During this period, construction is expected to continue to the north and the south of the historic piers. Access would be maintained to the historic piers and the businesses would operate normally, with parking provided in front of the piers. Pedestrian access to the historic piers would be provided, but on-going construction activities might deter overall waterfront visitation. Availability of additional parking would be expected to offset some, but not all, of the potential adverse effect.

Summer 2016

In the event that construction is not completed during spring 2016, some construction may be required into summer 2016. It is assumed that any construction during this period would be similar to summer 2015, with construction activities not occurring in front of the historic piers, with maintained access and parking spots in front of the piers. Access to the historic piers could be somewhat impeded during this summer, and on-going construction activities might deter visitation. Availability of additional parking would be expected to offset some, but not all, of the potential adverse effect.

3.4.1 Summary

While providing parking through these periods may offset some visitation loss, it likely will not offset all the potential reduction in business during the 2014, 2015, and 2016 summer seasons. The specific effects on the businesses might include a lower overall revenue stream, which may or may not require reduction in employees before the 2014-2015 closure period, and may reduce the number of employees hired back on during summer 2015. There would also be an additional drop in sales tax revenue from

the waterfront businesses. From a regional perspective, it's likely that other neighborhoods would see an increase in patronage that would make the additional summer construction negligible regionally.

The differences in the level of effects between the FEIS and the Updated Preferred Alternative are not expected to be substantial, but may result in a net adverse effect relative to the FEIS. Reduced patronage of the waterfront businesses due to ongoing construction in summer 2014, 2015, and 2016, in addition to the overall increase in construction period will contribute to these adverse effects. This conclusion is based on the following considerations:

- *(Effect: minor adverse)* All businesses will be open during the peak summer tourist seasons of 2014, 2015, and 2016, and vehicular and pedestrian access will be maintained. However, multiple consecutive summers of ongoing construction may marginally decrease the visitation of the waterfront over the construction period.
- *(Effect: minor adverse)* Continuation of construction through the summer may increase vehicular or pedestrian congestion along the waterfront or decrease local resident use of the waterfront. Still, summer volumes are driven largely by tourists, who are expected to choose to visit the waterfront even though construction is ongoing.
- *(Effect: minor beneficial)* New parking spaces will be added in front of Piers 54 through 57 to improve parking supply and vehicular access to the businesses.
- *(Effect: minor adverse)* Overall project construction may extend into the summer of 2016, adding additional peak season months when visitors may be affected by construction congestion or less than ideal access to the waterfront.

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CHAPTER 4. OPERATIONAL EFFECTS

There is no change in operational effects since the FEIS.

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CHAPTER 5. REFERENCES

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