

SR 99: ALASKAN WAY VIADUCT & SEAWALL REPLACEMENT PROGRAM

Land Use and Shorelines Technical Memorandum
S. Holgate Street to S. King Street
Viaduct Replacement Project
Environmental Assessment

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ACRONYMS

BMP	Best Management Practice
City	City of Seattle
CZM	Coastal Zone Management
EA	Environmental Assessment
EIS	Environmental Impact Statement
FHWA	Federal Highway Administration
GMA	Growth Management Act
IC	Industrial Commercial
IG1	Industrial General 1
IG2	Industrial General 2
M&I	Manufacturing and Industrial
Project	SR 99: S. Holgate Street to S. King Street Viaduct Replacement Project
RCW	Revised Code of Washington
SR	State Route
UI	Urban Industrial
WOSCA	Washington-Oregon Shippers Cooperative Association
WSDOT	Washington State Department of Transportation

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Chapter 1 SUMMARY

This technical memorandum describes the existing conditions, effects, and mitigation related to land uses and shorelines for the construction and operation of the SR 99: S. Holgate Street to S. King Street Viaduct Replacement Project (the Project).

1.1 Affected Environment

The study area for the land use and shorelines analysis extends from S. Walker Street north to S. Jackson Street, and from Elliott Bay east to Fourth Avenue S. This includes portions of two City of Seattle neighborhood planning areas, the Greater Duwamish Manufacturing/Industrial Center and the Pioneer Square neighborhood.

Land uses in the westerly portion of the study area where the Project would be located are a mix of terminal/warehouse, office, retail/service, industrial, and parking and utility, with businesses such as Office Furniture Solutions, Sound Produce, and the Baseball Club of Seattle interspersed with industrial uses such as ISSC Inc./Seaport Steel and the United Warehouse Company.

The Whatcom Railyard, Port of Seattle, and Terminal 46 occupy much of the area to the west, with government services located at Pier 36. BNSF Railway's railyard and an extensive network of tracks lie in the southern portion of the study area, and the Union Pacific railyard and tracks are also in this area.

Land uses west of Safeco and Qwest Fields are predominantly terminal/warehouse but include some retail/service, office, and parking. The Pyramid Alehouse, Great Floors, parking garages, and several condominiums and surface parking lots are in this area. The area north of S. King Street includes smaller parcels with a mix of office, terminal/warehouse, retail/service, and parking. Pier 48 is northwest of the study area, and King Street Station is in the northeast corner of the study area.

1.2 Operational Effects and Mitigation

1.2.1 Effects

The Project would not cause any permanent effects on land use other than acquiring the approximately 2.09 acres of right-of-way necessary to build the Project and converting property zoned Industrial General 1 (IG1) and Industrial General 2 (IG2) to transportation use. After construction, the Project would benefit the traveling public by providing improved accessibility for employees, customers, and residents. Improved accessibility may benefit

land uses in the area. In addition, the new grade-separated access for freight and general purpose traffic would improve connections to the Port of Seattle, waterfront, and stadium areas.

The Project would be consistent and compatible with existing zoning and land use plans. No mitigation would be required for compliance.

1.2.2 Mitigation

Overall, land use effects would be positive, and no mitigation would be needed.

1.3 Construction Effects and Mitigation

1.3.1 Effects

Construction-related detours, closures, and traffic congestion would change mobility on project area streets. Residents would experience some degree of inconvenience, and businesses would experience disruption in the flow of customers, employees, and the delivery or shipment of materials and supplies.

Approximately 0.36 acre of land would be needed for temporary construction easements (see Exhibit 4-1). Although construction easements would be temporary, some would be needed for only part of the construction period, while some could continue for the entire construction period, approximately 4 years and 4 months.

Construction easements on portions of Terminal 46 and the U.S. Coast Guard facility west of State Route (SR) 99 could result in the temporary loss of parking spaces for approximately 6 months. The construction easement for the Pyramid Alehouse property could result in loss of parking spaces along the west side of the site for about 3 months. Traffic circulation and parking at both of these facilities may need to be temporarily reconfigured during construction, which may affect convenient access to these businesses.

Effects would vary during each stage of construction (see the Alternative Description and Construction Technical Memorandum, available in Appendix G of the Project's Environmental Assessment [EA]). The middle stages (Traffic Stages 2 and 3), when traffic is diverted to the Washington-Oregon Shippers Cooperative Association (WOSCA) detour route, would result in the greatest changes in access to adjacent land uses.

1.3.2 Mitigation

Mitigation measures for the above-listed land use effects during construction activities would include providing advance notice to property owners in the

project area regarding construction activities, utility disruptions, and detours. Local access to adjacent residences and businesses would be maintained during construction.

Construction traffic, dust, and noise would be mitigated to the extent possible as described in the Noise and Vibration Technical Memorandum (in Appendix G of the Project's EA) and the Air Quality and Transportation Discipline Reports (Appendices E and F, respectively, of the Project's EA).

Construction activities would also include Best Management Practices (BMPs) and site-specific mitigation measures that are intended to protect fragile shoreline areas that could be affected by construction.

1.4 Indirect and Cumulative Effects

No significant indirect or cumulative effects would occur.

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Chapter 2 METHODOLOGY

The project team used maps, plans, and development regulations from the City of Seattle to identify the existing land use, zoning, and shoreline environment and critical areas designations in the study area. Field visits were conducted, and photographs were used to confirm existing land uses. Potential land use effects associated with the Project were determined by comparing conceptual alignment drawings of the proposed project facilities against maps, photos, and field data. The Seattle Comprehensive Plan, zoning code, local neighborhood plans, regional plans, Port of Seattle *Seaport Shoreline Plan*, and Shoreline Master Program and Critical Areas Ordinance were reviewed to evaluate the Project's consistency with existing plans, policies, and regulations. The Washington State Department of Transportation (WSDOT) *Environmental Procedures Manual* provided direction on land use concerns consistent with Federal Highway Administration (FHWA) guidance for the preparation of environmental documents.

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Chapter 3 AFFECTED ENVIRONMENT

The SR 99 corridor passes through a variety of land use zones and types. The corridor lies entirely within an urban environment, with downtown Seattle to the east and Elliott Bay to the west.

3.1 Existing Land Uses

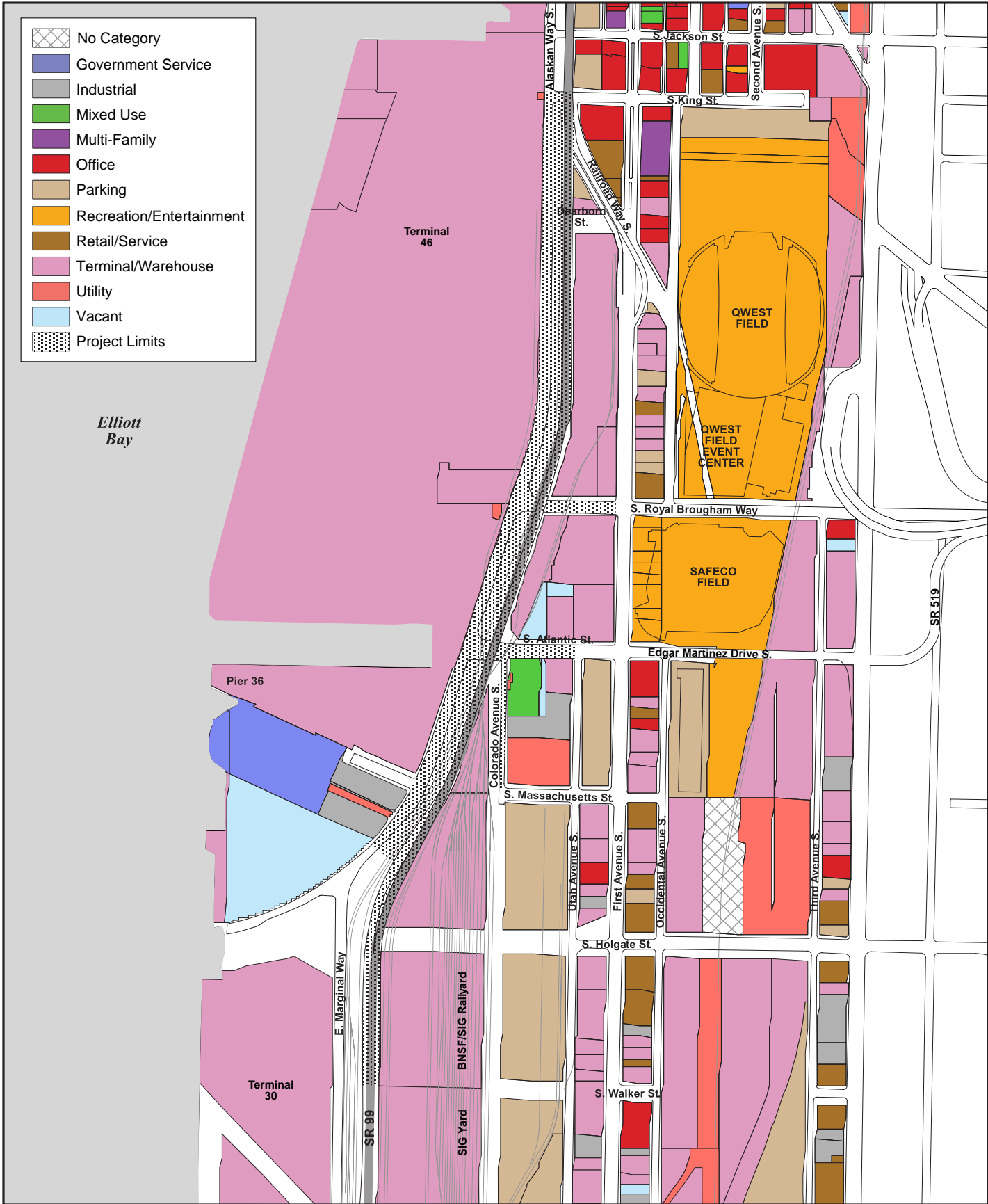
The study area for the land use and shorelines analysis extends from S. Walker Street north to S. Jackson Street, and from Elliott Bay east to Fourth Avenue S. This includes portions of two City of Seattle neighborhood planning areas, the Greater Duwamish Manufacturing/Industrial Center and the Pioneer Square neighborhood. Exhibit 3-1 provides a map of the study area and overlapping neighborhood planning areas.

Land uses in the Greater Duwamish Manufacturing/Industrial Center portion of the study area include primarily terminal/warehouse uses intermixed with some nonindustrial commercial uses and the Safeco Field sports stadium. The Port of Seattle recently completed a substantial upgrade and expansion of facilities at Terminal 46, including new terminal buildings and additional container yard storage.

Land uses in the Pioneer Square portion of the study area include retail, restaurants, art galleries, offices, and residential. Additionally, as one of the oldest parts of Seattle, the area has been designated a historic district and is a focal point for many tourist and entertainment activities. The Pioneer Square neighborhood includes Qwest Field and Safeco Field. Both stadiums have gained improved transportation accessibility with completion of the SR 519 connections to I-5 and I-90 at S. Atlantic Street and Fourth Avenue S.

Land uses in the study area are shown on Exhibit 3-2. (Note: Where Dearborn Street is labeled is City right-of-way, not an actual street; the label is included as a locational reference only.) Land uses in the southeast portion of the study area are a mix of terminal/warehouse, office, retail/service, industrial, and parking, with businesses such as Office Furniture Solutions, Sound Produce, and the Baseball Club of Seattle interspersed with industrial uses such as ISSC Inc./Seaport Steel and the United Warehouse Company.

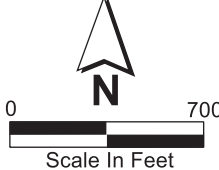
The Whatcom Railyard, Port of Seattle, and Terminal 46 occupy much of the area to the west, with government services located at Pier 36. BNSF Railway has a railyard and an extensive network of tracks in the southern portion of the study area, and the Union Pacific railyard and tracks are also in this area.



- No Category
- Government Service
- Industrial
- Mixed Use
- Multi-Family
- Office
- Parking
- Recreation/Entertainment
- Retail/Service
- Terminal/Warehouse
- Utility
- Vacant
- Project Limits

Elliott Bay

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**Exhibit 3-2
Existing Land Use Types**

Land uses west of Safeco and Qwest Fields are predominantly terminal/warehouse but include some retail/service, office, and parking. The Pyramid Alehouse, Great Floors, parking garages, and several condominiums and surface parking lots are in this area. The area north of S. King Street includes smaller parcels with a mix of office, terminal/warehouse, retail/service, and parking. Pier 48 is located to the northwest of the study area, and King Street Station is in the northeast corner of the study area.

3.2 Development Activity and Trends

The area south of Seattle's commercial core has changed greatly during the past decade. As the downtown area has evolved with increased densities, land uses south of the commercial core have also changed. In the study area, a major stimulus for this change has come from construction of the City's sports stadiums. Planned development of Qwest Field's north parking lot includes a mixed-use residential and commercial project. In addition, Home Plate is planning a mixed-use development with a parking structure for approximately 700 vehicles at the southwest corner of S. Atlantic Street and First Avenue S. Currently, a new 85-unit condominium project is being constructed west of the stadiums at the southwest corner of S. King Street and First Avenue S.

The demand for terminal/warehouse space is increasing in the general Puget Sound region and is now at a record high, with the Port of Seattle experiencing considerable increases in volumes handled. Because of the lack of space near the downtown area, however, much of the new industrial development is occurring south of the city. As with most areas of the city, development activity south of the commercial core reflects local and regional economic conditions.

The City is currently preparing the Livable South Downtown Environmental Impact Statement (EIS) to help planners and the public understand how environmental effects might vary under alternative approaches to land use if different sets of zoning choices are made.

Potential zoning changes and new height limitations include rezoning First Avenue S. from Industrial Commercial to a designation that would allow for residential uses and require design review. Also being considered is a new commercial-oriented zone north of either S. Atlantic Street or S. Royal Brougham Way (Seattle 2006a). The City expects to issue the Final EIS in early 2008.

In 2007, the City also conducted a series of studies working with industrial business owners, industrial land owners, the Seattle Planning Commission,

and consultants to better understand the condition of its industrial businesses. These studies will be ongoing in 2008.

3.3 Zoning

Zoning in the project area includes a number of zoning classifications, which generally allow for a variety of potential uses at different densities. The City's code specifies allowable uses, standards for parking and building size, shape, and location within each zone (Seattle 2006c). Development in the project area is consistent with regulations in the existing zoning classifications, which are shown on the zoning map provided in Exhibit 3-3. The following zones, as described in the Seattle Land Use Code (Title 23 of the Seattle Municipal Code), are located in the study area:

IG1 – Industrial General 1: Protects marine and rail-related industrial areas from an inappropriate level of unrelated retail and commercial uses by limiting these uses to a density or size limit lower than that allowed for heavy industrial uses.

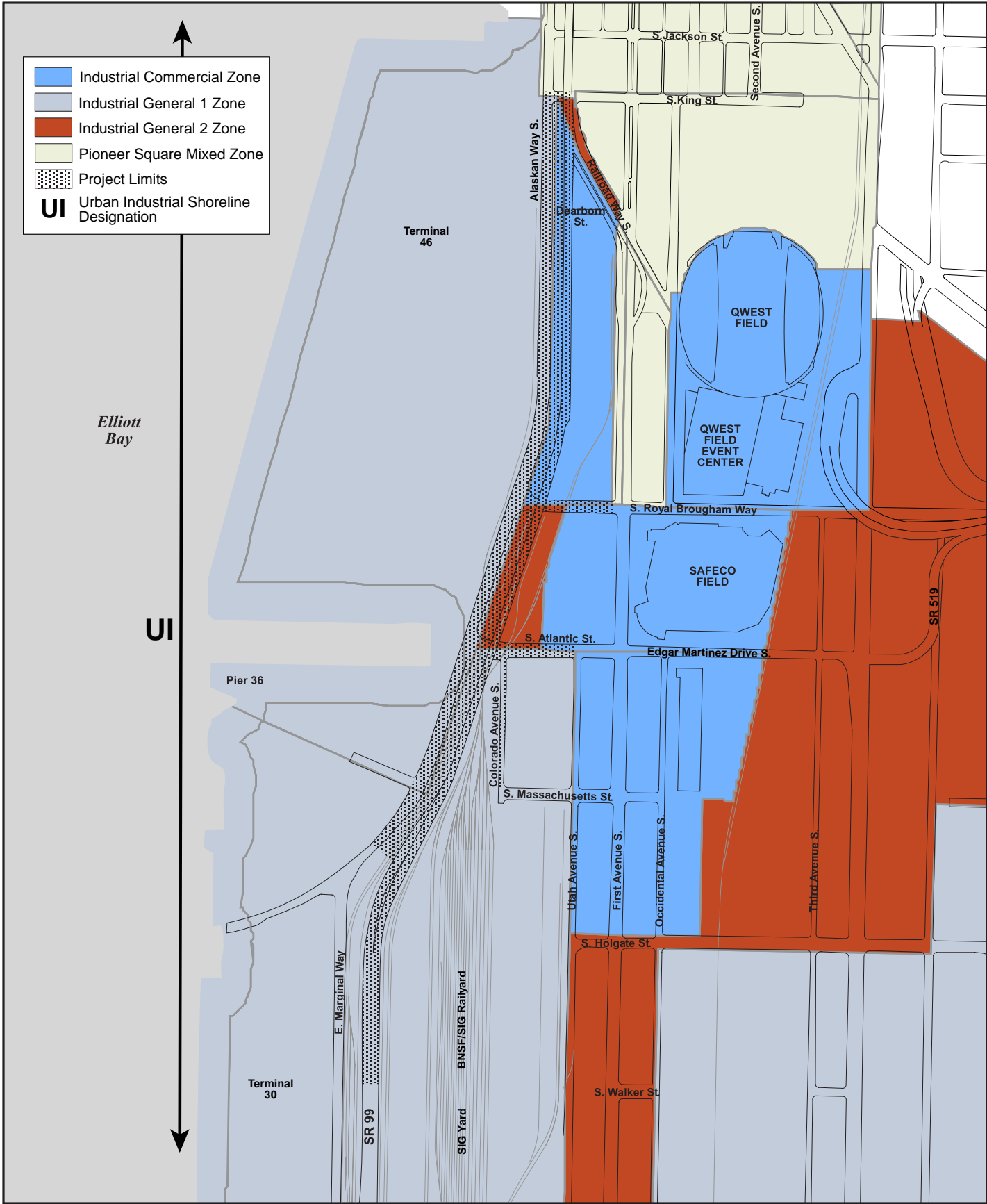
IG2 – Industrial General 2: Allows for a broad range of uses where the industrial function of an area is less established than in IG1 zones, and where additional commercial activity could improve employment opportunities and the physical condition of the area without conflicting with industrial activity.

IC – Industrial Commercial: This zone is intended to promote development of businesses that incorporate a mix of industrial and commercial activities, such as light manufacturing and research and development facilities, while also allowing for a wide range of other employment activities.

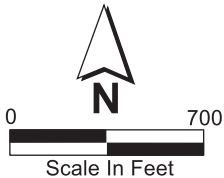
Pioneer Square Mixed: The Pioneer Square Mixed zone applies to those areas that lie within the Pioneer Square Preservation District, north of those areas predominantly in manufacturing and industrial use and not contained within the International Special Review District. Within the Pioneer Square Mixed zone, the Stadium Transition Area Overlay District is intended to promote uses that are compatible with the two major sports stadiums. This district supports pedestrian-friendly uses, including connections to the downtown core, and it seeks to reduce potential conflicts with nearby industrial and commercial uses.

3.4 Plans and Implementing Regulations

Several state, regional, and local transportation and land use plans and implementing regulations appear to be applicable to the Project. These plans and regulations are identified below.



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**Exhibit 3-3
Zoning and Shoreline
Environment Designation Map**

3.4.1 State Plans

Growth Management Act

Adopted in 1990, the Washington State Growth Management Act (GMA) (RCW 36.70A) requires state and local governments to manage statewide growth by identifying urban growth areas and preparing comprehensive plans, capital improvement programs, and development regulations. The GMA also specifies that transportation projects be identified.

Washington Transportation Plan

The *Washington Transportation Plan* provides a framework and strategies to guide decisions and investments needed to develop Washington's transportation system to serve the future needs of its citizens, communities, and economy, while safeguarding the environment. The core principle of the investment guidelines is that the existing system cannot be allowed to deteriorate.

Coastal Zone Management Program

Under requirements of the Coastal Zone Management (CZM) Act of 1972, activities of federal agencies that affect coastal zone land uses, water uses, or natural resources must be consistent with the state's CZM Program. The state of Washington uses the Shoreline Management Act as its primary implementing mechanism to comply with CZM requirements. King County is one of 15 counties in the state's coastal zone. The Washington State Department of Ecology reviews projects under this act and ensures that a project complies with all official controls in the state's Shoreline Management Act CZM Program.

3.4.2 Regional Plans

Puget Sound Regional Council *VISION 2020* and *Destination 2030*

VISION 2020 presents the central Puget Sound region's growth management, economic, and transportation strategy. *VISION 2020* and its updates contain policies and guidelines for implementation of local comprehensive plans and development regulations within central Puget Sound, including King, Kitsap, Pierce, and Snohomish Counties.

The Puget Sound Regional Council is currently updating *VISION 2020*. The update is expected by the spring of 2008 and will be titled *VISION 2040*. *VISION 2040* will be integrated with *Destination 2030*, which represents the Metropolitan Transportation Plan for the region.

Destination 2030 identifies regionally important components of the area's Metropolitan Transportation System and includes a complete list of projects and transportation system improvements.

3.4.3 Local Plans and Implementing Regulations

Seattle Comprehensive Plan 2005

Seattle's Comprehensive Plan: Toward a Sustainable Seattle (2004-2024) is a 20-year plan to guide growth and development in Seattle, which makes basic policy choices and provides a flexible framework for adapting to real conditions over time. The plan can be amended annually to address changes in specific goals and policies for land use, transportation, economic development, and specific objectives for the City's neighborhood planning areas. The plan designated the Greater Duwamish Manufacturing/Industrial Center as an industrial area, with a focus on providing family-wage industrial type jobs and limiting incompatible uses such as residences and gathering places for the general public.

Seattle 2003–2008 Capital Improvement Program

The Capital Improvement Program is used to present funding for rehabilitation, restoration, improvements, and additions to the City's capital facilities. The program presents funding for improvements such as libraries, street repairs, parks and recreation facilities, neighborhood projects, community centers, and utilities. The Capital Improvement Program is prepared by the Seattle Department of Finance to cover a 6-year planning period and is adopted by the City Council as part of the annual City budget process. The actual appropriation of funds identified in the Capital Improvement Program occurs through the budget adoption process.

Seattle Neighborhood Plans

The study area lies within the *Greater Duwamish Manufacturing and Industrial Center Plan* area and the *Pioneer Square Neighborhood Plan* area. Goals and policies established in the neighborhood plans were reviewed, and key policies within each plan have been adopted into the overall Seattle Comprehensive Plan. Therefore, while the neighborhood plans in their entirety were not adopted by the City, goals and policies within these plans provide community direction intended to guide future activities within the individual neighborhoods.

Seattle Municipal Code

The purpose of the Seattle Land Use Code (Title 23 of the Seattle Municipal Code) is to protect and promote public health, safety, and general welfare

through a set of regulations and procedures for the use of land that are consistent with and implement the City's Comprehensive Plan. The Land Use Code classifies land within the city into various land use zones and overlay districts that regulate the use and bulk of buildings and structures. The provisions are designed to provide adequate light, air, access, and open space; conserve the natural environment and historic resources; maintain a compatible scale within an area; minimize traffic congestion; and enhance the streetscape and pedestrian environment. They seek to achieve an efficient use of the land without major disruption of the natural environment and to direct development to sites with adequate services and amenities.

The Land Use Code also provides zoning and other development regulations for the City. These regulations set forth procedures and standards for the use of land within the city. In addition to general use or activity requirements, these provisions include specified height and size restrictions, as well as setback, parking, landscaping, and view requirements. The Land Use Code also includes special overlay districts that identify other development requirements in addition to those noted for individual zones (Seattle 2006c).

Environmentally Critical Areas

The City designates environmentally critical areas where existing conditions warrant specification of potential hazards or protection of critical areas. The shoreline area along the harborfront has been identified as a potential seismic liquefaction zone. This designation refers to the potential instability of soils during an earthquake given that much of the study area is underlain by old fill material. Please refer to the Geology and Soils Technical Memorandum (in Appendix G of the Project's EA) for anticipated effects associated with the Project.

Shoreline Master Program

The City's Shoreline Master Program defines shoreline environments for all shoreline areas. Shoreline environments form zones where additional development standards must be met in addition to zoning requirements in the Seattle Land Use Code. These additional requirements establish the types of land uses permitted within shoreline areas and development regulations governing size and other standards. The Urban Industrial (UI) shoreline environment is designated along the Duwamish River and Elliott Bay near the project area. The location of the UI shoreline environment designation relative to the project is shown on Exhibit 3-3.

The purpose of the UI shoreline environment is to provide for efficient use of industrial shorelines by major cargo facilities and other water-dependent and

water-related industrial uses. Views shall be secondary to industrial development, and public access shall be provided mainly on public lands.

Port of Seattle Seaport Shoreline Plan (2007)

The Port of Seattle *Seaport Shoreline Plan* describes the long-term potential development envisioned by the Port for its shoreline properties within the city of Seattle. The *Seaport Shoreline Plan* is intended to provide information to the City and to the public regarding the Port's operations and facilities affected by shoreline management goals and regulatory requirements. It identifies existing and potential sites for port facilities and development, habitat mitigation, and public access at each of the Port's shoreline properties within the city of Seattle. The Port's policy and operational needs related to the Shoreline Master Program administrative procedures, permitting, and relationships to other regulatory programs affecting port shoreline areas are also presented.

Chapter 4 OPERATIONAL EFFECTS, MITIGATION, AND BENEFITS

4.1 Consistency with Plans and Implementing Regulations

As described in Chapter 3, several plans and regulations affect the study area. These plans and regulations focus on the efficient movement of freight, people, and goods. They also focus on safety for all travel modes. The Project would be consistent and compatible with existing zoning and land use plans, as discussed below.

4.1.1 State and Regional Plans

The Project represents one component of the City and regional transportation network and therefore would be consistent with growth management goals, county-wide planning policies, and the *Washington Transportation Plan*. The Project lies within an urban area, and thus is consistent with the GMA requirement to direct infrastructure improvements to such areas.

VISION 2020 and its updates identify long-range growth and transportation strategies to fulfill the vision of economically diverse and environmentally healthy communities. By integrating land use and transportation planning, the plan provides a framework for allowing regional growth while maintaining open space, resource lands, and an efficient transportation system with travel mode options.

Under *Destination 2030*, policies are provided that are intended to improve regional mobility and access. *Destination 2030* is intended to identify and address the region's long-range transportation needs arising from regional growth. The five major objectives defined by *Destination 2030* are as follows:

- Support maintenance and preservation of existing transportation infrastructure and services as a high priority.
- Provide stronger links between the transportation system and land use development to encourage growth within defined urban growth areas, with balanced investments in multimodal transportation improvements.
- Identify and prioritize projects, programs, and policies to improve all modes of transportation and keep up with growth.
- Improve the region's financial capacity to fund needed improvements.

- Tailor recommendations at the sub-regional and corridor levels in recognition of the region’s social, physical, and cultural diversity.

The Project is being designed to accommodate several existing and planned regional and local transportation facilities, including SR 519 improvements, light rail, local and community bus systems, and Washington State Ferry service, along with consideration of future high-occupancy vehicle and pedestrian/bicycle facilities. The Project would also comply with the need to ensure continuance of urban-level facilities. In so doing, the Project would be consistent with long-range goals to direct high-density growth to already urbanized locations. The Project would be consistent with and support *Vision 2020* and *Destination 2030*.

4.1.2 Local Plans and Implementing Regulations

Seattle Comprehensive Plan 2005

The Seattle Comprehensive Plan (Seattle 2005) directs most growth and development to areas identified as Urban Villages, where infrastructure and services are intended to serve high-density land uses. The City’s plan seeks to provide a range of transportation alternatives that will include transit, bicycle, and pedestrian facilities. The plan also encourages Urban Villages to be served by high-capacity transit. The City’s plan is also consistent with funding priorities identified for improvements of Alaskan Way in the City’s Capital Improvement Program. The Project would provide one element of the diverse transportation network the City’s plan envisions and is intended to accommodate additional parts of the overall multimodal transportation system the City desires.

Relevant goals and policies of the Neighborhood Planning and Transportation Elements of Seattle’s Comprehensive Plan include:

- GD-G2: Public infrastructure adequate to serve business operations in the Duwamish Manufacturing/Industrial Center is provided.
- GD-G9: A high level of general mobility and access is attained within the Duwamish Manufacturing/Industrial Center.
- GD-G10: The transportation network in the Duwamish Manufacturing/Industrial Center makes appropriate connections and minimizes conflicts between different travel modes.
- GD-G12: The transportation network in the Duwamish Manufacturing/Industrial Center emphasizes the mobility of freight and goods.

- GD-P21: Strive to enhance access throughout the Duwamish Manufacturing/Industrial Center by means such as signal coordination, roadway channelization, grade separation, and pavement rehabilitation.
- GD-P27: Pursue opportunities and develop partnerships to provide grade separations between rail and auto/truck traffic along key east-west routes for enhanced speed and reliability while maintaining safety for both travel modes.
- GD-P31: Strive to facilitate east-west freight movement in the Duwamish Manufacturing/Industrial Center, particularly through the Royal Brougham, Spokane Street, and Michigan Street corridors. (This goal was adopted from the Greater Duwamish Manufacturing and Industrial Plan, which was written in 1999. At that time, the section of S. Atlantic Street east of First Avenue S. did not exist. Since then, it has become a major freight transportation corridor and should be included with the preceding corridors.)
- GD-P32: Strive to maintain efficient freight movement along the designated truck routes in the Duwamish Manufacturing/Industrial Center.
- GD-P35: Strive to minimize disruptions to freight mobility caused by construction (including construction of transportation facilities) in the Duwamish Manufacturing/Industrial Center. (See Chapter 5 for a summary of options to mitigate temporary construction-related impacts.)
- TG6: Promote efficient freight and goods movement.
- TG19: Preserve and improve mobility and access for the transport of goods and services.

Comments: The Project would be consistent and compatible with applicable goals and policies of the Neighborhood Planning and Transportation Elements of Seattle's Comprehensive Plan.

The following applicable shoreline use goals are contained in the Land Use Element of the Comprehensive Plan:

Shoreline Use Goals

- LUG39: Establish shoreline uses that result in long-term over short-term benefit.
- LUG41: Locate all non-water-dependent uses upland to optimize shoreline use and access.

- LUG43: Protect those areas of the shoreline that are geologically dangerous or fragile or biologically fragile.

Comments: The Project would provide a long-term benefit to the traveling public and adjacent land uses by providing improved accessibility for their employees and customers. The Project would not be located directly on the waterfront but would be in an upland location in relation to the shoreline and would provide access to existing shoreline uses. Construction activities would include BMPs and site-specific mitigation measures that are intended to protect fragile shoreline areas that could be affected by construction.

Transportation Goals

- LUG46: Develop a transportation network that supports and enhances use of and access to the shorelines.
- LUG47: Relocate or demolish transportation facilities that are functionally or aesthetically disruptive to the shoreline, such as the aerial portion of the Alaskan Way Viaduct on the central waterfront between S. King Street and Union Street.

Comments: SR 99 serves as a route to, or around, the downtown area from locations to the north and south, rather than providing direct access to the waterfront. While shoreline access is not a primary function, the Project would provide access to the waterfront and act as one means of reaching the downtown ferry routes. The Project would preserve this function. The Project would also continue to allow SR 519 to provide shoreline access. The Project would not preclude replacement options for the aerial portion of the Alaskan Way Viaduct on the central waterfront between S. King Street and Union Street.

Conservation Goals

- LUG49: Insure [*sic*] that all future uses will preserve and protect environmental systems, including wild and aquatic life.

Comments: Construction of the Project would follow BMPs and other site-specific mitigation measures. The Project would include specific measures for collection and treatment of stormwater runoff, thereby improving the quality of stormwater discharges. Please refer to the Water Resources Technical Memorandum (in Appendix G of the Project's EA) for treatment measures and anticipated effects associated with the Project.

Economic Development Goals

- LUG51: Encourage economic activity and development of water-dependent uses by supporting the retention and expansion of existing

water-dependent businesses and planning for the creation of new developments in areas now dedicated to such uses.

Comments: The Project would support existing waterfront uses by providing improved access for freight transport.

Recreation Goals

- LUG54: Increase the amount of shorelines dedicated to public recreation and open space.

Comments: Surface streets near the project area would be widened to add bicycle lanes along Alaskan Way S., E. Marginal Way S., and S. Royal Brougham Way. In addition, the Project would improve pedestrian and bicycle access along the corridor by providing the following improvements:

- New greenway corridor along the west edge of SR 99, with a 14-foot-wide paved bicycle/pedestrian pathway and a single row of trees. The pathway would split to form two paths between S. Royal Brougham Way and S. Atlantic Street, one on either side of the undercrossing.
- New greenway corridor along the east side of SR 99, with a 14-foot-wide paved bicycle/pedestrian pathway and two rows of trees.

Area Objectives for Seattle's Shorelines Goals

The area objectives are intended to indicate which shoreline area's goals and policies are to be met on each specific section of shoreline. Area objectives for the central waterfront shoreline environments in the project area are described below.

The Duwamish. This area includes the Duwamish River from the south city limits to S. Massachusetts Street on the east and S.W. Bronson Street on the west, including Harbor Island and the East and West Duwamish Waterways. Specific objectives for this area are as follows:

- Preserve the statewide interest by encouraging industrial and port uses in this area where such uses are already concentrated while also protecting migratory fish routes.
- Protect Kellogg Island as an important natural resource for fish and wildlife habitat and the opportunity for the public to view those resources.
- Work with appropriate government agencies and shoreline users to reduce the input of pollutants, restore contaminated areas, and regulate disposal of dredge spoils.

- Increase public access and recreational opportunities through the Duwamish Public Access Plan.

Elliott Bay. Portions of the Elliott Bay shoreline environment are located within the central waterfront, including Terminal 46 to the south. In this environment, the emphasis is on large water-dependent and water-related manufacturing and industrial facilities and major water-dependent recreational developments. Specific objectives for this area are as follows:

- Reserve waterfront lots for major port terminals, large water-dependent and water-related manufacturing and industrial facilities, and major water-dependent recreational developments.
- Choose shoreline environments that are appropriate for recreational and industrial uses based on water depth, amount of dry land, topography, and truck and rail access.
- Protect and enhance migratory fish routes and feeding areas.

Comments: The Project would be adjacent to the Elliott Bay central waterfront shoreline environment, where small property acquisitions would occur. However, the Project would improve connections to industrial uses in these areas, which would help support these uses. The Project would also support increased public uses of the waterfront.

Seattle 2003-2008 Capital Improvement Program

The overall Alaskan Way Viaduct and Seawall Replacement Program is included in the Capital Improvement Program as a component of the Seattle Department of Transportation's capital programs.

Seattle Neighborhood and Center Plans

Greater Duwamish Manufacturing and Industrial Center Plan (1999b)

This plan provides goals and policies that are intended to ensure the vitality and expansion of manufacturing and industrial activity in the Greater Duwamish Manufacturing and Industrial (M&I) Center.

The plan seeks to control conditions that have caused the viability of the Duwamish M&I Center to erode during recent years. Pressure to redevelop land within the plan area for nonindustrial uses is presented as the greatest threat to the long-term manufacturing and industrial uses that have been located here. Retention of the manufacturing and industrial base as an important economic asset is the primary overall goal of the plan.

In May 2007, the City released its most recent study of industrial lands, providing an overview of current industrial land zoning and usage (Seattle

2007a). This report indicates that 77 percent of the city's industrial land is within the Duwamish M&I Center. The Industrial Lands Study is presented as a starting point for creation of an industrial lands strategy to further define City policies "for protecting industrial land for industrial uses" (Seattle 2007a).

Pioneer Square Neighborhood Plan (1998)

This plan provides an update to the 1991 plan for the Pioneer Square Historic District. The 1991 plan provided proposals for capital improvements, identified sites where development should be encouraged, and recommended design guidelines for public spaces. The updated 1998 plan provides recommendations to achieve goals and policies of the former plan and includes goals for improving public spaces; increasing the range of housing stock; strengthening the economic base; and improving parking, transportation, and utility infrastructure.

Comments: At the neighborhood and center level, the Project would be consistent with the intent of these plans in that it would support the viability of the M&I Center and improve transportation near the Pioneer Square neighborhood. However, the Project may contribute to cumulative changes that could influence future land uses in some locations. Please refer to Chapter 6 for a discussion of cumulative land use effects.

Seattle Municipal Code

The scale of the Project would be compatible with the surrounding industrial development, and the new viaduct structure between S. Holgate and S. King Streets would actually be lower than the existing structure. Urban design elements of the Project would enhance the streetscape and pedestrian environment. The Project is being designed to minimize property acquisitions and land use disruptions and achieve efficient use of the land without major disruption of the natural environment.

Environmentally Critical Areas

Guidance from the Environmentally Critical Area regulations would be followed as demonstrated in the Geology and Soils Technical Memorandum in Appendix G of the Project's EA. The Project would be designed to meet applicable City seismic and liquefaction zone design criteria. Construction of the Project would also follow BMPs and other site-specific mitigation measures to protect shoreline areas.

Port of Seattle Seaport Shoreline Plan (2007)

The Project is expected to improve access to industrial and commercial properties in this area, including the Port's operations. Goals related to freight movement would also be supported.

4.2 Operational Effects and Benefits

The Project would not cause any permanent effects on land use other than acquiring the approximately 2.09 acres of right-of-way necessary to build the Project and converting property zoned Industrial General 1 (IG1) and Industrial General 2 (IG2) to transportation use. The property acquisitions, permanent utility easements, and temporary construction easements that would be needed are shown in Exhibit 4-1. The largest property acquisition would consist of narrow strips of Port of Seattle land parallel to the west side of SR 99, which is currently being used for terminal/warehouse and parking. The locations of proposed property acquisitions are shown on Exhibit 4-2.

Exhibit 4-1. Property Acquisitions and Easements (in Square Feet)

Parcel	Existing Ownership	Existing Land Use*	Property Acquisition	Permanent Utility Easement	Temporary Construction Easement
S51	Pyramid Alehouse	Terminal/Warehouse	2,635	5,600	5,600
S54/S213	Fortune Warehouse	Terminal/Warehouse		195	195
Pier 36/ Terminal 46	USCG Facility/ Port of Seattle Operations; King County Utilities Facility; BNSF vacant land	Terminal/ Warehouse	88,270	51,420	10,085
Total			90,905 (2.09 acres)	57,215 (1.31 acres)	15,880 (0.36 acre)

Note: *Existing Land Uses, City of Seattle, 2007

Quantities are subject to change as the Urban Design Plan for the Project evolves.

The amount of land that would be acquired and converted to transportation use would be relatively small compared to the amount of similar land available in the area. In addition, the conversion of this land to transportation use would support the industrial function of the area. The Project is not expected to affect development activity.

Affected Properties

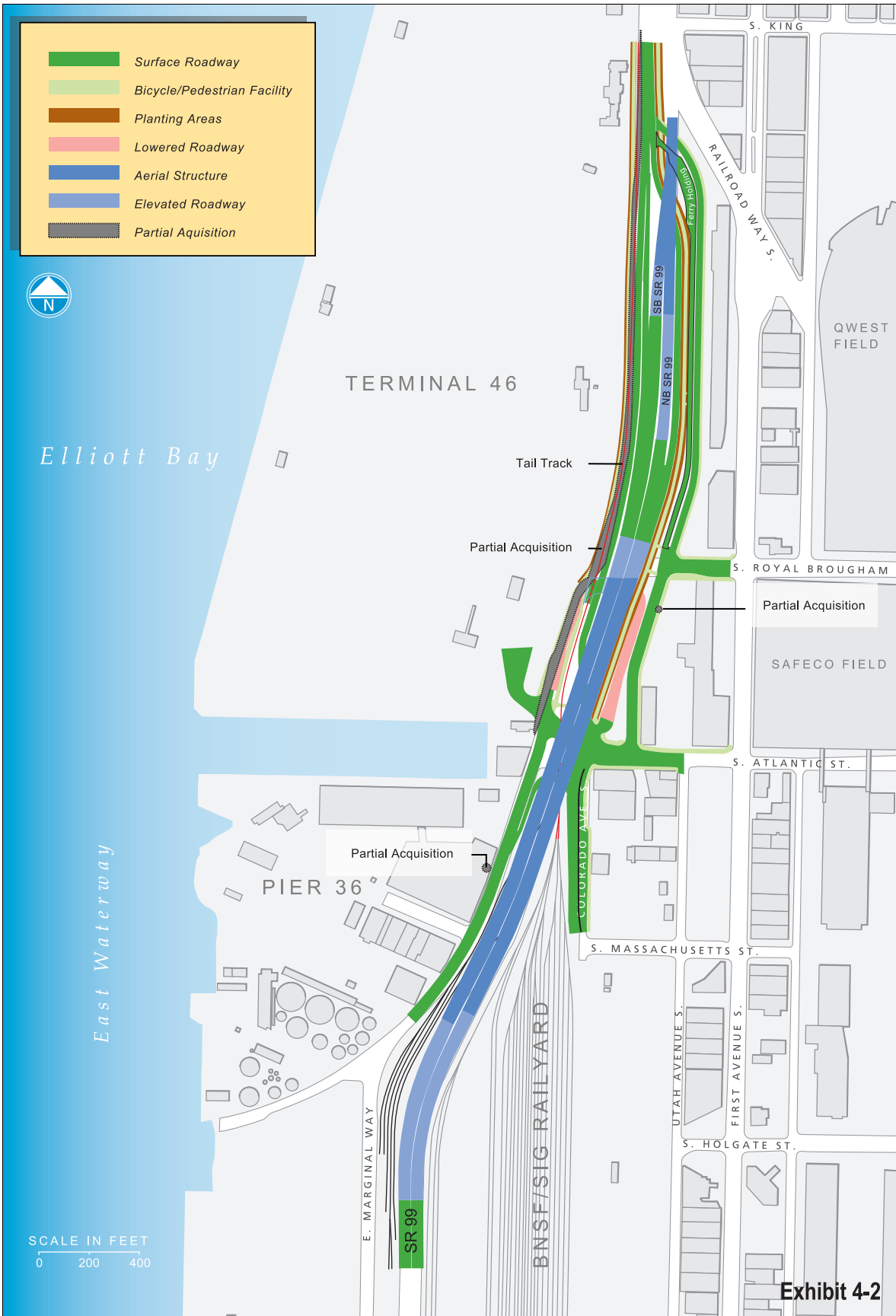


Exhibit 4-2

Some on-street and off-street parking spaces on privately owned property would be removed from use as a result of the Project. The off-street parking areas that would be acquired are accounted for in Exhibit 4-1. Please refer to Appendix F, Transportation Discipline Report, for a discussion of parking changes.

No significant adverse effects on land uses are anticipated. After construction, the Project would benefit the traveling public by providing improved accessibility for employees, customers, and residents. Improved accessibility may benefit land uses in the area. The new grade-separated access for freight and general purpose traffic would improve connections to the Port of Seattle, waterfront, and stadium areas.

4.3 Mitigation

Land use effects would generally be positive, and no mitigation would be needed.

Chapter 5 CONSTRUCTION EFFECTS AND MITIGATION

5.1 Construction Effects

Construction-related detours, closures, and traffic congestion would cause changes in mobility on project area streets. Residents would experience some degree of inconvenience, and businesses would experience disruption in the flow of customers, employees, and the delivery or shipment of materials and supplies.

The loss of parking, especially on-street short-term parking, could affect convenient access to land uses. The economic effect of construction on businesses is discussed in the Economics Technical Memorandum in Appendix G of the Project's EA.

It is expected that roadway closures would result in a redistribution of traffic to nearby streets throughout the project area. Effects would vary during each stage of construction. The middle stages (Traffic Stages 2 and 3), when traffic is diverted to the WOSCA detour route, would result in the greatest changes in access to adjacent land uses. For some parcels, effects would occur only during construction activities at a given location. For other parcels that are dependent on existing vehicle circulation patterns, access could be affected during the entire construction period. Exhibit 4-1 lists parcels that would be directly affected by construction activities.

Use of existing railway tracks at railyards would be temporarily disrupted, but only for brief periods. Existing tracks would be removed from several parcels between S. Hanford and S. Atlantic Streets during construction, as needed. However, railroad tracks and the Whatcom Railyard must remain in service during construction, except for periodic closures of short duration (8 hours or less) to facilitate construction activities.

Approximately 0.36 acre of land would be needed for temporary construction easements (see Exhibit 4-1). Although construction easements would be temporary, some would be needed for only part of the project construction period, while some could continue for the entire construction period, approximately 4 years and 4 months. Construction easements on portions of Terminal 46 and the U.S. Coast Guard facility west of SR 99 could result in the temporary loss of parking spaces for approximately 6 months. The construction easement for the Pyramid Alehouse property could result in loss of parking spaces along the west side of the site for about 3 months. Traffic circulation and parking at both of these facilities may need to be temporarily

reconfigured during construction, which may affect convenient access to these businesses.

During construction, some on-street and off-street parking would be eliminated. However, it is expected that existing nearby lots and garages would meet the demand for parking during construction. South of S. Atlantic Street, there is free parking with 1- and 2-hour limits along First Avenue S. In addition, several blocks of free parking with no time limits are currently located near the project south of S. Massachusetts Street on Utah Avenue S. and Occidental Avenue S. More details regarding parking changes are provided in Appendix F, Transportation Discipline Report.

5.2 Mitigation

Mitigation measures for potential land use effects during construction activities would include providing advance notice to property owners in the project area regarding construction activities, utility disruptions, and detours. Local access to adjacent residences and businesses would be maintained during construction. Construction traffic, dust, and noise would be mitigated to the extent possible as described in the Noise and Vibration Technical Memorandum (in Appendix G of the Project's EA) and the Air Quality and Transportation Discipline Reports (Appendices E and F of the Project's EA).

Construction activities would also include BMPs and site-specific mitigation measures that are intended to protect fragile shoreline areas that could be affected by construction.

Construction activities could be limited during major special events at the stadiums. Mitigation measures related to business and economic effects are provided in the Economics Technical Memorandum (in Appendix G of the Project's EA).

Chapter 6 INDIRECT AND CUMULATIVE EFFECTS

6.1 Indirect Effects

Indirect effects are effects that are caused by the proposed action but are indirectly related. They generally occur at a later point in time or may be farther removed in location, but are still reasonably foreseeable effects of the project. As an indirect effect, the Project could influence other land uses within, and near, the project area. The Project could indirectly stimulate changes in land uses for Terminal 46. Changes associated with the Project may indirectly facilitate additional consideration of different land uses in this location. Changes in land uses may be stimulated by the overall improvement associated with the new roadway.

The Project's potential overall influence on growth in the project area is difficult to predict. However, large-scale redevelopment as a direct or indirect result of the Project is not likely. The Project represents only one of numerous ongoing improvements occurring in the city. Because the Project would replace an existing facility to meet safety and projected capacity needs, the potential to induce growth would be minor, if any. Planning efforts for the neighborhood areas will also help determine the direction of future land uses in the project area.

Many other factors, however, influence land use decisions, including economic conditions, zoning, and land supply. The Project is not likely to have large, if any, influences on these factors and therefore is not expected to be a major catalyst to future growth.

6.2 Cumulative Effects

Cumulative effects are the total effects of the proposed action combined with other foreseeable actions. They can include both construction and operational effects.

In addition to the Project, there are other past, present, and reasonably foreseeable future actions that cumulatively have had, and will yet have, land use effects in the area, such as the Seattle Department of Transportation's Bridging the Gap projects, and WSDOT's SR 519 Intermodal Access Project Phase 2. Other projects include the planned redevelopment of a portion of Qwest Field's north parking lot with residential and commercial development, mixed-use development of the WOSCA site west of Qwest

Field, and the planned Home Plate mixed-use project and parking. Together, these projects could contribute to the following:

- Reducing traffic congestion.
- A more urbanized character in the area.
- Increased likelihood of redevelopment for underdeveloped properties.
- Increased demands for municipal public services and facilities.

During construction, the cumulative effect of development activity is expected to contribute noise, dust, and traffic congestion to the project area, which would add to the identified effects of the Project on land uses in the area.

Chapter 7 REFERENCES

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