

# Community Construction Management Plan

## SR 520 Portage Bay Bridge and Roanoke Lid Project CCMP

*(Contract name: SR 520 / I-5 to Montlake - I/C and Bridge Replacement Project)*

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The Community Construction Management Plan (CCMP) outlines the process for community members to provide input about construction management practices to help avoid, minimize, and/or mitigate construction effects on historic and other properties. It also guides the actions of construction contractors, provides opportunities for the Washington State Department of Transportation (WSDOT) and hired contractors to keep the public and Section 106 concurring parties informed, and gathers input to improve the construction practices addressed by the CCMP.

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## Acronyms and Abbreviations

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BMP	Best management practice
CCMP	Community Construction Management Plan
CFR	Code of Federal Regulations
DAHP	Washington State Department of Archaeology and Historic Preservation
FHWA	Federal Highway Administration
HOV	High-occupancy vehicle
I-5	Interstate 5
PA	Programmatic Agreement
RCW	Revised Code of Washington
ROTW	Rest of the West
SDCI	City of Seattle Department of Construction and Inspections
SPCC	Spill Prevention, Control and Countermeasure Plans
SR 520	State Route 520
Portage Bay Bridge and Roanoke Lid Project	SR520/I-5 to Montlake - I/C and Bridge Replacement Project
TESC	Temporary Erosion and Sediment Control
TVMPP	Tree and Vegetation Management and Protection Plan
WAC	Washington Administrative Code
WQMPP	Water Quality Monitoring and Protection Plan
WSDOT	Washington State Department of Transportation

## **I. Community Construction Management Plan Overview**

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### **A. Purpose and background**

The [SR 520, I-5 to Medina: Bridge Replacement and HOV Program](#)'s 12.8-mile-long corridor area begins at SR 202 in Redmond and extends west to I-5 in Seattle. As part of the Program, the [Pontoon Construction Project](#), the [Eastside Transit and HOV Project](#), the [Floating Bridge and Landings Project](#), and the [West Approach Bridge North Project](#) have been completed. The remaining work will be delivered in four project phases, collectively called [The Rest of the West](#), and will complete WSDOT's enhancement of the SR 520 corridor. The [SR 520 Portage Bay Bridge and Roanoke Lid Project](#) is the third of these four project phases. The first and second phases, the [Montlake Project](#) and the [SR 520/I-5 Express Lanes Connection Project](#), are both currently under construction.

WSDOT developed the Community Construction Management Plan (CCMP) as a mitigation commitment for adverse effects from the [SR 520, I-5 to Medina: Bridge Replacement and HOV Program](#) (I-5 to Medina Project) to historic properties during the National Historic Preservation Act Section 106 Consultation process. Because Section 106 consulting parties had significant concerns related to construction effects (both indirect and direct) to historic properties, development of the CCMP was included in the earliest iterations of the [Section 106 Programmatic Agreement](#) (PA). Construction effects (as defined in [36 CFR 800.5\(a\)\(2\)](#)) may include vibration, noise, change of use or physical features of a property's setting, visual, atmospheric or audible intrusions.

During the consultation process, participants recognized that the construction effects and mitigation strategies outlined in the CCMP could affect the broader neighborhood and not just historic properties. The CCMP then became a project-wide commitment, not exclusive to Section 106 PA concurring parties. The PA language references the concurring parties "and others potentially affected by Project construction."

The CCMP provides members of the public an ongoing opportunity to share input that may be considered for construction management decisions to avoid, minimize, or mitigate the effects of construction activities on historic and other properties. Additional volumes and/or updates to existing CCMPs will be developed in conjunction with each contract awarded for future construction phases of the I-5 to Medina Project.

This volume of the CCMP has been developed specifically for the [SR 520 I-5 to Montlake – I/C and Bridge Replacement Project](#) (Portage Bay Bridge and Roanoke Lid Project). The Portage Bay Bridge and Roanoke Lid Project will construct two new parallel, three-lane bridges across Portage Bay with improved transit and HOV connections across Portage Bay between Montlake and I-5 along with extension of the regional SR 520 Trail across Portage Bay. A landscaped Roanoke lid over SR 520, between 10th Ave E and Delmar Dr E, and a bicycle and pedestrian crossing over I-5 will also be constructed.

## **B. How to use the CCMP**

The Portage Bay Bridge and Roanoke Lid Project CCMP is a living document. It will be updated throughout the course of the Project to incorporate changes to construction activities or approaches to the work. The initial version of the Portage Bay Bridge and Roanoke Lid Project CCMP was developed before the selection of a project contractor, and will be reviewed and potentially updated with the contractor once the construction contract has been executed.

The CCMP includes commitments made through the [Section 106 PA](#), best management practices (BMPs), the Portage Bay Bridge and Roanoke Lid Project contract documents, environmental commitments made through other regulatory processes, and additional tools to help avoid, minimize, and/or mitigate construction effects on local communities and historic properties. WSDOT and the contractor will meet with the concurring parties to the [Section 106 PA](#) and others potentially affected by construction regularly during the construction of the project to discuss the CCMP.

WSDOT encourages the public to provide feedback about the effectiveness of the CCMP and suggest changes. Information about this CCMP will be available at project-related public meetings and on the [Portage Bay Bridge and Roanoke Lid Project](#). While the Portage Bay Bridge and Roanoke Lid Project CCMP addresses construction effects, questions on other topics such as design, permitting, operations and maintenance, and other non-construction related activities on the Portage Bay Bridge and Roanoke Lid Project can be directed to [SR520Bridge@wsdot.wa.gov](mailto:SR520Bridge@wsdot.wa.gov). Contact information for CCMP-related effects is listed in the [Questions or Concerns?](#) section of this document.

## **C. WSDOT Roles and Responsibilities**

The Portage Bay Bridge and Roanoke Lid Project will be constructed using a design-build contract. An open competitive bidding process will be used to select the contractor. The contract is scheduled for advertisement to contractors in 2023, with construction expected to be completed by 2030.

WSDOT's responsibilities include:

- Developing the initial CCMP volume and ensuring the updating and implementation of the CCMP occurs to reflect construction.
- Performing construction management, including inspection and monitoring of contractor activities to ensure contract requirements are met.
- Ensuring all local, state, and federal permits are obtained as necessary for compliance with applicable laws and regulations.
- Coordinating and communicating with local governments, neighborhoods, and businesses about possible project effects.

## **D. Contractor Roles and Responsibilities**

The responsibilities of the contractor include:

- Determining construction methods and techniques for project implementation.
- Preparing final design for the Portage Bay Bridge and Roanoke Lid Project
- Providing updates to the CCMP to reflect final design and construction approach

- Constructing the project for Portage Bay Bridge and Roanoke Lid Project improvements in accordance with the contract and specifications.

Once the construction contract has been executed, WSDOT will work with the contractor to ensure the contractor reviews the CCMP and incorporates means and methods as appropriate.

## II. Project Overview

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### A. About the SR 520 Portage Bay Bridge and Roanoke Lid Project

#### *Description*

The Portage Bay Bridge and Roanoke Lid Project will replace the old and earthquake-vulnerable Portage Bay Bridge with a seismically stronger structure: two new parallel, three-lane bridges across Portage Bay with improved transit/HOV connections and an extension of the regional SR 520 Trail across Portage Bay. A landscaped Roanoke lid over SR 520, between 10th Ave E and Delmar Dr E, and a bicycle and pedestrian crossing over I-5 will also be constructed.

These features will ultimately strengthen connectivity between the growing cities of the eastside, Seattle's booming South Lake Union neighborhood, and downtown Seattle. Travel between these points will become safer and more reliable via the transit/HOV lane. The Roanoke lid will connect landscapes and communities both north and south of the highway with landscaped open spaces, including trees and other landscape amenities (see [Figure 1](#) for project limits).

#### *Schedule*

WSDOT anticipates construction activities within the project area begin in 2024, with completion anticipated in 2030.

#### *Locations of activities and access points*

Construction activities for the Portage Bay Bridge and Roanoke Lid Project will occur at several locations along SR 520 from the Montlake Interchange over the Portage Bay Bridge to the SR 520/I-5 Interchange, including the westbound on-ramp from and eastbound off-ramp to Montlake Boulevard East. The Portage Bay Bridge and Roanoke Lid Project construction activities will also occur on surface streets in the vicinity of the Montlake Interchange and SR 520/I-5 Interchange including Roanoke St, the Boyer Ave E to Boylston Ave E area, as well as replacement of the bridges at 10<sup>th</sup> Ave E and Delmar Drive E. Active transportation connections, including a Regional Shared Use Path (SR 520 Trail) on the Portage Bay Bridge, will connect to local facilities at the Montlake Interchange, the Montlake Playfield, Interlaken Park, and Harvard Ave E. A new bicycle and pedestrian crossing will be constructed across I-5 south of the existing E Roanoke St bridge.

- **SR 520 mainline access:** The contractor will be able to access the SR 520 mainline from westbound and eastbound SR 520. For in-water work access, the contractor will have barges and work platforms in Portage Bay.
- **I-5 mainline access:** I-5 work will be accessed from northbound and southbound I-5 and from the SR 520 westbound to I-5 northbound and southbound ramps.
- **Staging areas:** Available construction staging areas are located within WSDOT-owned right of way next to work to be performed. Potential staging area sites include the WSDOT right of way next to East Roanoke Street, the WSDOT Peninsula, and the WSDOT right of way under the Ship Canal Bridge. The former Montlake Market property will not be used for staging.

- **Access from arterial streets:** The contractor will access Boyer Ave E, 10<sup>th</sup> Ave E, Delmar Drive E, Roanoke St, Boylston Ave E to construct the project features over SR 520 and I-5.

[Figure 2](#) illustrates construction location access.

## **B. Agency Coordination**

As part of the development process for the Project, WSDOT has coordinated with and/or obtained numerous permits and/or approvals from agencies, tribes and jurisdictions, including:

- Advisory Council on Historic Preservation
- Federal Highway Administration (FHWA)
- National Park Service
- National Oceanic and Atmospheric Administration – National Marine Fisheries Service
- U.S. Army Corps of Engineers
- U.S. Coast Guard
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- Puget Sound Clean Air Agency
- Washington State Department of Archaeology and Historic Preservation (DAHP)
- Washington State Department of Ecology
- Washington State Department of Fish and Wildlife
- Washington State Department of Natural Resources
- Washington State Recreation and Conservation Office
- King County
- City of Seattle
- Tribal nations

During construction, WSDOT will comply with permit requirements and will continue to coordinate with the permitting agencies, tribes and jurisdictions as needed throughout the Portage Bay Bridge and Roanoke Lid Project.

### III. Construction Components and Effects

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This section of the CCMP is organized by potential construction effect. Construction effects covered in this section include:

- Noise
- Vibration
- Air Quality and Fugitive Dust
- Visual Quality: Aesthetics, Glare, Lighting
- Traffic and Transportation
- Utilities and Services
- Vegetation Management
- Erosion Control
- Over-Water and In-Water Work
- Construction Staging in WSDOT Right of Way

Each of these construction effects sections includes four subsections to provide the reader with details on the particular effect:

- **What to Expect During Construction:** Characterizes the location, potential construction activities, duration and intensity of activity for each construction effect.
- **Applicable Commitments:** Provides information about and links to documents describing construction-related commitments, including resources that the contractor and WSDOT will use to determine mitigation activities.
- **Measures and Practices:** Describes the potential activities that may be implemented to mitigate the stated construction effect.
- **For More Information:** Provides resources and contact information to assist with questions that may arise during construction.

#### A. Project construction overview

Construction activities vary by location. The information in this section will be updated as needed by the contractor prior to construction. See [Figure 1](#) for a map that identifies the construction and staging areas for the Portage Bay Bridge and Roanoke Lid Project.



## **B. Potential construction effects**

### **1. Noise**

The contractor will perform many construction activities throughout the Portage Bay Bridge and Roanoke Lid Project construction. Each activity uses different types of equipment and creates different levels and kinds of noise.

Construction is expected to occur at/on several locations including:

- In the vicinity of the SR 520/I-5 interchange
- In the vicinity of the existing 10<sup>th</sup> Ave E and Delmar Drive
- Portage Bay
- The Montlake Interchange area
- Staging underneath I-5 near the Ship Canal Bridge and on the WSDOT Peninsula

#### ***What to expect during construction***

WSDOT anticipates that the contractor will work during daytime hours when possible and at night as necessary to complete the project. WSDOT has coordinated with the city of Seattle to obtain [a Major Public Project Construction Noise Variance](#) (record number: 000700-22PN) for nighttime work activities. Portage Bay Bridge and Roanoke Lid Project construction during nighttime hours are necessary to avoid:

- Extensive delays to the traveling public.
- Increased traffic volumes on city streets and nearby highways.
- Increased traffic accidents in the project work zone.

The information in this section will be updated when more information is known about specific conditions that will be identified by the city of Seattle for nighttime work for this project.

#### **Daytime work**

Daytime work will occur between 7 a.m. and 10 p.m. Monday through Friday, and between 9 a.m. and 10 p.m. Saturday, Sunday, and legal holidays.

#### **Nighttime work**

Nighttime work activities will be required to meet the conditions identified in the Major Public Project Construction Noise Variance (MPPCNV) once granted by the city of Seattle throughout the duration of project construction.

Nighttime work will occur between 10 p.m. and 7 a.m. Monday through Friday, and between 10 p.m. and 9 a.m. Saturday, Sunday, and legal holidays. Due to existing traffic congestion on I-5 and SR 520, work in these areas is not feasible during daytime hours. Therefore, work along the project corridor will be completed at night or during off-peak commute hours.



### **Potentially noisy activities**

The loudest activities of pile installation and impact demolition will be scheduled for daytime hours. WSDOT anticipates that following are activities and equipment will be used during nighttime construction:

- Excavation, embankment and paving (dozer, excavator, trucks, grader, vibratory rollers, asphalt roller, drill rig)
- Concrete sawing (concrete saw, compressors, dump trucks, loader, debris trucks, street sweeper)
- Place forms, rebar and concrete (hydraulic crane, crawler crane, concrete pump, compressors, trucks, concrete trucks)
- Paving, signing, and striping (roller, concrete truck, delivery truck, dump truck, loader, street sweeper, sign and stripe trucks)

Noise may sound different based on the surface it is travelling. Noise from construction activities travels farther over a “hard” surface (like pavement) than over “soft” surfaces (like grass). Therefore, the same equipment may sound different depending on where you are standing. Figure 3 helps illustrate how such noise is perceived at varying distances. More information about noise can be found on the WSDOT website and in the I-5 to Medina Project Construction Noise and Vibration Mitigation and Monitoring Plan.

### ***Applicable commitments***

WSDOT’s [Noise Program](#) ensures compliance with local, state and federal environmental regulations on noise from traffic and construction. During construction, WSDOT and the contractor need to comply with permit requirements, including measures and practices described in more detail later in this section. The process for determining appropriate mitigation for construction noise is dynamic because construction varies across projects. During daytime hours, construction noise is typically exempt from noise control requirements in the [Washington Administrative Code \(WAC\)](#), but must follow noise level limits as required through permits.

WSDOT and the contractor will adhere to all WSDOT, federal, local and statewide regulatory requirements and as required by the contract documents. WSDOT has prepared a [Construction Noise and Vibration Mitigation and Monitoring Report](#) that identifies the expected noise levels at identified locations, the risks of exceeding allowable levels, and the measures the contractors should use if noise exceeds allowable levels. WSDOT uses detailed mathematical models based on the types of equipment and activities to determine the expected levels of noise at nearby receivers.

The [Seattle Municipal Code chapter 25.08.425](#) addresses sounds created by construction and maintenance equipment. City of Seattle noise-level limits allow different levels for various types of equipment. For this project, the construction noise analysis used the FHWA’s [construction noise method](#) to determine future construction noise levels. WSDOT has applied for a MPPCNV, from the city of Seattle, which establishes noise levels and requirements that must be met during project construction.

### *Measures and practices*

The following requirements are written into the noise variance application and will apply to all Portage Bay Bridge and Roanoke Lid Project construction activities occurring between 10 p.m. and 7 a.m., Monday through Friday, and between 10 p.m. and 9 a.m. on Saturday, Sunday, and legal holidays:

- The contractor will meet the noise level limits established in the noise variance.
- The contractor will design and install a temporary noise-barrier fence around the Roanoke Lid construction area that provides construction noise reduction to nearby properties (Figure 4). The fence will be installed before nighttime demolition work and will be maintained throughout major nighttime construction of the Roanoke Lid. As shown in the example cross-section, the edge of right-of-way is substantially higher than SR 520. A 12-foot noise-barrier fence would block line of sight from equipment working on SR 520 to residential properties on both the north and south.
- If the contractor installs shafts for the new Portage Bay Bridge at night, the contractor will use temporary noise shields around the equipment or install a temporary noise barrier during the shaft construction on the west side of Portage Bay.
- The contractor will use broadband or strobe backup warning devices or use backup observers in lieu of backup warning devices for all equipment, in compliance with Washington Administration Code, Sections 296-155-610 and 296-155-615. For dump trucks, if the surrounding noise level is so loud that broadband or strobe backup warning devices are not effective, then an observer must be used (WAC 296-155-610). This condition will apply to activity conducted between 10 p.m. and 7 a.m., Monday through Friday, and between 10 p.m. and 9 a.m. on Saturday, Sunday, and legal holidays. No pure-tone backup warning devices will be used after 10 p.m. and before 7 a.m. weekdays or 9 a.m. weekends and legal holidays.
- There will be no impact work undertaken under the MPPCNV, such as auger shaking, striking pavement with an excavator bucket, jack hammering, impact wrenches, and impact pile driving, during nighttime hours from 10 p.m. to 7 a.m. on weekdays and 10 p.m. to 9 a.m. on weekends and legal holidays.
- The contractor will securely fasten truck tailgates.
- The contractor will use sand, rubber or plastic-lined truck beds for all haul-trucks to reduce noise, unless an exception is approved by WSDOT.
- The contractor will not use compression brakes.
- The contractor will not leave equipment to idle for longer than five minutes.
- The contractor will use temporary noise mitigation shields, enclose, or use low noise-generating stationary equipment, such as light plants, generators, pumps, and air compressors near residences where practical.

### **Additional noise-control measures**

Once hired, the contractor for the Portage Bay Bridge and Roanoke Lid Project may choose to implement additional noise-control measures. SDCI and WSDOT would review the contractor's selected noise-mitigation measures to ensure compliance with the limits set in the variance.

In the 2022 legislative session, \$1.1 million was budgeted for noise-reducing measures on the Portage Bay Bridge and Roanoke Lid Project. This investment will expand the amount of noise-shielding fencing around the construction area and provide funding for other noise-reducing measures for nearby neighbors' homes.

### ***For more information***

The MPPCNV is a formal process with the city of Seattle. Additional information will be provided as part of the noise variance review process through future CCMP revisions.

To find out more about noise variances and the process for the city of Seattle, visit the [Seattle Department of Construction & Inspections website](#).

To contact the project about construction noise happening in your area, see the contact information in the [Questions or Concerns?](#) section of this document or visit the [SR 520 Construction Corner](#).

## **2. Vibration**

Like noise, different types of construction activities and equipment may cause varying vibration levels. While low vibration levels may be imperceptible or only slightly noticeable, higher levels could be more noticeable to the point of being annoying or unpleasant. The highest levels could possibly result in damage to properties. However, the vibration-causing activities conducted during the construction of the Portage Bay Bridge and Roanoke Lid Project will be limited to levels below criteria expected to damage structures.

### ***What to expect during construction***

While some activities necessary for Portage Bay Bridge and Roanoke Lid Project construction may cause vibrations, WSDOT is committed to minimizing activities that would result in noticeable vibrations and will work to prevent property damage. As described in the [Construction Noise and Vibration Mitigation and Monitoring Report](#), construction activities anticipated for the Portage Bay Bridge and Roanoke Lid Project that may cause vibrations include demolition of existing structures and foundation construction.

The construction contract will specify limits for vibration levels. WSDOT will provide information to the residents about upcoming construction activities that may cause vibrations.

### ***Applicable commitments***

WSDOT engaged the services of a vibration expert to evaluate the I-5 to Medina Project corridor, including any potential haul routes along city arterial streets, and identify areas where impacts to properties within the affected area may occur as a result of vibration. The vibration expert prepared a [Construction Noise and Vibration Mitigation and Monitoring Report](#) for the I-5 to Medina corridor that

identifies the expected vibration levels at nearby receivers, risk of exceeding the damage risk criteria for vibration, control measures for the contractor to use where the criteria may be exceeded, and locations where monitoring would be conducted. The vibration expert used mathematical modeling based on the types of construction equipment and activities to determine the expected levels of vibration at nearby receivers.

WSDOT will identify how construction activities will be implemented so that vibration does not reach a level that could cause architectural or structural damage to any properties.

If property owners observe damage to their properties, WSDOT will consult with the owners to assess whether the damage was caused by the Portage Bay Bridge & Roanoke Project and, if applicable, provide for any necessary repairs. If the private property a historic property as defined by the National Historic Preservation Act, the repairs will be consistent with the U.S. Secretary of the Interior's [Standards for the Treatment of Historic Properties](#). Additionally, for affected historic properties, WSDOT will offer DAHP the opportunity to review and comment on the consistency of any repairs with the Standards. WSDOT will also coordinate with the city of Seattle Landmarks Board as necessary.

### ***Measures and practices***

As described above, the Construction Noise and Vibration Report indicates that if a property is potentially vulnerable to construction-related vibration, WSDOT will take vibration measurements before and during construction. WSDOT will also conduct pre-construction and post-construction inspections for properties that may be affected by vibration.

### ***For more information***

If a property owner identifies damage during construction, the property owner should notify WSDOT [by email](#) or using the 24-hour construction hotline phone number listed in the [Questions or Concerns?](#) section of this document. WSDOT will respond within 72 hours and will consult with property owners to assess the cause of the damage and provide for any necessary repairs. If WSDOT determines that project construction activities are resulting in structural or architectural damage to properties, WSDOT will direct the contractor to stop working on that construction activity until appropriate safety measures can be put in place. If WSDOT determines that an emergency is occurring (or has occurred) that could cause injury or significant structural damage, WSDOT will halt the construction activities as soon as possible and take necessary measures to stabilize structures and protect public safety.

You can also visit the [SR 520 Construction Corner](#) for up-to-date construction information.

## **3. Air Quality and Fugitive Dust**

Fugitive dust is particulate matter that is caught in the air by wind or human activities. Some construction activities, especially those involving movement of soil, may create air pollutants such as fugitive dust, engine exhaust from trucks or other construction equipment, and volatile organic compounds from asphalt paving. Projects that require moving soil or have the potential to create fugitive dust are required to employ BMPs to control dust at project sites.

### ***What to expect during construction***

Activities such as mobilization, general construction (particularly earthmoving operations and construction truck traffic), and demolition may cause air quality issues and generation of fugitive dust. Air quality can also be negatively affected by construction truck traffic and the hauling of materials over large distances.

### ***Applicable commitments***

WSDOT and the contractor will follow all WSDOT, federal, local, and statewide regulatory requirements and/or requirements as required by the contract. A Fugitive Dust Prevention and Control Plan will be prepared by the contractor that provides additional details on activities to mitigate air quality impacts during construction.

The contractor will also identify the methods for controlling concrete dust and saw-cutting residue in the Concrete Containment and Disposal Plan, which will be completed before performing any dust-generating activities.

The Puget Sound Clean Air Agency is the primary agency overseeing air quality and fugitive dust issues in the Seattle area. More information about their operations and enforcement authority can be found at the [Puget Sound Clean Air Agency website](#).

WSDOT and the contractor will comply with environmental commitments made through regulatory and permitting processes. The Portage Bay Bridge and Roanoke Lid Project CCMP and the contract documents include the commitments contained in those permits and approvals.

### ***Measures and practices***

WSDOT will require the contractor to implement the following BMPs to help prevent, control, and manage fugitive dust and reduce short-term impacts to air quality:

- Apply water to the dust-generating active construction work areas as needed (and, if applicable, to other areas of the work site) to keep the soil damp and minimize fugitive dust without creating unnecessary muddy areas.
- Use a water spray to minimize fugitive dust during the demolition of concrete structures, as well as loading of construction trucks with demolition debris
- Limit idling equipment to reduce emissions.

Additional BMPs may be identified after the contractor is selected, and this section of the CCMP may be updated reflect identified BMPs. These may include:

- When appropriate, install tarpaulins on trucks to cover their loads before leaving the site to control the loss of material while the trucks are moving.
- Use efficient and modern equipment with appropriate emission-control devices (where applicable) to reduce emissions from vehicular exhaust. Use low-sulfur diesel when possible.
- When possible, use cleaners with low hazardous air pollutant and volatile organic compound content such as water-based, alkaline or microbial cleaners.



- Immediately contain spent material from construction activities such as sandblasting and disposing at an appropriate facility.
- Implement methods for efficient paint application to reduce over-spraying, including proper training for painters.

### ***For more information***

To contact the project about construction air quality effects happening in your area, see the contact information in the [Questions or Concerns?](#) section of this document or visit [SR 520 Construction Corner](#).

## **4. Visual Quality: Aesthetics, Glare, Lighting**

Roadway constructions can affect the quality and character of the surrounding community and landscape. Construction will cause temporary, and in some instances, permanent changes to views of SR 520, primarily due to construction equipment, new infrastructure, staging areas, and vegetation removal.

### ***What to expect during construction***

Most construction activities for the Roanoke Lid will occur at night during low-traffic volume hours and will require lighting for the safety of workers and the public. While most construction activities for the Portage Bay Bridge replacement will be conducted during the day, nighttime activities will require lighting as well. During the winter months (November through March), there may be increased work zone lighting at the beginning and end of the workday due to decreased daylight hours.

### ***Applicable commitments***

WSDOT and the contractor will follow all WSDOT, federal, local, and statewide regulatory requirements and/or requirements as required by the contract documents. This includes [WSDOT standard specifications](#).

As described in the [Section 106 PA](#), WSDOT will protect trees and other screening vegetation near the construction work areas to the maximum extent possible. Information related to tree protection and screening vegetation can be found in the [Vegetation Management section](#) of this document.

### ***Measures and practices***

WSDOT will require the contractor to implement the following BMPs to minimize visual quality effects:

- Limit the use of construction lighting as much as possible. When lighting is required, it will be shielded, directed toward the work, and pointed away from residences, traffic, and other sensitive areas to the maximum extent practicable.
- Construct fencing around the Roanoke Lid construction area, as described in the sub-section on Noise.

Additional BMPs may be identified after the contractor is selected, and this section of the CCMP may be updated if needed to reflect identified BMPs. These may include:

- Use directional lights instead of flood lights, and direct light to the work zones and away from residents to minimize light spillover beyond the construction limits to the maximum extent practicable.

### ***For more information***

To contact the project about construction visual effects happening in your area, see the contact information in the [Questions or Concerns?](#) section of this document or visit the [SR 520 Construction Corner](#)

## **5. Traffic and Transportation**

Construction activities will result in a variety of traffic and transportation effects to the traveling public. The construction will require several extended shifts to the traffic patterns, on- and off-ramp revisions, temporary closures, and temporary lane restrictions. Lane closures and restrictions will be generally limited to low traffic times such as nights or weekends. In addition, these activities will result in changes to pedestrian and bicycle routes and transit stops.

Almost all construction activities will occur within existing WSDOT right of way, including nighttime work. There will be lane and ramp closures on SR 520 and local streets. There will be construction vehicle traffic on local streets.

### ***What to expect during construction***

Construction effects related to traffic and transportation may occur related to:

- Haul routes
- Lane closures, ramp closures, and roadway directional closures
- Maintaining access, including emergency service access

#### **Local traffic**

Lane closures and/or closures of local streets are expected to construct the lid and where the highway reconstruction crosses local streets.

#### **Highway traffic**

Types of closures would range from full closures of mainline SR 520 to single-direction and/or multi-lane closures of SR 520 and I-5.

WSDOT will work with the contractor to minimize daytime disruptions as much as possible by scheduling higher-impact closures during nights and weekends when traffic volumes are lower. WSDOT will notify the public in advance about when travel through the area could be disrupted.

### ***Applicable commitments***

WSDOT will require the contractor to follow all WSDOT, federal, local, and statewide regulatory requirements and/or other regulations as required by the contract. This includes [WSDOT standard](#)

[specifications](#) and coordination with the city of Seattle. The contractor will be required to comply with the haul route terms outlined in the [Section 106 PA](#).

WSDOT will work with the city of Seattle to develop a Neighborhood Traffic Management Plan (NTMP) for the Portage Bay Bridge and Roanoke Lid Project to identify and develop solutions for community traffic concerns in the Montlake corridor and surrounding neighborhoods. WSDOT and SDOT will continue to monitor and address any traffic concerns during the construction of the Portage Bay Bridge and Roanoke Lid Project.

[Figure 2](#) shows anticipated Portage Bay Bridge and Roanoke Lid Project construction access and haul routes.

### ***Measures and practices***

The contractor will follow established BMPs, including:

#### **Haul routes**

Major roadways such as I-5, SR 520, and I-90 in Seattle will be used for major material haul routes. Other major city arterials designated as truck routes will also be used to access these major roadways. This includes the I-5 NE 45<sup>th</sup> Street Interchange, Fuhrman Avenue, Boyer Avenue, SR 520 Montlake Interchange, Eastlake Avenue to access the construction staging area at Fuhrman Avenue, and Lake Washington Boulevard to access the construction staging area in the WSDOT Peninsula area.

Additional Section 106 coordination will be required if the contractor proposes the use of haul routes outside of those identified or restricted in the Section 106 coordination process. If WSDOT determines that haul routes in Seattle not outlined in the [SR 520, I-5 to Medina: Bridge Replacement and HOV project Final Environmental Impact Statement](#) might be used, WSDOT will follow the process described in the [Section 106 PA](#).

#### **Planning and compliance**

- Perform the work to prevent tracking of dirt and gravel onto local streets in accordance with the WSDOT's Temporary Erosion and Sediment Control (TESC) requirements.
  - Access the site according to the terms of Street Use Permit with the city of Seattle where applicable.

#### **Detours and closures**

- Coordinate local street closures with the city of Seattle through city-issued Street Use Permits.
- Coordinate closures/detours in advance with transit providers.
- Provide adequate signing for detours and closures.
- Have all detours, including all signing, in place before the closure of any road or lanes, and acquire all detour agreements with the affected local jurisdiction.

WSDOT will provide advance notices regarding closures and/or detours.



**Damage minimization and repair**

- Repair any project-generated potholes as needed.
- Repair any project-generated damage to guardrails, barriers, attenuators, and traffic system signs.
- Provide adequate stormwater management during the project.
- Restore any construction-related property and landscaping damage to a similar or equal.

**Local, Public and Emergency Access**

- Minimize interruptions to access to public facilities affected by the project unless there is a public/construction safety risk.
- Allow access to the site for spill response and make personnel and equipment available to respond to emergencies.
- Cooperate with law enforcement and other emergency response agencies in response to accidents, fires, spills, or other emergencies in any area affected by the project.
- Work with emergency service providers to address their concerns about emergency access to and through the project corridor.
- Ensure access to all historic properties is maintained. Except for emergency situations, provide 24 hours advance notice to affected property owners before any unavoidable interruptions of access. Consult with the affected property owners to address their needs, which may include the development of an alternate access strategy for short-term interruptions of access and longer-term detours.

If any owner identifies damage during construction, the property owner should notify WSDOT using the contact phone number described in [Questions or Concerns?](#) section of this document. This contact phone number is available 24 hours per day, 7 days per week. WSDOT will respond within 72 hours and consult with the property owner to assess the cause of the damage and, if applicable, provide for any necessary repairs. If WSDOT determines that project hauling activities are creating structural or architectural damage, WSDOT will direct the contractor to stop use of that route until appropriate safety measures can be put in place.

If the affected private property is a historic property, the repairs will be consistent with the U.S. Secretary of the Interior's [Standards for the Treatment of Historic Properties](#). Additionally, for affected historic properties, WSDOT will offer DAHP the opportunity to review and comment on the consistency of any repairs with the Standards.

To contact the project about traffic or transportation issues in your area, see the contact information in the [Questions or Concerns?](#) section of this document or visit the [SR 520 Construction Corner](#).

## **6. Utilities and Services**

Portage Bay Bridge and Roanoke Lid Project construction will require relocation or connection to some utilities such as sewer, water, power, gas, fiber optic, and cable television lines. Effects to utilities and services have been identified through coordination with the utility owners including Puget Sound Energy, Seattle Public Utilities, Seattle City Light, Seattle Information Technology, King County Metro Transit, and Lumen Technologies (previously CenturyLink), and this section will be updated as necessary.

### ***What to expect during construction***

Three major utility relocations will be required for the project: relocating a 42" water line and a major communication duct bank under SR 520 and moving overhead power lines in the Roanoke Lid area underground. The contractor will provide a work plan for utility installation. As excavation occurs, the trench opening will be temporarily covered when work is not in progress. The trench will be backfilled, and the area will be restored similar to its existing condition.

For worker safety, connection to power supply lines will require short interruptions in service.

WSDOT and the contractor will notify potentially impacted residents of necessary work that may result in service interruptions or closures.

Additional effects to utilities and services may be identified through further coordination with utility owners. This section will be updated as necessary.

### ***Applicable commitments***

WSDOT and the contractor will follow all WSDOT, federal, local, and statewide regulatory requirements and/or regulations as required by the contract documents.

WSDOT will coordinate with the Utility Owners prior to any service interruption. WSDOT and the contractor will coordinate with the city of Seattle prior to any service interruption.

Work will be performed in conformance with [WSDOT standard specifications](#).

### ***Measures and practices***

Advanced notification will be provided to potentially impacted residents and other stakeholders before conducting work that may affect utilities or services. Notifications will include contact information for comments or questions.

WSDOT anticipates coordination with Seattle City Light and Seattle Public Utilities about utility relocations and/or effects to service.. Disruptions to services that would affect surrounding homes or businesses will be minimized; advanced notification would be provided if such disruptions are required.

### ***For more information***

To contact the project about utility or services in your area, see the contact information in the [Questions or Concerns?](#) section of this document or visit the [SR 520 Construction Corner](#).

## **7. Vegetation Management**

Some vegetation will be removed from the project area for construction staging or project improvements.

### ***What to expect during construction***

WSDOT has developed a Tree and Vegetation Management and Protection Plan (TVMPP), which will be implemented before construction. The TVMPP can be found as Appendix A of this document. The plan addresses areas of the Portage Bay Bridge and Roanoke Lid Project corridor where specific trees and/or vegetation will be removed or disturbed due to construction or resulting project improvements.

The TVMPP identifies areas of mature tree removal, protection, potential relocation, and restoration of project areas. It also shows areas temporarily dedicated to construction, including staging and lay down areas. The goal of the plan is to minimize tree and vegetation removal. WSDOT will notify neighbors in advance, ensure that contractors follow the plan, and limit tree and vegetation removal to the approximate time required for construction.

### ***Applicable commitments***

WSDOT and the contractor will follow all WSDOT, federal, local, and statewide regulatory requirements and/or regulations as required by the contract.

WSDOT and the contractor will retain mature vegetation outside of the Roanoke Lid limits as outlined in the TVMPP.

WSDOT and the contractor will plant replacement vegetation to mitigate for tree loss.

Invasive species will be removed and managed as part of the restoration efforts.

The contractor will also comply with tree and vegetation protection measures outlined in the TVMPP, as outlined in Appendix A of this document.

### ***For more information***

Please see Appendix A for the complete TVMPP.

To contact the project about vegetation management issues in your area, see the contact information in the [Questions or Concerns?](#) section of this document or visit the [SR 520 Construction Corner](#).

## **8. Erosion Control, Over-water and In-water Work**

Construction activities such as clearing, grubbing and grading expose bare soil, or pavement removal and replacement, create conditions that increase stormwater volume and velocity. WSDOT is preparing the Temporary Erosion and Sediment Control (TESC) Plan and Spill Prevention, Control and Countermeasures (SPCC) plan to manage erosion and spill related risks during construction. Together, the TESC and SPCC plans are designed to meet the Stormwater Pollution Prevention Plan (SWPPP) requirements.

This project involves in- and over-water demolition of the existing Portage Bay Bridge, as well as the construction of the replacement Portage Bay bridges. The project will have construction activities in Portage Bay, including movement of materials by barge, construction of temporary work platforms, bridge foundation construction, bridge superstructure construction, and removal of the existing bridge.

The project will also transport materials and bridge components through the Lake Washington Ship Canal.

### ***What to expect during construction***

The replacement Portage Bay Bridges are being built over the water. The new south bridge is largely within the alignment of the existing bridge. The new north bridge is mostly to the north of the existing bridge. Barges and temporary work platforms on steel pilings will be used to support equipment and

materials used to demolish the existing bridges, and build the drilled shaft foundations, bridge columns and bridge superstructure. These activities include demolishing the existing bridge barrier, placing a temporary barrier in preparation of widening the existing bridge, and placing concrete for the bridge deck.

WSDOT anticipates supplying some equipment and materials by barge to a construction staging area located on the work bridge. Access restrictions within the construction work zone will be necessary for safety and security purposes.

The public should expect barge trips to and from the Portage Bay work zone.

### ***Applicable commitments***

The Portage Bay Bridge and Roanoke Lid Project TESC Plan will be included in the contract documents. If needed, the contractor will submit any proposed modifications to the TESC Plan to WSDOT for review.

WSDOT and the contractor will adhere to all WSDOT, federal, local, and statewide permits and approvals, including, but not limited to:

- Sections [401](#) & [404](#) of the Clean Water Act
- [Formal Endangered Species Act](#) consultation
- [WSDOT Temporary Erosion and Sediment Control Manual](#) (TESCM)
- Construction NPDES Permit
- Hydraulic Permit Approval
- Coast Guard Permit Requirements
- Seattle SDCI SR 520 Portage Bay Bridge Shoreline permit

The WSDOT *Temporary Erosion and Sediment Control Manual* (TESCM) provides policies for preventing erosion related impacts to waters of the state during construction. This manual also outlines WSDOT's policies for meeting the National Pollutant Discharge Elimination System (NPDES) Construction Stormwater General Permit requirements, and the requirements in Volume II of the stormwater management manuals published by the Washington State Department of Ecology. [http://www.wsdot.wa.gov/NR/rdonlyres/9044C195-3DE0-49A0-AEF7-81F314B55BB1/0/SR520\\_Att2\\_FBSuppInfo.pdf](http://www.wsdot.wa.gov/NR/rdonlyres/9044C195-3DE0-49A0-AEF7-81F314B55BB1/0/SR520_Att2_FBSuppInfo.pdf)

### ***Measures and practices***

- Restrictions will be in place for work during certain fish windows, around certain events such as Seafair, and the opening day of boating season.
- BMPs will be developed in accordance with the WQMPP for in- or over-water work. The BMPs will vary depending on the work location and the type of work being performed and may include:
  - Daily inspections of BMPs with repair and maintenance as required.
  - Using fueling locations and procedures approved by the Washington State Department of Ecology.
  - Having spill response kits and containment booms on board barges and vessels.

- Providing containment and/or covering for fuels, concrete, concrete process water, stormwater runoff, construction materials and debris.
- Sweeping barges and work platforms.
- Anchoring portable restrooms.
- Using containment methods beneath structures being constructed or demolished and beneath work platforms.
- Avoiding barge grounding within the project area.
- Spraying down dust and grinding residue.
- Installing turbidity curtains when required.
- Providing linings for barges used to hold concrete and/or slurry water waste bins.
- Placing absorbent materials under stationary vehicles and equipment on barges or temporary work platforms.
- Placing concrete during dry weather conditions or protecting from adverse weather.
- Installing and using emergency cut-off valves on concrete pumps and pipelines.
- Operating equipment to minimize suspension of near shore sediments.
- Installing valves on slurry lines and closing when the lines are not in use.
- Coordination and communication with the Seattle Yacht Club and Queen City Yacht Club regarding access and timing of project activities and any closures.
- Provision of water access at one or more locations with at least 10 feet of vertical clearance to cross under the Portage Bay Bridge and temporary construction trestles for small boat access to and from Montlake Playfield.

The contractor will work closely with WSDOT to ensure that work operations comply with the commitments listed above.

### ***For more information***

To contact the project about erosion control issues in your area, see the contact information in the [Questions or Concerns?](#) section of this document or visit the [SR 520 Construction Corner](#).

## **9. Construction Staging in WSDOT Right of Way**

WSDOT anticipates that the contractor will stage equipment and materials on land near the SR 520 Program construction areas. Staging areas will vary in size and function, but will be available for use by the contractor 24 hours per day, 7 days per week.

### ***What to expect during construction***

WSDOT anticipates that the contractor will load and unload materials and equipment at work areas. In addition, the contractor will be able to store equipment and materials at identified construction staging locations, which could include the SR 520/I-5 interchange and underneath the Ship Canal Bridge. There may also be staging in an area south of SR 520 and east of East Lake Washington Boulevard on WSDOT-

owned right of way known as the WSDOT Peninsula. This area is separated by a berm and trees from adjacent roadway and away from nearby residences. .

Any changes to staging areas will need to be reflected in updated TESC plans and an updated SPCC Plan.

[Figure 1](#) and [Figure 2](#) illustrate construction staging areas, contractor access points, and haul routes.

### ***Applicable commitments***

WSDOT and the contractor will follow all WSDOT, federal, local, and statewide regulatory requirements and or regulations as required by the contract.

### ***Measures and practices***

BMPs utilized on WSDOT projects may include but are not limited to:

- Locate construction sheds, barricades, and material storage away from private properties, and avoid obscuring views of and from private properties.
- Avoid short-term construction features where they would require permanent removal of or damage to mature trees.
- Install noise-control and visual fencing around the Roanoke Lid construction area.

### ***For more information***

To contact the project about an SR 520 staging area, see the contact information in the [Questions or Concerns?](#) section of this document or visit the [SR 520 Construction Corner](#).

### ***Questions or Concerns?***

Construction is complex and at times will be disruptive to neighbors. WSDOT maintains on-site inspectors to ensure compliance with various project commitments and requirements. WSDOT is committed to being a responsible project owner and to being responsive to community concerns as they arise.

WSDOT has a process for determining if a non-compliance event occurs. In the event of non-compliance, WSDOT has a process for determining the appropriate corrective actions. [WSDOT's March 2019 Construction Manual](#) further outlines the process for identifying non-compliance.

### ***Information on property damage concerns***

If a property owner suspects or identifies damage during construction, the property owner should notify WSDOT by calling the 24-hour construction hotline listed below. WSDOT will respond within 72 hours and consult with the property owner to assess the cause of the damage and, if applicable, will provide for any necessary repairs. If WSDOT determines that hauling activities are resulting in structural or architectural damage, WSDOT will stop use of that route until appropriate safe measures are put in place. If the affected property is a historic property, WSDOT is required to ensure the repairs will be consistent with the U.S. Secretary of the Interior's Standards for the Treatment of Historic Properties. Additionally, for affected historic properties, WSDOT will offer DAHP the opportunity to review and comment on the consistency of any repairs with the Standards.



***Contact information***

Below is additional information on how to stay informed through project construction and how to contact WSDOT with questions and/or concerns:

***Visit the website:***

- [SR 520 Bridge Replacement and HOV Program](#)
- [SR 520 Portage Bay Bridge and Roanoke Lid Project](#)

***Call the project:***

- For routine questions and information, call the SR 520 Program front desk from 8 a.m. to 5 p.m., Monday through Friday: 206-770-3554
- A 24-hour construction hotline for concerns regarding construction activities and possible property impacts will be provided in advance of construction activities.

***Email the project team:***

- Submit a question or request information by emailing [SR520Bridge@wsdot.wa.gov](mailto:SR520Bridge@wsdot.wa.gov).

***Stay informed about project construction:***

Other tools available for the public to stay informed and involved related to project construction:

- [SR 520 Construction Corner](#) for up-to-date construction information and closure updates.
- [E-mail updates](#) – Subscribe to SR 520 project updates to get regular information about construction activities.
- Highway advisory radio, variable message signs, active traffic management signs, project identification signs.
- SR 520 social media accounts:
  - [Twitter](#)
  - [Flickr](#)
  - [YouTube](#)

### IV. Figures

Figure 1. Project Construction and Staging Areas

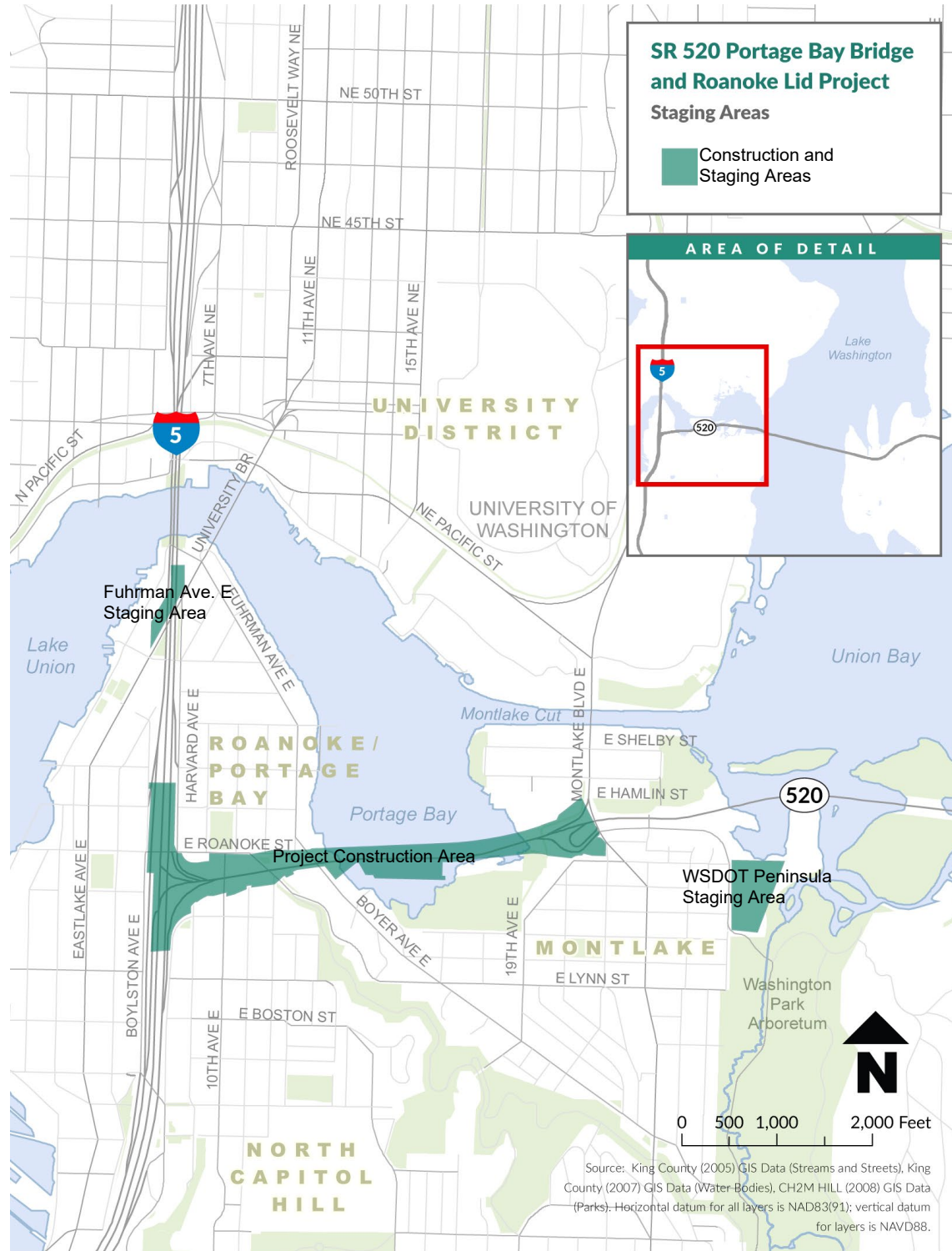




Figure 2. Construction Access and Haul Routes

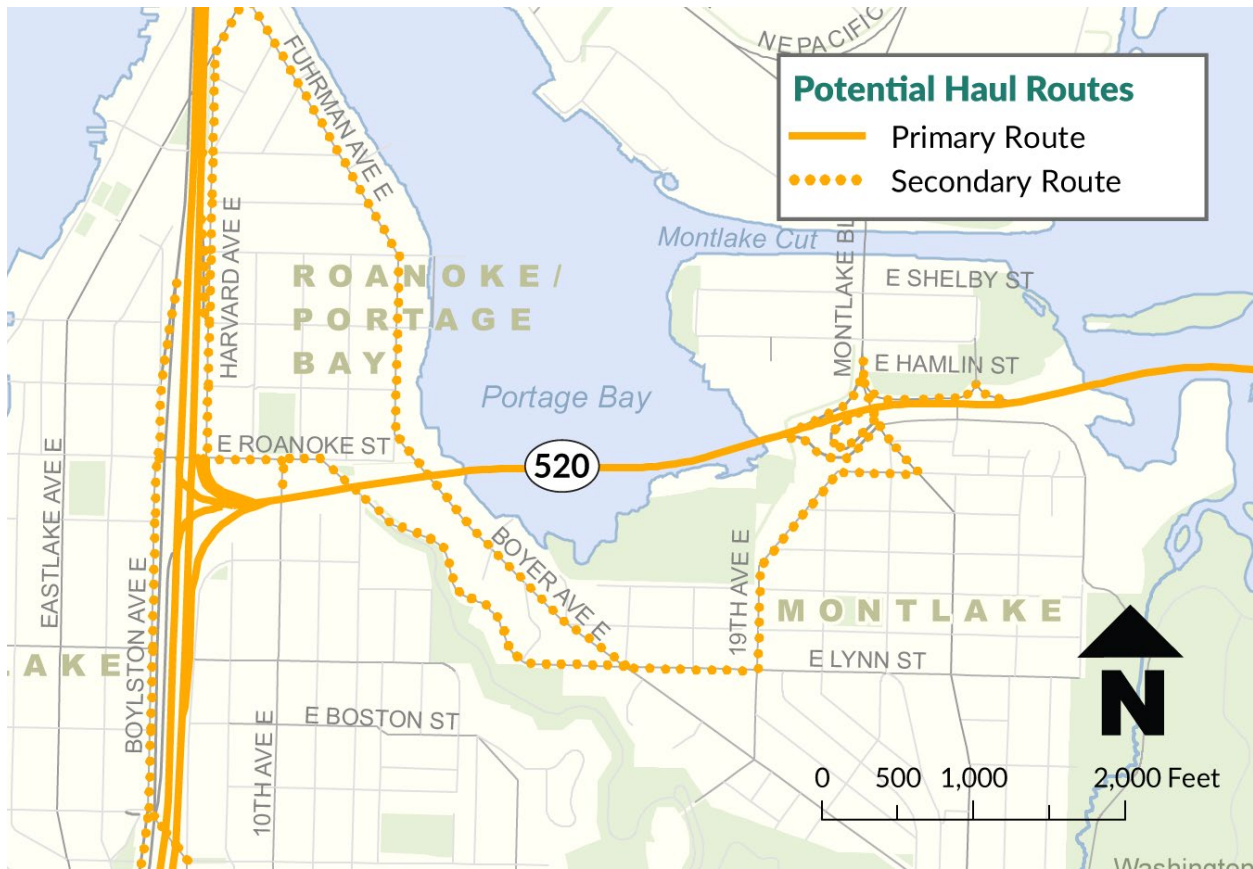


Figure 3: How do we hear noise?

- Movement causes vibrations, or waves, in the air that produce sound once they reach our ears.
- Sound is measured in units called decibels (dBA).
- An average person's ear can perceive a 3 dBA or greater change in noise levels.
- A 10 dBA reduction sounds half as loud to the human ear; a 10 dBA increase sounds twice as loud.

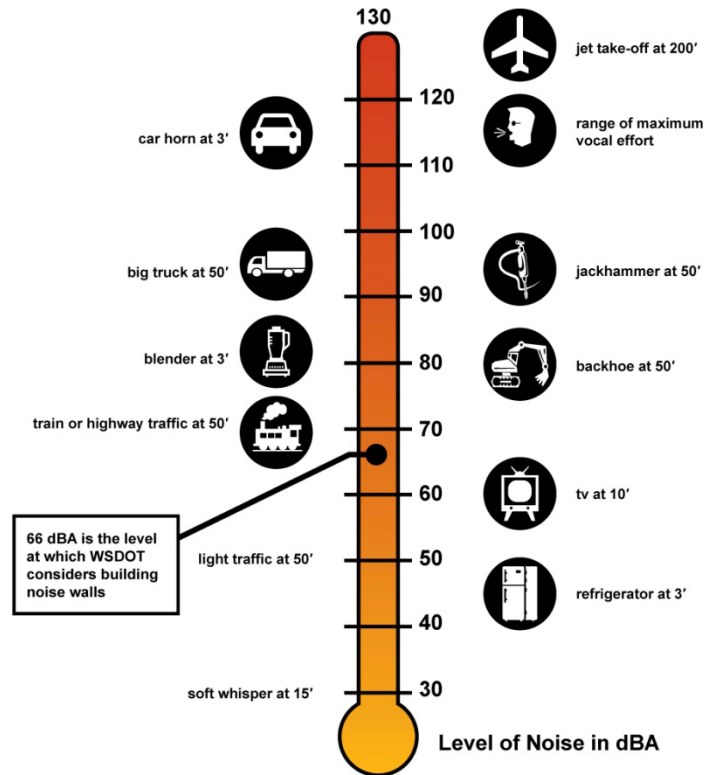
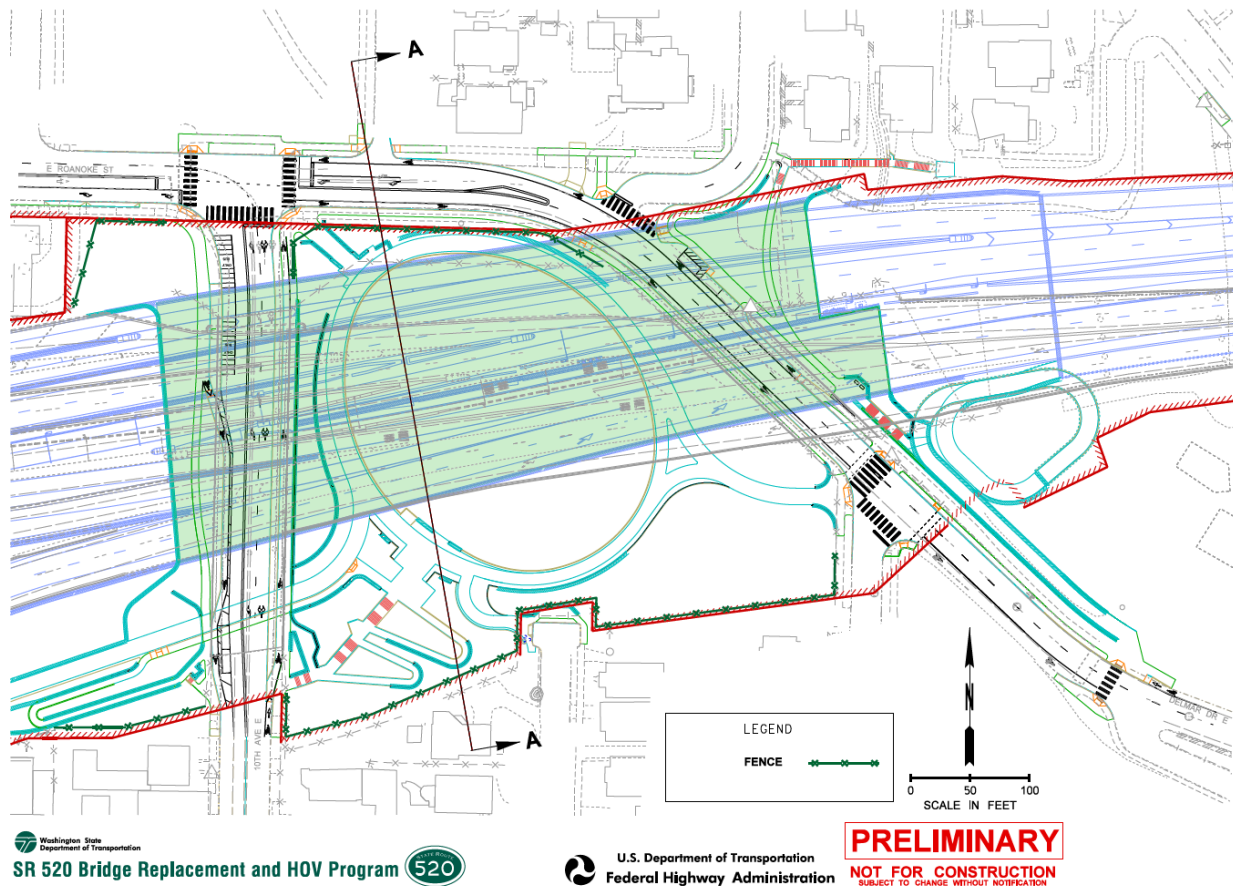


Figure 4. Conceptual Location of Roanoke Lid Construction Area Noise Barrier Fence





Appendix A: Tree and Vegetation Management and Protection Plan

# Community Construction Management Plan

## SR 520 Portage Bay Bridge and Roanoke Lid Project CCMP

*(Contract name: SR 520 / I-5 to Montlake - I/C and Bridge Replacement Project)*

*June 2022*

### **Appendix A Tree and Vegetation Management and Protection Plan (TVMPP)**

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## Acronyms and Abbreviations

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CCMP	Community Construction Management Plan
CPTED	Crime Prevention Through Environmental Design
DBH	Diameter of tree trunk at breast height (measured 4.5 feet from ground)
DPD	City of Seattle Department of Planning and Development
ECA	Environmental Critical Areas
I-5	Interstate 5
MOU	Memorandum of Understanding
PA	Section 106 Programmatic Agreement
PBB	Portage Bay Bridge
ROTW	Rest of the West
SDCI	City of Seattle Department of Construction and Inspection
SDOT	Seattle Department of Transportation
SMC	Seattle Municipal Code
SR 520	State Route 520
Portage Bay Phase	SR520/I-5 to Montlake - I/C and Bridge Replacement Project
TVMPP	Tree and Vegetation Management and Protection Plan
WSDOT	Washington State Department of Transportation



## **I. Executive Summary**

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WSDOT has developed this Tree and Vegetation Management and Protection Plan (TVMPP) as part of the SR 520 Portage Bay and Roanoke Lid Project Community Construction Management Plan (CCMP). Per the [Section 106 Programmatic Agreement](#) (PA), the Community Construction Management Plan (CCMP) was developed as a mitigation commitment for adverse effects from the [I-5 to Medina: Bridge Replacement and HOV Program](#) (I-5 to Medina project), including vibration, noise, change of use or physical features of a property's setting, or visual, atmospheric, or audible intrusions (as defined in [36 CFR 800.5\(a\)\(2\)](#)).

The purpose of the TVMPP, as an appendix to the CCMP, is to describe the standards and project-specific best management practices to preserve, protect and avoid impacts to trees and vegetation within the limits of project construction. The TVMPP presents a variety of methods to minimize effects on trees and vegetation during construction and establishes an implementation and tracking plan to ensure the best practices are followed. The plan identifies areas of tree removal, protection, and restoration, including areas temporarily dedicated to construction. Tree impacts and protection are categorized for trees meeting the definition of mature or exceptional trees as defined by Seattle Municipal code and rules.

WSDOT considered input from the City of Seattle and key stakeholders in developing the TVMPP. WSDOT will submit the TVMPP to these stakeholders prior to construction. During construction, WSDOT will follow the TVMPP and notify neighborhoods before SR 520 Portage Bay Bridge and Roanoke Lid Project construction activities.

Of the SR 520 Project phases, the [Pontoon Construction Project](#), [Eastside Transit and HOV Project](#), [Floating Bridge and Ladings Project](#), and [West Approach Bridge North Project](#) have been completed. Following the completion of these Projects, the remaining work for the [SR 520 Bridge Replacement and HOV Program](#) is collectively known as Rest of the West (ROTW). The remaining work will be delivered in phases with four projects, collectively called the [Rest of the West](#), and will complete WSDOT's enhancement of the SR 520 corridor. The SR 520 Portage Bay Bridge and Roanoke Lid Project is the third of these four phases. Additional volumes and/or updates to existing CCMPs and TVMPP will be developed in conjunction with future construction of the I-5 to Medina project.



## **II. Tree and Vegetation Management and Protection Plan Overview**

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### **A. Purpose**

This TVMPP has been prepared to meet commitments made in the [Section 106 PA](#). The purpose of the TVMPP is to describe the standard and project-specific best management practices that will be used to preserve, protect and avoid impact to trees and vegetation within the limits of construction of the SR 520 Portage Bay Bridge and Roanoke Lid Project (further described in Section III). This TVMPP presents multiple tools for protecting trees and vegetation during construction. Sub areas are identified in this plan within the project where trees will either be removed or will require protection and restoration.

The TVMPP reflects input WSDOT received through discussions with the City of Seattle and interested stakeholders, as described further in Section V.

### **B. Timeline and Process**

This is the third TVMPP of the Rest of the West. The SR 520 permitting and design teams developed a draft outline which was then reviewed by the City of Seattle and used basis to develop this TVMPP.

This TVMPP focuses on the SR 520 Portage Bay Bridge and Roanoke Lid Project, the third of four phases to complete the Rest of the West phase of the SR 520 corridor.

### **C. Implementation**

The TVMPP documents WSDOT's plans to preserve, protect and restore trees and vegetation during construction of the SR 520 Portage Bay Bridge and Roanoke Lid Project.

### III. SR 520 - Portage Bay Phase Overview

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#### A. Background

The [SR 520 Bridge Replacement and HOV Program](#), the Program's 12.8-mile-long corridor area begins at SR 202 in Redmond and extends west to I-5 in Seattle. As part of the Program, the [Pontoon Construction Project](#), the [Eastside Transit and HOV Project](#), the [Floating Bridge and Landings Project](#), and the [West Approach Bridge North Project](#), have been completed. The remaining work will be delivered in phases with four projects, collectively called the [Rest of the West](#), and will complete WSDOT's enhancement of the SR 520 corridor. The SR 520 Portage Bay Bridge and Roanoke Lid Project is the third of these four phases.

The Community Construction Management Plan (CCMP) was developed as a mitigation commitment for adverse effects from the [SR 520, I-5 to Medina: Bridge Replacement and HOV Project](#) (I-5 to Medina Project) to historic properties during the National Historic Preservation Act Section 106 Consultation process. Because Section 106 consulting parties had significant concerns related to construction effects (both indirect and direct) to historic properties, development of the CCMP was included in the earliest iterations of the [Section 106 Programmatic Agreement](#) (PA). Construction effects (as defined in [36 CFR 800.5\(a\)\(2\)](#)) may include vibration, noise, change of use or physical features of a property's setting, or visual, atmospheric, or audible intrusions. During the consultation process, the CCMP then became a project-wide commitment, not exclusive to Section 106 PA concurring parties. The PA language references the concurring parties "and others potentially affected by Project construction."

The purpose of this TVMPP as an appendix to the CCMP is to describe the standards and project-specific best management practices that will be used to preserve and protect trees and vegetation within the limits of project construction.

#### B. SR 520 - Portage Bay Phase Description

The 1960s-era Portage Bay Bridge is nearing the end of its functional life. Supported by hollow concrete columns, the four-lane bridge could collapse in a severe earthquake. This project will replace the old bridge with a seismically stronger structure. The project also will extend SR 520's transit/HOV system and cross-lake bicycle and pedestrian trail from Montlake to I-5.

The project will construct two new parallel, three-lane bridges across Portage Bay with dedicated transit/HOV lanes across Portage Bay between Montlake and I-5 along with extension of the regional SR 520 Trail from Montlake to I-5. A landscaped Roanoke lid over SR 520, between 10th Ave E and Delmar Dr E, and a 30-foot-wide bicycle and pedestrian crossing over I-5 will be constructed.

These features will ultimately result in stronger connectivity between the growing cities of the eastside, Seattle's booming South Lake Union neighborhood, and downtown Seattle. The travel between these points will become safer and more reliable via the dedicated, flexible transit/HOV lane. The Roanoke lid will visually connect landscapes and parklands both north and south of the highway with passive recreation landscape spaces, including trees and other landscape amenities.

A multi-disciplinary team has worked to track and implement the environmental commitments for each of the SR 520 Project's design and construction phases.

### **C. Construction Schedule**

SR 520 Portage Bay Bridge and Roanoke Lid Project construction is scheduled to begin in 2024, with completion anticipated in 2030. The schedule for some construction activities, including nighttime work related to Major Public Project Construction Noise Variance, may be restricted to comply with environmental permits.

## IV. Environmental Compliance

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WSDOT has applied for and received various environmental permits and authorizations from federal, state, and local regulatory authorities for the I-5 to Medina Project. Vegetation management is related to compliance with permit regulations related to natural resource and water quality protection. At the federal, state and local jurisdictional levels, the I-5 to Medina Project must comply with the vegetation management provisions of the following authorizations:

- National Environmental Policy Act compliance with the Federal Highway Administration and cooperating agencies
- National Historic Preservation Act Section 106 Consultation with the Department of Archaeology and Historic Preservation
- Endangered Species Act Section 7 Consultation with the US Fish and Wildlife Service and NOAA's National Marine Fisheries Service
- Department of the Army Permit issued by the Corps of Engineers
- Water Quality Certification Order issued by the Washington State Department of Ecology
- Hydraulic Project Approval issued by the Washington Department of Fish and Wildlife

As part of the Section 106 PA, the project must also comply with the local City of Seattle tree protection policies and regulations as described below.

### A. Shoreline Decision Requirements

The SR520 Portage Bay Phase (i.e., the portion of the project within City of Seattle shoreline jurisdiction) was conditionally granted approval through a shoreline decision on January 17, 2012. The project is currently seeking a new shoreline decision and permit approvals for the updated project design. The TVMPP has been developed in part with the expectation that the new shoreline decision will apply the previous Condition 10 of the City of Seattle Department of Construction and Inspection's (SDCI) decision 3012585, which reads as follows:

*As part of the Community Construction Management Plan process, and as agreed to in the signed MOU between the State and the City of Seattle, WSDOT will develop a Tree and Vegetation Management and Protection Plan (TVMPP). The final TVMPP will be developed and implemented prior to construction. The plan will be developed in collaboration with the city, neighborhoods, and organized groups, such as the ABGC, and will address areas of the corridor where specific trees and or vegetation are to be removed or disturbed as part of the construction or resulting project improvements.*

*The plan will identify areas of mature tree removal, protection, potential relocation, and restoration of project areas including areas temporarily dedicated to construction, including staging and lay down areas. The goal of the plan is to minimize effects on trees where feasible. WSDOT will ensure that contractors adhere to the plan, notify neighborhoods prior to impacts, and that tree and vegetation removal would only occur at the approximate time required for construction. A DPD planner or designated representative shall be a participant in this process.*

As with the prior shoreline decision, development of the TVMPP is expected to be required prior to WSDOT obtaining the Master Use Permit (MUP) necessary for the construction of the SR520 - Portage Bay Phase.

## **B. City of Seattle Regulations**

As part of the Section 106 PA, the Project must comply with City of Seattle tree protection regulations contained in Seattle Municipal Code (SMC) Title 25 Chapter 25.09 for all trees within City of Seattle's shoreline and critical area jurisdictions. These regulations include the Environmental Critical Areas (ECA) Ordinance and the Tree Protection Ordinance. This project will affect vegetated areas within the City's shoreline jurisdiction and as well as steep slope erosion hazard areas shown in [Exhibit A-2](#). SMC Title 25 Chapter 25.11 as amended by Directors Rule 16-2008 regulates for protection of trees outside of ECAs.

This project will remove a limited number of Street trees within the City of Seattle right-of-way as defined by the Seattle Department of Transportation's (SDOT) Street Use Ordinance (SMC Title 15) and may implement protection measures as required to protect trees to remain from adjacent project impacts. [Exhibit A-2](#) shows where applicable City of Seattle ordinances have jurisdiction and will be applied within the boundaries of the project limits.

### ***SMC 25.09 – Environmental Critical Areas Ordinance***

Project construction activities occur in environmentally critical areas, which triggers SMC 25.09. This ordinance applies to development (defined in Section 25.09.520) by any person on publicly- or privately-owned parcels containing an environmentally critical area or critical area buffers. Total area of impacted steep slope critical areas for this project is approximately 1.27 acres. Temporary clearing in wetlands is approximately 1.19 acres. Permanent restoration of ECAs, including plant types and plant spacing, is currently being coordinated with Seattle Parks and Recreation as part of the long-term maintenance agreement between WSDOT and the city of Seattle for the Portage Bay Phase.

For trees located within ECAs or ECA buffers, the SR 520 Project will:

- Characterize and mitigate impacts to trees per ECA provisions.
- Provide mitigation equal in function to those functions that are lost.
- Plant new trees at a density to provide ecological and slope stabilization functions to the extent possible.
- Provide a long-term erosion control treatment for slope stabilization functions.
- Provide final restoration of onsite temporary impacts as part of the subsequent Portage Bay Phase.

WSDOT does not anticipate offsite mitigation for steep slope impacts; however, offsite tree replacement will be considered if there is not enough area to locate replacement trees onsite.

***SMC 25.11 – Tree Protection Ordinance***

Most parcel-based impacts within the project area are likely to be subterranean and have little impact to tree health. However, improvements within the right-of-way will likely be within the driplines of several parcel-based exceptional trees or tree groves defined by this ordinance. These trees are primarily located within City of Seattle Park land and WSDOT parcels not within the right-of-way.

***SMC Title 15 – Street Use Ordinance and City of Seattle Executive Order 03-05.***

Construction activities near the Roanoke Lid and the Montlake interchange will trigger SMC Title 15 and would require a Street Use Permit from SDOT. Street tree removal is only permitted by the SDOT Director under certain well-defined conditions, such as when a street tree cannot be successfully retained because it conflicts with public construction activities. Removal of any trees within City of Seattle right-of-way and publicly owned parcels will be subject to the requirements and conditions of a modified street use permit agreed upon between WSDOT and the City of Seattle.

City of Seattle Executive Order 30-05 will also be triggered and reinforces SMC Title 15 with additional clarification. The ordinance authorizes and defines City of Seattle's policy of retaining and preserving trees in public places whenever possible and requires that every tree removed from City of Seattle property, for any reason, be replaced with 2 trees for each tree removed. Under this rule, replacement trees shall be appropriate for the area and shall be no less than 2 inches in caliper.



## **V. TVMPP Development and Coordination Process**

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This section describes the process through which the TVMPP was developed, including WSDOT's work to identify and monitor trees in the project area, coordination with stakeholders related to protecting trees and vegetation, and commitments through the SR 520 Portage Bay Bridge and Roanoke Lid Project design process.

### **A. Tree Inventory**

Trees were identified by a tree survey performed 2009 as part of the project-wide survey and inventory process with select project areas updated in 2019 and 2020. The survey was completed with survey technicians locating trees with trunk diameter at breast height (DBH) greater than or equal to four inches. Survey data include location, DBH, and species and genus (if possible).

### **B. Stakeholder Commitments**

WSDOT has coordinated with several external stakeholders and stakeholder groups throughout the environmental process for the I-5 to Medina Project. Vegetation management is also addressed through WSDOT's commitments with external stakeholders and documented through various plans and agreements.

#### ***Cultural and Historic Mitigation***

Section 106 of the National Historic Preservation Act is the primary driver behind cultural and historic mitigation commitments related to vegetation management. A Section 106 Programmatic Agreement, developed through consultation with affected stakeholders, includes the following key components related to tree and vegetation management:

- WSDOT will revegetate the roadside areas of SR 520 from I-5 to the eastern extent of the Roanoke Lid according to WSDOT and City of Seattle standards and following the concept developed with consulting parties, including Portage Bay, Roanoke Park, and North Capitol Hill communities, to identify and select plantings compatible with the historic character of the area to the maximum extent practicable.
- To the maximum extent practicable, WSDOT will avoid placement of temporary work bridges and other short-term construction features where they would require permanent removal of or would damage mature trees.
- WSDOT will conduct vegetation management, including provisions for:
  - Protecting trees and other screening vegetation adjacent to construction work areas from construction impacts.
  - Replacing removed trees following City of Seattle Street Tree standards (see below for the standards).
  - Monitoring of adherence to these commitments.

- Development of the CCMP, to which this document is an appendix, describing anticipated construction effects, applicable commitments, and best practices and tools to minimize the effects of construction on local communities.

### ***Parks Mitigation***

Section 4(f) of the Department of Transportation Act and Section 6(f) of the Land and Water Conservation Fund Act require mitigation for affected park resources. WSDOT coordinated with various stakeholders, including SPR and SDOT, to identify mitigation for effects to park resources.

This coordination process resulted in project requirements for inclusion of the following improvements:

- Reestablishment of the Bagley Viewpoint as relocated onto the Roanoke lid.
- Coordination with SPR regarding replanting of native trees as part of critical area restoration on SPR property along the Portage Bay Shoreline at Montlake Playfield.

### ***Other stakeholder feedback***

During 2019 and 2020, the project team undertook a review process with the Seattle Design Commission and community working groups. Potential impacts to trees and vegetation as well as landscape design goals and options were discussed which helped guide landscape restoration and tree replacement design. Considerations of Crime Prevention Through Environmental Design (CPTED) were discussed and acknowledged to play an important role, such as maintaining visual transparency from street areas into open spaces. Such CPTED principles may influence existing vegetation management and the projects revegetation efforts to maintain a safe public environment.

## **C. SR 520 Portage Bay and Roanoke Lid Project**

This TVMPP focuses on the SR 520 Portage Bay Bridge and Roanoke Lid Project to document vegetation management and discuss restoration for impacts occurring in the SR520/I-5 interchange area as part of the SR 520/I-5 Express Lanes Connection Project. It may be revised for subsequent phases of the ROTW as they approach construction. This TVMPP is intended to meet the commitments made in the CCMP process. As stated in the overview, this TVMPP documents the methods that WSDOT will use for vegetation management during construction of the SR 520 Portage Bay Bridge and Roanoke Lid Project. These methods are further discussed in the subsequent implementation section.

Community coordination and public outreach specific to the SR 520 Portage Bay Bridge and Roanoke Lid Project builds off efforts previously undertaken prior to starting ROTW phase construction. Coordination and outreach specific to the scope of SR 520 Portage Bay Bridge and Roanoke Lid Project was initiated in early 2019 with interested stakeholders, including City of Seattle staff, Seattle Design Commission staff, and community members via public meetings and briefings, online material review opportunities, phone calls, email responses, and a variety of other public involvement tools. WSDOT will continue to coordinate with stakeholders and the City of Seattle to refine these plans in advance of the RFP publication date, in January 2023, and throughout the duration of project construction.

## **VI. SR 520 Portage Bay Bridge and Roanoke Lid Project Tree and Vegetation Protection Implementation**

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This section discusses the means and methods available for ensuring that trees and vegetation will be protected during the SR 520 Portage Bay Bridge and Roanoke Lid Project construction.

### **A. SR 520 Portage Bay Bridge and Roanoke Lid Project – Technical Requirements by Vegetation Management Area**

These technical requirements were written for the conditions and activities specific to the areas affected by the SR 520 Portage Bay Bridge and Roanoke Lid Project construction. The vegetation management areas described below and shown graphically within [Exhibit A-1](#) are geographically distinct landscapes with unique uses and landscape character. A management area may have more than one vegetation protection zone. Working with individual vegetation management areas enables WSDOT to take a context-sensitive approach to tree and vegetation protection while keeping track of each area's special details.

#### ***Montlake Boulevard and Bill Dawson Trail Area***

The Montlake Boulevard and Bill Dawson Trail area is an approximately 1.3-acre area composed of zones north and south of SR 520 that connect and transition from Montlake project improvements at Montlake Boulevard E. Improvements are generally associated with the regional shared use path (SR 520 Trail), and local street and park connections.

There are two distinct landscape types in this area: North of SR 520, the Montlake Project cleared the preexisting ornamental landscape that included Cherry trees and shrubs with restoration of the area delayed pending further disturbance from the SR 520 Portage Bay Bridge and Roanoke Lid Project. South of SR 520, a mostly native mix of coniferous and deciduous trees, including Douglas Fir, Big Leaf Maple, Cottonwood, and Red Alder, is present with a predominantly invasive understory of English Ivy and Himalayan Blackberry. Portions of landscape areas south of SR 520 which currently provide visual screening for adjacent residences will be impacted by clearing required for highway, off-ramp, utility, and path construction work.

#### **Landscaping Goals and Requirements**

North of SR 520, goals will be to provide trees and shrubs that provide trailside landscaping that functions well for user safety and trailside maintenance. South of the highway, existing trees will be retained where practicable, and new trees will be planted to continue to provide visual screening functions, and shrubs to establish native ground cover and provide trailside landscaping.

#### ***Montlake Interchange Area***

The Montlake interchange area is approximately 1-acre consisting of primarily ornamental trees and shrubs remaining from the original 1960's highway construction. Within the loop ramp, all vegetation except for two remaining Sweet Gum trees was cleared as a result of required construction disturbance for

the Montlake Project. West of the loop ramp, thickets of Himalayan Blackberry and patches of English Ivy hang from ornamental trees and have generally overtaken any remaining ornamental shrubs.

### **Landscaping Goals and Requirements**

Portions of the loop ramp and areas west of the loop ramp will be utilized to provide canopy replacement for WSDOT right-of-way tree loss. Vegetation will be organized to screen the mainline from path connections and nearby residences. Lower story vegetation will be primarily evergreen to provide year-round driver guidance and screening of head light glare. New plantings will be a mix of native and adaptive ornamental species appropriate for clearance requirements along highways.

### ***Portage Bay Shoreline Areas***

This landscape management area is approximately 3-acres and is primarily comprised of critical areas, including lake fringe wetlands and wetland buffers south of SR 520 between the highway and Montlake Playfield as well as shoreline buffer areas north, south, and under SR 520 at the west side of Portage Bay. These areas will be impacted by temporary work trestles and permanent project construction of the new wider bridge, path and trail, and realigned off-ramps being constructed in these areas.

This area is primarily dominated by a woody deciduous canopy of Willow, Red-Twig Dogwood, Cottonwood, and Alder. Understory species include several invasive species including Yellow Sweet-Flag Iris, Purple Loosestrife, and Reed Canary Grass. Trees and large scrub shrub species not in direct conflict with temporary features such as work bridges may require clearance pruning or removal to provide operation of equipment on work trestles.

### **Landscaping Goals and Requirements**

Clear delineation and protection of remaining vegetation, removal of invasive species and weed control, plantings of native tree and shrubs, and placement of habitat features will be done to improve habitat and water quality in these areas. Invasive species will be removed and managed as part of the restoration efforts. Restoration of these areas will comply with the various permits covering impacts to shorelines, wetland, critical areas, and each of their buffers.

### ***Boyer Ave Hill Area***

The Boyer Ave hill area is the approximately 4.5-acre area surrounding and under SR520 west of Portage Bay with critical areas on either side of Boyer Ave E extending west uphill to Delmar Dr E. West of Boyer Ave E these areas are on steep slopes which are considered unstable. Predominant species include Big-Leaf Maple, Alder, Cottonwood, and Bitter Cherry with a primary understory of Himalayan Blackberry. Construction of the bridge replacement and addition of structure supporting the regional shared use path will require removal of all trees and vegetation north and south of the highway.

### **Landscaping Goals and Requirements**

Trees, shrubs, and vines will be planted in areas north and south of the bridge to provide visual screening functions for neighbors on all sides and regain lost canopy coverage to the maximum extent

possible. Plantings along with long-term erosion control measures will be implemented to provide slope stability.

Distinct areas below the bridge, notably between the Portage Bay Bridge abutment (pier 1) and approximately pier 2 and a small area around pier 3, will be landscaped with rock mulch to create visual buffer, discourage illicit use, and provide erosion control. Habitat logs and boulders will be placed in amongst the mulch areas. Elsewhere under the bridge where natural light and rainfall flow, short stature trees and a mixture of primarily native shrubs that have low light tolerance will be provided to aid erosion control.

### ***North Capitol Hill Buffer***

The North Capitol Hill Buffer area is composed of two 1.5-acre swaths of forested land on the south side of SR 520, bisected by 10<sup>th</sup> Ave E. The character of these areas is a mostly native mixed canopy layer of coniferous and deciduous trees including Douglas Fir, Big Leaf Maple, Vine Maple, and Red Alder, and a predominantly invasive understory of species such as English Ivy and Bindweed. The areas currently provide visual screening for adjacent residences. Steeper slopes west of 10<sup>th</sup> Ave E will be impacted by construction of retaining walls supporting the trail proposed to connect at Harvard Ave E. At the western most portion of this area, several large specimen oak trees are located in the tall grass area adjacent Harvard Ave E.

East of 10<sup>th</sup> Ave E, development of the Roanoke lid and associated local paths, sidewalks, and stairs will require fill to be placed throughout much of the area requiring removal of most trees in this area.

### **Landscaping Goals and Requirements**

Landscape goals and requirements for this area should aim to protect vegetation to maintain the desired buffering qualities for adjacent residences. Removal of trees and vegetation buffering residences will be retained until vegetated areas are needed for construction activities. For steeper slopes west of 10<sup>th</sup> Ave E impacted by construction, long-term erosion control measures including replanting of native and ornamental trees and shrubs will be implemented to provide erosion control and slope stabilization. At the western most portion of this area, several large specimen Oak trees will be protected in place along with a general understory of grass or low stature groundcover.

Plantings will be designed east of 10<sup>th</sup> Ave E to provide privacy for neighbors and a green buffer enhancing the southern edge of the Roanoke lid open space. Trees, including Firs, Cedars, Pines, Maples, and Horse Chestnuts, close to the abutting residential and vacant parcels will be protected in place. A large Blue Atlas Cedar within a WSDOT-owned parcel will be protected in place. Where Federal Ave E intersects with this area, an open viewpoint will be maintained for users to look over and view the open space.

CPTED considerations in this area may require plants to be kept low near the open space, while taller fuller understory may be appropriate nearest residential parcels. Planting strategies may require adaptation over time to account for social aspects.



### ***East Roanoke Street***

The East Roanoke Street area runs from the east edge of I-5 to the intersection of E Roanoke St and 11<sup>th</sup> Ave E. Single family residences and the Roanoke Park border the area to the north, most of which serve as the southern interface of the Roanoke Park Historic District. Vegetation in this area is primarily composed of street trees, lawn, and planter strip shrub plantings.

About 2/3 of the trees within this area are within WSDOT right-of-way and have been or will be cleared by the SR 520/I-5 Express Lanes Connection Project. The remaining trees are within current City of Seattle right-of-way. Primary species observed include Big Leaf and Norway maples, Horse Chestnut, Katsura, Douglas Fir, Pine, Hawthorns, and Crabapple. Existing street trees in front of Fire Station 22 and west towards the I-5 off-ramp will likely require removal to allow for the widening of the sidewalk to serve both bicycles and pedestrians.

For construction of the Roanoke lid, full use of the area east of the fire station and between the south E Roanoke St curb line and highway will require removal of all trees. Local roadway realignments will require removal of trees closest to the 10<sup>th</sup> Ave E and E Roanoke St intersection, including several Birches in a planter strip fronting Roanoke Park and a Big Leaf Maple and Horse Chestnut northeast of the intersection of 10<sup>th</sup> Avenue E and E Roanoke St.

An existing City of Seattle 42" water line crosses underneath SR 520 and under Roanoke Park. Relocation of the waterline under SR 520 is required. While the relocation will not require removal of existing trees, including a grove of American Elm within Roanoke Park, water line work may occur within critical root zones of these trees, which are likely considered exceptional trees per SMC

### **Landscaping Goals and Requirements**

Remaining trees within planter strips will be protected using City of Seattle best management practices, including tree protection fencing, mulching, and watering. Many trees may require corrective and clearance pruning and will be done in coordination with the City of Seattle. The project will utilize a Project Arborist to employ recommendations to protect roots within the critical root zones of the exceptional trees within Roanoke Park, including but not limited to, tunneling, steel matting, selective root pruning by a certified arborist, mulching, and watering.

Trees removed as part of the project within City of Seattle right-of-way and property will be cataloged and replaced at the required 2:1 replacement ratio. Trees will also be replanted both on the new Roanoke lid structure and north of the structure on grade. Table A depicts a conceptual list of acceptable street and back of sidewalk tree, shrub, and groundcover species have been coordinated with City of Seattle departments.



**Table A - Plant List**

	<b>COMMON NAME</b>
<b>TREES</b>	Slender Hinoki Falsecypress
	Kousa Dogwood
	Eddie's White Wonder Dogwood
	Rotundiloba Sweetgum
	Afterburner Blackgum
	Serbian Spruce
	Quaking Aspen
	Athena Elm
<b>SHRUBS</b>	Compact Strawberry Tree
	Dwarf Magellan Barberry
	Japanese Flowering Quince
	Boxleaf Hebe
	Oakleaf Hydrangea
	Compact Oregon Grape
	Japanese Mock Orange
	Mount Vernon Laurel
	Songbird Rhododendron
	Fragrant Sweetbox
	Birchleaf Spiraea
	Double Play Gold Spirea
	Upright Yew
<b>GROUND COVER, GRASS &amp; PERENNIALS</b>	Blue Grama Grass
	Barrenwort
	Coast Strawberry
	Salal
	Hardy Geranium
	Coast Juniper
	Creeping Liriope
	Low Oregon Grape
	Mexican Feather Grass
	Fountain Grass
	Western Sword Fern

### ***I-5 and SR-520 Interchange***

The I-5 and SR 520 interchange landscape area is approximately 4 acres, of which most tree and shrub area vegetation was removed as part of the SR 520/I-5 Express Lanes Connection Project. The SR 520 Portage Bay Bridge and Roanoke Lid Project will connect with new ramps and ramp alignments

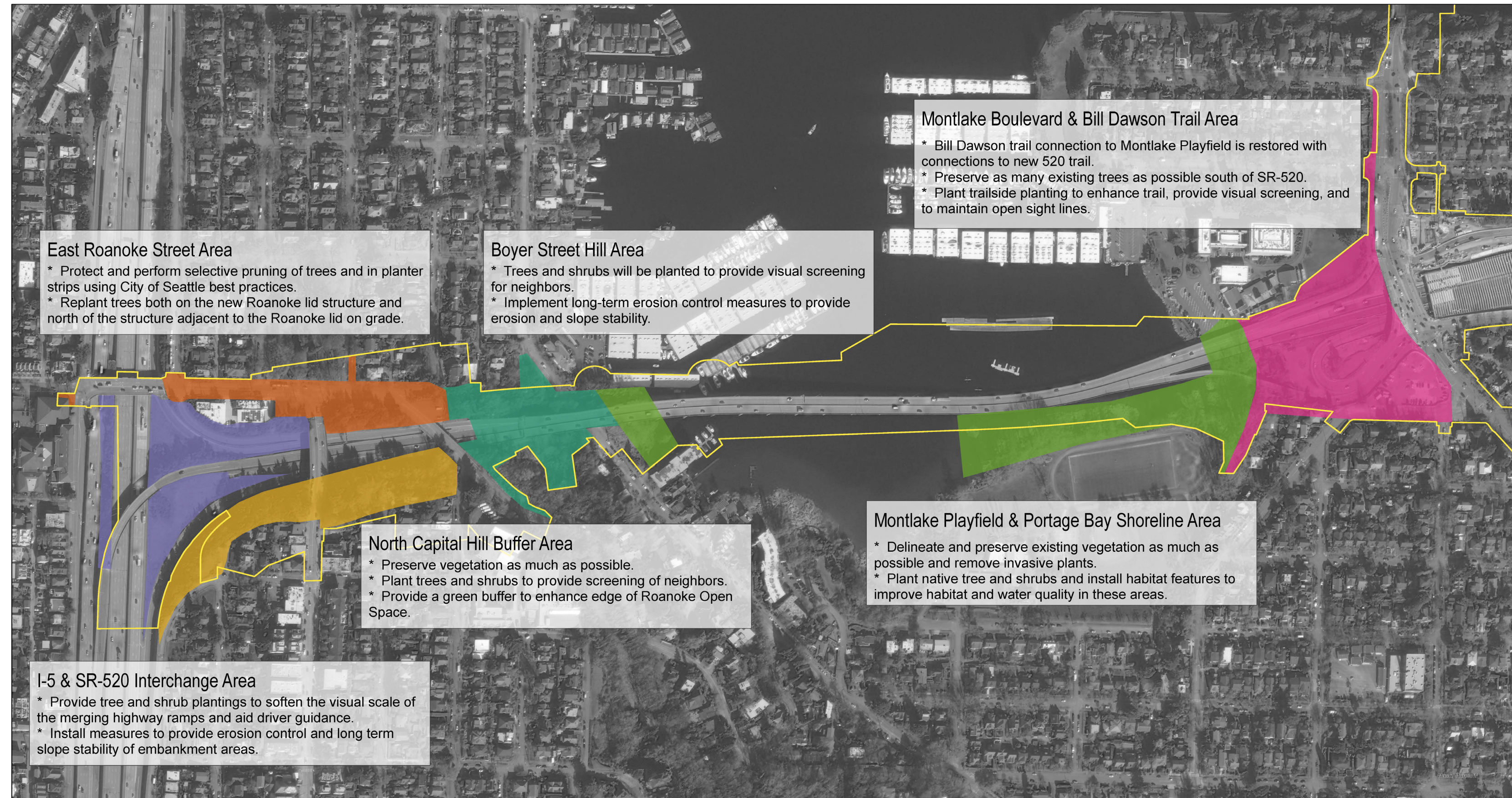
constructed as part of the SR 520/I-5 Express Lanes Connection Project. Permanent landscape restoration will not be undertaken during the SR 520/I-5 Express Lanes Connection Project to allow use of these areas for construction and staging. Vegetation within this area was primarily grass with thickets of shrubs and a mix of planted and volunteer trees on the embankments adjacent to ramps transitioning up and down to the grade of each highway. Trees were also removed for construction of stormwater treatment facilities in the I-5 median area between the E Roanoke St overpass and the I-5 connection ramps.

### **Landscaping Goals and Requirements**

The goal of the landscape within embankment areas and median of the interchange areas is to soften the visual scale of the merging highway facilities, help guide drivers, and provide long term slope stability of embankment areas. For steeper slopes, erosion control measures will be implemented to provide erosion control between construction phases. Planting of the median will entail planting of new trees, shrubs, groundcover, and seeding of the stormwater swale. While grass was previously part of the aesthetic of this interchange area, trees and shrub areas will be prioritized to maximize the tree canopy.

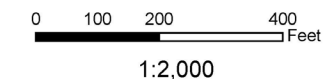


## Exhibit A-1: Project Area Map and Management Areas



SR 520 - Portage Bay Bridge and Roanoke Lid Project  
Tree and Vegetation Management and Protection Plan

June 2022





## Exhibit A-2: I-5 Interchange, Roanoke, and Boyer Area Map



SR 520 - Portage Bay Bridge and Roanoke Lid Project  
 Tree and Vegetation Management and Protection Plan

June 2022

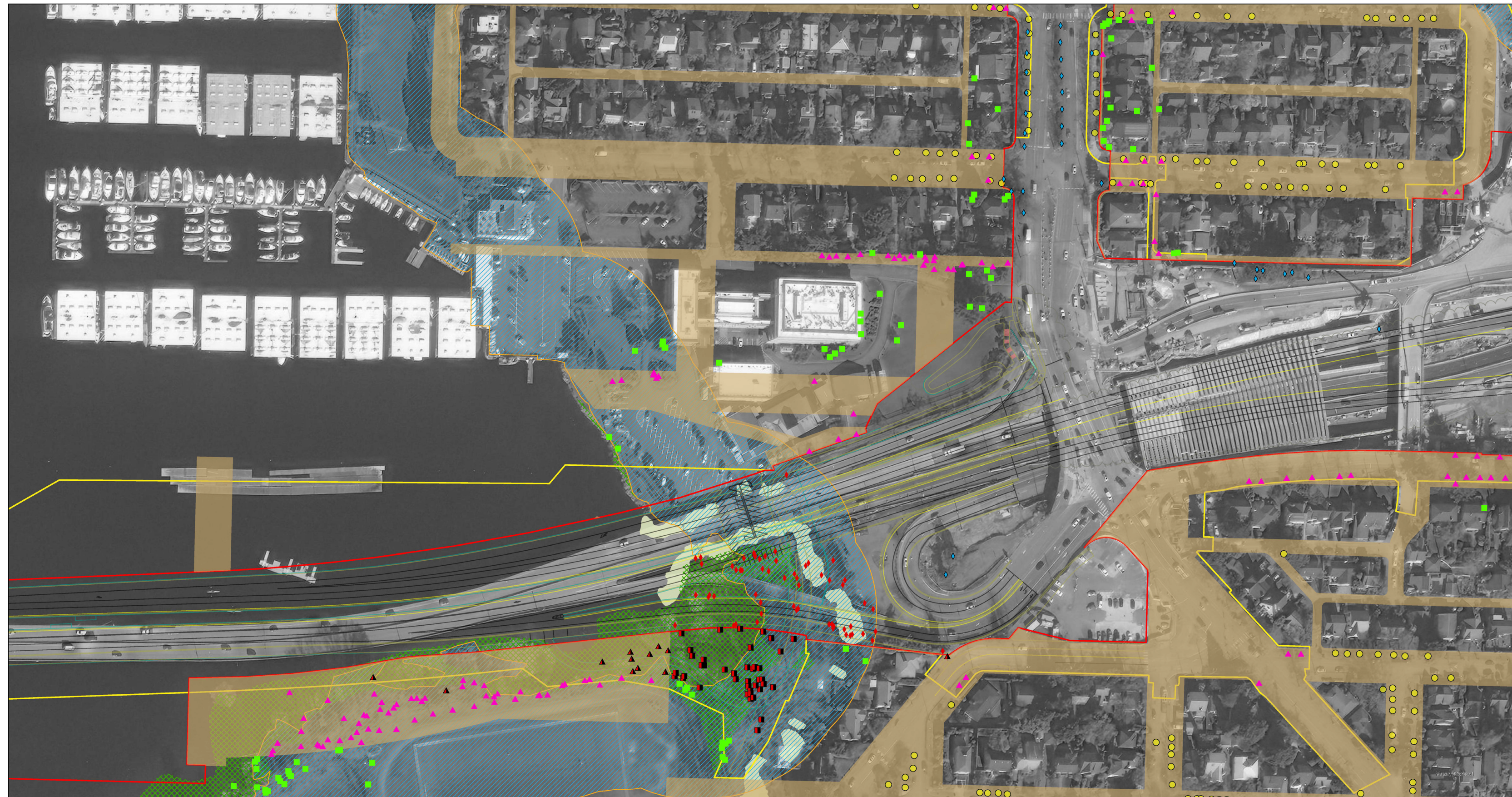
- |   |  |                        |                          |  |
|---|--|------------------------|--------------------------|--|
| ■ Trees to remain on private property in Seattle jurisdiction | ▲ Other trees removed by project in Seattle Right of Way | ● Seattle Street Trees | □ Limits of Construction | ■ Area Regulated By SMC 25.09 Environmental Critical Areas Ordinance |
| ◆ Trees to remain in WSDOT Right of Way                       | ▲ Other trees to remain in Seattle Right of Way          | ● Exceptional Trees    | □ Seattle Right of Way   | ▨ 200 ft Shoreline Jurisdiction                                      |
| ◆ Trees removed by project in WSDOT Right of Way              |  | □ WSDOT Right of Way   |                          |  |



0 50 100 200 Feet  
 1:1,000



## Exhibit A-3: Portage Bay and Montlake Area Map



SR 520 - Portage Bay Bridge and Roanoke Lid Project  
 Tree and Vegetation Management and Protection Plan

June 2022