



# ***Bus Base North***

## **Bus Base North Visual and Aesthetic Resources Technical Memorandum**

June 2020

## Consultant Quality Control Form

Version	Title	Date	Originator/ Drafted by	Reviewed by	Approved by	Notes, as required
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## Summary

The purpose of this *Visual and Aesthetic Resources Technical Memorandum* is to support the Bus Base North (BBN) project's environmental review phase. This report documents the abbreviated visual impact assessment conducted for the project, which analyzes the project's potential changes to visual resources and aesthetics using the Federal Highway Administration's (FHWA) *Guidelines for the Visual Impact Assessment of Highway Projects* (FHWA 2015). An abbreviated visual impact assessment was completed because: the project is expected to be consistent with the visual character that viewers would expect for an area designated for commercial and light-industrial development; the project is not expected to change the overall visual quality in the Area of Visual Effect (AVE); concerns about visual quality and aesthetics have not been raised during project public engagement activities; and no adverse cumulative impacts are anticipated.

The project's AVE is defined as one-quarter mile from the BBN site. The currently vacant BBN site is within the City of Bothell's Vision 2040 Designated Regional Growth Center and is zoned as a Residential-Activity Center, Office-Professional and Light Industrial. Adjacent parcels are a mix of other undeveloped sites and multi-story commercial buildings and parking lots, as allowed by the zoning. The existing environment is perceived by viewers as orderly and coherent, and consistent with their expectations in this light-industrial location.

The overall scale and massing of the BBN facilities would be similar to and consistent with the scale of existing adjacent development, which would retain a sense of visual order for viewers. Architectural materials would be evaluated through the City of Bothell's design review process, which would confirm that the project would use exterior building materials that are visually compatible with existing buildings and the city's design standards. Exterior lighting would comply with the City of Bothell's regulations and an exterior lighting plan would be submitted as part of the design review approval. The project would not degrade sensitive natural visual resources in the AVE such as North Creek and its associated riparian area, would not substantially change the landform, and would not obstruct desired views; therefore, the project would not change the existing natural visual character. The project would have a neutral effect on visual quality within the AVE.

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## **Acronyms and Abbreviations**

AVE	Area of Visual Effect
BBN	Bus Base North
BRT	bus rapid transit
FHWA	Federal Highway Administration
LEED	Leadership in Energy and Environmental Design
Project	Bus Base North
RGC	Regional Growth Center
WSDOT	Washington State Department of Transportation

# 1 INTRODUCTION

## 1.1 Overview

As was identified in the *Sound Transit 3 (ST3) System Plan* (Sound Transit 2016), Sound Transit is planning for a new bus operations and maintenance facility (Bus Base North [BBN]) located near the Interstate I-405/State Route (SR) 522 corridors to service vehicles operating on the I-405 and SR 522/NE 145th bus rapid transit (BRT) lines and ST Express buses. The site identified for development of the BBN project is in the Canyon Park Subarea of Bothell along 20th Avenue SE, as shown in **Figure 1-1**.



**Figure 1-1 Bus Base North project vicinity**

The BBN project would provide support for up to 80 articulated (60 feet in length) and 40 double-decker or standard transit coaches (40 feet in length). The fleet would primarily be diesel/electric hybrid buses, but approximately 10 of the buses would operate with battery-electric propulsion when the project opens. The facility would be configured to allow for the future potential conversion of the bus fleet to battery-electric buses if Sound Transit determines that to be an appropriate vehicle technology. The BBN project would include construction of the following:

- A maintenance and operations building
- Storage/parking for the 120 buses at ground level
- An aboveground, second-story parking deck to be provided for all employee and visitor parking, which would also provide cover for the bus parking area below
- A security guard house at the bus entrance gate to ensure that all vehicles entering the bus traffic areas have authorization to enter
- A bus wash building to accommodate a fully enclosed, two-bay, drive-through bus wash operation
- A fueling facility, including a support systems building and canopy-covered fueling lanes
- Stormwater facilities as needed to address regulatory and design requirements
- Utility and street connections

Sound Transit is expected to select a design/build contractor for the project in 2021. Following selection, the design/build contractor would develop the detailed construction documents for the project and permit applications would be submitted to the City of Bothell and other permitting agencies. Construction is anticipated to start in 2021 and to be completed in 2023 prior to the start of BRT services in 2024.

## **1.2 Purpose of technical memorandum**

The purpose of this *Visual and Aesthetic Resources Technical Memorandum* is to support the project's environmental review phase. This report documents the visual impact assessment conducted for the project that analyzed the project's potential changes to visual resources, aesthetics, and visual quality per the Federal Highway Administration's (FHWA) *Guidelines for the Visual Impact Assessment of Highway Projects* (FHWA 2015).

## 2 PROJECT DESCRIPTION

The BBN facility is a bus operations and maintenance facility on a 12.5-acre site, programmed and sized to maintain, service (including fuel and wash), and store up to 120 buses. These buses include the fleet that would operate on the proposed I-405 and SR 522/NE 145th BRT lines, as well as ST Express buses from existing lines of bus service. The site plan and layout of the facility are based on a conceptual level of design. These site plans are shown in **Figure 2-1** and **Figure 2-2**.

### 2.1 On-site facilities

The following provides a description of the proposed facilities on-site.

#### 2.1.1 Maintenance and operations building

As shown in the conceptual site plans, the maintenance and operations building would be the primary structure on-site with a total building footprint of approximately 58,000 square feet. The maintenance and operations building would include two levels. The first floor is anticipated to include approximately 57,000 square feet of floor area, and the second floor is anticipated to include approximately 19,000 square feet of floor area, for a total floor area of approximately 76,000 square feet. The ground level is expected to house shop and maintenance bay functions and maintenance offices, while the operations offices, dispatch areas, driver areas, and administrative functions would be located on the second floor. The building would also include an enclosed paint booth (for vehicle touch ups, damage repairs, and full coach repainting) designed in accordance with regulatory requirements.

#### 2.1.2 Bus storage and elevated parking deck

Storage/parking for the 120 buses would occur on the ground level in the eastern portion of the site, set back from 20th Avenue SE. Access to the bus parking area would be from a bus-only entrance/exit driveway from 20th Avenue SE along the southern property boundary. The bus parking area includes space for the electrical charging infrastructure that would be needed for the potential future conversion to a battery-electric bus fleet.

Above the ground-level bus parking area, a second-story parking deck with approximately 250 parking stalls and approximately 105,000 square feet in area, would be provided for employee and visitor parking and non-revenue vehicles (vehicles used by staff for service and other non-customer transportation uses). This parking deck would cover the bus parking area and would provide weather protection for the parked buses, an overhead structure to attach lighting for the bus parking area, and a structure to attach potential future overhead electric charging equipment. Automobile access to the parking deck would be from a second driveway from 20th Avenue SE, just north of the bus entrance/exit driveway, to a dedicated drive and ramp. The parking deck would likely include an elevated pedestrian walkway directly into the second floor of the maintenance and operations building and would also include an elevator and egress stairs, as required by code, to provide pedestrian access to the ground-level bus parking area below.

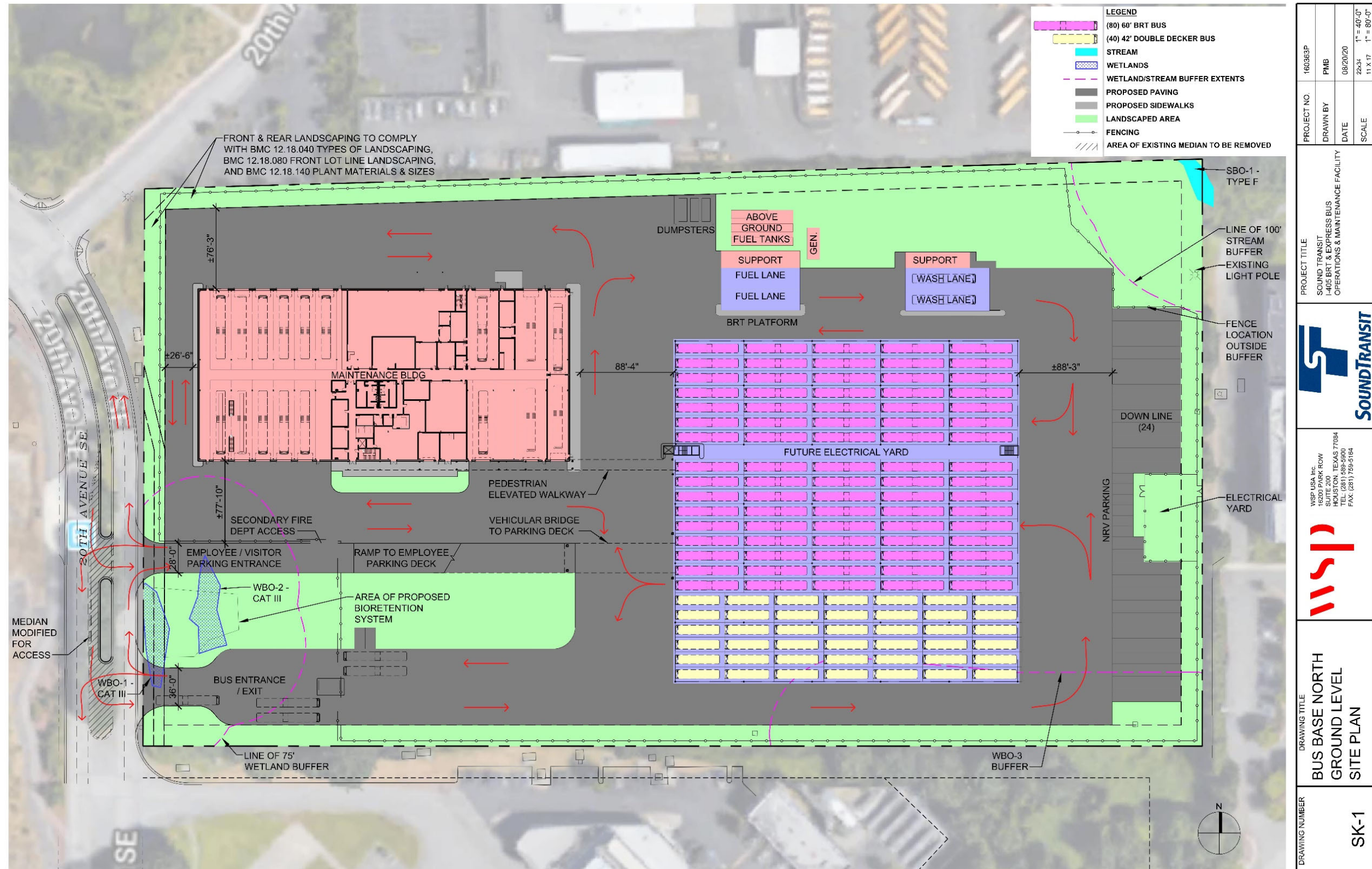
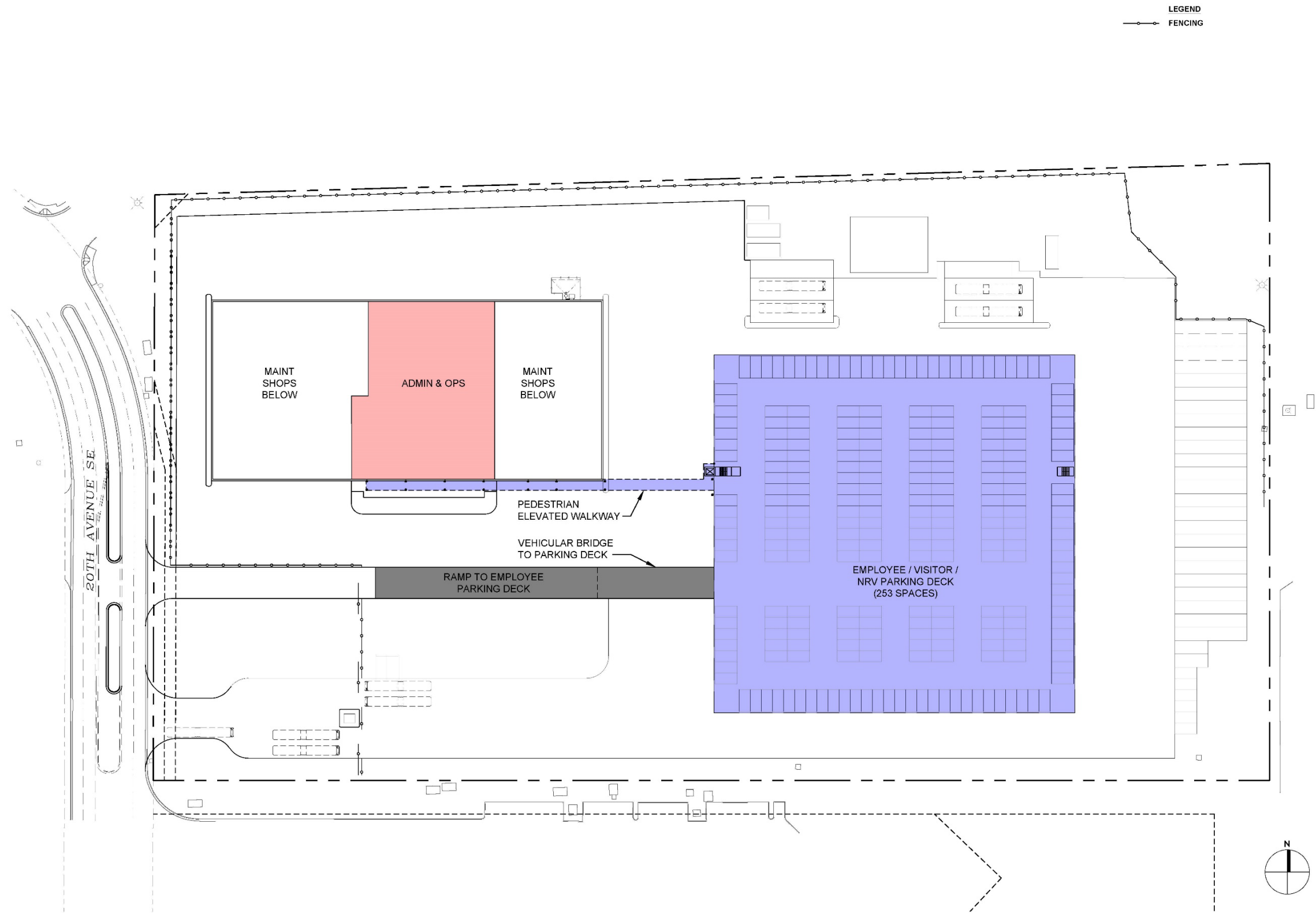


Figure 2-1 Bus Base North – Ground-level site plan





DRAWING NUMBER	SK-2	DRAWING TITLE	BUS BASE NORTH 2ND LEVEL SITE PLAN	 WSP USA Inc. 16300 PARK ROW HOUSTON, TEXAS 77064 TEL: (281) 588-5900 FAX: (281) 758-5184	 SOUND TRANSIT	PROJECT TITLE	SOUND TRANSIT I-405 BRT & EXPRESS BUS OPERATIONS & MAINTENANCE FACILITY	PROJECT NO.	160363P	DRAWN BY	PMB	DATE	04/09/20	SCALE	25x34 1" = 40'-0" 11 x 17 1" = 80'-0"

Figure 2-2 Bus Base North – Second-level site plan

### 2.1.3 Security guard house

An approximately 100-square-foot security building would be located at the bus entrance/exit driveway to monitor access and help control the ingress and egress of buses at the site. Entrance and exit gates would be located on each side (to the north and south) of the security building. Two security guard parking spaces would be provided just northeast of the security building.

### 2.1.4 Fuel and wash buildings

A bus wash building, approximately 4,500 square feet in size, would accommodate a fully enclosed, two-bay, drive-through bus wash operation.

A fueling facility would be provided, including an approximately 1,000-square-foot support systems building and an approximately 3,000-square-foot canopy over two fueling lanes. The support systems building would include lube tanks for fluids used at the fuel island, an air compressor to run the pumps and equipment at the fuel island, vacuum equipment used to clean the buses during servicing, computerized equipment for the fuel/fluid management systems, a custodial room, and staff restrooms. An area for aboveground fuel tanks would be sited to the north of the fueling facility building. The fuel tanks are proposed to be aboveground and double-walled for easier observation and maintenance purposes as well as for easier removal should the fleet be converted to an alternative fuel source in the future.

## 2.2 Utilities and site access

The site would be equipped with an oil/water separator that would be connected to all sanitary sewer elements serving vehicle maintenance areas and where otherwise required by the Washington State Department of Ecology's (Ecology's) *Stormwater Management Manual for Western Washington* (Ecology 2019) and the Alderwood Water & Wastewater District. This would include floor and trench drains in maintenance areas as well as the chassis wash areas. The bus washer system would be connected to a water reclaim system to reduce the water supply required for that function. Water and sanitary services would be tied to the Alderwood Water & Wastewater District services located along 20th Avenue SE.

Stormwater would be collected underground and detention would be provided in an on-site underground vault. Low-impact development practices, consistent with the Ecology's *Stormwater Management Manual for Western Washington* (Ecology 2019), would be accommodated as space and site conditions allow. Stormwater would ultimately tie into the City of Bothell system via the adjacent ditches.

Communications and natural gas services for the site would be tied into utilities currently available in 20th Avenue SE. Electrical service would be coordinated with the local electrical service provider—the Snohomish County Public Utility District—who would extend service to the site, most likely along the southern portion of the property. While the use of battery-electric buses is being considered for the future, it is not currently planned for the initial construction at this facility. To accommodate battery-electric buses on-site, it is anticipated that the area initially used to accommodate the aboveground fuel tanks (shown in **Figure 1-1**) would be removed and that area would be used for a small substation and battery area to provide the on-site power

generation and storage needed to charge the bus batteries. It is anticipated that this area would be fenced for safety purposes.

Two site driveways/entrances would be provided from 20th Avenue SE to separate the bus and personal vehicle traffic. The primary fire department access would be through the bus entrance driveway. A secondary fire access would be provided through the employee parking entrance with an access point prior to the ramp up to the employee parking deck, as shown in **Figure 2-1**. To allow turns into and out of the facility from both driveways, the raised median that separates the northbound and southbound lanes of 20th Avenue SE would be modified, including providing a break in the median for the employee entrance and shortening the median on the south end to allow buses to exit the facility. Required sidewalks would be provided along the site street frontage.

### **2.3 Site work**

Prior to construction, the site would be cleared and grubbed to remove existing vegetation not intended to be protected (i.e., outside of wetland areas that would not be filled and the stream buffer area shown on **Figure 2-1** as being fenced). The site would also be graded as needed to properly support the development and provide adequate drainage for the site.

Reinforced concrete paving would be used for all driveways and bus and large maintenance vehicle parking areas. Limited areas of asphalt paving could be provided in areas trafficked by personal vehicles. Depending upon existing soil conditions, paving may be installed over a treated subbase, such as lime or cement stabilized soil.

The site would be equipped with lighting as required to support the 24-hour-per-day operations and as needed for security. Landscaping would be provided in designated areas and in accordance with local ordinances. Vegetation would be low maintenance and provided with irrigation. The entire yard area would be secured by fencing with control gates at access and egress points. While fencing materials could vary around the site, all fencing would be affixed at the base via concrete. Gates and access points would be equipped with a key card system, provided with intrusion detection, and would also comply with the City of Bothell's requirements for fire and life safety access. Closed-circuit television cameras are anticipated to be used on the site.

Landscaping would be provided on the perimeter of the site in designated areas and in accordance with local ordinances. Existing trees would be preserved around the perimeter of the site where possible, and vegetation/landscaping would be provided in accordance with Sound Transit's design standards and would be low maintenance and provided with irrigation where needed.

### **2.4 Operations**

The BBN facility would operate 24 hours per day, seven days per week. The facility would house general maintenance functions, including inspections; tire, brake, paint, and body work; parts distribution; and detail cleaning. Transit vehicle maintenance personnel would work in three shifts. Maintenance activities would be performed during all shifts. During the evening shift, personnel would primarily service vehicles through the fuel and wash cycle; however, during all shifts it is possible for any of the different maintenance activities to be performed.

**Table 2-1** lists the typical times when buses and maintenance staff would arrive and depart the site for daily operations.

**Table 2-1 Typical daily operations – arrivals and departures**

Time of day	Daily operations – Arrivals and departures
4:00 a.m.	Transit operators and operations staff arrive
4:30 a.m.	Buses start to leave the facility at approximately 10-minute intervals
7:00 a.m.	Majority of buses off the site
8:00 a.m.	First shift for vehicle maintenance begins/third shift for vehicle maintenance ends
11:00 a.m.	Buses return to site during off-peak hours
2:00 p.m.	Transit operators and operations staff arrive
2:30 p.m.	Buses start to leave the facility at approximately 10-minute intervals
4:00 p.m.	Majority of buses off the site/second shift for vehicle maintenance begins
5:00 p.m.	First shift for vehicle maintenance ends
10:00 p.m.	Third shift for vehicle maintenance begins
12:00 a.m.	Second shift for vehicle maintenance ends

SOURCE: Sound Transit 2019

## 2.5 Project design and construction considerations for visual quality and aesthetics

The proposed project would include the following design features to address potential adverse impacts to visual quality and aesthetics:

- Landscaping would be provided on the perimeter of the site in designated areas and in accordance with local ordinances. Existing trees would be preserved on the perimeter of the site where possible. Vegetation/landscaping would be provided in accordance with Sound Transit’s design standards and would be low maintenance and provided with irrigation where needed.
- Shielding exterior lighting and perimeter vegetation would minimize light spillover to adjacent uses, including roadways, sidewalks, the North Creek Trail (west of the project site across 20th Avenue SE), and potential future residential or commercial uses across 20th Avenue SE.
- The facility will be designed to meet Leadership in Energy and Environmental Design (LEED) silver certification.
- Working with Sound Transit’s security team to incorporate crime prevention through environmental design (CPTED) strategies and confirm that security and aesthetic features are complementary to one another.

During construction, visual quality and aesthetic impacts would be short term in nature and would likely not require any control measures. Temporary construction light and glare spillover would be reduced by shielding and aiming light sources downward and toward work areas.

### 3 METHODOLOGY

This section summarizes the regulatory context of the project, identifies the project's Area of Visual Effect (AVE), summarizes coordination and data sources, and describes the methodology used to assess impacts to visual quality and aesthetic resources.

#### 3.1 Regulations, criteria, and guidelines

The federal, state, regional, and local regulatory context for this visual impact assessment is summarized below.

##### 3.1.1 Federal

The following is the federal regulatory context:

- *FHWA Guidelines for the Visual Impact Assessment of Highway Projects* (FHWA 2015)<sup>1</sup>, hereafter referred to as the "FHWA guidelines."

##### 3.1.2 State

The following is the state regulatory context and criteria for this visual impact assessment:

- Washington State Environmental Policy Act (SEPA)

##### 3.1.3 Regional and local

The following is the regional and local regulatory context:

- City of Bothell *Imagine Bothell Comprehensive Plan* (adopted July 7, 2015)
- City of Bothell Municipal Code Title 12 Zoning (updated April 7, 2020)

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<sup>1</sup> Although this project does not involve a federal action, the FHWA guidelines are a broadly accepted, industry standard approach to analyzing visual impacts. They are referenced herein as a resource and general guidelines for this assessment.

### 3.2 Area of Visual Effect

The project's AVE is defined as the area extending for one-quarter mile from the BBN site. This is the area within which viewers (neighbors, recreationists, and travelers) would have foreground views of the project. In these foreground views, viewers could be close enough to the BBN site to visually distinguish project elements such as material types, colors and shapes, and architectural components such as light fixtures and signs. Viewers would also be able to see buses traveling to and from the BBN site. Beyond one-quarter mile, sensitive viewers are those residents living west of SR 527 and northeast of the BBN site. However, these views are mostly screened by existing mature vegetation that would not be removed as part of this project (Figure 3-1).

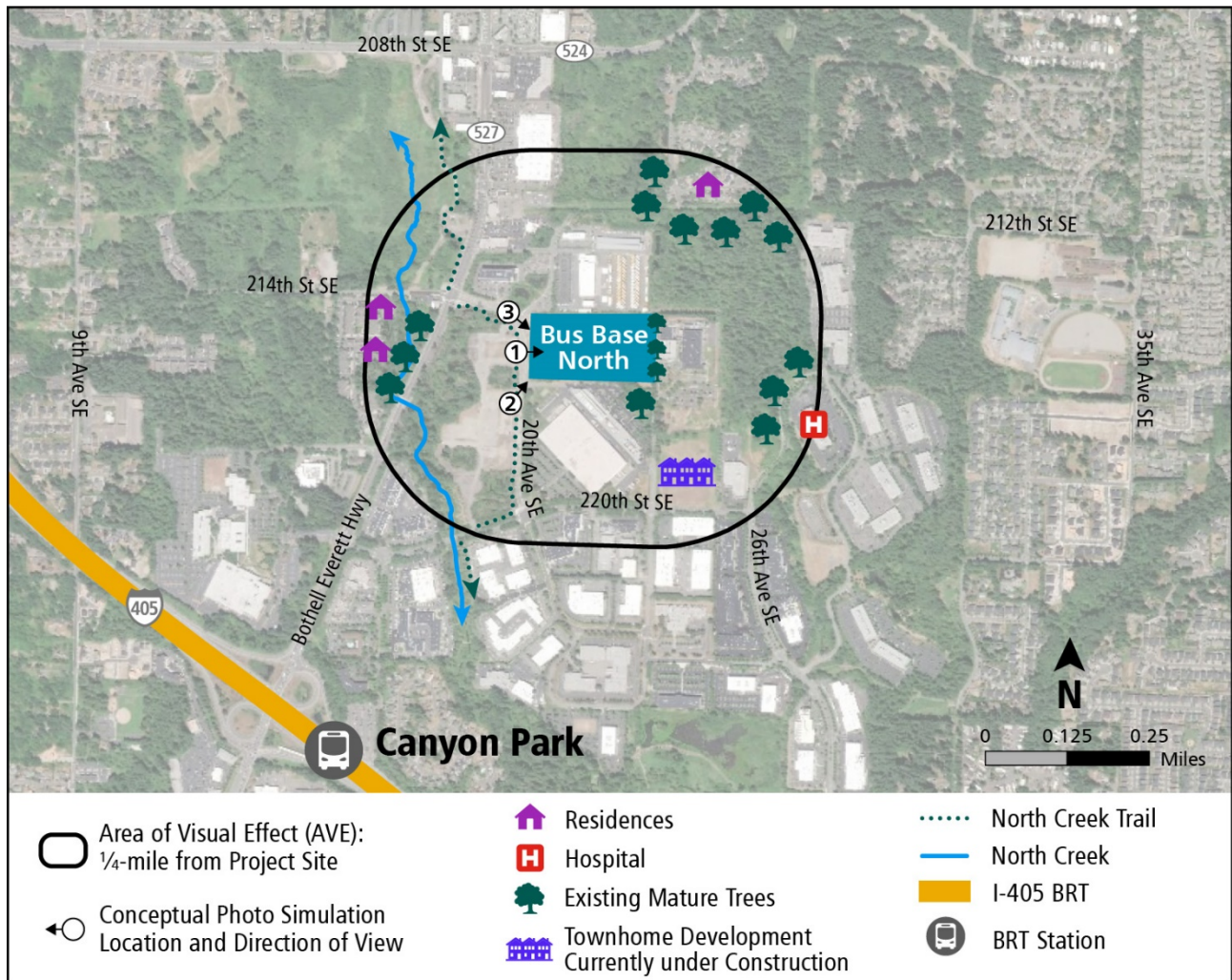


Figure 3-1 Area of visual effect (AVE)

### 3.3 Data sources and impacts assessment

This visual impact assessment was generally based on FHWA’s *Guidelines for the Visual Impact Assessment of Highway Projects* (FHWA, 2015). An abbreviated visual impact assessment was conducted for this project (see sidebar). The project’s visual impact assessment scoping questionnaire is included as Appendix A. Data sources for this visual impact assessment included:

- August 2019 site visit and field reconnaissance photos
- Aerial photos (Google 2019)
- City of Bothell zoning map (City of Bothell, 2019)
- October 24, 2019 project preapplication meeting with the City of Bothell
- Project’s 2018 summer public outreach summary (Sound Transit 2018)
- Search of the project’s engagement comment database for the following search terms: visual, visual quality, scenery, scenic, aesthetics, views, design, vision, concept, lighting, light, branding, artistic and appearance (EnviroIssues 2019).

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#### Abbreviated Visual Impact Assessment Components

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- *Briefly describe the project, including a map*
  - *Identify visual resources of the natural, cultural, and project environments*
  - *Describe the viewers’ experience*
  - *Describe existing visual quality based on viewers’ expectations and sensitivity*
  - *Explain how the project would change visual resources and visual character and the viewers’ experience*
  - *Define the degree of impact to visual quality as being beneficial, adverse, or neutral*
  - *Identify mitigation strategies to avoid, minimize, or compensate for adverse visual impacts*
- 

To assess the long-term visual impacts of the project, the following materials were reviewed:

- BBN project site plans and project description (refer to Section 2)
- Conceptual renderings showing examples of potential exterior treatments (materials, colors) for the BBN buildings (refer to **Figure 5-3** and **Figure 5-4** in Section 5.2.1)
- Mitigation measures identified in Sound Transit’s *Regional Transit Long-Range Plan Update Final Supplemental Environmental Impact Statement* (Sound Transit 2014)
- City of Bothell zoning maps, permit information for a new townhome development currently under construction, and preapplication materials for a potential future development along the west side of 20th Avenue SE.

The visual analysis considered the existing visual character and visual quality of the landscape and used a professional observation approach to evaluate viewer perceptions based on FHWA’s descriptions of viewers’ visual preferences. Visual quality is having pleasing visual perceptions based on the viewer type and type of visual resources. Viewer types were identified and visual resources were described for the natural environment, cultural environment, and

project environment. FHWA's guidelines of viewer perception, corresponding to three types of visual resources, were used:

- Natural environment: The land, water, vegetation, and animals that compose the natural environment. Although natural resources may have been altered or imported by people, resources that are primarily geological or biological in origin are considered natural. Viewers inherently evaluate the natural harmony of the existing scene, determining if the composition is harmonious or inharmonious.
- Cultural environment: The buildings, structures, and artifacts that compose the cultural environment. These are resources that were constructed by people. Viewers evaluate the scene's cultural order, determining if the composition is orderly or disorderly.
- Project environment: These are the constructed resources that are or would be placed in the environment as part of the proposed project. Viewers evaluate the coherence of the project components, determining if the project's composition is coherent or incoherent.

The existing and proposed visual quality was qualitatively characterized by considering viewer perceptions of the project's harmony with the natural environment, order with the cultural environment, and coherence of the project environment.

## 4 AFFECTED ENVIRONMENT

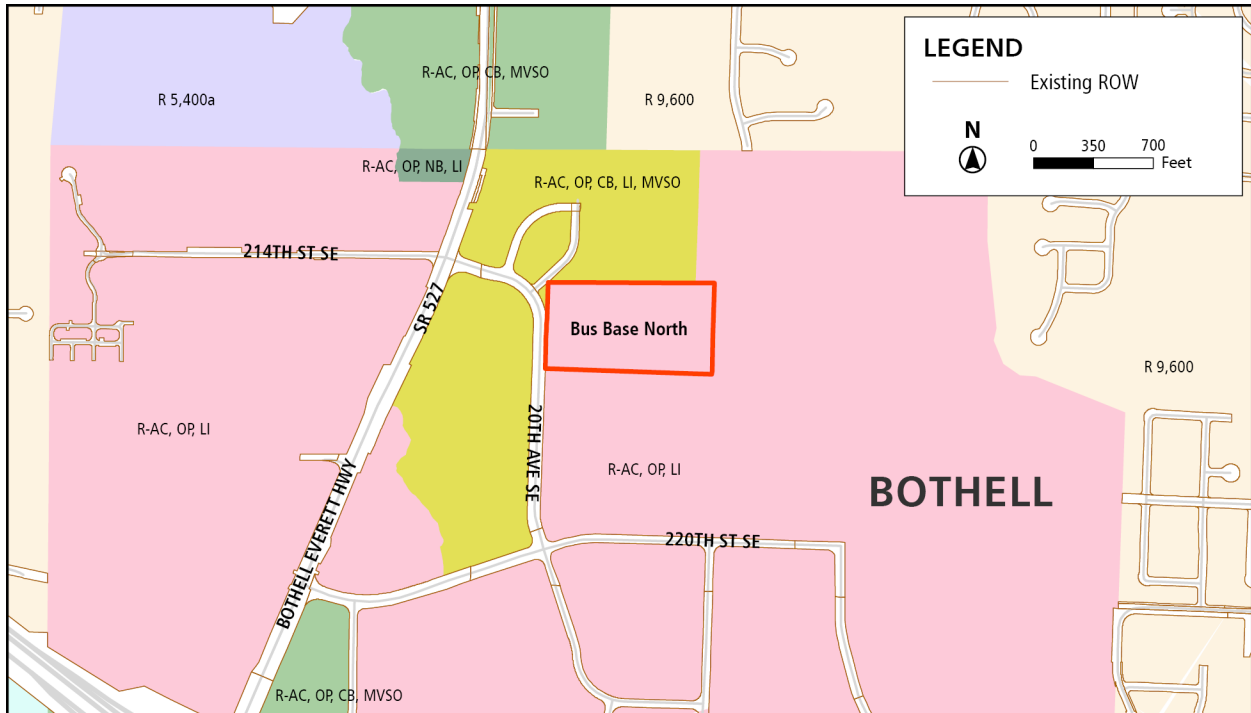
The affected environment, or existing conditions, establishes the regulatory context, visual resources and character, viewer groups present (and their visual preferences), and the existing visual quality of the AVE.

### 4.1 Local regulatory context

The following identifies local laws and ordinances applicable to visual quality and aesthetics.

The project site is in a mostly developed area zoned Residential-Activity Center, Office-Professional, and Light Industrial (R-AC, OP, LI, respectively) (**Figure 4-1**). BMC Title 12, Zoning, provides development standards for uses within each zone, including maximum building height, setbacks from property lines which are the distances required for perimeter landscaping, building and impervious surface coverages, and other site design standards. BMC Section 12.16 provides regulations for the design of parking loading, transit access, and pedestrian circulation.

BMC 12.16.100 requires adequate lighting of parking and loading areas for security and safety, and requires lighting to be directed away from adjoining properties and public rights-of-way. BMC 12.14.240, Exterior lighting, regulates exterior lighting design within Bothell. The City of Bothell has established lighting zones, which limit the amount of electrical energy used for exterior lighting. The BBN site appears to be located in Lighting Zone 2 (LZ2), which is intended to be an area of moderate ambient lighting. BMC 12.14.240.F sets exterior lighting power allowances, and BMC 12.14.240.G sets exterior lighting curfews, requiring times in the night when an exterior lighting system must be uniformly reduced by a specified amount. BMC 12.14.240.G.d notes that parking structures or garages and other types of covered parking area have no curfew, provided that all light fixtures are fully shielded or obscured by building components. An exterior lighting plan is required as part of the design review approval.



**CITY OF BOTHELL ZONING CODE AND DESCRIPTION**

R 5,400a	Residential 1 dwelling unit per 5,400 sq. ft.
R 9,600	Residential 9,600 sq. ft. minimum lot size
R-AC, OP, CB, LI, MVSO	Residential-Activity Center, Office-Professional, Community Business, Light Industrial, Motor Vehicle Sales Overlay
R-AC, OP, CB, MVSO	Residential-Activity Center, Office-Professional, Community Business, Motor Vehicle Sales Overlay
R-AC, OP, LI	Residential-Activity Center, Office-Professional, Light Industrial
R-AC, OP, NB, LI	Residential-Activity Center, Office-Professional, Neighborhood Business, Light Industrial

**Figure 4-1 City of Bothell zoning near project site**

The project site is also located within the 989-acre Canyon Park Subarea designated by the City of Bothell. Canyon Park was also designated a Regional Growth Center (RGC) by the Puget Sound Regional Council through adoption of the 1995 update of VISION 2020 (later updated to VISION 2040). RGCs are envisioned to be neighborhoods with higher-density population and employment served by efficient multimodal transportation infrastructure and services. The Canyon Park RGC is approximately 735 acres in size and is made up of a mix of office, light industrial, research and development, retail, and other commercial and residential uses. There are no parcels within the AVE zoned for low-impact development or public open space.

The *Imagine Bothell...Comprehensive Plan, City of Bothell 2015 Periodic Plan and Code Update*, adopted in July 2015 (City of Bothell 2015) designates the project site land uses the same as the zoning: Office – Professional (OP), Light Industrial (LI), and Residential – Activity Center (R-AC) land uses.

The City of Bothell’s Comprehensive Plan Urban Design Goals and Policies are intended to ensure design and visual compatibility of developments, such as this proposed project, with the surroundings. The project site is in an area with existing commercial and light-industrial

development that primarily consists of large one- or two-story buildings surrounded by paved surface parking associated with the land use. The Northshore School District’s Transportation Center is located on the parcel just north of the project site. The project design would be reviewed by the City of Bothell to ensure compliance with design goals and policies and zoning design requirements.

Planning goals and objectives from the City of Bothell’s *Imagine Bothell...Comprehensive Plan* that may apply to this project are summarized below:

- Urban Development – Policy 1: Improve selected arterials within the Planning Area as landscaped boulevards to visually integrate the community and provide a pleasant driving, transit-riding, bicycling and walking experience along arterials. This system of boulevards should consist of features including the following:
  - Landscaped or aesthetically designed medians and a street tree planting scheme;
  - Special sidewalk, street furniture, street trees, light fixtures, and other design features should be created for boulevards within and linking activity centers.
- Urban Development – Policy 20: Service facilities such as dumpsters, electrical meters and mechanical equipment should not face the street. Dumpsters should be screened with a durable and attractive structure. Gutters and downspouts should be visually integrated into the design of the building.
- Urban Development – Policy 21: All parking lots and storage, loading or maintenance areas within visual proximity of a public sidewalk should be screened from the sidewalk to create a pleasant pedestrian environment.
- Urban Development – Policy 31: Parking, except on the street edge, should not be located between buildings and the street, particularly where residential structures are concerned. Surface parking which cannot be located to the rear of the development should be located to the side if screened from adjacent residences.
- Transportation – Policy 6: Any future improvements to the State highways and city arterials designated under the Bothell Boulevard System (refer to Urban Design Element) should include median islands, landscaping between the street and sidewalks or walkways, a coordinated street tree program and sidewalks or walkways, if practical. In addition, the design of these improvements should be visually compatible with adjacent land uses and should include pedestrian connections.

## 4.2 Visual resources and character of the natural, cultural, and project environments

As described in Section 3.3, FHWA guidelines define three types of environments to consider for a visual impact assessment: natural environment, cultural environment, and project environment. Visual resources are the components of the natural, cultural, or project environments that are capable of being seen. This section describes the visual resources of the natural, cultural, and project environments within the AVE. Representative photographs of existing visual resources in the AVE are shown in **Figure 4-2**.



Photo source: Google, May 2019



Photo source: Google, May 2019



Photo source: Google, May 2019; WSP, 2019



Photo source: Google, May 2019



Photo source: WSP, 2019



Photo source: WSP, 2019



Photo source: WSP, 2019



Photo source: WSP, 2019

Figure 4-2 Representative photos of the AVE



**Figure 4-2 Representative photos of the AVE (continued)**

#### 4.2.1 Natural environment

As shown in **Figure 3-1**, within the AVE visual resources that comprise the natural environment include intact stands of mature trees, shrubs, and grasses. North Creek runs through the western portion of the AVE and its riparian area is densely covered with mature trees. Currently the BBN site is undeveloped; it has been graded and the vegetation on-site appears to be regularly mowed and maintained. Mature trees occur along the southern border of the BBN site.

#### 4.2.2 Cultural environment

Within the AVE, the cultural environment includes office and retail buildings (such as grocery stores and restaurants) and their associated parking lots, single-family residences, apartment buildings, utilities (such as transmission lines and support poles), and transportation infrastructure (including state routes and arterials). The visual character of the cultural environment is defined by one- to three-story office and light-industrial buildings, typically with minimal architectural detailing and simple, light-colored materials and on-site surface parking lots. Buildings and pavement are well-maintained, and the cultural environment is orderly. Infrastructure near the project site is visually organized and consistent in scale with commercial/light-industrial uses. Vegetation helps soften the transition between roads and individual parcels. As shown in **Figure 3-1**, potential views from existing nearby residences

toward the project site are screened by existing, mature vegetation. There are no artifacts or public art in the AVE.

### 4.2.3 Project environment

The project environment is the parcel on which the BBN facility would be built and the portion of 20th Avenue SE that would be modified for access to and from the BBN site (**Figure 4-2**).

The project site is an undeveloped parcel that is has been graded and filled and appears to be regularly mowed and maintained. 20th Avenue SE is a private road maintained by the Canyon Park business association. It currently includes two travel lanes in each direction, a raised median barrier, and some adjacent trees.

### 4.3 Viewer groups and visual quality

This section describes the types of viewers present within the AVE and identifies their visual preferences. Visual preferences are what viewers like and dislike about the existing environment. Viewer groups assess the visual quality based on their visual preferences,

Viewers within the AVE include residential neighbors within the few residential areas in the AVE. An apartment complex and a few single-family homes are located southwest of the intersection of SR 527 and 214th Street SE, and another residential area is located just northeast of the project site (refer to **Figure 3-1** in Section 3.2). A new residential townhome development is under construction southeast of the BBN site, along 23rd Drive SE. These homes are not yet completed and occupied. Residential neighbors are often interested in cultural order and natural harmony, with less emphasis on project coherence unless it impacts their ability to appreciate the other two aspects of visual quality (FHWA, 2015). Residential neighbors' views toward the BBN site are screened by existing, mature vegetation; their existing views are limited to nearby residences, mature vegetation, and adjacent streets. Residential neighbors would perceive existing views in the AVE as including natural harmony and cultural order with a mix of visually and architecturally consistent manmade development and a variety of landscaping.

Commercial/retail and industrial neighbors include the employees and owners of nearby businesses. While in the AVE, these viewers are focused on work activities, not viewing scenery, and thus have low sensitivity to changes to visual resources. Commercial and industrial neighbors' visual preference are for cultural order, such as signs for wayfinding and well-maintained roads to attract customers to their businesses. Institutional neighbors' primary visual preference is for cultural order but, depending on location, they may have equal interest in natural harmony. Commercial/retail and industrial neighbors would perceive this existing visual quality is orderly as wayfinding is well established; there are well-maintained roads; and business entry points are easily accessible.

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***When assessing visual quality, the assessment asks “What do viewers like or dislike about the visual character?”***

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- *When viewing the components of a scene's natural environment, viewers inherently evaluate the natural harmony of the existing scene, determining if the composition is **harmonious or inharmonious**.*
  - *When viewing the components of the cultural environment, viewers evaluate the scene's cultural order, determining if the composition is **orderly or disorderly**.*
  - *When viewing the project environment, viewers evaluate the coherence of the project components, determining if the project's composition is **coherent or incoherent**.*
-

Recreationists walking or bicycling along the North Creek Trail and travelers driving on 20th Avenue SE within the AVE have similar views. Recreationists typically have longer-duration views than travelers due to their slower speed. The visual preferences of recreational neighbors tend to focus on and be associated with their recreational activity. Typically, recreational neighbors tend to prefer the status quo and are leery of visual encroachments that may cause adverse effects on the setting of their activity. Recreational neighbors are very interested in cultural order and natural harmony. Travelers have a preference for a visual environment (cultural order, natural harmony, and project coherence) that contributes to wayfinding.

For both recreational neighbors and travelers, their visual experience in the AVE is characterized by a neat and ordered transportation network with the paved sidewalk/trail, multiple paved lanes in good condition, traffic lights, street lighting that is focused on the roadway, mature mixed roadside vegetation, and minimal signs, as needed. Light and glare from vehicles and nighttime lighting can be a moderate to substantial component of views, depending on time of day and traffic conditions.



Representative photo of recreationist and traveler views along 20th Avenue SE (Photo source: Google, May 2019)

The North Creek Trail extends northwest and south of the project site; the project site is only visible from the trail for a short distance along 20th Avenue SE. Both recreational neighbors and travelers would be expected to perceive the existing visual quality as characterized by cultural order, with a coherent transportation network of well-maintained roads and a paved sidewalk trail, and natural harmony with grasses and some trees alongside the road and trail.

Public engagement activities to date have revealed no specific community concerns about a particular view within the AVE or visual quality (Sound Transit 2018; EnviroIssues 2019). Overall, viewers within the AVE are expected to have relatively low sensitivity to visual change.

## 5 ENVIRONMENTAL IMPACTS

This section describes the project's likely construction, long-term, and indirect and cumulative impacts to visual quality, specifically changes to the overall degree of visual quality in the AVE.

### 5.1 Construction impacts

The following is a list of expected construction activities for the BBN project:

- Site preparation and grading
- Installation of underground utilities
- Installation of building pads, foundations, and building slabs
- Erection of structural steel and precast concrete elements
- Installation of wall and roofing systems
- Installation of canopies and walkway covers
- Installation of required equipment
- Installation of site paving and parking facilities
- Installation of required sidewalks and permanent fencing
- Site aesthetic improvements, such as landscaping

Working hours of construction would vary to meet the type of work being performed. Nighttime and weekend construction may be required to mitigate potential impacts to the commute period and traffic congestion, as well as to accommodate construction scheduling for specific work activities. Nighttime and weekend construction activities would adhere to applicable local ordinance restrictions. Construction of the BBN project would involve construction equipment, including: excavators, loaders, lifts, backhoes, bulldozers, compactors, mixers, pump trucks, cranes, and saws. This equipment is often brightly colored to promote visibility and safety. Lights may be used to safely illuminate the workspaces, which could cause spillover light onto adjacent parcels. However, construction lighting would be directed inward to the site and shielded to minimize light spillover and increased light and glare to adjacent uses and viewers.

The BBN site is already relatively flat so earthwork and terrain alteration would not substantially change the appearance of the site. Trucks would travel to and from the site hauling equipment and materials; materials would be stored on-site when not being used; off-site staging areas are not anticipated. Cranes may be needed for vertical construction and may be temporarily visible above the project site. Temporary scaffolding and work platforms may be used on-site.

Existing residential neighbors would not have direct views of the project site. Since, currently, no permit application has been submitted to Bothell for a residential or mixed-use development on the parcel across the street along the west side of 20th Avenue SE, none of the immediately adjacent parcels are expected to be in residential use during the project's anticipated construction phase. Commercial/industrial neighbors would be focused on work activities.

Therefore, for these viewer groups, the short-term impact to visual quality during construction would be neutral.

Construction activities would be primarily visible to travelers along adjacent city streets, who would be expected to have low sensitivity to visual changes, and to recreational neighbors on the North Creek Trail, who would be slightly more sensitive to visual changes. Since construction activities on 20th Avenue SE would be minor and short-term and construction signage would help route travelers around the construction site, the short-term construction impact to visual quality for travelers would be neutral. Recreational users on the North Creek Trail near the BBN site would experience a short-term, slight decline in visual quality caused by visibility of construction equipment and activity.

Overall, construction activities are anticipated to have a neutral effect to visual quality.

## 5.2 Long-term impacts

Long-term impacts to visual quality consider visual compatibility, viewer sensitivity, and the overall degree of impact to visual quality. These are discussed below.

### 5.2.1 Visual compatibility

The BBN project would be visually compatible with the existing environment and consistent with planned development for this area. Conceptual photo simulations demonstrate that the proposed BBN project would be able to comply with the City of Bothell's design standards, including height and building coverage limits and perimeter landscaping requirements<sup>2</sup> (**Figure 5-1**, **Figure 5-2**, and **Figure 5-3**). As shown in these figures, the project would be visually similar in size, form, and scale to other nearby development and consistent with the overall visual character of the cultural and project environments. The locations and directions of views used for the conceptual photo simulations are shown in **Figure 3-1**.

The building proposed on the BBN site is similar in size, form, and height to nearby buildings. The primary structure proposed is the two-story maintenance and operations building. Maintenance activities would primarily occur in bays inside the building, thereby minimizing visibility of buses undergoing maintenance and potential light and glare spillover from bus maintenance activities. The BBN facility would be similar in size, form, height, and character to the adjacent existing Northshore School District Transportation Center. An elevated parking deck for all employees and visitors would provide cover and visual screening for the proposed ground-level bus parking area. The project would create two openings in the median barrier on 20th Avenue SE, decrease the width of the median barrier to create a turning lane, and create two driveways into the project site to allow access for buses and other vehicles. No other changes to 20th Avenue SE would be made.

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<sup>2</sup> The final project design, including building exterior design and materials, would be determined during a subsequent project phase. The conceptual photo simulations shown herein depict the overall massing (size and shape) of structures (Figure 5-1 and Figure 5-2) and provide an example of an exterior treatment that would comply with the City of Bothell's design standards (Figure 5-3).



**Figure 5-1 Conceptual photo simulation 1: Existing and simulated views looking east from 20th Avenue SE toward Bus Base North**



**Figure 5-2 Conceptual photo simulation 2: Existing and simulated views looking northeast from 20th Avenue SE toward Bus Base North<sup>3</sup>**

<sup>3</sup> Source of existing photo used for Figure 5-1 and Figure 5-2: WSP 2019. Source of conceptual photo simulation 1 (Figure 5-1) and 2 (Figure 5-2): WSP 2019.



**Figure 5-3 Conceptual photo simulation 3: Existing and simulated views looking southeast from 20th Avenue SE toward Bus Base North<sup>4</sup>**

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<sup>4</sup> Source of existing photo used for Figure 5-3: Google 2019. Source of conceptual photo simulation 3: Pivot 2019.

The project's design and aesthetics are consistent with an area zoned for commercial and light-industrial development and has a similar visual appearance to other existing buildings along 20th Avenue SE (refer to **Figure 4-2** in Section 4.2). Although the architectural materials for the buildings would be determined during final project design, compliance with the City of Bothell's design review process would ensure that the project would use materials that are visually compatible (and promote cultural order) with the existing environment and adjacent commercial and light-industrial development. In compliance with BMC 12.16.100, lighting within parking areas would be provided for security and safety and all exterior lighting would be shielded and directed away from adjoining properties and public rights-of-way.

### 5.2.2 Viewer sensitivity

There are no existing residential neighbors with direct views of the BBN site; existing residences are located at a distance of over 1,000 feet to the west and north of the site and views are screened by mature vegetation. Currently, a residential townhome development is under construction approximately 400 feet southeast of the BBN site along 23rd Drive SE. Between the BBN site and this townhome development there is existing mature vegetation along the eastern property line of the BBN site and adjacent to the southeast portion of the site, within a Native Growth Protection Area, that would screen views from the residences. Therefore, the project is not expected to alter the visual experience of the AVE or obstruct views for residential viewers, who would be expected to have a low sensitivity to visual change.

In the future, there is the potential for additional residential or mixed-use development in the Canyon Park area, including potentially across the street along the west side of 20th Avenue SE. Similar to this project, these potential future developments would be required to comply with the City of Bothell's land use and zoning requirements and obtain design review approval to ensure visual compatibility with the surrounding area.

Recreational viewers on the segment of the North Creek Trail that is alongside 20th Avenue SE would also be expected to have a relatively low sensitivity to visual change. This is because the trail is within an area that already contains some mixed-use development, including structures similar to the proposed BBN project. Moreover, the portion of the trail where the project site is visible is within the Canyon Park RGC, which is an "area that serves as a major employment and commercial hub for the City of Bothell and the surrounding region. RGCs are envisioned as major focal points of higher density population and employment, served with efficient multimodal transportation infrastructure and services" (City of Bothell 2018). Therefore, the project would be compatible with the expectations of recreational viewers in this area.

Commercial/retail and industrial viewers would be primarily focused on their work activities rather than viewing scenery, and travelers on 20th Avenue SE would be focused on driving at moderate speeds through an area of existing mixed-use development. Thus, these viewers would be expected to have low sensitivity to visual change.

The proposed BBN is within the City of Bothell's Vision 2040 Designated Regional Growth Center, an area designated for growth and zoned for mixed-use commercial, light-industrial, and residential uses, and this type of facility is consistent with adjacent land uses such as the Northshore School District Transportation Center (**Figure 5-4**). Therefore, potential viewers would expect to see development of this type in the AVE and could be expected to have low sensitivity to the permanent visual change from the project.



**Figure 5-4: Northshore School District Transportation Center located immediately north of the Bus Base North site**

### 5.2.3 Impact to visual quality

Overall the project is expected to have a neutral effect to visual quality within the AVE.

The BBN project would not result in a change to the existing natural harmony within the AVE. While some mature trees would be removed for construction activities, on-site landscaping would be proposed in accordance with the BMC and in compliance with Sound Transit's design standards. The project would not degrade sensitive natural visual resources in the AVE such as North Creek and its associated riparian area, would not substantially change landform, and would not obstruct desired views.

The cultural environment would remain orderly as the project, particularly the main maintenance building, would be designed to be consistent with the type, scale, size, shape, and form of other nearby office and light-industrial buildings. Bus maintenance activities would primarily be conducted within the enclosed maintenance building, minimizing the visibility of potentially distracting and disorderly components. The bus storage/parking area would be set back from the street and would be covered by the second-level employee and visitor parking deck. A small security guard building would be visible in the middle of the entry driveway. The security guard building and the parking deck would be treated aesthetically to fit cohesively with the architectural style of the proposed maintenance and operations building, thereby contributing to cultural order within the AVE. The proposed dumpsters would be screened from view and sited, along with the aboveground fuel storage tanks, in the northeast corner of the site with minimal visibility to travelers and recreational users on 20th Avenue SE.

There would be a slight increase in visible artificial lighting at the site due to operations occurring throughout the night and low levels of natural lighting; however, these would not be visible to existing residential viewers and would not degrade the overall visual quality for travelers or recreational users as lighting would be directed down and, over the long term, new landscaping would mature and provide visual screening. During final design, as part of the design review approval, an exterior lighting plan would be provided to demonstrate compliance with City of Bothell regulations of exterior lighting and lighting of parking and loading areas.

The project would not change SR 527. On 20th Avenue SE a left-turn lane would be added for buses to enter the BBN site, and two openings would be added to the median barrier to allow access to and from the site. The number of buses traveling to and from the project site would increase; however, the sight of these vehicles would be consistent with a RGC with commercial and industrial uses. Therefore, project coherence would not be adversely affected.

While new structures would be placed at the BBN site, the project would maintain the existing cultural order and natural harmony as its structures and landscaping would be visually similar to adjacent development. The project would be consistent with viewer expectations of the AVE's visual quality. Over time, perimeter landscaping around the site would mature and provide further visual screening of the maintenance facility and increase the existing natural harmony, particularly as viewed by recreational neighbors along the North Creek Trail and travelers along 20th Avenue SE.

## **6 MITIGATION MEASURES**

No mitigation measures are proposed because the BBN project would not adversely affect visual quality or sensitive aesthetic resources.

## 7 REFERENCES

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# *Appendix A*

## Bus Base North FHWA Guidelines Scoping Questionnaire

# Visual Impact Assessment Scoping Questionnaire

Project Name: Bus Base North

Site Visit Date: Google StreetView Review

Location: Bothell, Washington

Time: N/A

Special Conditions/Notes:

Conducted By: Stephanie Sprague, WSP USA, Inc.

## Environmental Compatibility

1. *Will the project result in a noticeable change in the physical characteristics of the existing environment? (Consider all project components and construction impacts - both permanent and temporary, including landform changes, structures, noise barriers, vegetation removal, railing, signage, and contractor activities.)*

- High level of permanent change (3)                       Moderate level of permanent change (2)  
 Low level of permanent or temporary change (1)                       No Noticeable Change (0)

2. *Will the project complement or contrast with the visual character desired by the community? (Evaluate the scale and extent of the project features compared to the surrounding scale of the community. Is the project likely to give an urban appearance to an existing rural or suburban community? Do you anticipate that the change will be viewed by the public as positive or negative? Research planning documents, or talk with local planners and community representatives to understand the type of visual environment local residents envision for their community.)*

- Low Compatibility (3)     Moderate Compatibility (2)  
 High compatibility (1)

3. *What level of local concern is there for the types of project features (e.g., bridge structures, large excavations, sound barriers, or median planting removal) and construction impacts that are proposed? (Certain project improvements can be of special interest to local citizens, causing a heightened level of public concern, and requiring a more focused visual analysis.)*

- High concern (3)     Moderate concern (2)  
 Low concern (1)     Negligible Project Features (0)

4. *Is it anticipated that to mitigate visual impacts, it may be necessary to develop extensive or novel mitigation strategies to avoid, minimize, or compensate for adverse impacts or will using conventional mitigation strategies, such as landscape or architectural treatment adequately mitigate adverse visual impacts?*

- Extensive Non-Conventional Mitigation Likely (3)       Some non-conventional Mitigation Likely (2)
- Only Conventional Mitigation Likely (1)       No Mitigation Likely (0)

5. Will this project, when seen collectively with other projects, result in an aggregate adverse change (cumulative impacts) in overall visual quality or character? (Identify any projects [both state and local] in the area that have been constructed in recent years and those currently planned for future construction. The window of time and the extent of area applicable to possible cumulative impacts should be based on a reasonable anticipation of the viewing public's perception.)

- Cumulative Impacts likely: 0-5 years (3)       Cumulative Impacts likely: 6-10 years (2)
- Cumulative Impacts unlikely (1)

## Viewer Sensitivity

1. *What is the potential that the project proposal may be controversial within the community, or opposed by any organized group? (This can be researched initially by talking with the state DOT and local agency management and staff familiar with the affected community's sentiments as evidenced by past projects and/or current information.)*

- High Potential (3)       Moderate Potential (2)
- Low Potential (1)       No Potential (0)

2. *How sensitive are potential viewer-groups likely to be regarding visible changes proposed by the project? (Consider among other factors the number of viewers within the group, probable viewer expectations, activities, viewing duration, and orientation. The expected viewer sensitivity level may be scoped by applying professional judgment, and by soliciting information from other DOT staff, local agencies and community representatives familiar with the affected community's sentiments and demonstrated concerns.)*

- High Sensitivity (3)       Moderate Sensitivity (2)
- Low Sensitivity (1)



## Determining the Level of Visual Impact Assessment

Total the scores of the answers to all ten questions on the Visual Impact Assessment Scoping Questionnaire. Use the total score from the questionnaire as an indicator of the appropriate level of VIA to perform for the project. Confirm that the level suggested by the checklist is consistent with the project teams' professional judgments. If there remains doubt about whether a VIA needs to be completed, it may be prudent to conduct an Abbreviated VIA. If there remains doubt about the level of the VIA, begin with the simpler VIA process. If visual impacts emerge as a more substantial concern than anticipated, the level of VIA documentation can always be increased.

The level of the VIA can initially be based on the following ranges of total scores:

**Score 25-30**

An *Expanded VIA* is probably necessary. It is recommended that it should be preceded by a formal visual scoping study prior to beginning the VIA to alert the project team to potential highly adverse impacts and to develop new project alternatives to avoid those impacts. These technical studies will likely receive state-wide, even national, public review. Extensive use of visual simulations and a comprehensive public involvement program would be typical.

**Score 20-24**

A *Standard VIA* is recommended. This technical study will likely receive extensive local, perhaps state-wide, public review. It would typically include several visual simulations. It would also include a thorough examination of public planning and policy documents supplemented with a direct public engagement processes to determine visual preferences.

**Score 15-19**

An *Abbreviated VIA* would briefly describe project features, impacts and mitigation requirements. Visual simulations would be optional. An Abbreviated VIA would receive little direct public interest beyond a summary of its findings in the project's environmental documents. Visual preferences would be based on observation and review of planning and policy documents by local jurisdictions.

**Score 10-14**

A *VIA Memorandum* addressing minor visual issues that indicates the nature of the limited impacts and any necessary mitigation strategies that should be implemented would likely be sufficient along with an explanation of why no formal analysis is required.

**Score 6-9**

No noticeable physical changes to the environment are proposed and no further analysis is required. Print out a copy of this completed questionnaire for your project file to document that there is no effect. A *VIA Memorandum* may be used to document that there is no effect and to explain the approach used for the determination.

