UNIVERSITY OF WASHINGTON POPULATION HEALTH FACILITY PROJECT

Draft Supplemental Environmental Impact Statement

UNIVERSITY OF WASHINGTON

December 2016

DRAFT

SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

for the

UNIVERSITY of WASHINGTON

Population Health Facility Project

University of Washington

Capital Planning and Development Office

The Draft Supplemental EIS (Draft SEIS) for the University of Washington *Population Health Facility Project* has been prepared in compliance with the State Environmental Policy Act (SEPA) of 1971 (Chapter 43.21C, Revised Code of Washington); the SEPA Rules, effective April 4, 1984, as amended (Chapter 197-11, Washington Administrative Code); and rules adopted by the University of Washington implementing SEPA (478-324 WAC). Preparation of this Draft SEIS is the responsibility of the University's Capital Planning and Development Office. The Capital Planning and Development Office and the University's SEPA Advisory Committee have determined that this document has been prepared in a responsible manner using appropriate methodology and they have directed the areas of research and analysis that were undertaken in preparation of this Draft SEIS. This document is not an authorization for an action, nor does it constitute a decision or a recommendation for an action; in its final form, it will accompany the *Proposed Action* and will be considered in making the final decisions on the proposal.

Date of Draft SEIS Issuance ..... **December 12, 2016**

Date Comments are Due on the Draft SEIS .....**January 11, 2017**

FACT SHEET

PROJECT TITLE	**University of Washington Population Health Facility Project**
PROPONENT/APPLICANT	University of Washington
LOCATION	Three sites identified in the *2003 University of Washington Seattle Campus Master Plan EIS* (*CMP-Seattle 2003*) are analyzed as part of this SEIS: Site 37W, Site 22C, and Site 50S/51S. Site 37W is located in the West Campus in an area bounded by NE 40th Street on the north, the Burke-Gilman Trail on the south, University Way NE on the east, and Brooklyn Avenue NE on the west. Site 37W currently contains: the University of Washington Purchasing and Accounting Building; University-owned buildings addressed as 3935, 3939, 3941 and 3947 University Way NE; the Instructional Center/Ethnic Cultural Theater; and, University parking lots W12 and W13. Site 22C is located in Central Campus in an area bounded by NE Grant Lane on the north, Architecture and Guthrie Halls on the east, the Physics/Astronomy Building to the south, and 15th Avenue NE on the west. Site 22C currently contains Guthrie Annex Buildings 1, 2, 3 and 4, and University parking lot C8. Site 50S/51S is located in the South Campus in an area bounded by NE Columbia Road and the Magnuson Health Sciences Center to the north, the Central Utility Plant Building to the east, the South Campus Center Building to the south, and San Juan Road NE and South Gatehouse to the west. Sites 50S and 51S contain the S1 parking structure and associated drive lanes.
PROPOSED ACTION	The Proposed Action is site selection and development of a new Population Health Facility that meets the needs, goals and objectives of the University of Washington for the Population Health

Project, including the consolidation of currently dispersed Institute of Health Metrics and Evaluation (IHME), the Department of Global Health (DGH), and selected portions of the School of Public Health.

EIS ALTERNATIVES

For the purposes of environmental review, four alternatives are analyzed in this Draft SEIS, including Alternative 1 – Development of the Population Health Facility Project on Site 37W; Alternative 2 – Development of the Population Health Facility Project on Site 22C (two design scenarios); Alternative 3 – Development of the Population Health Facility Project on Site 50S/51S (two design scenarios); and, the No Action Alternative.

Alternative 1 – Development of the Population Health Facility on Site 37W

Under Alternative 1, the proposed Population Health Facility Project would be located on Development Site 37W. Development of the project assumes the removal of all existing buildings on Site 37W; the existing approximately 250 faculty and staff would be relocated to a new facility on-campus consistent with existing University procedures. The assumed five-story with one below grade level Population Health Facility building would contain up to approximately 330,000 gross square feet of classrooms, research labs, communal spaces, offices, administrative areas, and student and faculty support space, which would support approximately 1,800 staff, faculty and students; 1,200 of which would be considered new population to the Seattle campus. The existing approximately 104 parking spaces associated with parking lots W12 and W13 would also be demolished with accommodation of new parking demand, and replacement of spaces removed, provided by capacity available in the University of Washington parking supply.

Alternative 2 - Development of the Population Health Facility on Site 22C

Under Alternative 2, the proposed Population Health Facility would be located on Development Site 22C. Given the design flexibility associated with the 105-foot maximum allowable height for Site 22C, two design scenarios are analyzed for Alternative 2.

Alternative 2 – Scenario 1, assumes development would include a five-story building (plus one below grade level) with an assumed height of 60 feet; the building would contain the same 330,000 gross square feet of building area and provide the same uses as under Alternative 1. Development of the project under Alternative 2 - Scenario 1 assumes the removal of all existing buildings on site 22C, with the existing approximately 120 faculty and staff relocated to a new facility on-campus consistent with University procedures. The approximately 15 parking spaces associated with parking lot C8 would also be demolished with accommodation of new parking demand, and replacement of spaces removed, provided by capacity available in the University of Washington parking supply.

Alternative 2 – Scenario 2, assumes development would reflect a taller building with smaller building footprint than under Alternative 2- Scenario 1. This scenario assumes an eight-story building (plus one below grade level) with a height of 95 feet; the building area, uses and building demolition would be the same as under Alternative 2 – Scenario 1. The existing approximately 15 parking spaces associated with parking lot C8 would be replaced on the site.

Alternative 3 – Development of the Population Health Facility on Site 50S/51S

Under Alternative 3, the proposed Population Health Facility would be located on Development Site 50S/51S. Given the substantial amount of parking provided on Site 50S/51S within the S1

parking structure, two design scenarios are analyzed under Alternative 3.

Under both Alternative 3 scenarios, a 330,000 gross square foot Population Health Facility building would be located in the eastern portion of the site (generally reflective of Site 51S), and would include four stories at a height of approximately 64 feet which would be below the 65 foot height limit; building uses would be the same as under Alternative 1) It is assumed that the entire S1 parking structure, which contains approximately 869 spaces, would be demolished, with two scenarios for replacement parking as described below.

Alternative 3 – Scenario 1 assumes replacement parking provided by a garage located in the western portion of the site (generally reflective of Site 50S). This five level above grade with two levels below grade structure would provide approximately 724 spaces, resulting in approximately 145 less spaces than the existing S1 structure. Accommodation of new parking demand, and replacement of the net spaces removed, would be provided by capacity available in the University of Washington parking supply.

Alternative 3 – Scenario 2 assumes replacement parking would be provided by a garage with three levels above grade and two levels below grade in the western portion of the site (reflective of Site 50S), as well as one below grade parking level under the entire site. Under this scenario approximately 917 spaces would be provided, resulting in a net increase of approximately 48 spaces on the site.

No Action Alternative

Under the No Action Alternative, the proposed consolidation of currently dispersed Institute of Health Metrics and Evaluation (IHME), the Department of Global Health (DGH), and selected portions of the School of Public Health would not

occur. The existing uses on the three sites would remain. The ability of the University of Washington to provide an institution-wide vision to address population health would be curtailed. This alternative would not meet the University's goals and objectives.

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PURPOSE OF THIS DRAFT SEIS

This Draft SEIS supplements the *2003 University of Washington Master Plan-Seattle Campus* EIS (*CMP-Seattle 2003*). This Draft SEIS provides supplemental environmental analysis of environmental issues associated with the proposed *Population Health Facility Project* that were not analyzed in the *CMP-Seattle 2003* EIS.

This Draft SEIS is intended to address the potential for significant adverse environmental impacts that could occur as a result of the Proposed Action. The SEPA environmental review process is designed to be used along with other decision-making factors to provide a comprehensive review of the proposal (WAC 197-11-055). The purpose of SEPA is to ensure that environmental values are given appropriate deliberation, along with other considerations.

FINAL ACTION

The decision by the Board of Regents, after consideration of environmental impacts and mitigation, to select a site, approve the project, authorize a design-build contract.

PERMITS AND APPROVALS

Preliminary investigation indicates that the following permits and/or approvals could be required or requested for the Proposed Actions. Additional permits/approvals may be identified during the review process associated with specific development projects.

University of Washington

- Site Selection, Project Approval, and authorize a design-build contract.

Agencies with Jurisdiction

- ***State of Washington***
  - Dept. of Labor and Industries
  - Dept. of Ecology, Construction Stormwater General Permit

- ***City of Seattle***
  - Master Use Permit
  - Grading Permit
  - Shoring Permit
  - Building Permits
  - Electrical Permits
  - Mechanical Permits
  - Occupancy Permits
  - Comprehensive Drainage Control Plain, Inspection and Maintenance Schedule
  - Construction Stormwater Control Plan Approvals

- ***Seattle-King County Department of Health***
  - Plumbing Permits

- ***Puget Sound Clean Air Agency***
  - Demolition and Asbestos Notification

DRAFT SEIS AUTHORS AND PRINCIPAL CONTRIBUTORS

The *Population Health Facility Project* Draft SEIS has been prepared under the direction of University of Washington Capital Planning & Development, and analyses were provided by the following consulting firms:

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PREVIOUS ENVIRONMENTAL DOCUMENTS

Per WAC 191-11-635, this Draft SEIS incorporates by reference the following environmental document:

- University of Washington Master Plan-Seattle Campus EIS (2003)

LOCATION OF BACKGROUND INFORMATION

Background material and supporting documents are located at the office of:

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DATE OF DRAFT SEIS ISSUANCE

December 12, 2016

DATE DRAFT SEIS COMMENTS ARE DUE

Pursuant to the SEPA Rules (WAC 197-11-502), a 30-day comment period is required for Draft EIS documents. Comments on the Draft SEIS are due on:

January 11, 2017

AVAILABILITY OF THE DRAFT SEIS

This Draft SEIS has been distributed to agencies, organizations and individuals noted on the Distribution List contained in **Appendix A** to this document. Copies of the Draft SEIS are also available for review at University Capital Planning & Development (University Facilities Building), on the University's Online Public Information Center (http://cpd.uw.edu/projects/sepa), and at the following University and Seattle Public Libraries:

University of Washington

- Suzzallo Library
- Architecture and Urban Planning (Gould Hall)
- Health Sciences

Seattle Public Libraries

- Downtown Central Library (1000 Fourth Avenue)
- University District Branch (5009 Roosevelt Way NE)
- Montlake Branch (2300 24th Avenue E)

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CHAPTER 1
SUMMARY

1.1 INTRODUCTION

This chapter, along with the **Fact Sheet**, provides a summary of the Draft Supplemental Environmental Impact Statement (Draft SEIS) for the University of Washington *Population Health Facility Project.* The Fact Sheet briefly describes the SEIS Alternatives. **Chapter 1** contains a comprehensive overview of environmental impacts identified for the SEIS Alternatives. Please see **Chapter 2** of this Draft SEIS for a more detailed description of the Proposed Action and alternatives and **Chapter 3** for a detailed description of the affected environment, environmental impacts, mitigation measures, and significant unavoidable adverse impacts.

1.2 IMPACTS, MITIGATION MEASURES AND SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

The following highlights the impacts, mitigation measures, and significant unavoidable adverse impacts that would potentially result from the alternatives analyzed in this Draft SEIS. **Table 1-1** provides a summary of the potential impacts that would be anticipated under the Draft SEIS Alternatives. This summary is not intended to be a substitute for the complete discussion of each element that is contained in **Chapter 3**.

Table 1-1
IMPACT SUMMARY MATRIX

Alternative 1 Site 37W	Alternative 2 – Site 22C		Alternative 3 – Site 50S/51S		No Action Alternative
	Scenario 1	Scenario 2	Scenario 1	Scenario 2	
<u>Land Use</u>					
• No significant land use impacts are anticipated.					• No new development would occur on the alternative sites.
<u>Aesthetics</u>					
• The existing visual character of the site would change as addressed in the 2003 CMP EIS. No significant impacts are anticipated.					• Existing visual character of the sites would remain.
<u>Historic/Cultural Resources</u>					
Historic Resources: • Two of the six buildings[1] are considered NRHP Eligible. Mitigation measures would include DAHP Level II recordation reflecting in-depth history and archival-quality images and maps.	• One of the four buildings[2] is considered NRHP Eligible. Mitigation measures would include DAHP Level II recordation reflecting in-depth history and archival-quality images and maps	• Same as Alternative 2 - Scenario 1	• The S1 parking structure is not considered NRHP Eligible.	• Same as Alternative 3 - Scenario 1	• No demolition of any buildings anticipated.

[1] *Site 37W buildings recommended NRHP Eligible include 3935 University Way NE building and Instructional Center/Ethnic Cultural Center building.*
[2] *Guthrie Annex 4 on Site 22C is recommended NRHP Eligible.*

Alternative 1 Site 37W	Alternative 2 – Site 22C		Alternative 3 – Site 50S/51S		No Action Alternative
	Scenario 1	Scenario 2	Scenario 1	Scenario 2	
• Site vicinity Ye Collage Inn (listed on NRHP) would not be significantly impacted.	• Site vicinity Architecture Hall (Eligible for NRHP listing) would not be significantly impacted.	• Same as Alternative 2 - Scenario 1	• Site vicinity Harris Hydraulics Lab, Oceanography Teaching, and Portage Bay buildings (Eligible for NRHP listing) would not be significantly impacted.	• Same as Alternative 3 - Scenario 1	• No development or potential to impact surrounding buildings anticipated.
<u>*Cultural Resources*</u>: • Three recorded archaeological sites in vicinity of Site 37W.	• Five recorded archaeological sites in vicinity of Site 22C.	• Same as Alternative 2 - Scenario 1	• Five recorded archaeological sites in vicinity of Site 50s/51S.	Same as Alternative 3 - Scenario 1	• Same as Alternative 1, 2 and 3.
• Site 37W has low to medium potential to encounter cultural resources.	• Site 22C has low to medium potential to encounter cultural resources.	• Same as Alternative 2 - Scenario 1	• Site 50S/51S has low potential to encounter cultural resources.	• Same as Alternative 3 - Scenario 1	• No development or potential to impact cultural resources anticipated.
<u>Construction</u>					
• Minor, short-term/temporary air, noise and vibration impacts could occur during construction. See Chapter 3 for details of preventative and minimization measures.					• No demolition or construction would occur on the alternative sites.
• 154 existing trees would be removed, including 36 Exceptional trees.	• 123 existing trees would be removed, including 13 Exceptional trees.	• 123 existing trees would be removed, including 13 Exceptional trees.	• 59 existing trees would be removed, including 3 Exceptional trees.	• 59 existing trees would be removed, including 3 Exceptional trees.	• The existing trees would remain on the alternative sites.
• Removal of W12 and W13 parking lots would result in the	• Removal of the C8 parking lot would result in the loss of	• The 15 spaces in Parking lot C8 would be	• Removal of the S1 parking garage and approximately 869	• Removal of the S1 parking garage and approximately 869	• The existing parking areas would remain

Alternative 1 Site 37W	Alternative 2 – Site 22C		Alternative 3 – Site 50S/51S		No Action Alternative
	Scenario 1	Scenario 2	Scenario 1	Scenario 2	
loss of approximately 104 parking spaces.	approximately 15 parking spaces. No replacement parking would be provided.	removed. Approximately 15 spaces would be provided as part of the lower level of the new building.	parking spaces. A new garage would be constructed onsite with approximately 724 parking spaces.	parking spaces. A new garage would be constructed onsite with approximately 917 parking spaces.	on the alternative sites.

1.3 SUMMARY OF MITIGATION MEASURES AND SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

Land Use

Mitigation Measures

Measures Applicable for All Alternatives

- Development of the Population Health Facility would be consistent with applicable provisions of the *CMP-Seattle 2003*.

- Architectural design features would be incorporated into the design of the Population Health Facility to ensure that the development is compatible with surrounding uses.

- Measures would be implemented during the construction process to minimize temporary impacts to surrounding land uses (see Section 3.4, **Construction**, for further details on specific construction-related measures).

Significant Unavoidable Adverse Impacts

No significant unavoidable adverse land use impacts would be anticipated under the EIS Alternatives.

Aesthetics

Mitigation Measures

Measures Applicable for All Alternatives

- Development of the Population Health Facility would be consistent with applicable provisions of the *CMP-Seattle 2003*.

- Architectural design features would be incorporated into the design of the Population Health Facility to ensure that the development is compatible with existing surrounding uses.

- Landscaping would be included as part of the development of Population Health Facility to provide a buffer between the building and surrounding uses and enhance the visual appeal of the site.

Significant Unavoidable Adverse Impacts

No significant unavoidable adverse aesthetic impacts would be anticipated under the EIS Alternatives.

Historic/Cultural Resources

Mitigation Measures

Measures Applicable for All Alternatives

- An inadvertent discovery plan would be included as part of the construction process for the Population Health Facility. The inadvertent discovery plan would indicated that in the event that archaeological deposits are inadvertently discovered during construction, ground-disturbing activities should be halted immediately, and the University of Washington should be notified. The University of Washington would then contact DAHP and the interested Tribes, as appropriate.
- If ground-disturbing activities encounter human skeletal remains during the course of construction, then all activity that may cause further disturbance to those remains must cease, and the area of the find would be secured and protected from further disturbance. In addition, the finding of human skeletal remains would be reported to the county coroner and local law enforcement in the most expeditious manner possible. The remains should not be touched, moved, or further disturbed. The county coroner would assume jurisdiction over the human skeletal remains, and make a determination of whether those remains are forensic or non-forensic. If the county coroner determines the remains are non-forensic, they would report that finding to DAHP. DAHP would then take jurisdiction over those remains and report them to the appropriate cemeteries and affected tribes. The State Physical Anthropologist would make a determination of whether the remains are Indian or non-Indian, and report that finding to any appropriate cemeteries and the affected tribes. DAHP would then handle all consultation with the affected parties as to the future preservation, excavation, and disposition of the remains.

Measures Applicable for Alternative 1 (Site 37W) and Alternative 2 (Site 22C)

- In the event that potentially NRHP-eligible buildings are removed from Site 37W (3935 University Way NE Building and the Instructional Center/Ethnic Cultural Theater) or Site 22C (Guthrie Annex 3), DAHP Level II recordation would be provided, which consists of a report including an in-depth history of the building and archival-quality contemporary and historic images and maps, which can be shared with local libraries, archives, and historical societies.

Significant Unavoidable Adverse Impacts

Under Alternative 1 (Site 37W), the 3935 University Way NE Building and Instructional Center/Ethnic Cultural Theater are assumed to be demolished and the historic features associated with the buildings would no longer be on Site 37W, which would result in an adverse impact. Under Alternative 2 (Site 22C), Guthrie Annex 3 is assumed to be demolished from Site 22C, which would also result in an adverse impact. No historic eligible buildings are located on the Alternative 3 site (Site 50S/51S) and no adverse impacts would be anticipated. With the implementation of the identified mitigation measures, significant historic resource impacts would not be anticipated.

With implementation of the identified mitigation measures, significant impacts to cultural resources would not be anticipated under the SEIS Alternatives.

Construction

Mitigation Measures

Air Quality Measures Applicable for All Alternatives

Because of the proximity of residential, academic (classrooms), hospital, child care and other uses near the sites, the University agrees that the mitigation of construction-related air quality impacts is important and are committed to the measures listed below.

- Site development would adhere to the Puget Sound Clean Air Agency (PSCAA) regulations regarding demolition activity and fugitive dust emissions, including: wetting of exposed soils, covering or wetting of transported earth materials, washing of truck tires and undercarriages prior to travel on public streets, and prompt cleanup of any materials tracked or spilled onto public streets.

- The University and project contractor would coordinate to temporarily duct and protect air intakes of adjacent buildings to minimize the potential for the intake of fugitive dust and exhaust fumes, as necessary.

GHG Emission Measures Applicable for All Alternatives

- Continued implementation of the University's Transportation Management Plan (TMP) would reduce vehicle trips to the campus (including the from the Population Health Facility EIS Alternative sites), thereby reducing GHG emissions. Implementation of a Construction Management Plan would also help to control transportation issues during construction and could reduce construction-related GHG emissions.

Noise Measures Applicable for All Alternatives

Because of the proximity of residential, academic (classrooms), hospital, child care and other University uses near the sites, the University agrees that the mitigation of construction-related noise impacts is important and are committed to the measures listed below.

- Low noise portable air compressors would be used where feasible.
- Nighttime activities would not exceed allowable noise levels.
- Construction activities and the use of noise impact-type equipment, such as pavement breakers, pile drivers, jackhammers, sand blasting tools, and other impulse noise sources would comply with City of Seattle construction noise regulations (SMC 25.08). General construction activities could occur between 7 AM and 10 PM on weekdays or between 9 AM and 10 PM on weekends. Impact construction activities (i.e. pile drivers, jackhammers, etc.) could occur between 8 AM and 5 PM on weekdays or between 9 AM and 5 PM on weekends.
- Placement of materials and backing up of trucks, would be accomplished without warning beepers (with flagger walking behind vehicle, or with alternate white noise backup warning systems.
- Loud talking, music, or other miscellaneous noise-related activities would be limited.
- Construction noise would be reduced with properly sized and maintained mufflers, engine intake silencers, engine enclosures, and turning-off idling equipment.
- Truck haul routes would be jointly developed by the UW, Seattle Department of Transportation (SDOT) and Department of Construction and Inspections (DCI) and approved by SDOT.

Tree Measures Applicable for All Alternatives

- Tree removal and replacement would be intended to meet or exceed the City of Seattle's tree replacement requirements and be in accordance with the University's Tree Management Plan.
- Tree replacement on the site would be designed to meet or exceed the University of Washington requirement to provide tree replacement at a 1:1 ratio.

Transportation/Parking Measures Applicable for All Alternatives

- Construction activities would occur in compliance with applicable University of Washington and City of Seattle regulations and would include the preparation of a

Construction Management Plan to control and minimize potential construction-related transportation issues.

- Bicycle parking would be provided on the SEIS Alternative sites with the specific amount and location determined during the project design phase.

Other Construction Measures Applicable for All Alternatives

- In the event that groundwater is encountered on the SEIS Alternative sites, temporary construction dewatering measures would be provided. Such measures could include vacuum dewatering points, deep wells or other measures as identified by a geotechnical engineer.

Vibration Measures Applicable for Alternative 2 (22C) and Alternative 3 (50S/51S)

- To the extent feasible, construction activities would utilize practices that would minimize vibration, such as the use of sawcutting for concrete removal in lieu of using impact tools.
- Orientation would be provided for all construction workers to inform them of the importance of minimizing impacts to adjacent buildings, including vibration.
- Advanced notification could be provided to surrounding buildings and uses to inform them of construction activities that would cause vibration (e.g., drilling of soldier piles). Early notification would allow surrounding uses to prepare in advance of potential vibration activities.

Significant Unavoidable Adverse Impacts

Construction of the Population Health Facility Project under Alternatives 1 through 3 would result in some construction-related air quality, GHG emissions, noise, vibration, tree and transportation/parking impacts that would be unavoidable with the project. However, with the implementation of proposed mitigation measures, construction activities would not be anticipated to result in significant impacts to surrounding uses.

CHAPTER 2

Description of Proposed Action and Alternatives

CHAPTER 2

INTRODUCTION AND DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

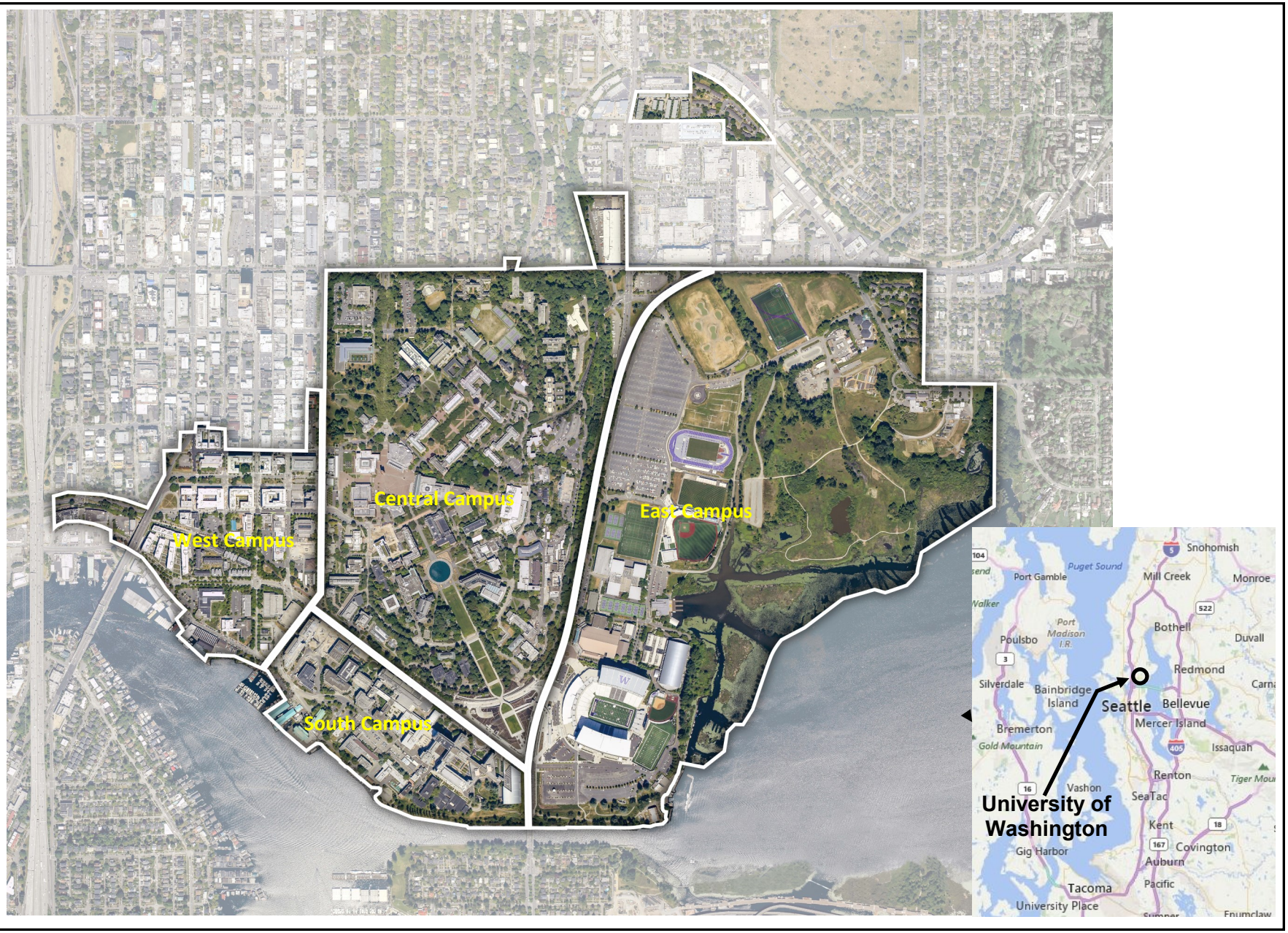
This chapter of the Draft Supplemental Environment Impact Statement (SEIS) provides a discussion on the intent of the proposed Population Health Facility Project. This chapter also provides information on the three sites under consideration for the Population Health Facility identified in the 2003 University of Washington Seattle Campus Master Plan (*CMP-Seattle 2003*): 1) Site 37W in the West Campus; 2) Site 22C in the Central Campus; and, 3) Sites 50S and 51S in the South Campus (see **Figure 2-1** for a vicinity map and **Figure 2-2** for a campus map). A detailed description of the affected environment, environmental impacts, mitigation measures and significant unavoidable adverse impacts is provided in **Chapter 3** of this Draft SEIS.

2.1 PROJECT SUMMARY

The University of Washington is poised to accelerate the world's progress in meeting the global health challenges and the multifaceted environmental, social and economic forces that contribute to it by leveraging the strengths of the Institute for Health Metrics and Evaluation (IME), the Department of Global Health (DGH), and selected portions of the School of Public Health (SPH) to provide an institution-wide vision to address Population Health.

The faculty, staff and students working in the interrelated areas of health metrics, global health, public health and medicine are currently spread across the city of Seattle in multiple locations. They are separated from each other, from University of Washington students, and from the important research and teaching at University of Washington Medical Center and Health Sciences. There is extensive evidence on the positive impact of geographic proximity on collaboration and organizational effectiveness, and this evidence supports co-locating related specialties, and improving the student experience by granting students access to multiple types of training opportunities largely within one location.

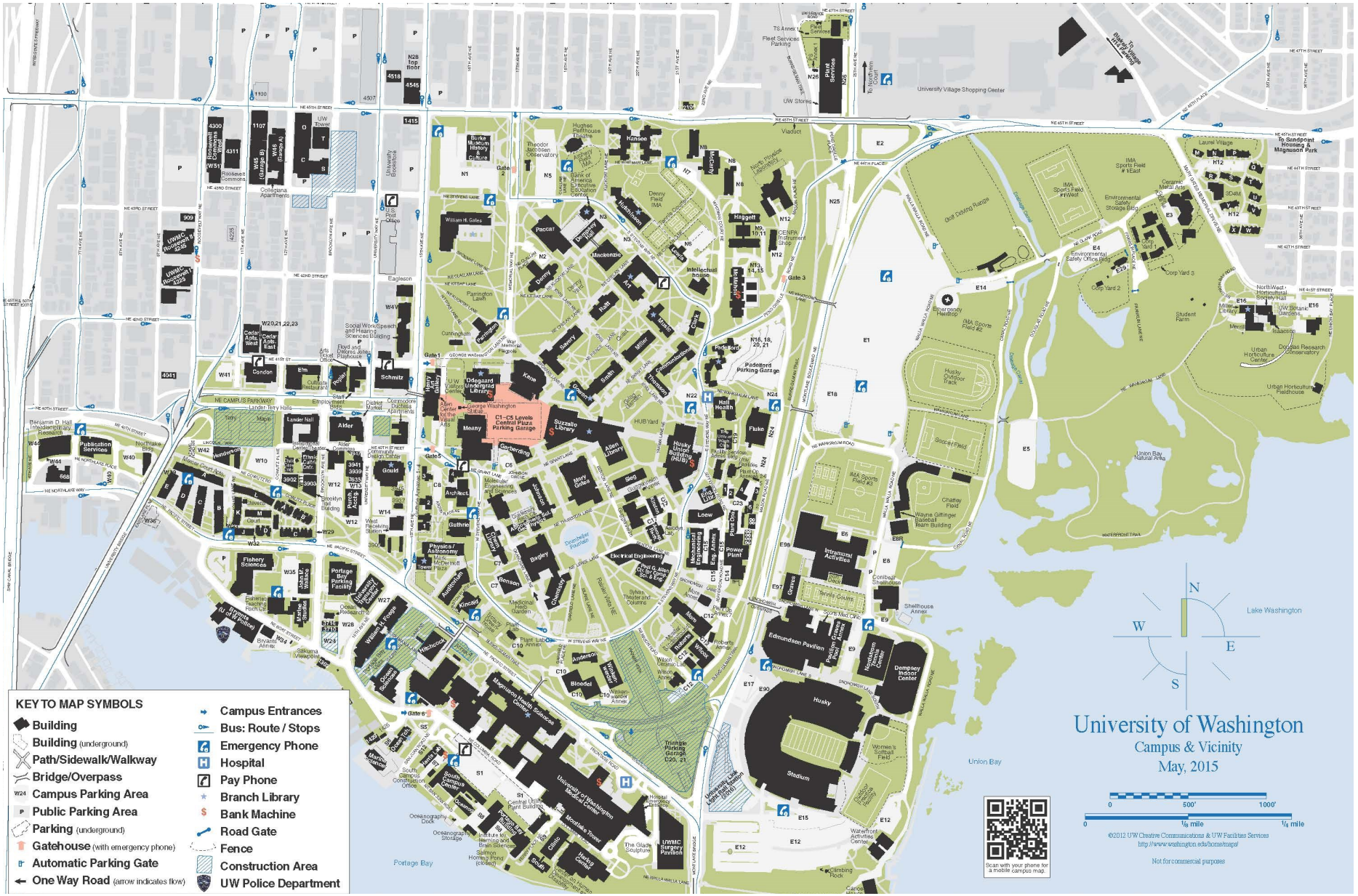
Accordingly, the University of Washington is proposing to design and construct a Population Health Facility intended to house the IHME, the DGH and selected portions of the SPH in close proximity to University of Washington Medical Center, the University of Washington Health Sciences Complex and the core of campus. The project is in the early planning stages, but it is currently estimated that the Population Health Facility would contain up to 330,000 square feet of building area.



Source: Sasaki Associates, Inc. and Bing Maps, 2016.

EA Engineering, Science, and Technology, Inc., PBC

Figure 2-1
Vicinity Map



Source: University of Washington, 2015.

EA Engineering, Science, and Technology, Inc., PBC

Figure 2-2
Campus Map

The three sites under consideration for the Population Health Facility are identified in the *CMP-Seattle 2003* as Development Site 37W (Alternative 1), Development Site 22C (Alternative 2), and Development Sites 50S and 51S (Alternative 3), as described below (see **Figure 2-3**).

- **Alternative 1 – Site 37W** – Located in the West Campus in an area bounded by NE 40th Street on the north, the Burke-Gilman Trail on the south, University Way NE on the east, and Brooklyn Avenue NE on the west. Site 37W currently contains: the University of Washington Purchasing and Accounting Building; University-owned buildings addressed as 3935, 3939, 3941 and 3947 University Way NE; the Instructional Center/Ethnic Cultural Theater; and, University parking lots W12 and W13.

- **Alternative 2 – Site 22C** – Located in Central Campus in an area bounded by NE Grant Lane on the north, Architecture and Guthrie Halls on the east, the Physics/Astronomy Building to the south, and 15th Avenue NE on the west. Site 22C currently contains Guthrie Annex Buildings 1, 2, 3 and 4, and University parking lot C8.

- **Alternative 3 – Sites 50S and 51S** – Located in the South Campus in an area bounded by NE Columbia Road and the Magnuson Health Sciences Center to the north, the Central Utility Plant Building to the east, the South Campus Center Building to the south, and San Juan Road NE and South Gatehouse to the west. Sites 50S and 51S contain the S1 parking structure and associated drive lanes.

2.2 BACKGROUND

University of Washington Campus

2003 Campus Master Plan

The University of Washington was founded in 1861 as a public research and education institution and currently has campuses in Seattle, Tacoma, and Bothell, as well as research stations across the state. The University of Washington conducts master planning to guide future development on all campuses. In January 2003, the University of Washington adopted the Seattle Campus Master Plan (*CMP-Seattle 2003*), a conceptual plan for the Seattle Campus that establishes guidelines and policies for up to approximately three million square feet of building area for academic, housing, research, education and support uses. This plan was approved by the University of Washington Board of Regents, and the

Source: University of Washington, 2015.

EA Engineering, Science, and Technology, Inc., PBC

Figure 2-3
Alternative Site Map

City of Seattle. All new development on the University of Washington Seattle Campus considers the guidelines and requirements that are identified in the *CMP-Seattle 2003*[1].

For planning purposes, the *CMP-Seattle 2003* divided the Seattle Campus into four different areas, including the Central, West, South, and East sectors. Each area is characterized by varying structures and uses, and each area follows a list of objectives that represent ideas for future development. As indicated above, the sites are located in the West, Central and South campus sectors

The *CMP-Seattle 2003* contains guidelines for the development of the campus sectors, as well as guidelines for specific individual development sites on campus. The following provides a discussion of the *CMP-Seattle 2003* objectives for the alternative sites identified for the applicable campus sectors, and for the individual Development Sites.

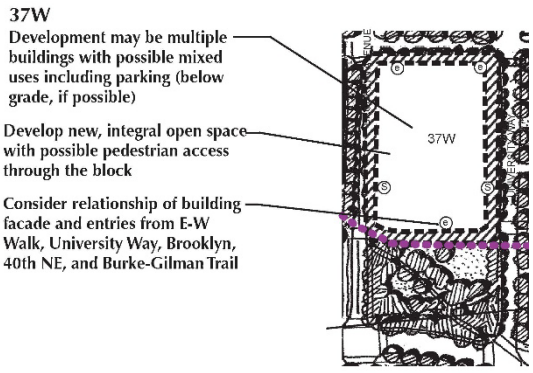
Alternative 1 – Site 37W CMP-Seattle 2003 Objectives

The Alternative 1 site is located in the West Campus on Development Site 37W. Specific objectives for the West Campus sector identified in the *CMP-Seattle 2003* include the following:

- *Create new facilities that better define the form of West Campus, utilizing the grid of existing streets as the structure for buildings and open space;*

- *Create a mix of uses that best serve the needs of the University and the surrounding community;*

- *Make better use of Campus Parkway area by improving traffic and circulation, the quality of open space, and the image of the community and the University;*



- *Strengthen connections to the Central and South Campus;*

- *Create more inviting campus edges and entrances;*

[1] *The University of Washington is currently conducting planning and SEPA environmental review for the 2018 Seattle Campus Master Plan, which is intended to guide development on the Seattle Campus, replace the CMP-Seattle 2003 and extend the continuity of planning developed over the last century.*

- *Transform surface parking into structured parking;*

- *Improve pedestrian and bicycle facilities and connections; and,*

- *Contribute to the achievement of the University Community Urban Center Plan where appropriate.*

The *CMP-Seattle 2003* identifies Development Site 37W as a potential site for academic, transportation or mixed-use, with approximately 309,000 square feet of potential building development and a maximum allowable building height of 65 feet (approximately 5 stories). The potential for the demolition of up to 63,507 square feet of existing building area (Purchasing and Accounting Building, four buildings on University Way NE, and the Instructional Center/ Ethnic Cultural Theater) is also identified for the site.

Specific *CMP-Seattle 2003* policies and guidelines that relate to Development Site 37W include:

- *Development may be multiple buildings with possible mixed uses including parking (below grade, if possible);*

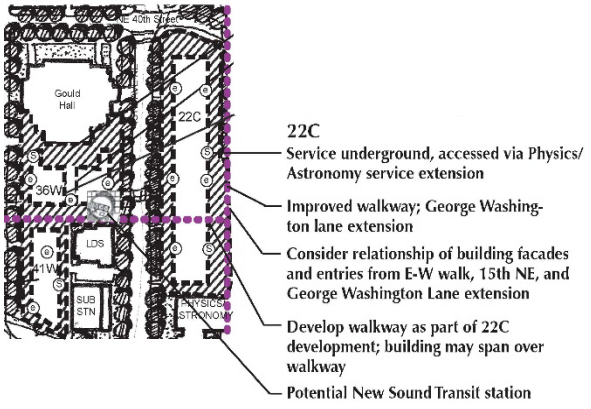
- *Develop new, integral open space with possible pedestrian access through the block; and,*

- *Consider relationship of building façade and entries from E-W Walk[2], University Way, Brooklyn, 40th NE, and Burke-Gilman Trail.*

Alternative 2 – Site 22C CMP-Seattle 2003 Objectives

The Alternative 2 site is located in the Central Campus on Development Site 22C, within the Surrounding Central Perimeter area outside of the Original Core. Specific *CMP-Seattle 2003* objectives for the Surrounding Central Campus Perimeter sector include the following:

- *Preserve and enhance important open spaces;*



[2] *E-W Walk is identified in the CMP-Seattle 2003 as a major pedestrian pathway and bicycle route that follows along NE 40th Street and NE Grant Lane.*

- *Use new development to strengthen campus form by clearly defining open spaces and circulation routes;*

- *Improve connections to University-related uses north of 45th, west of 15th, south across Pacific, and east across Montlake Boulevard;*

- *Create well-designed connections between the University and the larger community; and,*

- *Create more inviting campus edges and entrances.*

The *CMP-Seattle 2003* identifies Development Site 22C as a potential site for academic uses, with approximately 292,000 square feet of potential building development and a maximum allowable building height of 105 feet (approximately eight stories). The potential for the demolition of up to approximately 22,736 square feet of existing building area (Guthrie Annex buildings) is also identified for the site.

Specific *CMP-Seattle 2003* policies and guidelines that relate to Development Site 22C include the following:

- *Service underground, accessed via Physics/Astronomy service extension;*

- *Improved walkway – George Washington Lane extension;*

- *Consider relationship of building facades and entries from E-W walk, 15th Avenue NE, and George Washington Lane extension; and,*

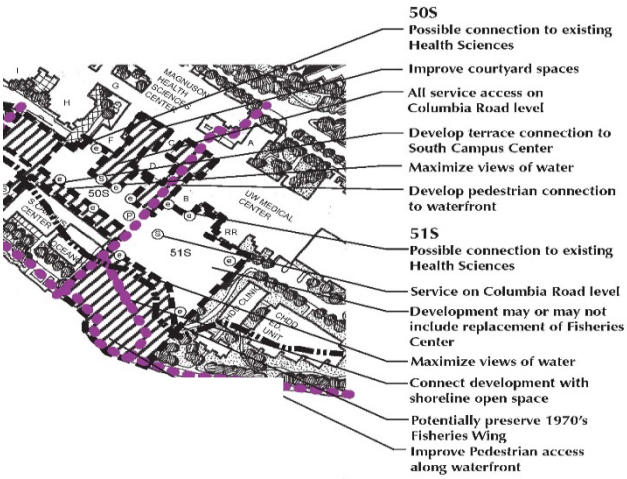
- *Develop walkway as part of 22C development – building may span over walkway.*

Alternative 3 – Sites 50S and 51S CMP-Seattle 2003 Objectives

The Alternative 3 site is located in the South Campus on Development Sites 50S and 51S. Specific *CMP-Seattle 2003* objectives for the South Campus sector include the following:

- *Take advantage of the shoreline and views to the water;*

- *Improve pedestrian routes along the water;*



- *Provide better connections between the South and Central Campuses over NE Pacific;*

- *Protect the views from Rainier Vista;*

- *Create additional open space;*

- *Accommodate pedestrian traffic between the potential new Sound Transit Station and the Central and South Campuses; and,*

- *Improve pedestrian access through the Medical Center and Health Sciences complex to the water when consistent with security and safety of patients, students, faculty and staff.*

The *CMP-Seattle 2003* identifies Development Site 50S as a potential site for academic and transportation use, with approximately 165,000 square feet of potential building development and a maximum allowable building height of 65 feet (approximately 5 stories). The *CMP-Seattle 2003* does not identify any potential demolition for Site 50S.

Specific *CMP-Seattle 2003* policies and guidelines that relate to Development Site 50S include:

- *Possible connection to existing Health Sciences;*

- *Improve courtyards;*

- *All service access on Columbia Road level;*

- *Develop terrace connection to South Campus Center;*

- *Maximize views of water; and,*

- *Develop pedestrian connection to waterfront.*

The *CMP-Seattle 2003* identifies Development Site 51S as a potential site for academic and transportation use, with approximately 150,000 square feet of potential building development and a maximum allowable building height of 65 feet (approximately 5 stories). The potential for the demolition of up to 99,870 square feet of existing building area (S1 parking structure[3]) is also identified for the site.

[3] *Although the S1 parking structure is located on both Sites 50S and 51S, the CMP-Seattle 2003 assigns the building area associated with the entire S1 parking structure to Site 51S.*

Specific *CMP-Seattle 2003* policies and guidelines that relate to Development Site 51S include:

- *Possible connection to existing Health Sciences;*
- *Service on Columbia Road level;*
- *Development may or may not include replacement of Fisheries Center;*
- *Maximize views of water; and,*
- *Connect development with shoreline open space.*

Table 2-1 provides a summary of the *CMP-Seattle 2003* site development capacities for the three sites.

TABLE 2-1
EXISTING CMP-SEATTLE IDENTIFIED SITE DEVELOPMENT CAPACITIES

Site	Total Gross Square feet	Maximum Building Height	Number of Floors	Demo Gross Square Feet[4]
37W	309,000	65 feet	5	63,507
22C	292,000	105 feet	8	22,736
50S/51S	315,000	65 feet	5	99,870

Source: University of Washington, CMP-Seattle 2003.

2018 Campus Master Plan

The University of Washington is currently conducting a planning and environmental review process to develop the 2018 Seattle Campus Master Plan (2018 Plan) which is intended to guide development on the Seattle campus; the 2018 Plan will replace the current *CMP-Seattle 2003*. The 2018 Plan will include guidelines and policies for campus development as well as providing recommended development parameters for individual potential development sites.

The selection of a site and design of the Population Health Facility is anticipated to occur prior to adoption of the 2018 Seattle Campus Master Plan and will be conducted under the *CMP-*

[4] The amount of existing building space identified in the CMP-Seattle 2003 for demolition is an estimate, and site specific analysis can result in updated calculations for the amount of actual building demolition.

Seattle 2003. However, provisions of the Draft 2018 Seattle Campus Master Plan will be considered during the Population Health Facility site selection and design process.

2.3 EXISTING SITE CONDITIONS

Existing Alternative 1 Site (Development Site 37W)

General Conditions

The approximately 2.28-acre (99,500-square foot) Alternatives 1 site (*CMP-Seattle 2003* Development Site 37W) is located in the West Campus of the University of Washington and is generally bounded by NE 40th Street on the north, the Burke-Gilman Trail on the south, University Way NE on the east, and Brooklyn Avenue NE on the west. Site 37W currently contains: the University of Washington Purchasing and Accounting Building; University-owned buildings addressed as 3935, 3939, 3941 and 3947 University Way NE; the Instructional Center/Ethnic Cultural Theater; and, University parking lots W12 and W13 (see **Figure 2-4** for map illustrating existing Site 37W).

The site generally slopes from north to south with a grade change of approximately 24 feet from NE 40th Street to just north of the Burke-Gilman Trail.

The majority of the site is developed, with approximately 94 percent of the site in building and surface parking area (42 percent in buildings and 52 percent in surface parking). Buildings comprise the majority of the eastern portion of the site (including the Purchasing and Accounting Building; and buildings addressed as 3935, 3939, 3941 and 3947 University Way NE), with the western portion of the site in building (Instructional Center/Ethnic Cultural Theater) and parking lots W12 and W13. Vegetation comprises approximately 6 percent of the site, and is primarily limited to lawn and trees at the southern portion of the site (mostly the area between the Burke-Gilman Trail and parking Lot W12), at the southeast corner of the 3935 University Way NE building, and south east of the Instructional Center/Ethnic Cultural Theater. Street trees are also located along Brooklyn Avenue NE. A total of 154 trees are located on the site, including 132 trees that meet the City of Seattle's definition of significant trees[5]. Of these 132 significant trees, 36 trees would meet the City of Seattle's designation of Exceptional Trees[6].

[5] Significant trees are defined as any tree that is six inches in diameter or greater at standard height (4.5 feet above average grade).

[6] Exceptional trees per City of Seattle Department of Planning and Development – Director's Rule 16-2008.

Source: Mahlum, 2016.

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Figure 2-4

Existing Conditions—Alternative 1 (Site 37W)

Vehicular access to the site is primarily provided by two driveways from University Way NE (one driveway serving parking lot W12 and one driveway serving parking lot W13), one from Brooklyn Avenue NE serving lot W12, and one driveway from NE 40th Street (alley access to parking lots W12 and W13). On-street short-term parking is also provided on the western edge of the site adjacent to Brooklyn Avenue NE, and on the eastern edge of the site adjacent to University Way NE. The Burke-Gilman Trail to the immediate south provides the primary pedestrian and bicycle access route in the site vicinity. Sidewalks and bike lanes associated with the area street grid also provide pedestrian and bicycle access.

Site Buildings

Purchasing and Accounting Building

The two-story Purchasing and Accounting Building was constructed in 1959 and contains approximately 39,575 gross square feet of building space that is primarily used for University of Washington administrative uses.

Instructional Center/Ethnic Cultural Theater Building

The two-story Instructional Center/Ethnic Cultural Theater was constructed in 1941 and contains approximately 12,175 gross square feet of building space that is primarily used for theater use.

Buildings at 3935, 3939, 3941 and 3947 University Way NE

The 3935 University Way NE Building was originally constructed in 1931. The one-story building contains approximately 5,350 gross square feet and was most recently used as University of Washington offices (Department of Psychology).

The one-story 3939 University Way NE Building was originally constructed in 1941 and contains approximately 4,750 gross square feet of building space that was most recently used as offices for the University's Behavioral Research and Therapy Clinics.

The one-story 3941 University Way NE Building was also constructed in 1941 and contains approximately 7,575 gross square feet of space that has been utilized as offices for the University's School of Drama.

The one-story 3947 University Way NE Building was constructed in 1984 and contains approximately 3,135 gross square feet of space that was most recently utilized by the University's College of Built Environments as academic space for a Community Design Center.

Existing Site Utilities

Stormwater

Existing City of Seattle stormwater lines serving Site 37W are located to the east and west of the site, below University Way NE and Brooklyn Avenue NE, respectively. Stormwater collected from the site is conveyed, along with stormwater from West Campus, to an outfall to Portage Bay. There are no known constraints associated with the existing stormwater system.

Water and Sewer Service

Site 37W is served by existing Seattle Public Utilities (SPU) water and sewer mains under University Way NE. The existing buildings on Site 37W are connected to the SPU systems in University Way NE via 3/4 –inch to 2-inch water lines and 6-inch sewer lines. There are no known capacity issues associated with the existing water and sewer system in the West Campus.

Electrical/Communications

Existing electrical and communications lines are located within the existing campus utility tunnel which runs under University Way NE and connects with the overall University of Washington utility tunnel system. The campus utility tunnel provides electrical and communications connections for the majority of the campus.

Steam and Chilled Water System

Steam for building heat (and hot water) and chilled water for building cooling is distributed throughout the campus via the University of Washington utility tunnel system. Steam and chilled water lines are located in the utility tunnel located under University Way NE (steam and chilled water lines are extended as far north as approximately Gould Hall).

Surrounding Area

Surrounding land uses in the vicinity of Site 37W generally include academic uses, student support uses, administrative uses, student housing, and open space.

To the north of Site 37W, beyond NE 40th Street, is Alder Hall (a six-story student residence hall), the College Inn (retail/commercial use), the Commodore Duchess apartments (an eight-story student apartment building), and Lander Hall (an eight-story student residence hall). To the east of the site, beyond University Way NE, is Gould Hall (a four-story building for the University's Department of Architecture), the UW Police Department building (three-stories), the University's West Campus Utility Plant, and the Church of Jesus Christ of Latter-day Saints building (two-stories). To the south of the site is a portion of the Burke-Gilman Trail and

associated vegetated/landscaped areas. To the west of the site, beyond Brooklyn Avenue NE, is the Ethnic Cultural Center (three-stories) and the Brooklyn Trail Building (one-story building for the University's Center for Child and Family Well-Being).

Existing Alternative 2 Site – (Development Site 22C)

General Conditions

The approximately 1.9-acre (81,700-square foot) Alternative 2 site (*CMP-Seattle 2003* Development Site 22C) is located in the Central Campus of the University of Washington and is generally bounded by NE Grant Lane on the north, Architecture Hall and Guthrie Hall on the east, the Physics/Astronomy Building on the south, and 15th Avenue NE on the west (see **Figure 2-5** for a map illustrating existing Site 22C)

Site 22C currently contains the Guthrie Annexes 1, 2, 3 and 4 University parking lot C8, a portion of Asotin Place NE, and pedestrian walkways. University parking lot C8 is located in the northern portion of Site 22C and includes approximately 15 surface parking spaces.

The majority of the site is developed, with approximately 57 percent of the site in building and surface parking lot area. The western portion of the site primarily consists of building (Guthrie Annex 1, 2, 3 and 4) and lawn/tree area, with the eastern portion of the site in surface parking (lot C8), paved pedestrian walks, and lawn/tree area. Vegetation comprises approximately 43 percent of the site. A total of 123 trees are located on the site, including 107 trees that meet the City of Seattle's definition of significant trees. Of these 107 significant trees, 13 trees would meet the City of Seattle's designation of Exceptional Trees.

Site Buildings

Guthrie Annexes 1 and 2 were both constructed in 1918 and are two-story structures that contain approximately 6,300 gross square feet and 7,700 gross square feet, respectively.

The one-story Guthrie Annex 3 was constructed in 1927 and contains approximately 5,300 gross square feet.

The one-story Guthrie Annex 4 was constructed in 1947 and contains approximately 3,400 gross square feet. All of the Guthrie Annex buildings are currently used by the University's Department of Psychology.

Existing Site Utilities

Stormwater

Existing City of Seattle stormwater lines serving Site 22C are located to the west of the site, below 15th Avenue NE. A stormwater line traveling in an east-west direction to 15th Avenue

Source: Mahlum, 2016.

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Figure 2-5

Existing Conditions—Alternative 2 (Site 22C)

NE is located mid-site between Guthrie Annex 1 and 2. Stormwater collected from the site is conveyed, along with stormwater from West Campus and a portion of Central Campus, to an outfall to Portage Bay. There are no known constraints associated with the existing stormwater system.

Water and Sewer Service

Site 22C is served by existing water and sewer mains under 15th Avenue NE; a water main also loops around Architecture Hall to the immediate east. The existing buildings on Site 22C are connected to the systems in 15th Avenue NE via 2-inch water lines and 6-inch sewer lines. There are no known capacity issues associated with the existing water and sewer system in the West and Central Campus sectors.

Electrical/Communications

Existing electrical and communications lines are located within the existing campus utility tunnel which runs under the southeast corner of the site in an east/west direction. The campus utility tunnel provides electrical and communications connections for the majority of the campus.

Site Vicinity

Existing land uses in the vicinity of Site 22C generally include academic uses, student support uses, and student housing. To the north of the site, beyond NE Grant Lane, is the West Gatehouse and Meany Hall (four- to five-story performing arts center); the Commodore Duchess apartments are also located to the northwest. To the east of the site is the four-story Architecture Hall (Department of Architecture and Department of Construction Management) and the four-story Guthrie Hall (Department of Psychology). To the south is the five-story Physics-Astronomy Building and nine-story Physics/Astronomy Tower. To the west, beyond 15th Avenue NE, is Gould Hall (four-story building for the University's Department of Architecture), the UW Police Department building (three-stories), the University's West Campus Utility Plant, and the Church of Jesus Christ of Latter-day Saints building (two-stories).

Existing Alternative 3 Site – (Development Site 50S/51S)

General Conditions

The approximately 2.75-acre (120,000-square foot) Alternative 3 site (*CMP-Seattle 2003* Development Site 50S/51S) is located in the South Campus of the University of Washington and is generally bounded by NE Columbia Road and the Magnuson Health Sciences Center to the north, the Central Utility Plat Building on the east, the South Campus Center on the south,

and San Juan Road NE and the South Gatehouse on the west (see **Figure 2-6** for a map illustrating Site 50S/51S site conditions).

The site is comprised of University parking structure S1 and associated driveways and landscaping. Parking lot S1 is a structured parking garage with space for approximately 869 vehicles. This parking area is a primary parking area within the South Campus.

The majority of the site is developed, with approximately 93 percent of the site in building (S1 parking garage) and associated driveway area. Approximately 7 percent of the site is in vegetation area, primarily consisting of planter areas along Columbia Road, at the intersection of NE Columbia Road/San Juan Road NE, and at the southeast edge of the S1 garage. A total of 59 trees are located on the site, including 51 trees that meet the City of Seattle's definition of significant trees. Of these 51 significant trees, 3 trees would meet the City of Seattle's designation of Exceptional Trees.

Existing Site Utilities

Stormwater

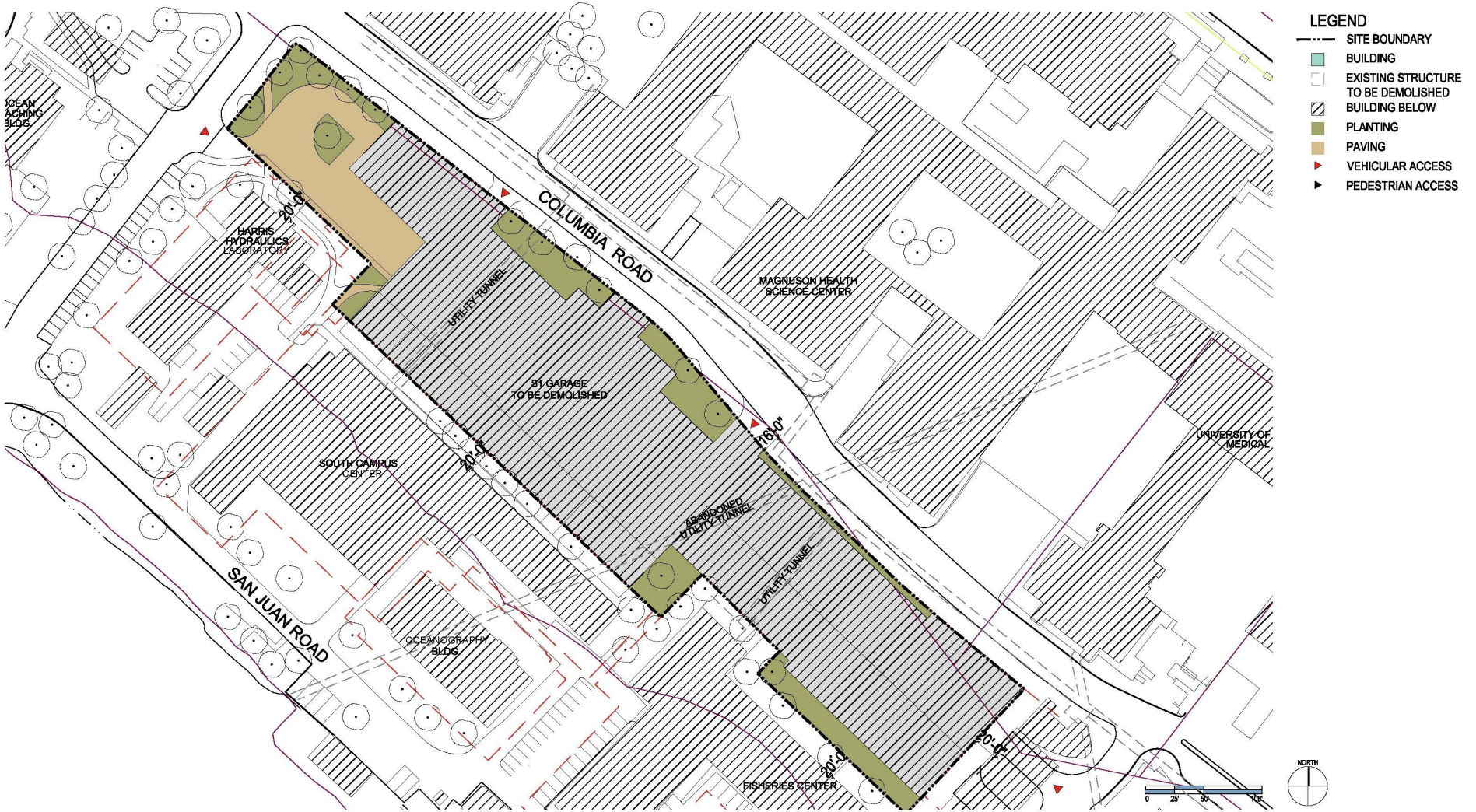
Existing University of Washington stormwater lines serving Sites 50S/51S are located to the north, east and west of the site, primarily below NE Columbia Road to the north and San Juan Road NE to the west. Stormwater collected from the majority of the site is conveyed, via the University of Washington system, to the Ship Canal and/or Portage Bay; stormwater from the eastern portion of the system is directed to a King County Metro overflow pipe to Portage Bay. There are no known constraints associated with the existing stormwater system.

Water and Sewer Service

Site 50S/51S is served by existing University of Washington water and sewer mains in the area. Water lines include a 10-inch main located under NE Columbia Road to the north and an 8-inch main located under San Juan Road NE to the west. Sewer service is provided by a 10-inch sewer main in NE Columbia Road to the north and 12- to 8-inch main in San Juan Road NE to the west. There are no known capacity issues associated with the existing water and sewer system in the South Campus.

Electrical/Communications

Existing electrical and communications lines are located within two campus utility tunnels which run through the site in a north/south direction. The utility tunnels connect with the overall University of Washington utility tunnel system. The campus utility tunnel provides electrical and communications connections for the majority of the campus.



Source: Mahlum, 2016.

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Figure 2-6

Existing Conditions—Alternative 3 (50S/51S)

Steam and Chilled Water System

Steam for building heat (and hot water) and chilled water for building cooling is distributed throughout the campus via the University of Washington utility tunnel system. Steam and chilled water lines are located in the utility tunnels that run under the site in a north/south direction.

Site Vicinity

Existing land uses in the vicinity of Site 50S/51S generally include academic uses, medical center uses, student support uses, and campus infrastructure. To the north of the site, beyond NE Columbia Road, is the Magnuson Health Sciences Center which includes multiple wings ranging from five-stories to seven-stories in height and the University of Washington Medical Center which includes buildings ranging from six-stories to fifteen-stories in height. To the east of the site is the two-story Central Utility Plant Building and the Center on Human Development and Disability. To the south of Site 50S/51S is the two-story Portage Bay Building (Applied Physics Laboratory, Department of Radiology and School of Aquatic and Fishery Sciences), the two-story Institute for Learning and Brain Sciences, the three-story South Campus Center (Health Sciences Academic Services and Facilities), and the three-story Oceanography Building (Department of Earth and Space Sciences and Applied Physics Lab). To the west of the site is the two-story Harris Hydraulics Laboratory, the South Gatehouse, the three-story Oceanography Teaching Building and University parking lots S5, S7 and S12.

2.4 PROJECT GOALS AND OBJECTIVES

The primary mission of the University of Washington is the preservation, advancement, and dissemination of knowledge. The University advances new knowledge through many forms of research, inquiry and discussion; and disseminates this knowledge through the classrooms and laboratories, scholarly exchanges, creative practice, and public service. The proposed Population Health Facility is intended to directly support the mission of the University of Washington.

Key to the University's vision for this new facility is engaging more students and faculty researchers in interdisciplinary partnerships to reduce domestic and global health disparities and address health impacts. The facility will serve as a powerful catalyst for the University's new Population Health Initiative and be an idea laboratory and collaboration incubator. It will be a central gathering place for students, faculty, staff, and visitors from a wide range of disciplines across campus, in the region, nation and world to address global health concerns. It will house the Institute for Health Metrics and Evaluation, the Department of Global Health, and elements of the School of Public Health, all of which will greatly benefit from close proximity. The facility will also provide gathering spaces for students, faculty, staff, and

visitors from a wide range of disciplines across campus, in the region, nation and world to address global health concerns.

The University of Washington's goals and objectives for the Population Health Facility Project are as follows.

- **Foster collaboration and connectivity** amongst those working within the facility, with other programs and with researchers at the University of Washington, local and global partners, and students;

- **Promote healthy living** within and around the new facility;

- **Design space that is flexible and adaptable** to meet the evolving needs of the IHME, DGH, and selected portions of the SPH;

- **Employ best practices in sustainable building** to reduce energy and water use, lower life cycle costs, and improve occupant satisfaction and health; and,

- **Support and further the institution-wide Population Health Vision**.

2.5 PROPOSED ACTION

Population Health Facility Design Concept

Initial planning by the University of Washington for the Population Health Facility Project has identified the need for an approximately 330,000-gross square foot building to adequately house the consolidated functions of the IME, DGH, and specific portions of the SPH. The Population Health Facility Project would house approximately 1,800 faculty, staff, and students, of which approximately 1,200 would be relocated from off-campus locations, and would be considered new campus population. Approximately 600 faculty, staff and students would be relocated from other areas of the Seattle campus, and would not be considered new campus population.

All new projects on the University of Washington Seattle campus must satisfy the development standards and design requirements of the *CMP-Seattle 2003*[7]. The assumed Population Health Facility on each of the three sites reflects the Population Health program requirements with the *CMP-Seattle 2003* Development Standards, including standards related to setbacks, height, modulation, landscaping, parking and uses.

[7] Modifications from the *CMP-Seattle 2003* can occur under the major or minor amendment provisions of the *CMP-Seattle 2003.*

Building Design Concept

A specific building design concept has not yet been developed beyond the preliminary site massing studies presented in this SEIS. Further conceptual development will incorporate the proposed Population Health Facility program elements to accommodate the specific goals and objectives of the project. The concept will also consider measures to allow for flexible adaptation of the facility to meet evolving programmatic needs and use patterns over the life of the building.

The project would be intended to create space for ongoing collaborative interactions between IHME, DGH, selected portions of SPH and with students and faculty from six schools of Health Sciences, from UW Medicine and from the rest of the University. The goal is to create interdisciplinary innovation in Population Health and the investigation of the biomedical, social behavioral, cultural, environmental and physical factors affecting the health of populations across the globe. The program will include offices, spaces for collaborative group work, active learning environments and technology-rich spaces to accommodate data visualization and online interactive global teaching and training. Retail spaces may be included to complement the other programmatic elements.

The design process would include advisement and approval from both the UW Architectural Commission (UWAC) and the University Landscape Advisory Committee (ULAC). The design would strive to incorporate scale, character, quality and materiality that are cohesive with the surrounding environment and consistent with the generally high levels of quality and durability of the built environment existing on the University of Washington Campus.

Open Space Concept

As indicated in the Project Goals and Objectives outlined in Section 2.4, objectives for the Population Health Facility Project include "*promote healthy living within and around the new facility*." Consistent with this objective, the Proposed Action would consider new open space features for the enjoyment of faculty, staff, students and visitors. Outdoor courtyards and landscaping would be integrated within the ultimate design of the Population Health Facility Project. The Population Health Facility would be located within the context of the University of Washington campus open space, and would relate to and integrate with this open space context.

Pedestrian and Bicycle Environment Concept

As indicated in the Project Goals and Objectives outlined in Section 2.4, objectives for the Population Health Facility Project include "*promote healthy living within and around the new facility*" and "*employ best practices in sustainable building to reduce energy and water use, lower life cycle costs, and improve occupant satisfaction and health*." Consistent with these objectives, the proposed Population Health Facility would include pedestrian access to the building that facilitates Universal access, and features for a safe and healthy environment for pedestrians such as street trees and plantings.

The Proposed Action would include features to enhance the access and safety of faculty, staff, and students using bicycles to commute, including provision of secure and covered bike parking, and connections to established bicycle routes, as feasible.

Vehicle Circulation and Parking Concept

As indicated in the Project Goals and Objectives outlined in Section 2.4, objectives for the Population Health Facility Project include "*foster collaboration and connectivity amongst those working within the facility, with other programs and with researchers at the University of Washington, local and global partners, and students*." The consolidation of currently dispersed IME, DGH, and selected portions of the SPH would provide the potential for reduction in vehicle trips currently occurring between the IME, DGH and SPH, as well as trips from these currently dispersed facilities and the Seattle campus.

In consultation with University of Washington Transportation Services, the accommodation of parking related to new site population, as well as the accommodation of displaced parking, would be consistent with the CMP-Seattle 2003[8]. Accommodation of new parking demand and spaces removed on Sites 37W and 22C would be provided by the existing parking supply available in the West and Central Campus sectors. For Site 50S/51S, parking would be provided on the site to accommodate both new parking demand and replacement of spaces displaced during construction; two optional design concepts for placement of parking on Site 50S/51S is considered (see **Section 2.7 – SEIS Alternatives** for additional detail).

[8] *The accommodation of parking would also be consistent with applicable provisions of the 2018 Seattle Campus Master Plan*.

2.6 SEIS ALTERNATIVES METHODOLOGY SUMMARY AND ELEMENTS OF THE ENVIRONMENT

Selection of SEIS Alternatives

Planning for the Population Health Facility Project was conducted by the University of Washington Health Sciences Board of Deans, the Office of the University Architect, and Department of Capital Planning and Development. This process included the identification of program needs and goals (as listed earlier) and the identification of sites for consideration.

An initial set of criteria was identified and utilized to identify candidate sites for the Population Health Facility Project. The site identification process started with the assumption that all potential sites are identified in the current 2003 Campus Master Plan (*CMP-Seattle 2003*). Criteria utilized to identify potential sites for the Population Health Facility included: **1)** capacity for required building gross square footage; **2)** campus location; **3)** ability to foster collaboration and interaction with campus partners; **4)** ability to support master plan criteria; and **5)** ability to promote healthy living. Based on this evaluation CMP-Seattle 2003 Sites 37W, 22C and 50S/51S are identified for evaluation in this SEIS.

SEIS Elements of the Environment

The University of Washington issued a *Determination of Significance and Request for Comments on the Scope of the SEIS* on September 15, 2016, which preliminarily identified the following elements of the environment for analysis in the SEIS: Land Use – Relationship to Plans and Policies; Construction (including noise, air quality and greenhouse gas emissions); Historic Resources; and, Cultural Resources. Comments on the SEIS scope were accepted until October 6, 2016 and no comments were received during the scoping period that would necessitate expanding the scope of the SEIS analysis.

2.7 SEIS ALTERNATIVES

At this stage of the process, a preferred site or specific building design has not been determined. Further evaluation (via the SEIS, ongoing pre-design, and ultimately deliberation by the Board of Regents) will lead to consideration and decision to select a preferred alternative.

The proposed action for the project is the development of a new Population Health Facility building that meets the needs, goals and objectives for the project. For the purposes of environmental review, four alternatives for the Proposed Action are analyzed in this Draft SEIS, including Alternative 1 – Development on Site 37W; Alternative 2 – Development on Site 22C; Alternative 3 – Development on Site 50S/51S; and, the No Action Alternative – no

development of the Population Health Facility (refer **Figure 2-3** for an illustration of the Alternative 1, 2 and 3 sites).

In order to disclose environmental information relevant to the consideration and decision regarding a preferred site, massing concepts reflecting the Population Health Facility program have been developed. The massing concepts also include a three-dimensional representation of the Master Plan zoning envelope[9] for each site which illustrates the three-dimensional area where a building[10] could be located; thus, the Population Health Facility could be located anywhere within the larger envelope.

The following provides further details on the SEIS Alternatives for the Population Health Facility Project.

No Action Alternative

Under the No Action Alternative, the proposed consolidation of currently dispersed Institute of Health Metrics and Evaluation (IHME), the Department of Global Health (DGH), and selected portions of the School of Public Health would not occur. The existing uses on the sites would remain, (including:

- **Site 37W** - the University of Washington Purchasing and Accounting Building; University-owned buildings addressed as 3935, 3939, 3941 and 3947 University Way NE; the Instructional Center/Ethnic Cultural Theater; and, University parking lots W12 and W13.

- **Site 22C** - Guthrie Annex Buildings 1, 2, 3 and 4, and University parking lot C8.

- **Site 50S/51S** - S1 parking structure and associated drive lanes.

The ability of the University of Washington to provide an institution-wide vision to address population health would be curtailed. This alternative would not meet the University's goals and objectives.

Alternative 1 – Development of the Population Health Facility on Site 37W

Under Alternative 1, the proposed Population Health Facility would be located on Development Site 37W which is generally bounded by NE 40th Street on the north, the Burke-

[9] *The Master Plan zoning envelope reflects development standards presented in the CMP-Seattle 2003 related to building setbacks and building height.*

[10] *For illustrative purposes, the massing figures reflect a 300,000-square foot building to allow for an equal evaluation for the various sites.*

Gilman Trail on the south, University Way NE on the east, and Brooklyn Avenue NE on the west. The facility on Site 37W would be located approximately 1,000 feet from the Magnuson Health Center and in proximity to other University health-related research and teaching facilities, and the campus core.

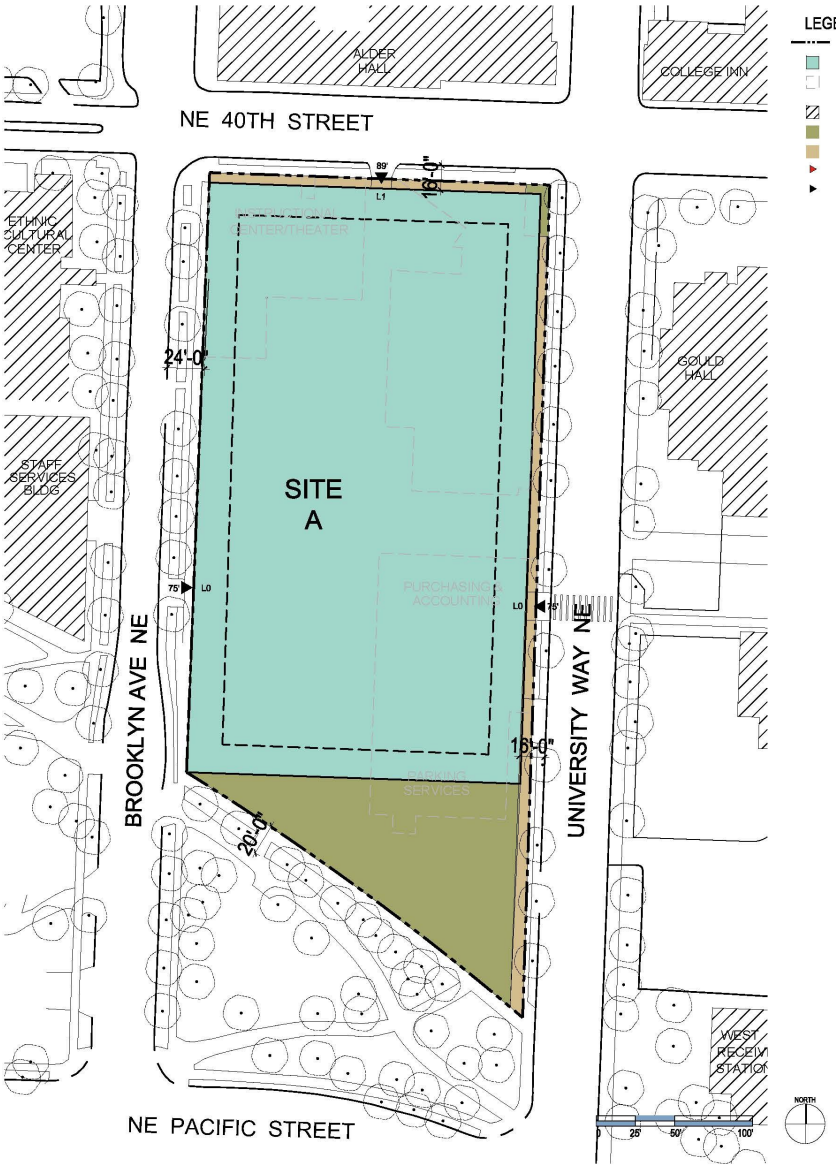
The Population Health Facility building is assumed to contain up to 330,000 gross square feet of building space[11], and include up to five stories (plus one basement level). The assumed building height would be approximately 63 feet at its highest point, which would be below the 65-foot height limit established for the site under the *CMP-Seattle 2003*. The new building would include classrooms, research labs, communal spaces, offices, administrative areas, and student and faculty support space. The building would support approximately 1,800 staff, faculty and students, 1,200 of which would be considered new population to the Seattle campus (see **Figure 2-7** for a site plan and massing of Alternative 1).

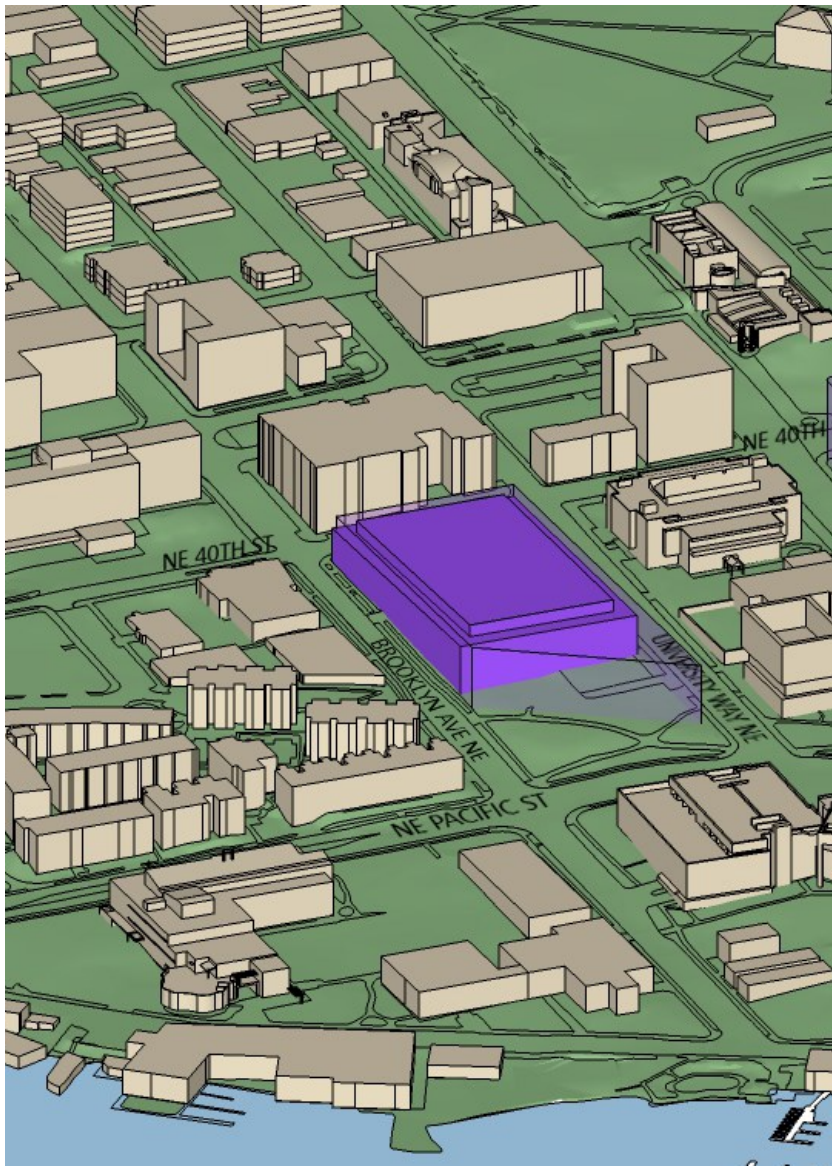
To accommodate construction of the Population Health Facility on Site 37W, it is assumed that all of the existing buildings on the site would be demolished, including the Purchasing and Accounting building, Instructional Center/Ethnic Cultural Theater building, and buildings at 3935, 3939, 3941, and 3947 University Way NE. The amount of existing building space assumed for demolition under Alternative 1 would total approximately 72,560 gross square feet[12].

The demolition of existing buildings on Site 37W to accommodate the Population Health Facility would result in the displacement and relocation of existing uses and staff to other portions of campus, including: administrative uses and approximately 151 staff associated with the Purchasing and Accounting Building; Department of Psychology use and approximately 34 staff associated with the 3935 University Way building; Behavioral Research and Therapy Clinic use and approximately 21 staff associated with the 3939 University Way building; School of Drama use with no staff associated with the 3941 University Way building; and, Community Design Center use and 46 staff associated with the 3947 University Way building. Offices on the second story of the Instructional Center/Ethnic Cultural Theater Building are used by staff and students. Relocation of existing uses displaced would be accommodated per University of Washington procedures.

[11] *Pursuant the CMP-Seattle 2003, any below-grade area would not count against the allowed development total for the campus.*

[12] *The total of approximately 72,560 gross square feet of building area on the site is greater than the 63,507 gross square feet identified in the CMP-Seattle 2003.*





Note: This illustration is intended to represent a conceptual plan and massing for the Population Health Facility under Alternative 1 and is not intended to represent the specific project design.

Source: Mahlum, 2016.

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Figure 2-7

Alternative 1 (Site 37W) - Site Plan and Massing

The existing approximately 104 parking spaces associated with parking lots W12 and W13 (98 in lot W12 and 6 in lot W13) would be demolished to accommodate construction of the Population Health Facility on Site 37W. No new or replacement parking is assumed for Site 37W, with accommodation of new parking demand associated with the Population Health Facility and spaces removed from the site provided by the existing University of Washington parking supply available in the West and Central Campus sectors.

To provide a conservative assumption for analysis purposes, construction of the facility on Site 37W is assumed to result in the removal of all existing vegetation on the site, including the removal of approximately 154 trees, including approximately 36 Exceptional trees; existing street trees would be retained as feasible. **Table 2-2** provides a summary of the assumed site conditions under Alternative 1.

TABLE 2-2
ALTERNATIVE 1 SITE DEVELOPMENT SUMMARY

Assumed Development Conditions	
New Building Square Footage	330,000
Building Square Footage Demolished	72,560
Parking Spaces Demolished	104
Parking Spaces Replaced	0
Net Parking Change	-104
Staff Displaced/Relocated	252
Exceptional Trees Removed	36

Source: Mahlum, 2016.

The assumed Population Health Facility building would comprise the majority of the northern and central portions of the site, with landscaped open space comprising the southwest corner of the site. With development of the Population Health Facility on Site 37W, approximately 85 percent of the site would be in buildings and paved area (80 percent in buildings and 5 percent in paved area). Vegetated open space would comprise approximately 15 percent of the site. As indicated in **Table 2-3**, the amount of impervious surfaces associated with buildings and paved area on the site under Alternative 1 would be less than under existing conditions, and the amount of pervious area associated with landscaping would be greater than under existing conditions.

TABLE 2-3
ALTERNATIVE 1 SITE CONDITIONS

	Existing Conditions		Alternative 1 Conditions	
	Square Feet	**Percentage**	**Square Feet**	**Percentage**
Building Footprint	42,000	42	80,000	80
Other Impervious Area[1]	51,500	52	5,000	5
Pervious Area	6,000	6	14,500	15
TOTAL	**99,500**	**100**	**99,500**	**100**

[1]*Includes surface parking, driveways and paved walkways*.

Building Design Concept

A specific building design has not been determined at this point of the process. However, a general design concept to achieve the Population Health Facility program has been defined, and certain aspects of a building on Site 37W can be assumed for the purpose of environmental review.

The Population Health Facility Project under Alternative 1 would be designed to accommodate the specific goals and objectives of the Population Health Program and allow flexibility for the existing and future needs of the program. Consistent with the *CMP-Seattle 2003*, the design under Alternative 1 would consider the relationship of building facade and entries from the E-W Walk (which follows along NE 40th Street and NE Grant Lane), University Way, Brooklyn Avenue, 40th Street NE, and the Burke-Gilman Trail.

Programmatic elements would be located at grade level to enhance and activate the pedestrian environment in keeping with recent UW development in the West Campus. Similarly activating program elements and improvements would be considered for the open space south of the building abutting and incorporating the Burke-Gilman Trail.

The building's massing and exterior materials would be compatible with other nearby structures (e.g., height and scale, building materials, building orientation, etc.).

Sustainable Design Concept

The design of the Population Health Facility building under Alternative 1 would be intended to meet or exceed the University of Washington's requirement of Leadership in Energy and Environmental Design (LEED) Silver. Sustainable design features would be incorporated into the building and would include energy efficient HVAC systems, natural ventilation, low-flow

plumbing fixtures, natural daylighting, low VOC materials, and a high performing building envelope.

Alternative 1 would leverage its location on Brooklyn Avenue, A City of Seattle Green Street, and incorporate features related to stormwater management and mobility, also creating vital connections between the U District and the waterfront through a linked series of open spaces

Vehicle Circulation

Under Alternative 1, primary service vehicular access would be provided from either University Way NE or Brooklyn Avenue NE. No new parking or replacement parking would be provided on the site, and the amount of vehicular traffic accessing the site would be substantially less than under existing conditions. The accommodation of new parking demand associated with the Population Health Facility, and spaces removed from the site, would be provided by the existing University of Washington parking supply available in the West and Central Campus sectors.

Pedestrian and Bicycle Circulation

The Burke-Gilman Trail is located to the immediate south of the Alternative 1 site and currently provides a bicycle and pedestrian connection between the West Campus and areas to the South and Central Campus sectors to the east. Under Alternative 1, the Population Health Facility Project would include connections between the new building and the Burke-Gilman Trail to facilitate access, including for pedestrians and bicycles; location of the Population Health Facility on Site 37W would not preclude any planned improvements to the Burke-Gilman Trail. Other primary pedestrian and bicycle routes in the area include 15th Avenue NE, University Way NE, Brooklyn Avenue NE and NE 40th Street. Pedestrian access points into the building would be provided from Brooklyn Avenue NE, NE 40th Street, and University Way NE. The University provides multiple locations for securing and storing bicycles on campus. The amount and location of bicycle parking at this site would be determined during the design phase.

Landscaping

The landscape design under Alternative 1 would focus on enhancements to the open space south of the Population Health facility building adjacent to and incorporating the Burke-Gilman Trail. Further, significant redevelopment of the sidewalks and planting strips including street furniture and other amenities is anticipated, similar to what has been incorporated in recent development to the north.

Per University of Washington procedures, the landscape design for the Population Health Facility Project under Alternative 1 would be reviewed by the University's landscape architect and University Landscape Advisory Committee.

All of the approximately 154 existing trees are assumed to be removed as part of the Population Health Facility Project, including approximately 132 significant trees of which 36 are considered Exceptional trees. As part of development, new replacement trees would be planted on the site to replace the existing trees that would be removed during construction. Tree replacement on the site would be designed to meet or exceed the typical University of Washington requirement to provide tree replacement at a 1:1 ratio. If tree replacement at a 1:1 ratio is not possible on the site, additional trees would be planted at an off-site area on-campus in accordance with typical University procedures. Proposed tree removal and replacement would be intended to meet or exceed the City of Seattle's tree replacement requirements and would be in accordance with the University of Washington's Tree Management Plan.

Utilities

Stormwater

Under Alternative 1, the Population Health Facility Project would route stormwater to either the City of Seattle stormwater main located to the east, below University Way NE, or to the City of Seattle stormwater main below Brooklyn Avenue NE to the west; these mains eventually discharge to Portage Bay.

Given that the amount of impervious surface on Site 37W under Alternative 1 would be less than under existing conditions, the amount of stormwater generated on the site would be anticipated to be less than under existing conditions.

Water

Domestic and fire protection water service would be provided from the existing City of Seattle water main adjacent to Site 37W (below University Way NE). The Population Health Facility building would likely require a four-inch domestic service water line and a six-inch fire protection service lines. Water meters at the street and backflow prevention devices would be installed within the building per University of Washington and City of Seattle standards.

Sewer

New side sewer connections would be required for the Population Health Facility building and would be connected to the existing City of Seattle sewer main located adjacent to the site (below University Way NE).

Electrical/Telecommunications/Steam/Chilled Water

Electrical power, telecommunications, steam and chilled water would be provided from the existing campus utility tunnel located adjacent to Site 37W below University Way NE; connecting these services to the Population Health Facility on Site 37W would require extension of the campus utility tunnel to the site. It is anticipated that emergency power for the building (power during electrical power outages) would be provided by the West Campus Utility Plant located to the east of Site 37W, across University Way NE.

Construction Activities and Schedule

Existing buildings on Site 37W under Alternative 1 would be removed as part of the construction activities, including the existing Purchasing and Accounting Building, Instructional Center/Ethnic Cultural Theater Building, and buildings addressed as 3935, 3939, 3941 and 3947 University Way NE. Existing pavement on the site associated with parking lots W12 and W13, walkways and other paved areas would also be demolished and transported from the site to a permitted regional recycling facility. Pedestrian access along sidewalks on Brooklyn Avenue NE, University Way NE and NE 40th Street could be temporarily rerouted during portions of the construction process; it is not anticipated that pedestrian and bicycle access along the Burke-Gilman Trail would be affected by construction of the Population Health Facility on Site 37W.

A construction staging area and construction parking plan would be coordinated between the general contractor/construction manager (GCCM) and the University of Washington prior to development on the site. Construction vehicle traffic routes would also be coordinated between the GCCM and the University of Washington, and approved by the City of Seattle as part of the permit process, and would be intended to minimize disturbance to the extent feasible, while also protecting pedestrian and vehicle safety in the area.

Due to the nature of the assumed building under Alternative 1, including a partial basement level, the Population Health Facility Project would require minor regrading on the site, as well as areas of cut and fill. Construction of the project under Alternative 1 would require approximately 44,500 cubic yards of cut/excavated materials and approximately 1,500 cubic yards of imported fill material.

The current project schedule anticipates that site selection would occur in Spring 2017, construction activities would begin in Spring 2018 and that the Population Health Facility would be operational by Spring 2020.

Consistency with CMP-Seattle 2003 for Site 37W

As described in Section 2.2, the *CMP-Seattle 2003* includes specific policies and guidelines related to Development Site 37W including: development may be multiple buildings with possible mixed uses; develop new, integral open space with possible pedestrian access through the site; and, consider relationship of building façade and entries from E-W Walk, University Way, Brooklyn, 40th NE and Burke-Gilman Trail.

The design for the Population Health Facility Project on Site 22C under Alternative 2 would consider the *CMP-Seattle 2003* policies and guidelines for the site by providing landscaped open space at the southeast corner of the site that would relate to the existing landscape area associated with the Burke-Gilman Trail to the south. The location of the Population Health Facility on Site 37W is anticipated to include building entries at University Way NE, NE 40th Street, and Brooklyn Avenue NE. Pedestrian access adjacent to Site 37W (along Brooklyn Avenue NE, NE 40th Street NE, and University Way NE) would be maintained, and additional pedestrian access opportunities to the Burke-Gilman Trail would be available (refer to Section 3.1, **Land Use**, for a more detailed discussion on the relationship of the EIS Alternatives to the *CMP-Seattle 2003*).

Alternative 2 – Development of the Population Health Facility on Site 22C

Under Alternative 2, the proposed Population Health Facility would be located on Development Site 22C which is generally bounded by NE Grant Lane on the north, Architecture and Guthrie Halls on the east, the Physics/Astronomy Building to the south, and 15th Avenue NE on the west. The facility on Site 22C would be located approximately 800 feet from the Magnuson Health Center and in proximity to other University health related research and teaching facilities, and the campus core.

The *CMP-Seattle 2003* establishes a 105-foot height limit for Site 22C, which allows for flexibility in building design. Given this flexibility of potential building design, the following two potential scenarios for the assumed building design is considered under Alternative 2:

- **Scenario 1** – Establishment of a five-story building with a larger building footprint; and,

- **Scenario 2** – Establishment of an eight-story building with a smaller building footprint.

The following provides a description of Alternative 2 development under Scenario 1 and Scenario 2.

Scenario 1 – Five-Story Building with Larger Building Footprint

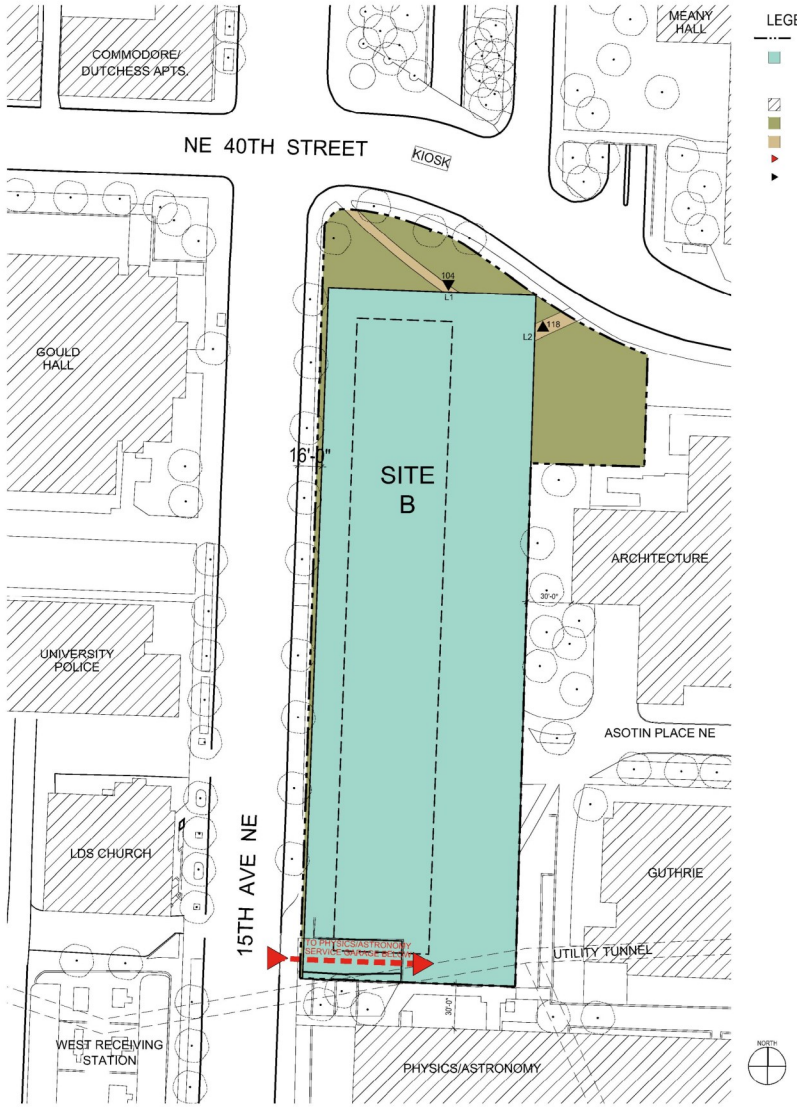
Under Alternative 2 – Scenario 1, the Population Health Facility building is assumed to contain up to 330,000 gross square feet of building space[13], and include five stories (plus one basement level). The assumed building height would be approximately 60 feet at its highest point, which would be below the 105-foot height limit established for the site under the *CMP-Seattle 2003*. The new building would include classrooms, research labs, communal spaces, offices, administrative areas, and student and faculty support space. The building would support approximately 1,800 staff, faculty and students; 1,200 of which would be considered new population to the Seattle campus (see **Figure 2-8** for a site plan and massing of Alternative 2 – Scenario 1).

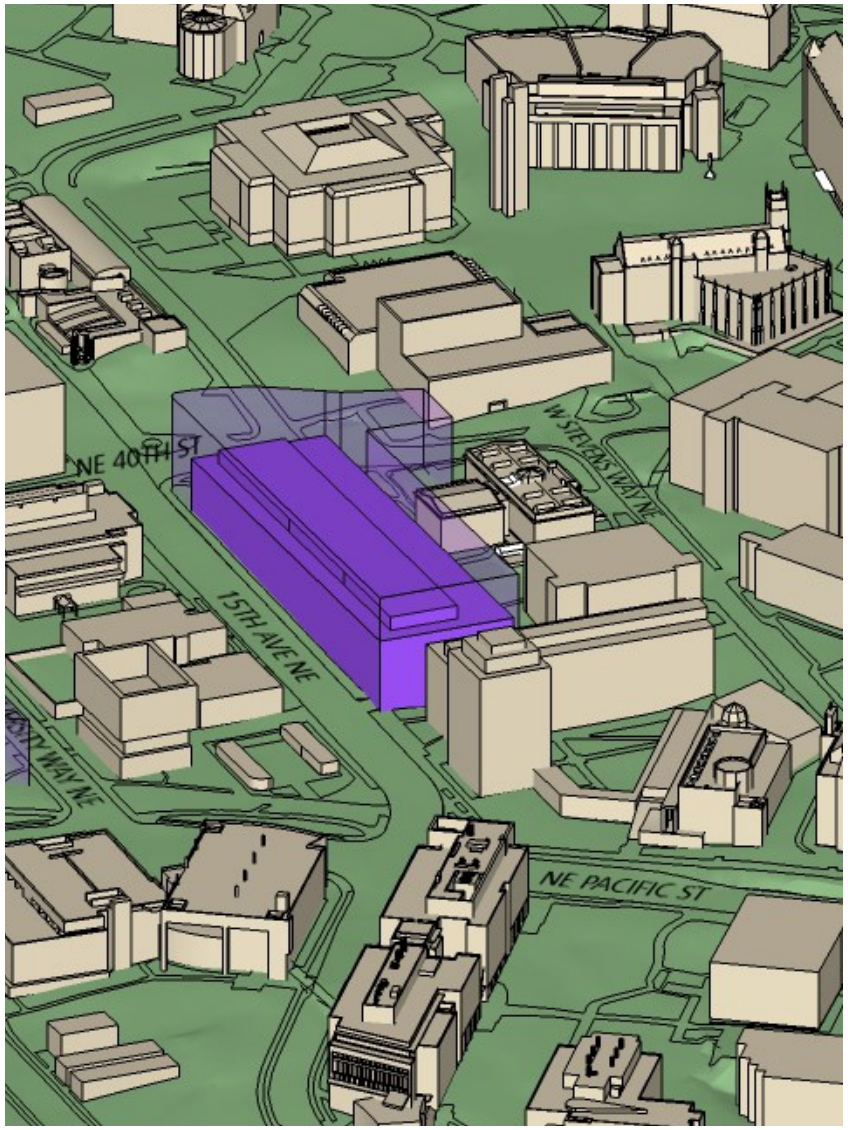
To accommodate construction of the Population Health Facility on Site 22C under Alternative 2 – Scenario 1, it is assumed that all of the existing buildings on the site would be demolished, including Guthrie Annex 1, 2, 3 and 4 buildings. The demolition of existing buildings on Site 22C to accommodate the Population Health Facility would result in the displacement and relocation of existing uses and staff to other portions of campus, including: Department of Psychology uses and approximately 120 staff associated with the Guthrie Annex 1, 2, 3 and 4 buildings.

Under Alternative 2 – Scenario 1, the existing approximately 15 parking spaces associated with parking lot C8 would be demolished to accommodate construction of the Population Health Facility on Site 22C. No new or replacement parking is assumed for Site 22C, with accommodation of new parking demand associated with the Population Health Facility and spaces removed from the site provided by the existing parking supply available in the West and Central Campus sectors.

Construction of the facility on Site 22C under Alternative 2 – Scenario 1 is assumed to result in the removal of all existing vegetation on the site, including the removal of approximately 123 trees, including approximately 13 Exceptional trees; existing street trees would be retained as feasible. **Table 2-4** provides a summary of the assumed site conditions under Alternative 2.

[13] *Pursuant the CMP-Seattle 2003, any below-grade area would not count against the allowed development total for the campus.*





Note: This illustration is intended to represent a conceptual plan and massing for the Population Health Facility under Alternative 2 and is not intended to represent the specific project design.

Source: Mahlum, 2016.

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Figure 2-8

Alternative 2 (Site 22C) Scenario 1 - Site Plan and Massing

TABLE 2-4
ALTERNATIVE 2 – SCENARIO 1 SITE DEVELOPMENT SUMMARY

Assumed Development Conditions	
New Building Square Footage	330,000
Building Square Footage Demolished	22,700
Parking Spaces Demolished	15
Parking Spaces Replaced	0
Net Parking Change	-15
Staff Displaced/Relocated	120
Exceptional Trees Removed	13

Source: Mahlum, 2016.

The assumed Population Health Facility building on Site 22C under Alternative 2 – Scenario 1 would comprise the majority of the site, with landscaped open space comprising the northern portion of the site. With development of the Population Health Facility on Site 22C under Alternative 2 – Scenario 1, approximately 82 percent of the site would be in buildings and paved area (81 percent in buildings and 1 percent in paved area). Vegetated open space would comprise approximately 18 percent of the site. As indicated in **Table 2-5**, the amount of impervious surfaces associated with buildings and paved area on the site under Alternative 2 – Scenario 1 would be greater than under existing conditions, and the amount of pervious area associated with landscaping would be less than under existing conditions.

TABLE 2-5
ALTERNATIVE 2 – SCENARIO 1 SITE CONDITIONS

	Existing Conditions		Alternative 2 – Scenario 1 Conditions	
	Square Feet	**Percentage**	**Square Feet**	**Percentage**
Building Footprint	18,700	23	66,000	81
Other Impervious Area[1]	29,400	36	1,200	1
Pervious Area	33,600	41	14,500	18
TOTAL	**81,700**	**100**	**81,700**	**100**

[1]*Includes surface parking, driveways and paved walkways*.

Building Design Concept

A specific building design has not been determined at this point of the process. However, a general design concept to achieve the Population Health Facility program has been defined, and certain aspects of a building on Site 22C can be assumed for the purpose of environmental review.

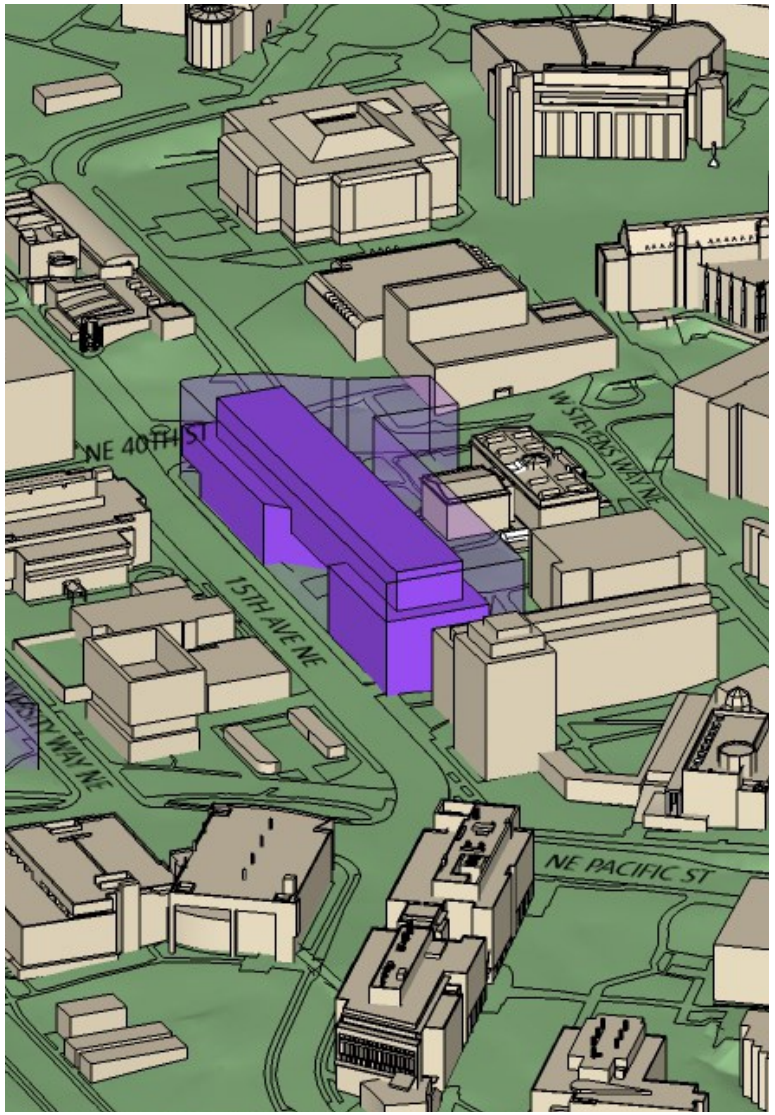
The Population Health Facility Project under Alternative 2 – Scenario 1 would be designed to accommodate the specific goals and objectives of the Population Health Program and allow flexibility for the existing and future needs of the program. Consistent with the CMP-Seattle 2003, the design under Alternative 2 would consider the relationship of building facade and entries from the E-W Walk (which follows along NE 40th Street and NE Grant Lane), 15th Avenue NE, and George Washington Lane extension.

The building's massing and exterior materials would be compatible with other nearby structures (e.g., height and scale, building materials, building orientation, etc.). Focus of the design concept would be on minimizing building height and mass in relation to Architecture Hall to the east. Grade level program elements would be placed to complement right-of-way improvements in order to activate the pedestrian environment along 15th Avenue NE to the west.

Scenario 2 – Eight-Story Building with Smaller Building Footprint

Under Alternative 2 – Scenario 2, the Population Health Facility building is assumed to contain up to 330,000 gross square feet of building space[14], and include eight stories (plus one basement level). The assumed building height would be approximately 95 feet at its highest point, which would be below the 105-foot height limit established for the site under the *CMP-Seattle 2003*. The building under this scenario would allow for an east-west pedestrian pathway connecting 15th Avenue NE with Central Campus with the building spanning the pathway, and a larger building setback from Architecture and Guthrie Halls to the east. The new building would include classrooms, research labs, communal spaces, offices, administrative areas, and student and faculty support space. The building would support approximately 1,800 staff, faculty and students; 1,200 of which would be considered new population to the Seattle campus (see **Figure 2-9** for a site plan and massing of Alternative 2 – Scenario 2).

[14] Pursuant the *CMP-Seattle 2003*, any below-grade area would not count against the allowed development total for the campus.



Note: This illustration is intended to represent a conceptual plan and massing for the Population Health Facility under Alternative 2 and is not intended to represent the specific project design.

Source: Mahlum, 2016.

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Figure 2-9

Alternative 2 (Site 22C) Scenario 2 - Site Plan and Massing

To accommodate construction of the Population Health Facility on Site 22C under Alternative 2 – Scenario 2, it is assumed that all of the existing buildings on the site would be demolished, including Guthrie Annex 1, 2, 3 and 4 buildings. The demolition of existing buildings on Site 22C to accommodate the Population Health Facility would result in the displacement and relocation of existing uses and staff to other portions of campus, including: Department of Psychology uses and approximately 120 staff associated with the Guthrie Annex 1, 2, 3 and 4 buildings.

Under Alternative 2 – Scenario 2, the existing approximately 15 parking spaces associated with parking lot C8 would be demolished to accommodate construction of the Population Health Facility on Site 22C, with up to 15 replacement parking spaces accommodated on the site.

Construction of the facility on Site 22C under Alternative 2 – Scenario 2 is assumed to result in the removal of all existing vegetation on the site, including the removal of approximately 123 trees, including approximately 13 Exceptional trees; existing street trees would be retained as feasible. **Table 2-6** provides a summary of the assumed site conditions under Alternative 2 – Scenario 2.

TABLE 2-6
ALTERNATIVE 2 – SCENARIO 2 SITE DEVELOPMENT SUMMARY

Assumed Development Conditions	
New Building Square Footage	330,000
Building Square Footage Demolished	22,700
Parking Spaces Demolished	15
Parking Spaces Replaced	15
Net Parking Change	0
Staff Displaced/Relocated	120
Exceptional Trees Removed	13

Source: Mahlum, 2016.

The assumed Population Health Facility building on Site 22C under Alternative 2 – Scenario 2 would comprise the majority of the site, with landscaped open space comprising the northern and eastern edges of the site. Compared to Alternative 2 – Scenario 1, more site area would be in building setback and landscaped area than under Alternative 2 – Scenario 1. With development of the Population Health Facility on Site 22C under Alternative 2 – Scenario 2, approximately 69 percent of the site would be in buildings and paved area (60 percent in buildings and 9 percent in paved area). Vegetated open space would comprise approximately 31 percent of the site. As indicated in **Table 2-7**, the amount of impervious surfaces

associated with buildings and paved area on the site under Alternative 2 – Scenario 2 would be greater than under existing conditions but less than under Alternative 2 – Scenario 1, and the amount of pervious area associated with landscaping would be less than under existing conditions but more than under Alternative 2 – Scenario 1.

TABLE 2-7
ALTERNATIVE 2 – SCENARIO 2 SITE CONDITIONS

	Existing Conditions		Alternative 2 - Scenario 2 Conditions	
	Square Feet	**Percentage**	**Square Feet**	**Percentage**
Building Footprint	18,700	23	49,100	60
Other Impervious Area[1]	29,400	36	7,600	9
Pervious Area	33,600	41	25,000	31
TOTAL	**81,700**	**100**	**81,700**	**100**

[1]*Includes surface parking, driveways and paved walkways*.

Concepts Similar to Alternative 2 - Scenario 1 and Scenario 2

Sustainable Design Concept

The design of the Population Health Facility building under Alternative 2 would be intended to meet or exceed the University of Washington's requirement of Leadership in Energy and Environmental Design (LEED) Silver. Sustainable design features would be incorporated into the building and would include energy efficient HVAC systems, natural ventilation, low-flow plumbing fixtures, natural daylighting, low VOC materials, and a high performing building envelope.

Vehicle Circulation

Under Alternative 2, primary service vehicular access would continue to be provided from 15th Avenue NE, although access from W Stevens Way NE via Asotin Place could be provided. The design would allow for continued vehicle access to the below grade loading dock and service garage serving the Physics/Astronomy Building at the south end of the site. Emergency access would continue to be provided from the east from W Stevens Way NE via Asotin Place NE.

Pedestrian and Bicycle Circulation

Site 22C is located adjacent to the *CMP-Seattle 2003* identified E-W Walk major pedestrian pathway and bicycle route (which follows along NE 40th Street and NE Grant Lane), and the identified pedestrian pathway associated with 15th Avenue NE. Under Alternative 2, the Population Health Facility Project would include connections between the new building and the identified facilities to facilitate Universal pedestrian and bicycle access. Pedestrian access points into the building would be provided from NE Grant Lane and 15th Avenue NE. The amount and location of bicycle parking at this site would be determined during the design phase.

Landscaping

Per University of Washington procedures, the landscape design for the Population Health Facility Project under Alternative 2 would be reviewed by the University's landscape architect and University Landscape Advisory Committee.

Landscape design for either scenario would focus on development of the pedestrian environment in the right-of-way of 15th Avenue NE, development of an enhanced campus gateway at NE Grant Lane to the north and an enhanced pedestrian environment to the east connecting to Guthrie Hall and the Physics/Astronomy building. Scenario 2 would leverage the opportunity to develop an accessible connection from Central Campus to 15th Avenue NE by creating a new, active pedestrian environment at the building entry.

Approximately 123 existing trees are assumed to be removed as part of the Population Health Facility Project, including approximately 107 significant trees which includes 13 Exceptional trees. As part of development, new replacement trees would be planted on the site to replace the existing trees that would be removed during construction. Tree replacement on the site would be designed to meet or exceed the typical University of Washington requirement to provide tree replacement at a 1:1 ratio. If tree replacement at a 1:1 ratio is not possible on the site, additional trees would be planted at an off-site area on-campus in accordance with typical University procedures. Proposed tree removal and replacement would be intended to meet or exceed the City of Seattle's tree replacement requirements and would be in accordance with the University of Washington's Tree Management Plan.

Utilities

Stormwater - Under Alternative 2, the Population Health Facility Project would route stormwater to the City of Seattle stormwater main located to the immediate west, below 15th Avenue NE; this main eventually discharges to Portage Bay. It is anticipated that the existing stormwater line located mid-site (between Guthrie Annex 1 and 2) would be abandoned under Alternative 2.

Water - Domestic and fire protection water service would be provided from the existing University-owned water main adjacent to Site 22C. The Population Health Facility building would likely require a four-inch domestic service water line and a six-inch fire protection service lines. Water meters and backflow prevention devices would be installed within the building per University of Washington standards.

Sewer - New side sewer connections would be required for the Population Health Facility building and would be connected to the existing City of Seattle sewer main located adjacent to the site (below 15th Avenue NE).

Electrical/Telecommunications/Steam/Chilled Water - Electrical power, steam, chilled water, and telecommunications would be provided from the existing campus utility tunnel which runs through the southeast corner of Site 22C. It is anticipated that emergency power for the building (power during electrical power outages) would be provided by the West Campus Utility Plant located to the west of Site 22C, across 15th Avenue NE.

Construction Activities and Schedule

Existing uses on Site 22C under Alternative 2 would be removed as part of the construction activities, including the existing Guthrie Annex 1, 2, 3 and 4 buildings. Existing pavement on the site associated with parking lot C8, walkways and other paved areas would also be demolished and transported from the site to a permitted regional recycling facility. Pedestrian access along adjacent sidewalks on 15th Avenue NE and NE Grant Lane could be temporarily rerouted during portions of the construction process.

A construction staging area and construction parking plan would be coordinated between the general contractor/construction manager (GCCM) and the University of Washington prior to development on the site. Construction vehicle traffic routes would also be coordinated between the GCCM and the University of Washington, and approved by the City of Seattle as part of the permit process, and would be intended to minimize disturbance to the extent feasible, while also protecting pedestrian and vehicle safety in the area.

Due to the nature of the assumed building under Alternative 2 including a partial basement level, the Population Health Facility Project would require minor regrading on the site, as well as areas of cut and fill. Construction of the project under Alternative 2 – Scenario 1 would require approximately 37,000 cubic yards of cut/excavated materials and approximately 1,000 cubic yards of imported fill material. Construction of the project under Alternative 2 – Scenario 2 would require approximately 27,500 cubic yards of cut/excavated materials and approximately 1,000 cubic yards of imported fill material.

The current project schedule anticipates that site selection would occur in Spring 2017, construction activities would begin in Spring 2018 and that the Population Health Facility would be operational by Spring 2020.

Consistency with CMP-Seattle 2003 for Site 22C

As described in Section 2.2, the *CMP-Seattle 2003* includes specific policies and guidelines related to Development Site 22C including: service underground, accessed via Physics/Astronomy service extension; improved walkway – George Washington Lane extension; consider relationship of building facades and entries from E-W walk, 15th Avenue NE, and George Washington Lane extension; and, develop walkway as part of 22C development – building may span over walkway.

The design for the Population Health Facility project on Site 22C under Alternative 2 would consider the *CMP-Seattle 2003* policies and guidelines for the site, including providing building entries at 15th Avenue NE and NE Grant Lane, as well as considering building façade treatments related to these roadways. During the design phase, the service area of the Population Health Facility building on Site 22C under Alternative 2 would be located. For purposes of analysis it is assumed that the service area would be located at the southern edge of the building, in proximity to the Physics/Astronomy Building, allowing for the potential for connection with the Physics/Astronomy Building service area; although direct service access from 15th Avenue NE is assumed, access from W Stevens Way NE via Asotin Place NE could be provided. Pedestrian walkway improvements would be provided at the northern edge of the site, and would be located in proximity to George Washington Lane NE, across NE Grant Lane (refer to Section 3.1, **Land Use**, for a more detailed discussion on the relationship of the EIS Alternatives to the *CMP-Seattle 2003*).

Alternative 3 – Development of the Population Health Facility on Sites 50S/51S

Under Alternative 3, the proposed Population Health Facility would be located on Development Sites 50S and 51S which is generally bounded by NE Columbia Road and the Magnuson Health Sciences Center to the north, the Central Utility Plant Building to the east, the South Campus Center Building to the south, and San Juan Road NE and South Gatehouse to the west. Sites 50S and 51S contains the S1 parking structure and associated drive lanes. The facility on Sites 50S/51S would be located adjacent to the Magnuson Health Center (approximately 100 feet distant) and in proximity to other University health related research and teaching facilities, and the campus core.

The Population Health Facility building is assumed to contain up to 330,000 gross square feet of building space[15], and include four stories (plus one basement level). The assumed building height would be approximately 64 feet at its highest point, which would be below the 65-foot height limit established for the site under the *CMP-Seattle 2003*. The new building would include classrooms, research labs, communal spaces, offices, administrative areas, and student and faculty support space. The building would support approximately 1,800 staff, faculty and students; 1,200 of which would be considered new population to the Seattle campus.

To accommodate construction of the Population Health Facility on Sites 50S/51S, it is assumed that the entire S1 parking garage structure would be demolished. The demolition of the existing structure on Sites 50S/51S to accommodate the Population Health Facility would not be anticipated to result in the displacement of existing staff to other portions of campus.

The existing approximately 869 parking spaces associated with parking structure S1 would be demolished to accommodate construction of the Population Health Facility on Sites 50S/51S. Development under Alternative 3 would include the provision of new parking stalls to replace a portion or all of the 869 spaces demolished in parking garage S1. Replacement parking under Alternative 3 is considered under the following two scenarios:

- **Scenario 1** – Replacement parking provided in a new garage on the western portion of Site 50S; and,

- **Scenario 2** – Replacement parking provided in a combination of new garage and parking below Sites 50S and 51S.

Under Scenario 1, all replacement parking would be provided by a garage with five levels above grade and two below-grade levels; under this scenario approximately 724 spaces would be provided. Under Scenario 2, replacement parking would be provided by a garage with three levels above grade and two levels below grade, as well a one below grade parking level under the entire site; under this scenario approximately 917 spaces would be provided

The following provides a description of Alternative 3 development under Scenario 1 and Scenario 2.

[15] Pursuant the *CMP-Seattle 2003*, any below-grade area would not count against the allowed development total for the campus.

Scenario 1 – Garage

As indicated above, under Alternative 3 - Scenario 1, all replacement parking would be provided by a garage with five levels above grade and two levels below grade (see **Figure 2-10** for a site plan and massing of Alternative 3 – Scenario 1).

Construction of the facility on Sites 50S/51S under Alternative 3 - Scenario 1 is assumed to result in the removal of all existing planter vegetation on the site, including the removal of approximately 59 trees, including approximately 3 Exceptional trees; existing street trees would be retained as feasible. **Table 2-8** provides a summary of the assumed site conditions under Alternative 3 - Scenario 1.

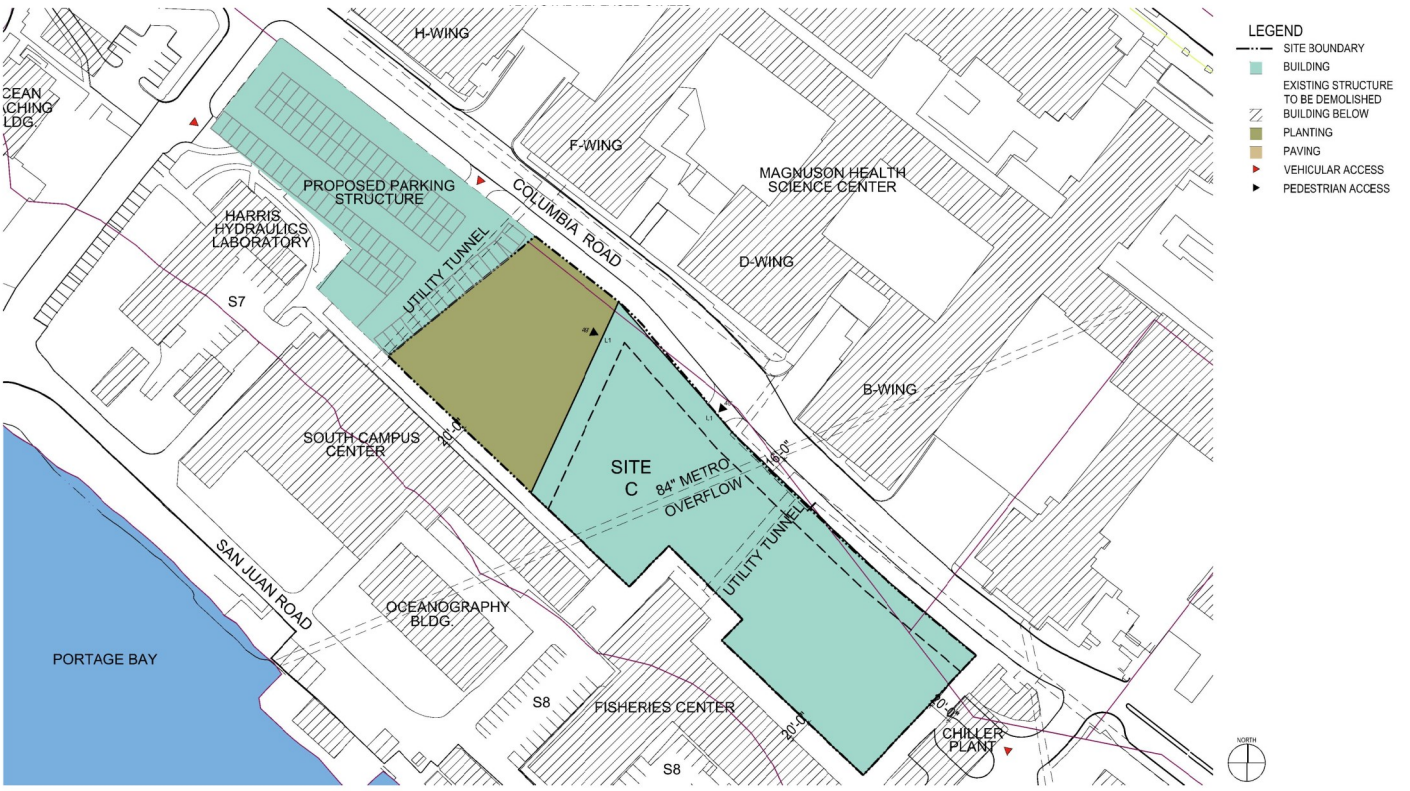
TABLE 2-8
ALTERNATIVE 3 - SCENARIO 1 SITE DEVELOPMENT SUMMARY

Assumed Development Conditions	
New Building Square Footage	330,000
Building Square Footage Demolished	99,870
Parking Spaces Demolished	869
Parking Spaces Replaced	724
Net Parking Change	-145
Staff Displaced/Relocated	0
Exceptional Trees Removed	3

Source: Mahlum, 2016.

As indicated in **Table 2-8**, Alternative 3 - Scenario 1 would include the construction of approximately 724 replacement parking spaces, resulting in the replacement of approximately 83 percent of the existing 869 spaces in the S1 garage.

The assumed Population Health Facility building on Sites 50S/51S under Alternative 3 - Scenario 1 would be located on Site 51S (eastern portion of the combined 50S/51S site) with the garage located on Site 50S (western portion of the combined 50S/51S site). Building area would comprise the majority of the site, with landscaped open space located in the central portion of the site. With development of the Population Health Facility on Site 50S/51S under Alternative 3 - Scenario 1, approximately 89 percent of the site would be in building area. Vegetated open space would comprise approximately 11 percent of the site.



Note: This illustration is intended to represent a conceptual plan and massing for the Population Health Facility under Alternative 3 and is not intended to represent the specific project design.

Source: Mahlum, 2016.

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Figure 2-10

Alternative 3 (Site 50S/51S) Scenario 1 - Site Plan and Massing

As indicated in **Table 2-9**, the estimated amount of impervious surfaces associated with buildings and paved area on the site under Alternative 3 - Scenario 1 would be slightly greater than under existing conditions, and the amount of pervious area associated with landscaping would be slightly less than under existing conditions.

TABLE 2-9
ALTERNATIVE 3 - SCENARIO 1 SITE CONDITIONS

	Existing Conditions		Alternative 3 Scenario 1 Conditions	
	Square Feet	**Percentage**	**Square Feet**	**Percentage**
Building Footprint	92,000	77	106,500	89
Other Impervious Area[1]	11,000	9	0	0
Pervious Area	17,000	14	13,500	11
TOTAL	**120,000**	**100**	**120,000**	**100**

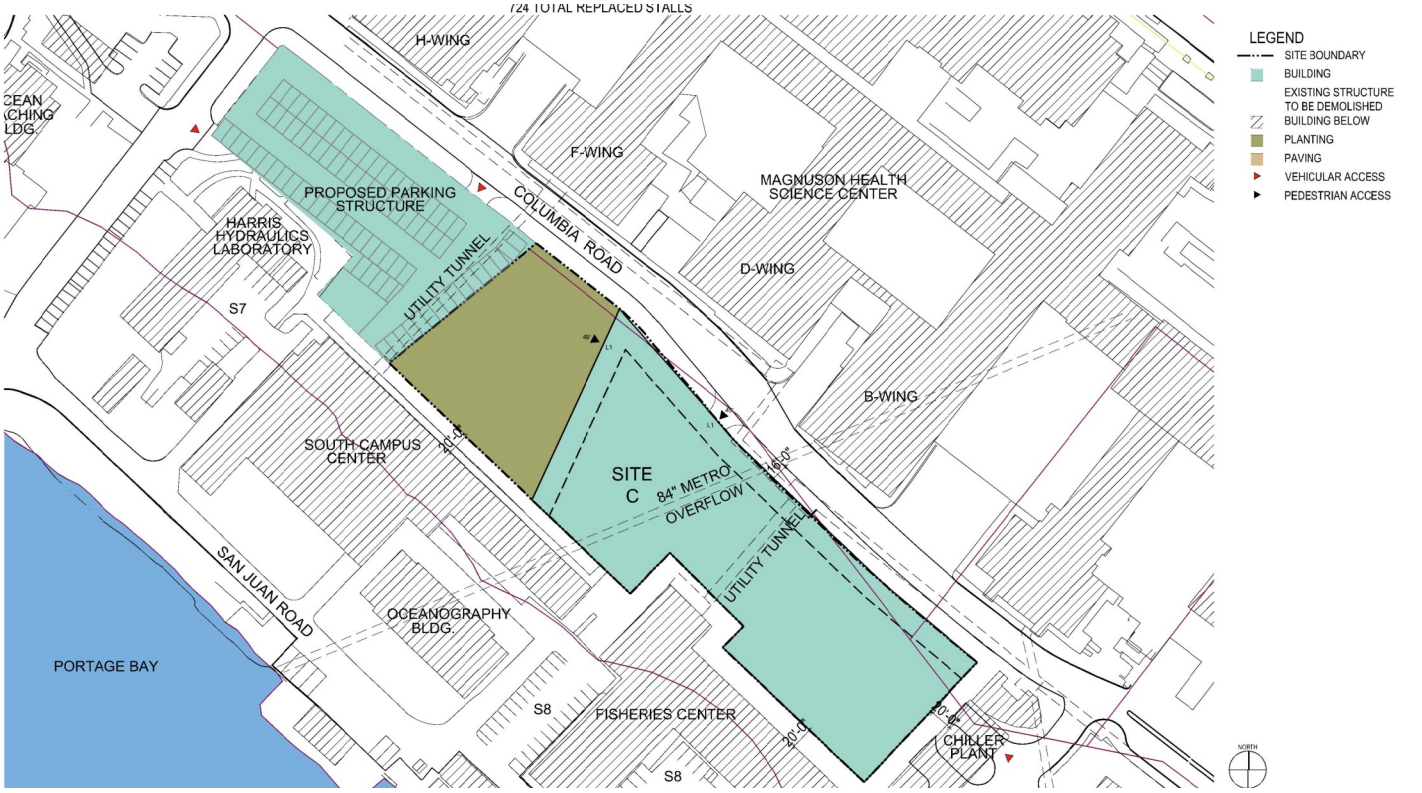
[1]*Includes surface parking, driveways and paved walkways*.

Scenario 2 – Combination Garage and Below Grade Parking

As indicated earlier, under Alternative 3 - Scenario 2, replacement parking would be provided by a combination of a garage with three levels above grade and two levels below grade, as well as one level of parking below the entire site **Figure 2-11** for a site plan and massing of Alternative 3 – Scenario 2).

Construction of the facility on Sites 50S/51S under Alternative 3 - Scenario 2 is assumed to result in the removal of all existing planter vegetation on the site, including the removal of approximately 59 trees, including approximately 3 Exceptional trees; existing street trees would be retained as feasible. **Table 2-10** provides a summary of the assumed site conditions under Alternative 3 - Scenario 2.

As indicated in **Table 2-10**, Alternative 3 - Scenario 2 would include the construction of approximately 917 replacement parking spaces, resulting in an increase of approximately 48 spaces over the existing approximately 869 spaces in the S1 garage.



Note: This illustration is intended to represent a conceptual plan and massing for the Population Health Facility under Alternative 3 and is not intended to represent the specific project design.

Source: Mahlum, 2016.

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Figure 2-11

Alternative 3 (Site 50S/51S) Scenario 2 - Site Plan and Massing

TABLE 2-10
ALTERNATIVE 3 - SCENARIO 2 SITE DEVELOPMENT SUMMARY

Assumed Development Conditions	
New Building Square Footage	330,000
Building Square Footage Demolished	99,870
Parking Spaces Demolished	869
Parking Spaces Replaced	917
Net Parking Change	+48
Staff Displaced/Relocated	0
Exceptional Trees Removed	3

Source: Mahlum, 2016.

Similar to Alternative 3 - Scenario 1, the assumed Population Health Facility building on Sites 50S/51S under Alternative 3 - Scenario 2 would be located on Site 51s (eastern portion of the combined 50S/51S site) with the garage located on Site 50S (western portion of the combined 50S/51S site), with building area comprising the majority of the site, with landscaped open space located in the central portion of the site. With development of the Population Health Facility on Site 50S/51S, it is estimated that under Alternative 3 - Scenario 2, approximately 82 percent of the site would be in building area. Vegetated open space would comprise approximately 11 percent of the site. As indicated in **Table 2-12**, the amount of impervious surfaces associated with buildings and paved area on the site under Alternative 3 - Scenario 2 would be slightly greater than under existing conditions, and the amount of pervious area associated with landscaping would be slightly less than under existing conditions.

TABLE 2-11
ALTERNATIVE 3 - SCENARIO 2 SITE CONDITIONS

	Existing Conditions		Alternative 3 Scenario 2 Conditions	
	Square Feet	**Percentage**	**Square Feet**	**Percentage**
Building Footprint	92,000	77	106,500	89
Other Impervious Area[1]	11,000	9	0	0
Pervious Area	17,000	14	13,500	11
TOTAL	**120,000**	**100**	**120,000**	**100**

[1]*Includes surface parking, driveways and paved walkways*.

Concepts Similar to Alternative 3 - Scenario 1 and Scenario 2

Building Design Concept

A specific building design has not been determined at this point of the process. However, a general design concept to achieve the Population Health Facility program has been defined, and certain aspects of a building on Site 50S/51S can be assumed for the purpose of environmental review.

The Population Health Facility Project under Alternative 3 would be designed to accommodate the specific goals and objectives of the Population Health Program and allow flexibility for the existing and future needs of the program. Consistent with the CMP-Seattle 2003, the design under Alternative 3 would consider the potential for connections to existing Health Sciences Center, provision of courtyards, connections to South Campus Center, and connections to the shoreline.

The design concept under Alternative 3 includes the reservation of area in the center of the site for a potential open space connection between the medical Center/Health Sciences complex to the north and the waterfront to the south, so as not to foreclose the potential for this connection as envisioned in the Draft 2018 Campus Master Plan.

The building's massing and exterior materials would be compatible with other nearby structures (e.g., height and scale, building materials, building orientation, etc.).

Sustainable Design Concept

The design of the Population Health Facility building under Alternative 2 would be intended to meet or exceed the University of Washington's requirement of Leadership in Energy and Environmental Design (LEED) Silver. Sustainable design features would be incorporated into the building and would include energy efficient HVAC systems, natural ventilation, low-flow plumbing fixtures, natural daylighting, low VOC materials, and a high performing building envelope.

Vehicle Circulation

Under Alternative 3, primary vehicular and service access to the Population Health Facility on Site 50S/51S would continue to be provided from NE Columbia and San Juan Road NE; it is anticipated that at least one additional access point from Columbia Road NE would be required under Alternative 3 - Scenario 2, compared to Alternative 3 - Scenario 1. As described earlier, the 869 parking spaces currently associated with the S1 parking structure would be demolished during construction, and replacement parking totaling approximately 724 spaces (Alternative 3 - Scenario 1) to 917 spaces (Alternative 3 - Scenario 2) would be

provided as an element of the Population Health Facility project on Site 50S/51S. The accommodation of shortfall between the number of current parking stalls in the S1 parking structure and replacement parking provided on the site, along with new parking demand associated with the Population Health Facility, would be provided by the existing parking supply available in the West, South and Central Campus sectors (refer to Section 3.4, **Construction**, for additional detail).

Pedestrian and Bicycle Circulation

Site 50S/51S is located adjacent to the CMP-Seattle 2003 identified pedestrian pathway along NE Columbia Road and San Juan Road NE. and bicycle route along NE Columbia Road; San Juan Road NE is also identified as a "possible bicycle improvement". Under Alternative 3, the Population Health Facility Project would include connections between the new building and the identified facilities to facilitate Universal pedestrian and bicycle access. Pedestrian access point into the building would be provided from NE Columbia Road. The amount and location of bicycle parking at this site would be determined during the design phase.

Landscaping

Per University of Washington procedures, the landscape design for the Population Health Facility Project under Alternative 3 would be reviewed by the University's landscape architect and University Landscape Advisory Committee.

Approximately 59 existing trees are assumed to be removed as part of the Population Health Facility Project, including approximately 51 Significant trees of which 3 are considered Exceptional trees. As part of development, new replacement trees would be planted on the site to replace the existing trees that would be removed during construction. Tree replacement on the site would be designed to meet or exceed the typical University of Washington requirement to provide tree replacement at a 1:1 ratio. If tree replacement at a 1:1 ratio is not possible on the site, additional trees would be planted at an off-site area on-campus in accordance with typical University procedures. Proposed tree removal and replacement would be intended to meet or exceed the City of Seattle's tree replacement requirements and would be in accordance with the University of Washington's Tree Management Plan.

Utilities

Stormwater - Under Alternative 3, the Population Health Facility Project would route stormwater to the University of Washington stormwater main located to the immediate north, below NE Columbia Road, and to the immediate west, below San Juan Road NE; these lines eventually discharge to Portage Bay.

Water - Domestic and fire protection water service would be provided from the existing University-owned water mains adjacent to Site 50S/51S (below NE Columbia Road and San Juan Road NE). The Population Health Facility building would likely require a four-inch domestic service water line and a six-inch fire protection service lines. Water meters and backflow prevention devices would be installed within the building per University of Washington standards.

Sewer - New side sewer connections would be required for the Population Health Facility building and would be connected to the existing University-owned sewer mains located adjacent to the site (below NE Columbia Road and San Juan Road NE).

Electrical/telecommunications/Steam/Chilled Water - Electrical power, steam, chilled water, and telecommunications would be provided from the existing campus utility tunnels which run through Site 50S/51S. It is anticipated that emergency power for the building (power during electrical power outages) would be provided by the West Campus Utility Plant located approximately 1,000 feet to the northwest of Site 50S/51S.

Construction Activities and Schedule

The existing S1 parking structure on Site 50S/51S under Alternative 3 would be removed as part of the construction activities. Existing pavement on the site associated with parking structure driveways and other paved areas would also be demolished and transported from the site to a permitted regional recycling facility. Pedestrian access along sidewalks on NE Columbia Road and San Juan Road NE could be temporarily rerouted during portions of the construction process.

A construction staging area and construction parking plan would be coordinated between the general contractor/construction manager (GCCM) and the University of Washington prior to development on the site. Construction vehicle traffic routes would also be coordinated between the GCCM and the University of Washington, and approved by the City of Seattle as part of the permit process, and would be intended to minimize disturbance to the extent feasible, while also protecting pedestrian and vehicle safety in the area.

Due to the nature of the assumed building under Alternative 3 including underground parking, the Population Health Facility Project would require regrading on the site, as well as areas of cut and fill. Alternative 3 – Scenarios 1 and 2 would result in approximately 28,000 cubic yards of cut/excavated materials and 1,000 cubic yards of imported fill to accommodate assumed development, including underground parking and building area.

The current project schedule anticipates that site selection would occur in Spring 2017, construction activities would begin in Spring 2018 and that the Population Health Facility would be operational by Spring 2020.

Consistency with CMP-Seattle 2003 for Site 50S/51S

As described in Section 2.2, the *CMP-Seattle 2003* includes specific policies and guidelines related to Development Site 50S/51S including: possible connection to existing Health Sciences; improve courtyards; all service access on Columbia Road level; develop terrace connection to South Campus Center; maximize views of water; and, develop pedestrian connection to waterfront.

The design for the Population Health Facility project on Site 50S/51S under Alternative 3 would consider the *CMP-Seattle 2003* policies and guidelines for the site, including providing connections to Health Sciences and South Campus Center (most likely surface connections), providing service access from Columbia Road NE, reserving area for pedestrian connections to the waterfront, and providing opportunities for views to the water (refer to Section 3.1, **Land Use**, for a more detailed discussion on the relationship of the EIS Alternatives to the *CMP-Seattle 2003*).

2.8 SUMMARY OF ALTERNATIVES DEVELOPMENT

The following **Table 2-12** provides a summary of the site development conditions for the EIS Alternatives as described in Section 2.7.

TABLE 2-12
SUMMARY OF ASSUMED ALTERNATIVES DEVELOPMENT CONDITIONS

Site Condition	Alternative 1	Alternative 2		Alternative 3	
		Scenario 1	Scenario 2	Scenario 1	Scenario 2
Building Sq. Ft.	330,000	330,000	330,000	330,000	330,000
Building Height in Feet	63	60	95	64[1]/50[2]	64[1]/30[2]
Building Sq. Ft. Demolished	72,560	22,700	22,700	99,870	99,870
Parking Spaces Demolished	104	15	15	869	869
Parking Spaces Replaced	0	0	15	724	917
Net Parking Change	-104	-15	0	-145	+48

Table 2-12 Continued

Staff Displaced/Relocated	252	120	120	0	0
Significant Trees Removed	132	107	107	51	51
Exceptional Trees Removed[3]	36	13	13	3	3
Total Cubic Yards of Grading	46,000	38,000	28,500	29,000	29,000

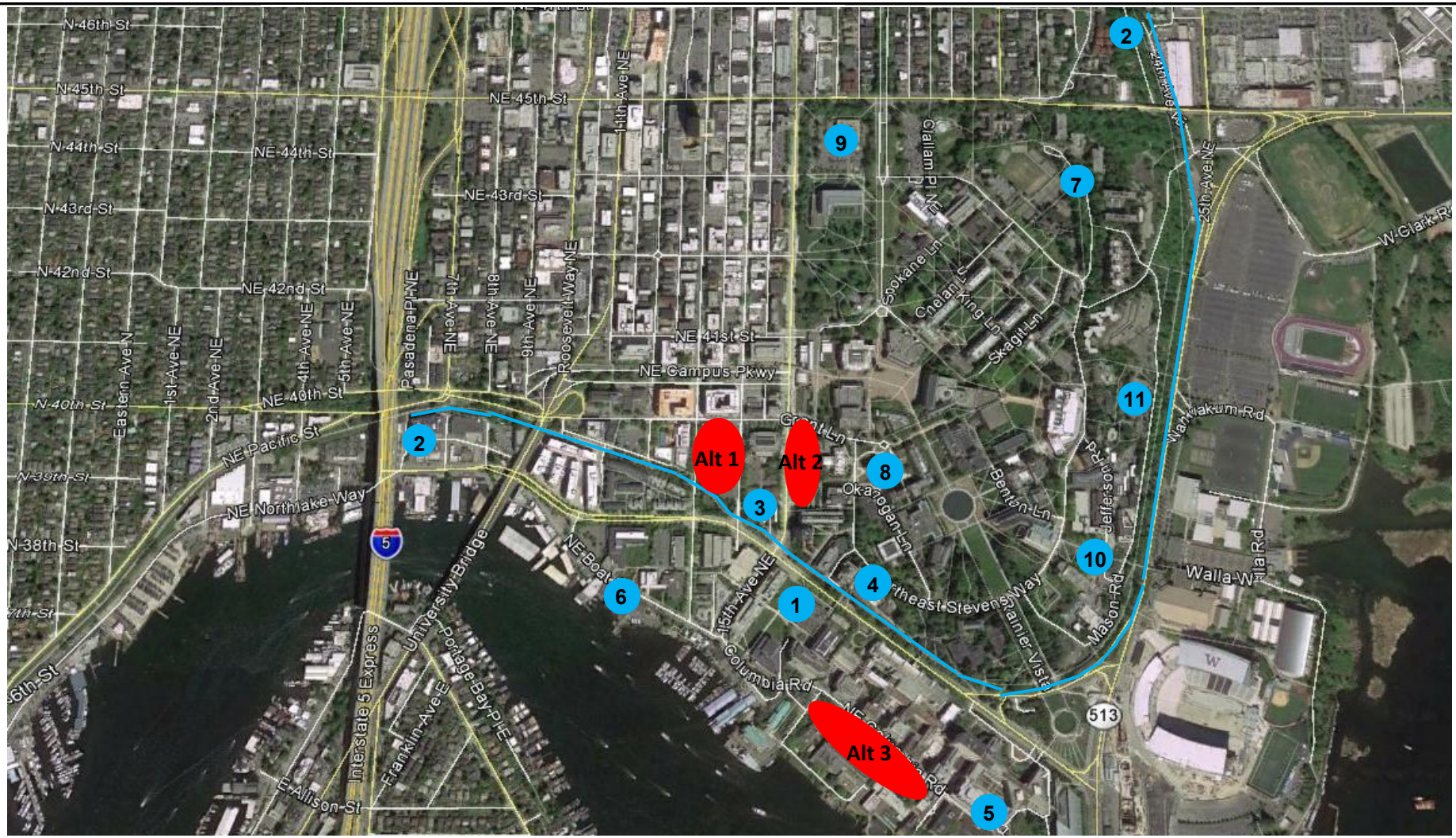
[1]Population Health Facility building height.
[2]Parking garage structure height; assumes 10-foot floor-to-floor height.
[3] Exceptional trees are also counted within the significant tree total.

2.9 SEPARATE ACTIONS/PROJECTS

In addition to the Population Health Facility Project, there are several separate actions/projects on the University of Washington campus that are in the vicinity of the three sites contemplated for the Population Health Facility Project that are currently under construction or are anticipated to be under construction during the development timeframe for the project. These projects include the University of Washington New Burke Museum Project, University of Washington Animal Research and Care Facility (ARCF) Project, University of Washington Burke Gilman Trail Project, the University of Washington West Campus Central Utility Plant Project, the University of Washington Medical Center Phase 2 Project, and the Bryant Building Park Project, and the University of Washington Life Sciences Project (see **Figure 2-12** for a map of the separate action/project locations).

- The **University of Washington New Burke Museum Project** is located on the parking lot of the existing Burke Museum and will include the construction of a new, approximately 105,387-square foot museum building. Construction will occur on the western edge of the site to allow the existing museum to remain open until the new building is completed. Once the new building is complete the existing museum will be demolished to accommodate the remaining site development (i.e., Burke Yard, parking, landscaping, and open space and pedestrian pathways). Construction is currently underway and the earliest construction completion date is estimated as March 2018.

University of Washington Population Health Facility Project
Draft Supplemental Environmental Impact Statement



- Alt 1, Alt 2, Alt 3 — UW Population Health Facility Alternative Sites
- 1 — UW ARCF Project
- 2 — UW Burke Gilman Trail Project
- 3 — UW West Campus Utility Plant Project
- 4 — UW Life Sciences Project
- 5 — UW Medical Center Phase 2 Project
- 6 — Bryant Building Park Project
- 7 — UW North Campus Student Housing Project
- 8 — UW Nano Engineering Phase 2 Project
- 9 — UW New Burke Museum Project
- 10 — UW CSE 2 Project
- 11 — UW Fluke Hall Renovation Project

Source: Google Earth and EA Engineering, 2016.

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Figure 2-12
Separate Actions/Projects Map

- The **University of Washington Animal Research and Care Facility (ARCF) Project** is be located between the William H. Foege Building and Hitchcock Hall and consists of a two-level, below-grade building with approximately 95,700 square feet of building space for research and animal housing at the University. The proposed project will include an above-grade exhaust tower, an above-grade entry pavilion, and new landscaping and pedestrian pathways to enhance the site landscape and maintain the Portage Bay Vista. Construction of this project is currently underway and anticipated to be completed in April 2017.

- The **University of Washington Burke Gilman Trail Project** includes improvements to the 1.7-mile University-owned portion of the trail from Pasadena Place NE to NE 47th Street. The improvements are designed to improve safety and accommodate existing/future traffic flows and include trail widening and consolidated intersections/connections with the trail. The initial phase of the project will occur from 15th Avenue NE to Rainier Vista. Four additional phases will occur in the future, including Pasadena Place NE to University Bridge, University Bridge to Brooklyn Avenue NE, Brooklyn Avenue NE to 15th Avenue NE, and Rainier Vista to NE 47th Street. The initial phase is complete and construction of future phases would occur once funding is available.

- The **University of Washington West Campus Utility Plant Project** is located to the south of the new Police Department Building (near the intersection of University Way NE and NE Pacific Street) and provides process chilled water and emergency power to portions of the South and West campus. The building is approximately 20,000 square feet and will include one below-grade level and one above-grade level. Construction of this project is underway and is anticipated to be complete in January 2017.

- The **University of Washington Medical Center Phase 2 Project** is located at the southern portion of the Medical Center and includes the buildout of three bed floors and the operating rooms suite within the new Montlake Tower (Phase 1) and the renovation of approximately 125,000 square feet within the existing Cascade and Pacific Towers. Construction of this project is currently underway and is anticipated to be completed by April 2018.

- The **Bryant Building Park Project** will include the development of a new park at the current Bryant Building location (adjacent to Portage Bay) to serve as a park replacement for existing park property that was converted to non-park use as part of the WSDOT SR-520 Bridge Project. The specific timeline is unknown at this time.

- The **University of Washington Life Sciences Project** site is located in the southern portion of the Central Campus, adjacent to Kincaid Hall. The proposed seven level building (including two basement levels) will contain approximately 180,000 square feet of academic and research uses and approximately 20,000 square feet of green

house space. The proposed building will provide space for greenhouse uses, laboratory and associated laboratory support space, classrooms, offices, conference rooms, and animal care and associated animal care support spaces. Construction is underway and is anticipated to be completed by July 2018.

- The **Computer Science and Engineering Project** is located in Central Campus, adjacent to the Mechanical Engineering Building, and will provide approximately 134,000 gsf of research, undergraduate education, and related support space for the College of Engineering's Department of Science and Engineering. Construction is underway and is anticipated to be completed by the end of 2018.

- The **University of Washington Molecular Engineering Building Phase 2 Project (**also referred to as Nano Engineering Project) site is located to the north of the existing Molecular Engineering Building (east of Stevens Way and south of Grant Lane). The Phase 2 building includes a six-story, approximately 78,000-square foot building with research, laboratory and faculty/staff office uses. Construction is currently underway and is anticipated to be completed in mid-2017.

- The **Fluke Hall Renovation Project** will renovate the interior of Fluke Hall so that it will serve as a long-term core UW research facility, supporting research, industry partnership, and technology start-up incubation. The work includes upgrades to building infrastructure (HVAC, plumbing, and electrical) to support the cleanroom tenant improvements on the first floor.

- The **University of Washington North Campus Housing Project** site is located in the northeast corner of the Central Campus and would occur over two phases. Phase A will consist of replacing McCarty Hall with two new buildings and the demolition of Haggett Hall. Phase B will entail the construction four buildings, two on the Haggett Hall site and two on the site of the existing tennis courts. Three options for McMahon hall will be analyzed. The proposed redevelopment will result in approximately 3,200 student beds, an increase of 350 beds over existing conditions. Construction is underway and the first phase is anticipated to be complete in fall 2018, with the second phase anticipated to be completed in Fall 2020.

Temporary construction activity associated with any of these separate actions/projects will occur in compliance with applicable University of Washington, City of Seattle, and other relevant regulations. Significant cumulative construction-related impacts are not anticipated because each project has its own separate construction schedule and haul routes that are specific for each project site. Additionally, each project will prepare a Construction Management Plan (CMP) to control and mitigate potential transportation issues during the construction process.

2.10 BENEFITS AND DISADVANTAGES OF DEFERRING IMPLEMENTATION OF THE PROPOSAL

The benefits of deferring approval of the Proposed Action and implementation of development of the Population Health Facility Project include the deferral of:

- Temporary construction-related impacts associated with vibration, noise, air pollution and traffic.

The disadvantages of deferring the approval of the Proposed Action and development of the Population Health Facility Project include the deferral of:

- The opportunity to develop a new Population Health Facility building to meet the current and future needs of the Institute for Health Metrics and Evaluation (IME), the Department of Global Health (DGH), and selected portions of the School of Public Health (SPH).

- The opportunity to locate the Population Health Facility building in proximity to the Magnuson Health Sciences Center and other health sciences uses to allow for collaboration and efficient operation of the programs.

CHAPTER 3

Affected Environment, Impacts, Mitigation Measures, and Significant Unavoidable Adverse Impacts

CHAPTER 3
AFFECTED ENVIRONMENT, IMPACTS, MITIGATION MEASURES AND SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

This chapter describes the affected environment, impacts, mitigation measures and any significant unavoidable adverse impacts anticipated with construction and operation of the *Population Health Facility Project*, as assumed under the Draft SEIS alternatives.

3.1 LAND USE/RELATIONSHIP TO PLANS & POLICIES

This section of the Draft SEIS describes the existing land use conditions on the sites that are under consideration for the proposed Population Health Facility Project and vicinity, and evaluates the potential impacts that could occur as a result of the proposed project. This section also evaluates the project's consistency with relevant plans, policies and regulations.

3.1.1 Affected Environment

Alternative 1 – Development Site 37W

Existing Site

The approximately 2.28-acre (99,500-square foot) Alternative 1 site (CMP-Seattle 2003 Development Site 37W) is located in the West Campus of the University of Washington and is generally bounded by NE 40th Street on the north, the Burke-Gilman Trail on the south, University Way NE on the east, and Brooklyn Avenue NE on the west. Site 37W currently contains: the University of Washington Purchasing and Accounting Building; the Instructional Center/Ethnic Cultural Theater; University-owned buildings addressed as 3935, 3939, 3941 and 3947 University Way NE; and, University parking lots W12 and W13.

The two-story Purchasing and Accounting Building was originally constructed in 1959 and contains approximately 39,600 gross square feet of building space that is primarily used for University of Washington administrative uses. The two-story Instructional Center/Ethnic Cultural Theater was originally constructed in 1941 and contains approximately 12,200 gross square feet of building space. The 3935 University Way NE Building was originally constructed in 1931. The one-story building contains approximately 5,300 gross square feet and was most recently used as University of Washington offices (Department of Psychology). The one-story 3939 University Way NE Building was originally constructed in 1941 and contains approximately 4,700 gross square feet of building space that was most recently used as offices for the University's Behavioral Research and Therapy Clinics. The one-story 3941 University Way NE Building was also constructed in 1941 and contains approximately 7,500

gross square feet of space that has been utilized as offices for the University's School of Drama. The one-story 3947 University Way NE Building was most recently utilized by the University's College of Built Environments as academic space for a Community Design Center. Existing land uses on Site 37W provide building space for approximately 250 employees. University parking lots W12 and W13 that are located on Development Site 37W contain approximately 98 and 6 parking spaces, respectively.

Site Vicinity

Surrounding land uses in the vicinity of Site 37W generally include academic uses, student support uses, administrative uses, student housing, and open space.

To the north of Site 37W, beyond NE 40th Street, is Alder Hall (a six-story student residence hall), the College Inn (retail/commercial use), the Commodore Duchess apartments (an eight-story student apartment building), and Lander Hall (an eight-story student residence hall). To the east of Site 37W, beyond University Way NE, is Gould Hall (four-story building for the University's Department of Architecture), the UW Police Department building (three-stories), the University's West Campus Utility Plant, and the Church of Jesus Christ of Latter-day Saints building (two-stories). To the south of Site 37W is a portion of the Burke Gilman Trail and associated vegetated/landscaped areas. To the west of Site 37W, beyond Brooklyn Ave NE, is the Instructional Center/Ethnic Cultural Theater (two-stories), the Ethnic Cultural Center (three-stories) and the Brooklyn Trail Building (one-story building for the University's Center for Child and Family Well-Being). See **Figure 3.1-1** for map of existing uses in the site vicinity.

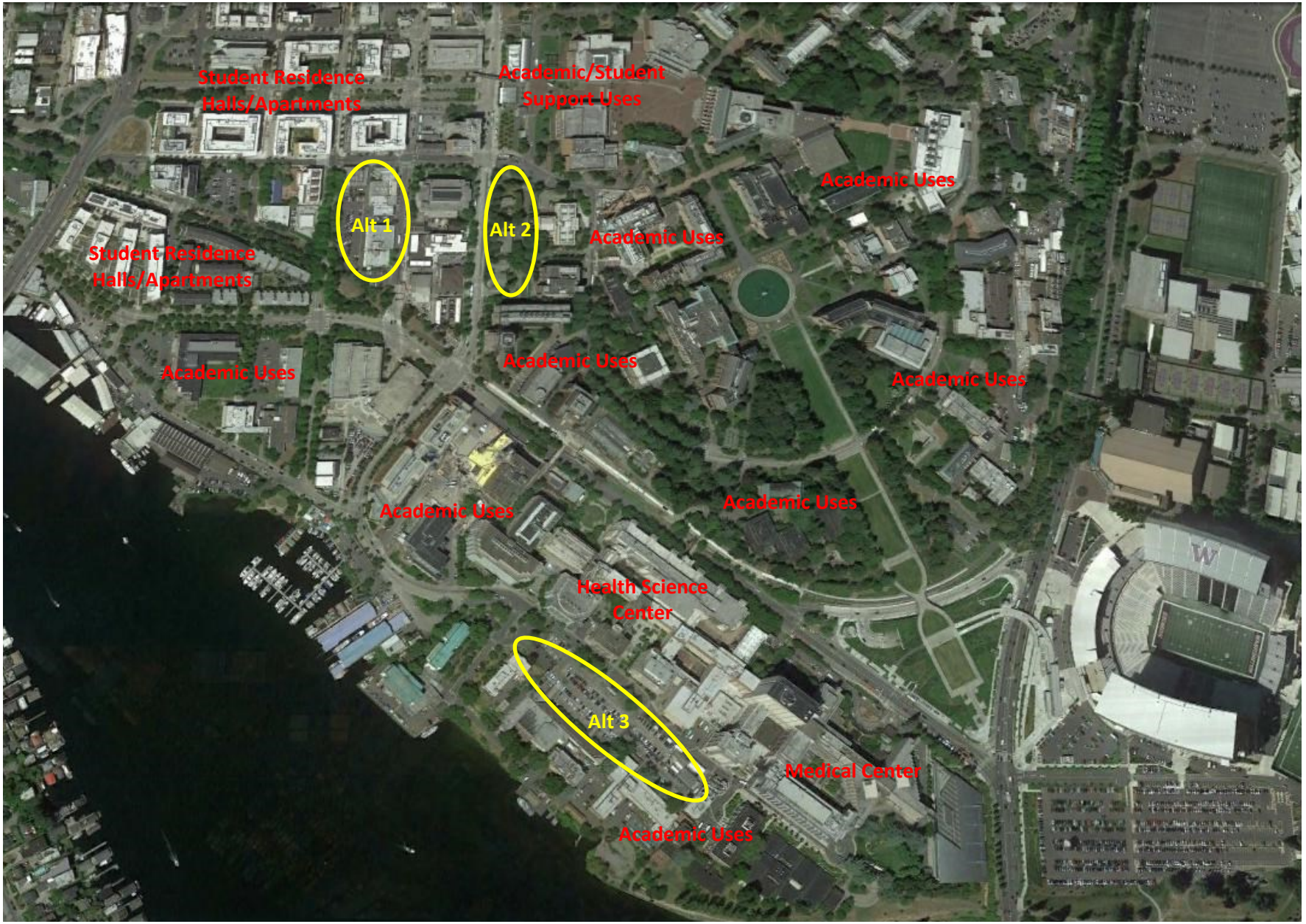
Existing Land Use Designations

The University of Washington campus is located within the Major Institution Overlay (MIO) zoning area. As provided in City-University Agreement, and Seattle Municipal Code (SMC) 23.69.006 and SMC 23.12.120, development within the MIO is governed by the *CMP-Seattle 2003* until a new campus master plan is adopted. All University of Washington development occurring within MIO boundaries must follow the development standards identified in the *CMP-Seattle 2003* including: provisions addressing architectural and landscape review, building height, building setbacks, light and glare, signage, telecommunications, parking, open space, and environmental issues. Site 37W is located within the MIO-65 zoning area, which establishes a maximum building height of 65 feet.

Alternative 2 – Development Site 22C

Existing Site

The approximately 1.9-acre (81,700-square foot) Alternative 2 site (CMP-Seattle 2003 Development Site 22C) is located in the Central Campus of the University of Washington and is generally bounded by NE Grant Lane on the north, Architecture Hall and Guthrie Hall on the east, the Physics/Astronomy Building on the south, and 15th Avenue NE on the west.



Source: Google Earth and EA Engineering, 2016.

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Figure 3.1-1
Existing Surrounding Land Use Map

Site 22C currently contains the Guthrie Annexes 1, 2, 3 and 4, University parking lot C8, a portion of Asotin Place NE, and pedestrian walkways. Guthrie Annexes 1 and 2 were both constructed in 1918 and are two-story structures that contain approximately 6,300 gross square feet and 7,700 gross square feet, respectively. The one-story Guthrie Annex 3 was constructed in 1927 and contains approximately 5,300 gross square feet. The one-story Guthrie Annex 4 was constructed in 1947 and contains approximately 3,400 square feet. All of the Guthrie Annex buildings are currently used by the University's Department of Psychology. Existing land uses on Site 22C provide building space for approximately 120 employees.

University parking lot C8 is located in the northern portion of Site 22C and includes approximately 15 surface parking spaces.

Site Vicinity

Existing land uses in the vicinity of Site 22C generally include academic uses, student support uses, and student housing. To the north of Site 22C, beyond NE Grant Lane, is the West Gatehouse and Meany Hall (four- to five-story performing arts center); the Commodore Duchess apartments are also located to the northwest. To the east of Site 22C is the four-story Architecture Hall (Department of Architecture and Department of Construction Management), and the four-story Guthrie Hall (Department of Psychology). To the south is the five-story Physics-Astronomy Building and nine-story Physics/Astronomy Tower. To the west, beyond 15th Avenue NE, is Gould Hall (four-story building for the University's Department of Architecture), the UW Police Department building (three-stories), the University's West Campus Utility Plant, and the Church of Jesus Christ of Latter-day Saints building (two-stories). See **Figure 3.1-1** for map of existing uses in the site vicinity.

Existing Land Use Designations

Site 22C is located within the MIO-105 zoning area, which establishes a maximum building height of 105 feet.

Alternative 3 – (Development Site 50S/51S)

Existing Site

The approximately 2.75-acre (120,000-square foot) Alternative 3 site (*CMP-Seattle 2003* Development Site 50S/51S) is located in the South Campus of the University of Washington and is generally bounded by NE Columbia Road and the Magnuson Health Sciences Center to the north, the Central Utility Plan Building on the east, the South Campus Center on the south, and NE Columbia Road and the South Gatehouse on the west.

Site 50S/51S is comprised of University parking lot S1 and associated landscaping. Parking lot S1 is a structured parking garage with space for approximately 869 vehicles. This parking area

is a primary parking area within the South Campus. There is no existing onsite staff on Site 50S/51S.

Site Vicinity

Existing land uses in the vicinity of Site 50S/51S generally include academic uses, medical center uses, student support uses, and campus infrastructure. To the north of Site 50S/51S, beyond NE Columbia Road, is the Magnuson Health Sciences Center which includes multiple wings ranging from five-stories to seven-stories in height and the University of Washington Medical Center which includes building ranging from six-stories to fifteen-stories in height. To the east of Site 50S/51S is the two-story Central Utility Plant Building and the Center on Human Development and Disability. To the south of Site 50S/51S is the two-story Portage Bay Building (Applied Physics Laboratory, Department of Radiology and School of Aquatic and Fishery Sciences), the two-story Institute for Learning and Brain Sciences, the three-story South Campus Center (Health Sciences Academic Services and Facilities), and the three-story Oceanography Building (Department of Earth and Space Sciences and Applied Physics Lab). To the west of the site is the two-story Harris Hydraulics Laboratory, the South Gatehouse, the three-story Oceanography Teaching Building and University parking lots S5, S7 and S12 (see **Figure 3.1-1** for map of existing uses in the site vicinity).

Existing Land Use Designations

Site 50S/51S is located within the MIO-65 zoning area, which establishes a maximum building height of 65 feet.

3.1.2 Impacts

This section of the Draft SEIS identifies the potential impacts on existing land uses on the University of Washington campus and in the surrounding areas that could occur with development of the Population Health Facility Project under the Draft SEIS Alternatives. Direct impacts relate to the displacement of existing uses, the addition of new uses and the relationship of the new use to existing surrounding uses. Indirect impacts relate to the potential for peripheral development (i.e., pressure to develop supporting uses).

No Action Alternative

Under the No Action Alternative, the Population Health Facility Project would not be constructed, the EIS Alternative sites would remain in their existing conditions and the existing land uses would continue. The University's Institute of Health Metrics (IHME), the Department of Global Health (DGH) and selected portions of the School of Public Health (SPH) would remain dispersed across the campus and would not be co-located in close proximity to University of Washington Medical Center and the University of Washington Health Sciences Complex.

Alternative 1 – (Development Site 37W)

Under Alternative 1, the design of the Population Health Facility building is assumed to include five stories (including one basement level) and up to approximately 330,000 gross square feet of building space[1]. The assumed building height would be approximately 63 feet at its highest point, which would be below the 65-foot height limit established for the site under the *CMP-Seattle 2003*. The new building would include classrooms, research labs, communal spaces, offices, administrative areas, and student and faculty support space. The building would support approximately 1,800 staff, faculty and students; 1,200 of which would be considered new population to the Seattle campus (see **Figure 2-7** for a site plan of Alternative 1).

Direct Impacts

The types of direct impacts that could occur from the development of the Population Health Facility Project relate to the conversion of land uses and the compatibility of the proposed land use with the existing surrounding uses.

Uses

Consistent with the *CMP-Seattle 2003*, assumed development of the Population Health Facility Project on Site 37W would replace the existing one- to two-story academic/administrative buildings and surface parking on the site with a new five-story, up to approximately 330,000-square foot academic and research building. Development of the Population Health Facility would result in the displacement of approximately 72,560 square feet of existing building areas on the site associated with the Purchasing and Accounting Building, the Instructional Center/Ethnic Cultural Theater, as well as buildings listed as 3935, 3939, 3941 and 3947 University Way NE (see **Table 2-2** for summary of existing site conditions and conditions under Alternative 1). Approximately 250 existing employees would be displaced and relocated from the site with removal of the existing buildings. Approximately 104 parking stalls would be displaced from the existing W12 and W13 parking lots. Approximately 154 existing trees would be removed to accommodate the Population Health Facility.

Development site 37W is identified in the *CMP-Seattle 2003* for development with a maximum building height of 65 feet and 309,000 gross square feet of building area[2]. The approximately 330,000 square feet that is assumed for the building would meet the amount of building area identified in the *CMP-Seattle 2003* (309,000 net new square feet) considering the demolition of approximately 72,500 square feet of existing building space; demolition of

[1] Pursuant to the CMP-Seattle 2003, any below-grade area would not count against the allowed development total for the campus.

[2] The CMP-Seattle 2003 also identifies approximately 63,500 square feet of existing building area that could be demolished; underground building area also does not count against the maximum building area for a site.

existing building space is subtracted from the new building space to calculate the net new building square footage total under the *CMP-Seattle 2003*. Development would also be consistent with the goals and objectives for the West Campus including creating new facilities to define the form of the West Campus and creating a mix of uses to serve the University and community (refer to Section 3.1.5, **Relationship to Plans and Policies**, for additional discussion).

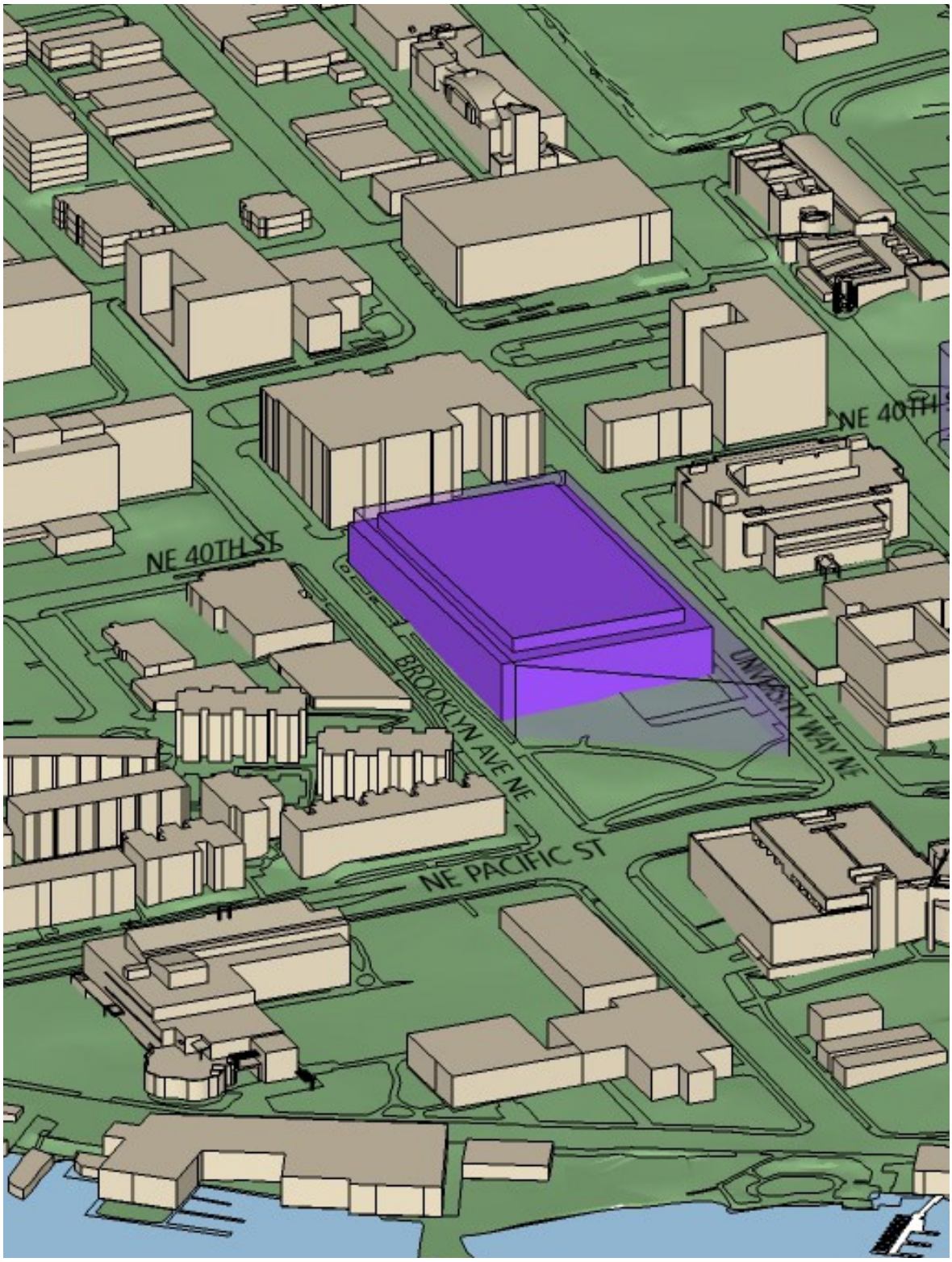
Relationship to Surrounding Uses

The relationship of the Population Health Facility to surrounding land uses adjacent to Site 37W is primarily a function of the intensity of the new use, the intensity of surrounding uses, and the proximity of the new uses to surrounding uses.

Development under Alternative 1 is intended to facilitate the University of Washington objectives for the Population Health Facility Project and is consistent with the *CMP-Seattle 2003* defined uses for site 37W. Refer to **Chapter 2** of this document for a description of the project goals and objectives and Section 3.1.5 for a discussion on the relationship of the project with the *CMP-Seattle 2003*.

The Population Health Facility Project on Site 37W is assumed for impact identification purposes to be five-stories in height, which would be similar to or less than the height of existing surrounding buildings such as Alder Hall, Lander Hall, Gould Hall and the Commodore Duchess, but would be taller than adjacent buildings including the Ethnic Cultural Center, Brooklyn Trail Building, UW Police Department and the Church of Jesus Christ of Latter-day Saints building. The assumed density of the building (up to approximately 330,000 square feet) would be greater than existing uses to the east and west, but would be similar to existing uses to the north and south (student residence halls). See **Figure 3.1-2** for a conceptual massing and zoning envelope under Alternative 1.

While a specific building design has not been determined at this point of the process, a general design concept to achieve the Population Health Facility program has been defined and certain aspects of a building on Site 37W can be assumed for the purpose of impact identification. It is anticipated that under Alternative 1, the project would be designed to be consistent with the *CMP-Seattle 2003* and would consider the relationship of building facade and entries from the E-W Walk (which follows along NE 40th Street and NE Grant Lane), University Way, Brooklyn Avenue, 40th Street NE, and the Burke-Gilman Trail. The building's design, massing and exterior materials would be compatible with other nearby University structures. Considerations would include building height and scale, building materials, building orientation, provisions of setback/buffers from adjacent uses, and landscaping (refer to Section 3.1.5, **Relationship to Plans and Policies**, for additional discussion).



Note: This illustration is intended to represent a conceptual plan and massing for the Population Health Facility under Alternative 1 and is not intended to represent the specific project design.

Source: Mahlum, 2016.

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Figure 3.1-2

Alternative 1 (Site 37W) Massing

Activity levels (i.e. noise and vehicle/pedestrian traffic associated with site population) on site 37W would increase with development of the Population Health Facility due to the increased building space for academic uses when compared to the existing conditions, and increased onsite population (approximately 1,800 people compared with approximately 250 people under existing conditions). Development of up to an approximately 330,000-square foot facility would result in a larger number of students, faculty, and staff traveling to and from the site. The assumed land use would be similar in nature to the existing uses on the site and therefore the nature of the activity levels on Site 37W would not differ. However, the overall level and intensity of activity on Site 37W associated with the Population Health Facility would increase over existing conditions. These activity levels would also likely be higher than existing surrounding uses (including Gould Hall, the Ethnic Cultural Center, the Brooklyn Trail Building and the UW Police Department) due to the size of the building; the number of students, faculty and staff that would be supported by the building (approximately 1,800 people); and, the nature of academic/research uses that would result in students, faculty and staff frequently traveling to and from the site during the course of the school day. Activity levels would be generally similar to the existing adjacent student residence halls to the north of Site 37W (Alder Hall and Lander Hall).

Indirect Impacts

Increased site population associated with development of the Population Health Facility Project on Site 37W could result in increased demand for student services (copy facilities, restaurants, coffee shops, etc.) in the site vicinity. However, it would be anticipated that any increased demand for these services would be met by existing services on campus and by businesses in the University District. The increase in academic, research and office space on the site would result in increased pedestrian traffic in this area of campus and on surrounding streets and sidewalks between the site and other portions of campus and the University District.

Impact Summary

The following **Table 3.1-1** provides a summary of land use-related conditions under Alternative 1.

Table 3.1-1
SUMMARY OF LAND USE CONDITIONS – ALTERNATIVE 1

Site Condition	Alternative 1
Building Height (Ft.)	63
Building Sq. Ft.	330,000
Conversion of Uses	Change one- to two-story academic/ administrative uses and parking.

Table 3.1-1 Continued

Site Condition	Alternative 1
Building Sq. Ft. Demolished	72,560
Staff Displaced/Relocated	250
New Site Population	1,800
Parking Spaces Demolished	104
Parking Spaces Replaced	0
Net Parking Gain/Loss	-104
Relationship to Surrounding Uses	Greater building height and density than uses to the east and west. Similar height and density to uses to the north and south
Activity Levels	Increased activity levels when compared to existing site uses and most surrounding land uses. Similar activity levels to existing residence halls.

Alternative 2 – (Development Site 22C)

Under Alternative 2, the design of the Population Health Facility Project is assumed to include the same amount of building space as Alternative 1 (up to approximately 330,000 gross square feet) and would include the same types of uses and number of staff, faculty and students. The *CMP-Seattle 2003* establishes a 105-foot height limit for Site 22C, which allows for flexibility in building design. Given this flexibility of potential building design, the following two scenarios for the assumed building design is considered under Alternative 2. Scenario 1 assumes the development of a four-story building with a larger building footprint (see **Figure 2-8** for a site plan of Alternative 2 – Scenario 1). Scenario 2 assumes the development of an eight-story building with a smaller building footprint (see **Figure 2-9** for a site plan of Alternative 2 – Scenario 2).

Alternative 2 – Scenario 1

Direct Impacts

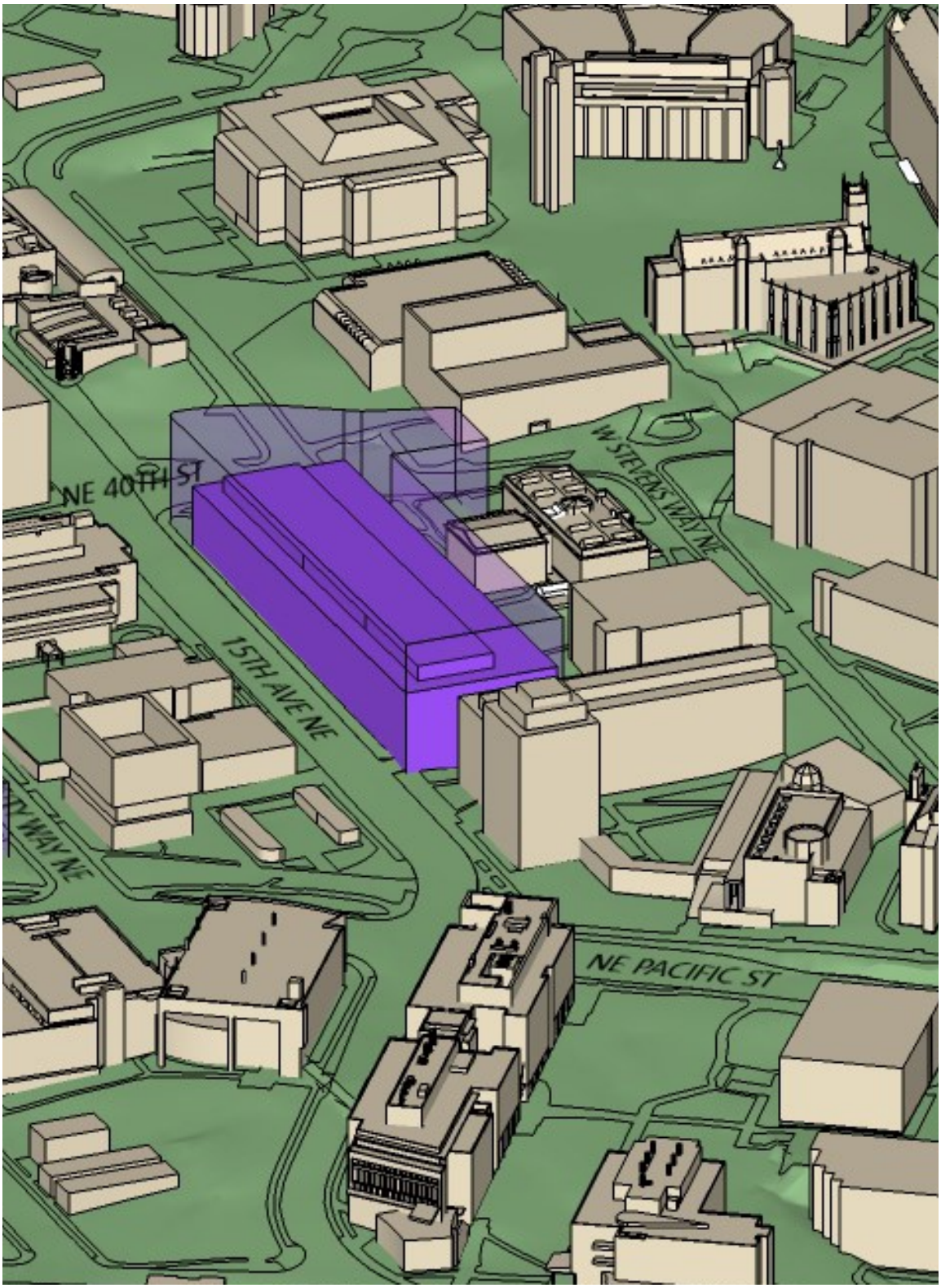
*Uses – Consistent with the CMP-Seattle 2003, a*ssumed development of the Population Health Facility Project on Site 22C would replace the existing one-story academic/administrative buildings and surface parking on the site with a new four-story, up to approximately 330,000-square foot academic and research building. Development of the Population Health Facility would result in the displacement of approximately 22,700 square feet of existing building area on the site associated with the Guthrie Annexes 1, 2, 3 and 4 (see **Table 2-4** for summary of existing site conditions and conditions under Alternative 2 – Scenario 1). Approximately 120 employees would also be displaced and relocated from the site with the removal of the existing buildings. Approximately 15 parking stalls would be displaced from the existing C8 parking lot. Approximately 123 existing trees would be removed to accommodate the Population Health Facility.

Site 22C is identified in the *CMP-Seattle 2003* for development with a maximum building height of 105 feet and 292,000 gross square feet of building area[3]. In order for the up to approximately 330,000 square feet assumed for the building to meet the amount of building area identified in the *CMP-Seattle 2003* (292,000 net new square feet) and considering the demolition of approximately 22,700 square feet of existing building space, the provision of approximately 15,000 square feet of building space below grade would be required; below grade building space does not count toward the calculation of new development and demolition of existing building space is subtracted from the new building space to calculate the net new building square footage total under the *CMP-Seattle 2003*. The assumed 60-foot building height under Alternative 2 – Scenario 1 would also be below the 105-foot maximum height limit. Development would also be consistent with the goals and objectives for the Central Campus including conserving the historic core, creating more inviting campus edges and entrances, improving connections to University-related uses west of 15th Avenue NE, and creating well designed connections between the University and larger community.

Relationship to Surrounding Uses – Development under Alternative 2 – Scenario 1 is intended to facilitate the University of Washington objectives for the Population Health Facility Project and is consistent with the *CMP-Seattle 2003* defined uses for site 22C. Refer to **Chapter 2** of this document for a description of the project goals and objectives and Section 3.1.5 for a discussion on the relationship of the project with the *CMP-Seattle 2003*.

The Population Health Facility Project on Site 22C is assumed for impact identification to be five-stories in height (plus a basement level), which would be similar to or less than the height of existing surrounding buildings such as Architecture Hall, Meany Hall, the Commodore Duchess, Guthrie Hall, the Physics-Astronomy Building, the Physics-Astronomy Tower and Gould Hall, but would be taller than buildings across 15th Avenue NE, including the UW Police Department building, the University's West Campus Utility Plant, and the Church of Jesus Christ of Latter-day Saints building. Under Alternative 2 – Scenario 1, the Population Health Facility would be located immediately west of Architecture Hall and while the four-story building would be similar in height to Architecture Hall, it would require a larger building footprint to accommodate the density and program needs of the Population Health Facility. As a result, the Population Health Facility would appear wider than Architecture Hall and be visible to the north and south of Architecture Hall (see Section 3.2, **Aesthetics**, for further details). The assumed density of the building (up to approximately 330,000 square feet) would be greater than the majority of the other surrounding buildings in the site vicinity but would be similar to buildings such as the Commodore Duchess, Physics-Astronomy Tower, and Kincaid Hall (see **Figure 3.1-3** for a conceptual massing and zoning envelope under Alternative 2 – Scenario 1).

[3] The CMP-Seattle 2003 also identifies approximately 22,736 square feet of existing building area that could be demolished; underground building area also does not count against the maximum building area for development sites.



Note: This illustration is intended to represent a conceptual plan and massing for the Population Health Facility under Alternative 2 and is not intended to represent the specific project design.

Source: Mahlum, 2016.

EA Engineering, Science, and Technology, Inc., PBC

Figure 3.1-3

Alternative 2—Scenario 1 (Site 22C) Massing

While a specific building design has not been determined at this point of the process, a general design concept to achieve the Population Health Facility program has been defined and certain aspects of a building on Site 22C can be assumed for the purpose of impact identification. It is anticipated that under Alternative 2 – Scenario 1, the project would be designed to be consistent with the *CMP-Seattle 2003* and would consider the relationship of building facade and entries from the E-W Walk (which follows along NE 40th Street and NE Grant Lane), 15th Avenue NE and George Washington Lane extension (refer to Section 3.1.5, **Relationship to Plans and Policies**, for additional discussion).

The building's design, massing and exterior materials would be compatible with other nearby University structures. Design considerations would include building height and scale, building materials, building orientation, provisions of setback/buffers from adjacent uses, and landscaping to minimize impacts.

Activity levels (i.e. noise and vehicle/pedestrian traffic associated with site population) on Site 22C would increase with development of the Population Health Facility due to the increased building size and population for academic and research uses when compared to the existing conditions. Development of the up to approximately 330,000-square foot facility would result in a larger number of students, faculty, and staff traveling to and from the site. The assumed land use would be similar in nature to existing uses on the site and therefore the nature of the activity levels on Site 22C would not differ from existing uses or those anticipated in the *CMP-Seattle 2003*. The overall level of activity on Site 22C associated with the Population Health Facility would increase over existing conditions. These activity levels would also likely be higher than individual existing surrounding uses due to the size of the building and the number of students, faculty and staff that would be supported by the building (approximately 1,800 people). However, this area of campus in general experiences high activity levels due to its proximity to a major campus vehicular and pedestrian entrance point, with pedestrians and vehicles frequently traveling to and from this area during the course of the day. As a result, increases in activity levels associated with the Population Health Facility would not be anticipated to be substantially noticeable, with the exception of along the east side of 15th Avenue NE which currently experiences relatively low pedestrian volumes.

Indirect Impacts

Indirect impacts would be similar to those described under Alternative 1 and would include increased pedestrian traffic in this area of campus and on surrounding streets and sidewalks between the site and other portions of campus and the University District, as well as increased demand for student services (copy facilities, restaurants, coffee shops, etc.) in the site vicinity. Any increased demand for these services would be met by existing services on campus and by businesses in the University District.

Alternative 2 – Scenario 2

Direct Impacts

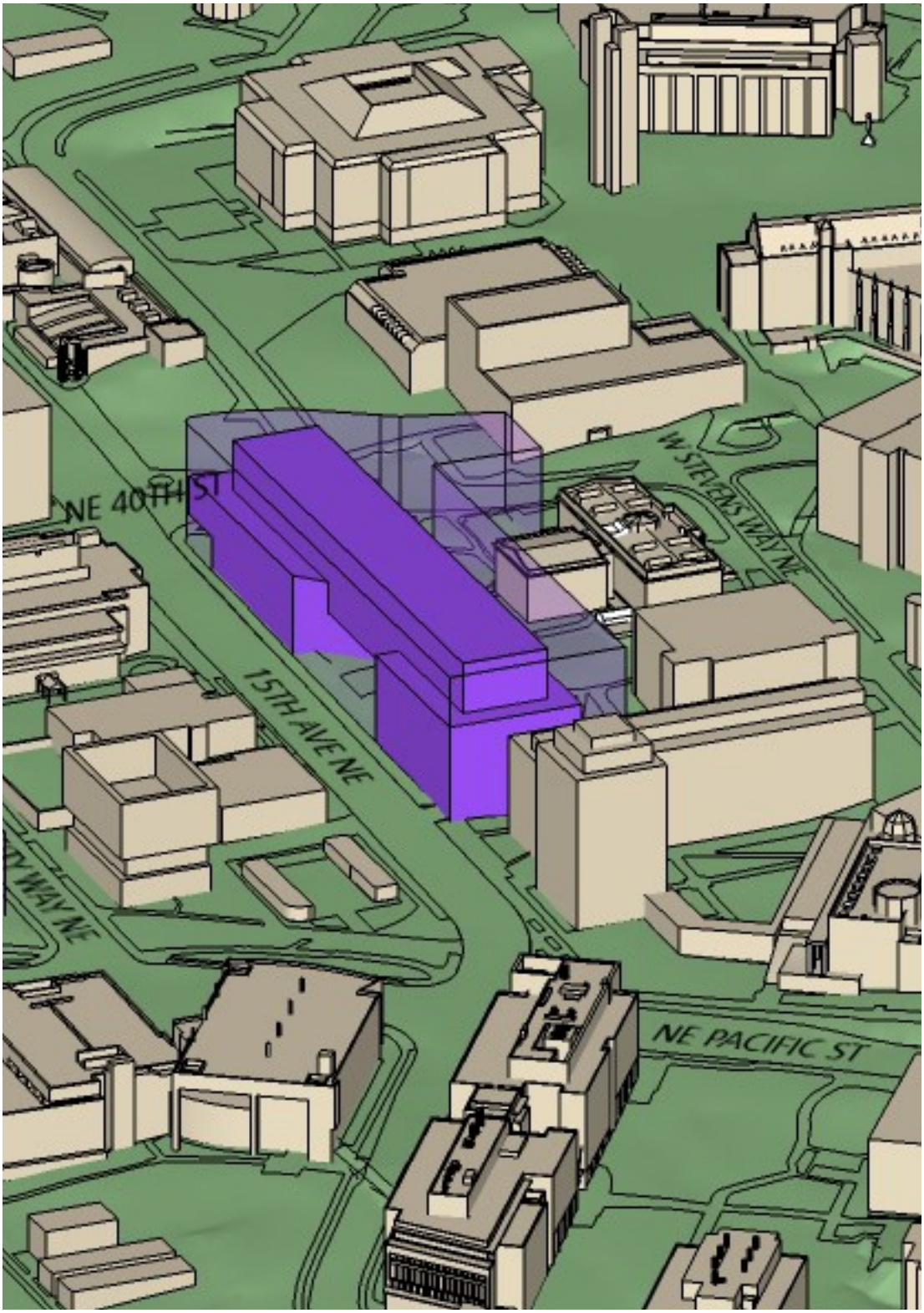
Uses – Similar to Alternative 2 – Scenario 1, assumed development under Scenario 2 would be consistent with the *CMP-Seattle 2003* and would replace the existing one-story academic/administrative buildings and surface parking on the site with a new up to approximately 330,000-square foot academic and research building. The provision of a taller building under Alternative 2 – Scenario 2 (eight stories compared with four stories) would result in a smaller building footprint on Site 22C when compared with Scenario 1 (see **Table 2-5** for summary of existing site conditions and conditions under Alternative 2 – Scenario 2).

Relationship to Surrounding Uses – The Population Health Facility Project under Alternative 2 – Scenario 2 would be eight-stories in height with a smaller building footprint. The assumed building height would be greater than the majority of the existing surrounding buildings such as Architecture Hall, Meany Hall, the Commodore Duchess, Guthrie Hall, the Physics-Astronomy Building and Gould Hall. Under Alternative 2 – Scenario 2, the Population Health Facility, the eight-story building would be taller than Architecture Hall and would be visible behind Architecture Hall when view from areas to the east (see Section 3.2, **Aesthetics**, for further details). Given the smaller building footprint under Alternative 2 – Scenario 2 compared to Alternative 2 – Scenario 1, the building under Scenario 2 could be located to provide a larger separation between the Population Health Facility building and the adjacent Architecture Hall than under Scenario 1.

The assumed density of the building (up to approximately 330,000 square feet) would be greater than the majority of the other surrounding buildings in the site vicinity (see **Figure 3.1-4** for a conceptual massing and zoning envelope under Alternative 2 – Scenario 2).

Similar to Alternative 2 – Scenario 1, a specific building design has not been determined at this point of the process, a general design concept to achieve the Population Health Facility program has been identified for purposes of assessment of impacts on Site 22C. It is anticipated that under Alternative 2 – Scenario 2, the project would be designed to be consistent with the *CMP-Seattle 2003* and would consider the relationship of building facade and entries from the E-W Walk (which follows along NE 40th Street and NE Grant Lane), 15th Avenue NE and George Washington Lane extension (refer to Section 3.1.5, Relationship to Plans and Policies for additional discussion).

The building's design, massing and exterior materials would be intended to be compatible with other nearby University structures (including the adjacent Architecture Hall) and to minimize the potential land use impact of the building's height and density on surrounding uses. Considerations would include building height and scale, building materials, building orientation, provisions of setback/buffers from adjacent uses, and landscaping.



Note: This illustration is intended to represent a conceptual plan and massing for the Population Health Facility under Alternative 2 and is not intended to represent the specific project design.

Source: Mahlum, 2016.

EA Engineering, Science, and Technology, Inc., PBC

Figure 3.1-4

Alternative 2—Scenario 2 (Site 22C) Massing

Activity levels (i.e. noise and vehicle/pedestrian traffic associated with site population) on Site 22C would increase with development of the Population Health Facility due to the increased building space for academic and research uses when compared to the existing conditions. Potential increases in activity levels would be similar to Alternative 2 – Scenario 1 due to the similar amount of building space (up to approximately 330,000-square feet) and the number of students, faculty and staff that would be supported by the building (approximately 1,800 people).

Indirect Impacts

Indirect impacts under Alternative 2 – Scenario 2 would be the same as those described under Alternative 2 – Scenario 1.

Impact Summary

The following **Table 3.1-2** provides a summary of land use-related impacts under Alternative 2.

Table 3.1-2
SUMMARY OF LAND USE CONDITIONS – ALTERNATIVE 2

Site Condition	Alternative 2	
	Scenario 1	**Scenario 2**
Building Height	60	95
Building Sq. Ft	330,000	330,000
Conversion of Uses	Change one-story academic/ administrative uses and parking.	Change one-story academic/ administrative uses and parking.
Building Sq. Ft. Demolished	22,700	22,700
Staff Displaced/Relocated	120	120
New Site Population	1,800	1,800
Parking Spaces Demolished	15	15
Parking Spaces Replaced	0	15
Net Parking Gain/Loss	-15	0
Relationship to Surrounding Uses	Similar building height to some existing uses (including Architecture Hall). Greater building density than surrounding uses. Larger footprint would be closer and larger than Architecture Hall[4]	Similar building height to some existing uses, but greater than others (including Architecture Hall). Greater building density than surrounding uses. Smaller footprint would allow for a greater setback from Architecture Hall[4].
Activity Levels	Increased activity levels when compared to existing site uses but would not be substantially noticeable due to current high activity levels in the area.	Similar to Alternative 2 - Scenario 1

[4] *Refer to Section 3.3, Historic and Cultural Resources, for discussion on historic building conditions for Architecture Hall.*

Alternative 3 – (Development Site 50S/51S)

Under Alternative 3, the design of the Population Health Facility building is assumed to include the same amount of building space (up to approximately 330,000 gross square feet) and would include the same types of uses and number of staff, faculty and students (1,800) as under Alternative 1. The assumed building height would be approximately 64 feet at its highest point, which would be below the 65-foot height limit established for the site under the *CMP-Seattle 2003*. Two scenarios are identified for development under Alternative 3. Under Scenario 1, all replacement parking (approximately 724 spaces) would be provided within a new garage on the western portion of Site 50S (see **Figure 2-10** for a site plan of Alternative 3 – Scenario 1). Under Scenario 2, replacement parking (approximately 833 spaces) would be provided by a garage with three above-grade levels and two below-grade levels, as well one below-grade level that spans the entire length of site 50S/51S (see **Figure 2-11** for a site plan of Alternative 3 – Scenario 2).

Alternative 3 – Scenario 1

Direct Impacts

*Uses – Consistent with the CMP-Seattle 2003, a*ssumed development of the Population Health Facility Project on Site 50s/51S would replace the existing structured parking garage (S1 parking garage) with a new four-story (plus a basement level), up to approximately 330,000-square foot academic and research building. Development of the Population Health Facility would result in the displacement of the approximately 99,870-square foot S1 parking garage and the associated approximately 869 parking spaces (see **Table 2-6** for summary of existing site conditions and conditions under Alternative 3 – Scenario 1); no existing onsite staff or student populations would be displaced. Approximately 59 existing trees would be removed to accommodate the Population Health Facility. The assumed Population Health Facility building would be located on Site 51S (eastern portion of the combined site) and the parking garage would be located on Site 50S (western portion of the site).

Site 50S is identified in the *CMP-Seattle 2003* to accommodate approximately 165,000 square feet with a maximum building height of 65 feet, while Site 51S is identified to accommodate approximately 150,000 square feet with a maximum building height of 65 feet[5]. In total, Site 50S/51S is identified in the *CMP-Seattle 2003* for up to 315,000 square feet of development. The up to approximately 330,000 square feet that is assumed for the building would meet the amount of building area identified in the *CMP-Seattle 2003* (315,000 net new square feet) based on the demolition of approximately 99,870 square feet; demolition of existing building space is subtracted from the new building space to calculate the net new building square

[5] *The CMP-Seattle 2003 also identifies approximately 99,870 square feet of existing building area that could be demolished; underground building area also does not count against the maximum building area for development sites.*

footage total under the *CMP-Seattle 2003*. Development would also be consistent with the goals and objectives for the South Campus including creating additional open spaces and improving pedestrian access to the waterfront.

Relationship to Surrounding Uses – Development under Alternative 3 – Scenario 1 is intended to facilitate the University of Washington objectives for the Population Health Facility Project and is consistent with the *CMP-Seattle 2003* defined uses for Site 50S/51S. Refer to **Chapter 2** of this document for a description of the project goals and objectives and Section 3.1.5, **Relationship to Plans and Policies**, for a discussion on the relationship of the project with the *CMP-Seattle 2003*.

The Population Health Facility Project building on Site 50S/51S could be four-stories in height (plus a basement level), which would be similar to or less than existing surrounding buildings associated with the Magnuson Health Sciences Center and University of Washington Medical Center; under this scenario the associated parking garage would be five levels above grade with two below grade levels. The assumed buildings under Alternative 3 – Scenario 1 would be taller than other adjacent buildings including the Central Utility Plant Building, the Center on Human Development and Disability, the Portage Bay Building, the Institute for Learning and Brain Sciences, the South Campus Center, the Oceanography Building, the Harris Hydraulics Laboratory and the Oceanography Teaching Building (refer to **Figure 2-6** in Chapter 2 of this Draft SEIS). The assumed density of the building (up to approximately 330,000 square feet) would be similar to the Magnuson Health Sciences Center and University of Washington Medical Center but greater than the majority of the other surrounding buildings to south, east and west (see **Figure 3.1-5** for a conceptual massing and zoning envelope under Alternative 3 – Scenario 1).

For the purposes of environmental review, a general design concept to achieve the Population Health Facility program has been developed to identify impacts. Certain aspects of a building on Site 50S/51S can be assumed. It is anticipated that under Alternative 3 – Scenario 1, the project would be designed to be consistent with the *CMP-Seattle 2003* and would consider the potential for connections to the Magnuson Health Sciences Center, provisions of courtyard areas, connections to the South Campus Center, and connections to the waterfront. The building's design, massing and exterior materials would be intended to be compatible with other nearby University structures and to minimize the potential land use impact of the building's height and density on surrounding uses. Considerations would include building height and scale, building materials, building orientation, provisions of setback/buffers from adjacent uses, and landscaping.

Note: This illustration is intended to represent a conceptual plan and massing for the Population Health Facility under Alternative 3 and is not intended to represent the specific project design.

Source: Mahlum, 2016.

EA Engineering, Science, and Technology, Inc., PBC

Figure 3.1-5
Alternative 3—Scenario 1 (Site 50S/51S) Massing

As anticipated in the CMP-Seattle 2003, activity levels (i.e. noise and vehicle/pedestrian traffic associated with site population) on Site 50S/51S would increase with development of the Population Health Facility due to the increased building space for academic and research uses when compared to the existing conditions and increased onsite population (approximately 1,800 people compared with approximately no onsite student/staff population under existing conditions), as well as the provision of replacement parking onsite. Development of the up to approximately 330,000-square foot facility would result in a larger number of students, faculty, and staff traveling to and from the site, in addition to a continuation of the existing parking uses on the site with the provision of the parking garage structure. The overall level and intensity of activity on Site 50S/51S associated with the Population Health Facility would change compared to existing parking structure conditions. These activity levels would be similar in nature with existing adjacent uses to the south, east, and west (including Center on Human Development and Disability, the Portage Bay Building, the South Campus Center, the Institute for Learning and Brain Sciences, the Oceanography Building, the Oceanography Teaching Building and the Harris Hydraulics Laboratory) and similar to uses to the north (Magnuson Health Sciences Center and UW Medical Center).

Indirect Impacts

Indirect impacts would be similar to those described under Alternative 1 and would include increased pedestrian traffic in this area of campus and on surrounding streets and sidewalks between the site and other portions of campus and the University District, as well as increased demand for services (copy facilities, restaurants, coffee shops, etc.) in the site vicinity. However, it would be anticipated that any increased demand for these services would be met by existing services on campus and by businesses in the University District.

Alternative 3 – Scenario 2

Direct Impacts

Uses – Similar to Alternative 3 – Scenario 1, assumed development under Scenario 2 on Site 50S/51S would be consistent with the *CMP-Seattle 2003* and would replace the existing parking garage structure on the site with a new up to approximately 330,000-square foot academic and research building. Under Alternative 3 – Scenario 2, the Population Health Facility would be the same as described under Scenario 1. The primary difference between the two scenarios would be that Scenario 2 would include a shorter parking garage structure with three levels above grade, two levels below grade and one level below the entire site (including under the Population Health Facility building); Scenario 2 would provide more parking than under Scenario 1 (approximately 917 stalls compared to approximately 724 stalls under Scenario 1). See **Table 2-7** for summary of existing site conditions and conditions under Alternative 3 – Scenario 2.

Relationship to Surrounding Uses – The Population Health Facility Project under Alternative 3 – Scenario 2 would include the same building height and footprint that is assumed under Alternative 3 – Scenario 1. Under Alternative 3 – Scenario 2, the associated parking garage structure would be shorter than Scenario 1 and include more parking below-grade (see Section 3.2, **Aesthetics**, for further details). See **Figure 3.1-6** for a conceptual massing and zoning envelope under Alternative 1.

Similar to Alternative 3 – Scenario 1, it is anticipated that the Population Health Facility Project would be designed to be consistent with the *CMP-Seattle 2003* and would consider the potential for connections to the Magnuson Health Sciences Center, provisions of courtyard areas, connections to the South Campus Center, and connections to the waterfront.

The building's design, massing and exterior materials would be intended to be compatible with other nearby University structures and to minimize the potential land use impact of the building's height and density on surrounding uses. Considerations would include building height and scale, building materials, building orientation, provisions of setback/buffers from adjacent uses, and landscaping.

As anticipated in the CMP-Seattle 2003, activity levels (i.e. noise and vehicle/pedestrian traffic associated with site population) on Site 50S/51S would increase with development of the Population Health Facility due to the increased building space for academic and research uses when compared to the existing conditions, similar to Alternative 3 – Scenario 1. The provision of increased parking spaces on the site under Alternative 3 – Scenario 2 (917 spaces compared with 724 spaces under Scenario 1) would also result in increased activity levels associated with parking uses on the site when compared with Scenario 1. These activity levels would be similar in nature with existing adjacent uses to the south, east and west (including Center on Human Development and Disability, the Portage Bay Building, the South Campus Center, the Institute for Learning and Brain Sciences, the Oceanography Building, the Oceanography Teaching Building and the Harris Hydraulics Laboratory) but similar to or less than uses to the north (Magnuson Health Sciences Center and UW Medical Center).

Indirect Impacts

Indirect impacts under Alternative 3 – Scenario 2 would be the same as those described under Alternative 3 – Scenario 1.

Note: This illustration is intended to represent a conceptual plan and massing for the Population Health Facility under Alternative 3 and is not intended to represent the specific project design.

Source: Mahlum, 2016.

EA Engineering, Science, and Technology, Inc., PBC

Figure 3.1-6
Alternative 3—Scenario 2 (Site 50S/51S) Massing

Impact Summary

The following **Table 3.1-3** provides a summary of land use-related conditions under Alternative 3.

Table 3.1-3
SUMMARY OF LAND USE CONDITIONS – ALTERNATIVE 3

Site Condition	Alternative 3	
	Scenario 1	**Scenario 2**
Building Height	64[1]/50[2]	64[1]/30[2]
Building Sq. Ft	330,000	330,000
Conversion of Uses	Replace structured parking garage.	Replace structured parking garage.
Building Sq. Ft. Demolished	99,870	99,870
Staff Displaced/Relocated	0	0
New Site Population	1,800	1,800
Parking Spaces Demolished	869	869
Parking Spaces Replaced	724	917
Net Parking Gain/Loss	-145	+48
Relationship to Surrounding Uses	Similar height and density to existing uses to the north. Taller and greater density than the majority of adjacent existing uses south, east and west.	Similar to Alternative 3 – Scenario 1 but with a shorter parking garage (one less above grade level).
Activity Levels	Increased activity levels when compared to existing site uses. Similar activity to uses to the north but greater activity than uses to the south, east and west.	Similar to Alternative 3 – Scenario 1.

Summary of Land Use Conditions

The following **Table 3.1-4** provides a summary of the potential land use conditions under the SEIS Alternatives.

TABLE 3.1-4
SUMMARY OF LAND USE CONDITIONS UNDER THE SEIS ALTERNATIVES

Site Condition	Alternative 1	Alternative 2		Alternative 3	
		Scenario 1	**Scenario 2**	**Scenario 1**	**Scenario 2**
Building Height	63	60	105	64[1]/50[2]	64[1]/30[2]
Building Sq. Ft	330,000	330,000	330,000	330,000	330,000
Conversion of Uses	Replace one- to two-story academic/ administrative	Replace one-story academic/ administrative	Replace one-story academic/ administrative	Replace structured parking garage.	Replace structured parking garage.

Table 3.1-4 Continued

Site Condition	Alternative 1	Alternative 2		Alternative 3	
	uses and parking.	uses and parking.	uses and parking.		
Building Sq. Ft. Demolished	72,560	22,700	22,700	99,870	99,870
Staff Displaced/ Relocated	250	120	120	0	0
New Site Population	1,800	1,800	1,800	1,800	1,800
Parking Spaces Demolished	104	15	15	869	869
Parking Spaces Replaced	0	0	15	724	917
Net Parking Gain/Loss	-104	-15	0	-145	+48
Relationship to Surrounding Uses	Greater building height and density than uses to the east and west. Similar height and density to uses to the north and south	Similar building height to existing uses (including Architecture Hall). Greater building density than surrounding uses. Larger footprint would be closer and larger than Architecture Hall	Similar building height to some existing uses, but greater than others (including Architecture Hall). Greater building density than surrounding uses. Smaller footprint would allow for a greater setback from Architecture Hall.	Similar height and density to existing uses to the north. Taller and greater density than the majority of adjacent existing uses south, east and west.	Similar to Alternative 3 – Scenario 1 but with a shorter parking garage (one less above grade level).
Activity Levels	Increased activity levels when compared to existing site uses and most surrounding land uses. Similar activity levels to existing residence halls.	Increased activity levels when compared to existing site uses but would not be substantially noticeable due to current high activity levels in the area.	Similar to Scenario 1	Increased activity levels when compared to existing site uses. Similar activity to uses to the north but greater activity than uses to the south, east and west.	Similar to Alternative 3 – Scenario 1.

[1] Population Health Facility building height.

[2] Parking garage building height.

3.1.3 Mitigation Measures

The following measures would minimize potential land use impacts that could occur with the development of the Population Health Facility Project under the Draft SEIS Alternatives.

Measures Applicable for All Alternatives

- Development of the Population Health Facility would be consistent with applicable provisions of the *CMP-Seattle 2003*.

- Architectural design features would be incorporated into the design of the Population Health Facility to ensure that the development is compatible with surrounding uses.

- Measures would be implemented during the construction process to minimize impacts to surrounding land uses (see Section 3.4, **Construction**, for further details on specific construction-related measures).

3.1.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse land use impacts would be anticipated under the EIS Alternatives.

3.1.5 Relationship to Plans and Policies

This section identifies the existing plans and policies deemed the most relevant to the Population Health Facility Project. The plans and policies analyzed in this section include the following:

- The 1998 City-University-Community Agreement (1998 Agreement);
- University of Washington *Master Plan Seattle Campus – 2003 (CMP-Seattle 2003);*
- University of Washington *2018 Campus Master Plan*;
- The City of Seattle's *Comprehensive Plan*;
- The *University Community Urban Center Plan*; and,
- The City of Seattle *Land Use Code*.

1998 Agreement between the City of Seattle and the University of Washington (1998 Agreement)[6]

Summary: *The original agreement between the City of Seattle and the University of Washington was executed in 1983. The 1998 Agreement, which replaced the 1983 Agreement, committed the University to prepare a campus master plan and EIS, and included specific elements to be incorporated in the master plan and EIS process.*

As stated in the 1998 Agreement, "this Agreement is to define certain ways wherein the University, in its planning and development, may fulfill its mission in such a way as to continue to enhance the positive impacts upon the City as a whole and particularly upon the surrounding communities, and at the same time minimize any adverse impact it may have by working cooperatively with appropriate City agencies and community groups in order that problems may be identified at the earliest possible stage and that, where necessary, mitigating actions can be taken to maximize positive impacts and minimize adverse impacts upon the City and particularly the communities surrounding the University."

Discussion: The development of the Population Health Facility Project on the EIS Alternative sites would be consistent with the location, intended use, and scale of development depicted in the *CMP-Seattle 2003*. Any modifications to the current provisions of the *CMP-Seattle 2003* would be consistent with Section IIC of the *1998 City-University Agreement*. As such, the *Proposed Action* would be consistent with the *1998 City-University Agreement* (see the discussion of the *CMP-Seattle 2003* below).

University of Washington Master Plan Seattle Campus (CMP-Seattle 2003)[7]

Summary: *The Board of Regents and the City of Seattle adopted the CMP-Seattle 2003 in January 2003. The CMP-Seattle 2003 identifies which areas of the campus to preserve as open space; establishes circulation patterns including internal streets, pedestrian pathways, and parking areas; identifies new building locations; identifies how the UW will manage its transportation needs and mitigate increased traffic; and determines how UW-related development will integrate with the University District's adopted neighborhood plan. The CMP-Seattle 2003 envisions the construction of approximately three million square feet of development at 70 potential sites on campus.*

For planning purposes, the CMP-Seattle 2003 divided the Seattle Campus into five different areas including the Central, West, South, Southwest, and East Sectors. Each area is characterized by

[6] *University of Washington – Seattle, 1998*
[7] *University of Washington, 2003*

varying structures and uses and each area follows a list of objectives that represent ideas for future development. The Alternative 1 site (Site 37W) is located in the West Campus, the Alternative 2 site (Site 22C) is located in the Central Campus and the Alternative 3 site (Site 50S/51S) is located in the South Campus.

The CMP-Seattle 2003 contains guidelines to guide development of campus development areas and the individual development sites. Primary goals of the CMP-Seattle 2003 for the West Campus include:

- *Development should be of a different character than the Central Campus and designed to be reasonably compatible with the scale of private development;*
- *Development should avoid an inward focus and care should be taken that development not turn its back on the community; and,*
- *Proposals for street improvements, open space and development should support the goals of the University and the University Community Urban Center Plan.*

Other specific objectives identified for the West Campus include the following:

- *Create new facilities that better define the form of West Campus, utilizing the grid of existing streets as the structure for buildings and open space;*
- *Create a mix of uses that best serves the needs of the University and the surrounding community;*
- *Strengthen connections to the Central and South Campus;*
- *Transform surface parking into structured parking;*
- *Improve pedestrian and bicycle facilities and connections; and,*
- *Contribute to the achievement of the University Community Urban Center Plan where appropriate.*

The CMP-Seattle 2003 identifies approximately 70 potential development sites throughout the campus, and includes guidelines and policies for development on these sites. The CMP-Seattle 2003 identifies maximum allowable building heights and maximum building envelope estimates for each potential development site, as well as an overall new building square footage maximum of three million gross square feet (GSF). The identified GSF for the campus does not include potential new construction that would occur below-grade. Site 37W is intended to accommodate approximately 309,000 square feet of academic, transportation or mixed-uses and could allow a building of up to 65 feet in height. Specific guidelines for development on Site 37W include the following:

- *Development may be multiple buildings with possible mixed-uses including parking (below-grade, if possible);*

- *Develop new, integral open space with possible pedestrian access through the block; and,*
- *Consider the relationship of the building façade and entries from E-W Walk, University Way NE, Brooklyn Avenue NE, NE 40th Street, and the Burke-Gilman Trail.*

Discussion: Under Alternative 1, the Population Health Facility is assumed to be approximately 63 feet tall at its highest point which would be below the 65-foot maximum height limit. The up to approximately 330,000 square feet that is assumed for the building would also meet the amount of building area identified in the *CMP-Seattle 2003* (309,000 net new square feet) considering the demolition of approximately 72,500 square feet; demolition of existing building space is subtracted from the new building space to calculate the net new building square footage total under the *CMP-Seattle 2003*.

The design for the Population Health Facility Project on Site 37W would consider the *CMP-Seattle 2003* policies and guidelines for the site by providing landscaped open space at the southeast corner of the site that would relate to the existing landscape area associated with the Burke-Gilman Trail to the south. The location of the Population Health Facility on Site 37W is anticipated to include building entries at University Way NE, NE 40th Street, and Brooklyn Avenue NE. Pedestrian access adjacent to Site 37W (along Brooklyn Avenue NE, NE 40th Street NE, and University Way NE) would be maintained, and additional pedestrian access opportunities to the Burke-Gilman Trail would be available. It should also be noted that the University is in the process of completing their 2018 Seattle Campus Master Plan (2018 Plan) and provisions of the 2018 Plan will be considered during the site selection and design process for the Population Health Facility Project.

Summary: *The Alternative 2 site (Site 22C) is located in the surrounding central perimeter of the Central Campus. The CMP-Seattle 2003 contains guidelines to guide development of campus development areas and the individual development sites. Primary goals of the CMP-Seattle 2003 for the Central Campus include:*

- *Conservation of the historic core with its significant buildings and open space is the primary goal;*
- *Development opportunities inside Stevens Way are limited and generally the siting of new structures is intended to complement or improve existing open spaces and relations with existing buildings; and,*
- *Improvements and additions to open space and pedestrian and service circulation are proposed where such actions will conserve and reinforce the existing structure.*

Other specific objectives identified for the Central Campus surrounding central perimeter areas include the following:

- *Preserve and enhance important open spaces;*

- *Use new development to strengthen campus form by clearly defining open spaces and circulation routes;*
- *Improve connections to University-related uses north of 45th, west of 15th, south across Pacific, and east across Montlake;*
- *Create well-designed connections between the University and the larger community; and,*
- *Create more inviting campus edges and entrances.*

Per the CMP-Seattle 2003, Site 22C is intended to accommodate approximately 292,000 square feet of academic uses and could allow a building of up to 105 feet in height. Specific guidelines for development on Site 22C include the following:

- *Building service provided underground and accessed via the Physics/Astronomy service extension;*
- *Provide an improved walkway and George Washington Lane extension;*
- *Consider the relationship of building façades and entries from E-W Walk, 15th NE and George Washington Lane extension; and,*
- *Develop a walkway as part of 22C development; the building may span over the walkway.*

Discussion: Under Alternative 2 – Scenario 1, the Population Health Facility is assumed to be approximately 60 feet tall at its highest point which would be below the 105-foot maximum height limit; under Alternative 2 – Scenario 2 the building is assumed to be approximately 95 feet tall at its highest point which would be consistent with the 105-foot maximum height limit. The up to approximately 330,000 square feet that is assumed for the building would also meet the amount of building area identified in the *CMP-Seattle 2003* (292,000 net new square feet) based on the provision of approximately 15,000 square feet of building space below grade and the demolition of approximately 22,700 square feet; below grade building space does not count toward the calculation of new development and demolition of existing building space is subtracted from the new building space to calculate the net new building square footage total under the *CMP-Seattle 2003*.

The design for the Population Health Facility project on Site 22C under Alternative 2 (both scenarios) would consider the *CMP-Seattle 2003* policies and guidelines for the site, including providing building entries at 15th Avenue NE and NE Grant Lane, as well as considering building façade treatments related to these roadways. The service area of the Population Health Facility building on Site 22C under Alternative 2 would be located at the southern edge of the building, in proximity to the Physics/Astronomy Building, allowing for the potential for connection with the Physics/Astronomy Building service area; although direct service access from 15th Avenue NE is assumed. Pedestrian walkway improvements would be provided at the northern edge of the site, and would be located in proximity to George Washington Lane NE, across NE Grant Lane.

The development of a walkway through Site 22C is not anticipated under Alternative 2 – Scenario 1, but would be provided under Alternative 2 – Scenario 2. It should also be noted that the University is in the process of completing their 2018 Seattle Campus Master Plan (2018 Plan) and provisions of the 2018 Plan will be considered during the site selection and design process for the Population Health Facility Project.

Summary: *The Alternative 3 site (Site 50S/51S) is located in the South Campus. The CMP-Seattle 2003 contains guidelines to guide development of campus development areas and the individual development sites. Primary goals of the CMP-Seattle 2003 for the South Campus include:*

- *The Portage Bay shoreline is a significant resource for the University and the community;*
- *Proposals for development, street improvements and open space should support the goals of the University and the University Community Urban Center Plan; and,*
- *Accommodating greater volumes of pedestrians expected at the possible new Sound Transit station plans for the southwest corner of NE Pacific Street at 15th Avenue NE is also important.*

Other specific objectives identified for the South Campus include the following:

- *Take advantage of the shoreline and views to the water;*
- *If the potential NE Pacific Street-15th Avenue NE Sound Transit station is constructed, improve access to it;*
- *Improve pedestrian routes along the water;*
- *Provide better connections between the South and Central Campus over NE Pacific Street*
- *Protect the views from Rainier Vista*
- *Create additional open spaces*
- *Accommodate pedestrian traffic between the potential new Sound Transit station and the Central and South Campus; and,*
- *Improve pedestrian access through the Medical Center and Health Sciences complex to the water when consistent with security and safety of patients, students, faculty and staff.*

Per the CMP-Seattle 2003, Site 50S is intended to accommodate approximately 165,000 square feet of academic or transportation uses and could allow a building of up to 65 feet in height. Site 51S is intended to accommodate approximately 150,000 square feet of academic or transportation uses and could allow a building of up to 65 feet in height. Specific guidelines for development on Site 50S include the following:

- *Consider a possible connection to the existing Health Sciences facilities;*
- *Improve courtyard spaces;*

- *All service access should be provided on the Columbia Road level;*
- *Develop a terrace connection to the South Campus Center;*
- *Maximize views of the water; and,*
- *Develop a pedestrian connection to the waterfront.*

Specific guidelines for development on Site 51S include the following:

- *Consider a possible connection to the existing Health Sciences facilities;*
- *Provide service access on the Columbia Road level;*
- *Development may or may not include replacement of the Fisheries Center;*
- *Maximize views of the water;*
- *Connect development with shoreline open space;*
- *Potentially preserve the 1970s Fisheries wing; and,*
- *Improve pedestrian access along the waterfront.*

Discussion: Under Alternative 3 – Scenario 1, the Population Health Facility is assumed to be approximately 64 feet tall at its highest point which would be below the 65-foot maximum height limit; under Alternative 3 – Scenario 2, the parking garage is assumed to be one level taller but would still remain below the 65-foot height limit. The up to approximately 330,000 square feet that is assumed for the building would also meet the amount of building area identified in the *CMP-Seattle 2003* (315,000 net new square feet) considering the demolition of approximately 99,870 square feet; demolition of existing building space is subtracted from the new building space to calculate the net new building square footage total under the *CMP-Seattle 2003*.

The design for the Population Health Facility project on Site 50S/51S under Alternative 3 would consider the *CMP-Seattle 2003* policies and guidelines for the site, including providing connections to Health Sciences and South Campus Center (most likely surface connections), providing service access from Columbia Road NE, reserving areas for open space, reserving area for pedestrian connections to the waterfront, and providing opportunities for views to the water. Because it is unlikely that a Sound Transit station will be built at the corner of NE Pacific Street and 15th Avenue NE, consideration of this station is not anticipated to be necessary. It should also be noted that the University is in the process of completing their 2018 Seattle Campus Master Plan (2018 Plan) and provisions of the 2018 Plan will be considered during the site selection and design process for the Population Health Facility Project.

University of Washington 2018 Campus Master Plan

Summary: *The University of Washington is currently conducting a planning and environmental review process to develop the 2018 Seattle Campus Master Plan which is intended to guide development on the Seattle campus; the 2018 Plan will replace the current CMP-Seattle 2003. The 2018 Plan will include guidelines and policies for campus development as well as providing recommended development parameters for individual potential development sites*.

Discussion: The selection of a site and design of the Population Health Facility is anticipated to occur prior to adoption of the *2018 Seattle Campus Master Plan* and will be conducted under the *CMP-Seattle 2003*. However, provisions of the Draft *2018 Seattle Campus Master Plan* will be considered during the Population Health Facility site selection and design process.

City of Seattle Comprehensive Plan

Summary: *The City of Seattle Comprehensive Plan (2004) was developed in compliance with the Growth Management Act (GMA) and the King County Countywide Planning Policies. The Comprehensive Plan establishes goals and policies which guide future land use and coordinate growth within the City and its planning area over a 20-year planning horizon. In particular, the Comprehensive Plan serves as a guide for designating land uses, infrastructure development, and community services; its policies serve as a foundation for the City's development regulations. In accordance with GMA, the Comprehensive Plan includes the required Land Use, Transportation, Housing, Capital Facilities, and Utilities elements. Policy elements of Seattle's Shoreline Management Program are included in the Land Use Element, consistent with GMA. The Comprehensive Plan identifies an "urban village strategy" to accommodate 20-year projected households and employment; the Land Use component of the plan consists of two separate elements; Land Use and Urban Village. The City of Seattle's Plan also includes the following elements: Neighborhood Planning, Economic Development, Environment, Human Development, and Cultural Resources. Policies that are relevant to the Proposed Actions are highlighted below.*

Urban Village Element

Summary: *The Urban Village Element establishes the City's urban village strategy for growth, by guiding the designation of urban centers, urban villages, and manufacturing industrial centers (all of which are broadly referred to as "urban villages"), and by defining the priorities for land use in these areas. General goals and policies for urban villages call for:*

- *Promote densities, mixes of uses and transportation improvements that support walking, use of public transportation and other transportation demand management (TDM) strategies, especially within urban centers and urban villages (UVG3);*

- *Use limited land resources more efficiently and pursue a development pattern that is economically sound, by encouraging infill development on vacant and underutilized sites, particularly within urban villages (UVG7);*

- *Designate as urban centers unique areas of concentrated employment and housing with direct access to high-capacity transit, and a wide range of supportive land uses such as retail, recreation, public facilities, parks and open space (UVG16);*

- *Encourage growth in locations within the city that support more compact and less land-consuming, high quality urban living (UVG27);*

- *Designate the following locations as urban centers as shown in Urban Village Figure 2-7: Downtown Seattle; First Hill/Capitol Hill; Uptown Queen Anne; University Community; Northgate; and South Lake Union (UV16); and,*

- *Promote the balance of uses in each urban center indicated by one of the following designations, assigned as follows: University District – Mixed Residential and Employment (UV18).*

Discussion: The University of Washington is located within one of the City of Seattle's six designated Urban Centers (the University Community Urban Center). The University of Washington is one of the largest employers in the City of Seattle and provides a vital and active urban employment/learning/research environment. The proposed Population Health Facility Project would promote increased educational/research and employment density consistent with the intent of Urban Centers. The quality of development would be intended to be consistent with development standards identified in the *CMP-Seattle 2003*, including landscaping and pedestrian circulation, and would consider the development standards identified in the University's Draft 2018 Plan. The EIS Alternative sites are served by numerous bus routes along NE Pacific Street and 15th Avenue NE, and will include access to the future Sound Transit's Link Light Rail.

Land Use Element

Summary: *The Land Use Element defines land use city-wide and in specific use categories. In the City of Seattle Comprehensive Plan, the GMA requirement for a Land Use Element is fulfilled by both this element and the Urban Village Element (described above), which further defines land use policies to implement the City's urban village strategy. This element also provides a framework for land use regulations contained in the City's Land Use Code (Seattle Municipal Code Title 23). The Land Use Element of the Comprehensive Plan also contains goals and policies specific to Major Institutions (including institutions of higher education). Specific goals and polices of the Land Use Element relating to Major Institutions include the following:*

- *Maximize the public benefits of major institutions including educational services, including health care and educational services, while minimizing the adverse impacts associated with development and geographical expansion (LUG32).*

- *Recognize the significant economic benefits of major institutions in the City and the region and their contributions to employment growth (LUG33).*

- *Balance each major institution's ability to change and the public benefit derived from change with the need to protect the livability and vitality of adjacent neighborhoods (LUG34).*

- *Promote the integration of institutional development with the function and character of surrounding communities in the overall planning for urban centers (LUG35).*

Discussion: The University of Washington provides higher-educational services for the community and region. The development of the Population Health Facility Project under the EIS Alternatives would provide a benefit to the University of Washington and the overall community through the provision of enhanced and increased higher education and research facilities on campus. The proposal would also enhance employment and would be consistent with established land use patterns in the surrounding area.

City of Seattle Neighborhood Plans – University Community Urban Center Plan

Summary: *The City of Seattle Comprehensive Plan established guidelines for neighborhoods to develop their own plans to allow growth in ways that provide for a neighborhood's unique character needs and livability. The University of Washington campus is located within the University Community Urban Center Planning Area. A discussion of relevant goals and policies from University Community Urban Center Plan is provided below.*

Goal UC-G6 – A community that builds a unique physical identity on its historical and architectural resources, attractive streets university campus, and special features.

Goal UC-G7 – An urban center that is home to the University of Washington; the region's foremost educational institution which is expanding to meet new challenges while enhancing the surrounding community.

Policy UC-P30 – Accommodate new university growth in a way that benefits the surrounding community.

It should be noted that over the past four years, the City of Seattle has been working with the University District community to develop the University District Urban Design Framework which

is intended to provide for more diverse neighborhood character by encouraging a mix of housing types, uses, building types and heights, while allowing a greater concentration of development in the area surrounding the future light rail station. As part of the plan, increased height and density would be permitted in areas to achieve the goals of the plan. The City of Seattle approved amendments to the Comprehensive Plan in June 2015 that included amendments to the Future Land Use Map (revising designations in some areas and adjustments to the Urban Center boundary), and amendments to consolidate and revise several goals and policies in the University Community Urban Center section of the Neighborhood Planning Element of the Comprehensive Plan. The City of Seattle is currently evaluating proposed zoning changes to the Land Use Code that would allow for greater height and density in the areas surrounding the light rail station at NE 43rd Street and Brooklyn Avenue NE, and implement new development standards to help new development fit with the University District neighborhood context. The proposed zoning changes are anticipated to be considered by the Seattle City Council over the next several months.

Discussion: Development of the Population Health Facility Project under the EIS Alternatives would provide additional higher educational and research opportunities on the University of Washington campus, which directly and indirectly benefit the community, and would be consistent with goals and policies for growth and expansion of the University as identified in the University Community Urban Center Plan.

City of Seattle Land Use and Zoning Code

Summary: *The City of Seattle Department of Planning and Development administers a land use code that regulates the type and scale of development within the City. However, the State legislature has vested the University's Board of Regents with full control over University of Washington property. Master planning and land use for University development is governed by the 1998 Agreement and CMP-Seattle 2003.*

In September 1998, the Seattle City Council updated the Major Institution Policies and they have since been codified.

> *23.69.006 B: For the University of Washington,…..the 1998 Agreement between the City of Seattle and the University of Washington….shall govern relations between the City and the University of Washington, the master plan process (formulation, approval, and amendment), uses on campus, uses outside the campus boundaries, off-campus land acquisition and leasing, membership responsibilities of the City University Community Advisory Committee (CUCAC), transportation policies, coordinated traffic planning for special events, permit acquisition and conditioning, relationship of current and future master plans to the agreement, zoning and environmental review authority, resolution of disputes, and amendment and termination of the agreement itself. Within the Major Institution Overlay (MIO) boundaries for the University of Washington, development standards of the overlaying*

zoning may be modified by an adopted master plan, or by an amendment or replacement of the 1998 Agreement between the City of Seattle and University of Washington.

Discussion: As noted previously, the development of the Population Health Facility Project under the EIS Alternatives would be consistent with the use, density, and development regulations in the *CMP-Seattle 2003*. In addition, the Proposed Action would be consistent with the *1998 City – University Agreement* and would be designed to be consistent with the development regulations contained in the *CMP-Seattle 2003*.

3.2 AESTHETICS

This section of the Draft SEIS describes the existing aesthetic characteristics of the SEIS Alternative sites and in the vicinity of the sites, and evaluates how development of the Population Health Facility Project would affect these characteristics.

3.2.1 Affected Environment

Alternative 1 – Development Site 37W

Visual Character

The approximately 2.28-acre (99,500-square foot) Alternative 1 site (*CMP-Seattle 2003* Development Site 37W) is located in the West Campus of the University of Washington and is generally bounded by NE 40th Street on the north, the Burke-Gilman Trail on the south, University Way NE on the east, and Brooklyn Avenue NE on the west.

The overall visual character of Site 37W is generally characterized by smaller, one- to two-story existing academic use (i.e., student support use and administrative use) buildings on the east and north side of Site 37W with surface parking lots along the west and south side of the site. The two-story Purchasing and Accounting Building was originally constructed in 1959 and contains approximately 39,600 gross square feet of building space. The two-story Instructional Center/Ethnic Cultural Theater was originally constructed in 1941 and contains approximately 12,200 gross square feet of building space. The 3935 University Way NE Building was originally constructed in 1931. The one-story building contains approximately 5,300 gross square feet. The one-story 3939 University Way NE Building was originally constructed in 1941 and contains approximately 4,700 gross square feet of building space. The one-story 3941 University Way NE Building was also constructed in 1941 and contains approximately 7,500 gross square feet of space. The one-story 3947 University Way NE Building was most recently utilized by the University's College of Built Environments as academic space for a Community Design Center.

University parking lots W12 and W13 that are located on west and south sides of Site 37W and presents a visual character of surface parking lots.

Current views of Site 37W reflect an urbanized area with low-rise buildings (one- to two-story) with interspersed views of surface parking lots and scattered areas of vegetation.

Along University Way NE, views to Site 37W primarily consist of low-rise buildings (Purchasing and Accounting Building and 3935-3947 University Way NE Buildings) with little visible vegetation. Along Brooklyn Avenue NE, views to Site 37W reflect existing street trees, with views of surface parking lots and the Instruction Center/Ethnic Cultural Theater building.

Surrounding Area

The visual character of the area surrounding Site 37W is generally comprised of a variety of building types and land uses, including academic use (i.e., classrooms, student support uses, administrative uses, student housing), and open space. The majority of the existing surrounding buildings range from one- to eight-stories in height and includes a mix of more recent development (i.e., student residence halls, UW Police Department, West Campus Utility Plant) and older development (i.e., College Inn, Commodore Duchess).

To the north of Site 37W, beyond NE 40th Street, is Alder Hall (a six-story student residence hall), the College Inn (retail/commercial use), the Commodore Duchess apartments (an eight-story student apartment building), and Lander Hall (an eight-story student residence hall). To the east of Site 37W, beyond University Way NE, is Gould Hall (four-story building for the University's Department of Architecture), the UW Police Department building (three-stories), the University's West Campus Utility Plant, and the Church of Jesus Christ of Latter-day Saints building (two-stories). To the south of Site 37W is a portion of the Burke-Gilman Trail and associated vegetated/landscaped areas. To the west of Site 37W, beyond Brooklyn Ave NE, is the Instructional Center/Ethnic Cultural Theater (two-stories), the Ethnic Cultural Center (three-stories) and the Brooklyn Trail Building (one-story building for the University's Center for Child and Family Well-Being).

Alternative 2 – Development Site 22C

Visual Character

The approximately 1.9-acre (81,700-square foot) Alternative 2 site (*CMP-Seattle 2003* Development Site 22C) is located in the Central Campus of the University of Washington and is generally bounded by NE Grant Lane on the north, Architecture Hall and Guthrie Hall on the east, the Physics/Astronomy Building on the south, and 15th Avenue NE on the west.

The overall existing visual character of Site 22C is generally comprised of smaller one- to two-story academic use (i.e., student support use and administrative use) buildings (Guthrie Annexes 1 through 4) located along the west side of Site 22C with existing trees and vegetation interspersed between the buildings and along 15th Avenue NE. Surface parking, open space, roadways and pedestrian pathways are located along the eastern portion of the site.

The Guthrie Annex buildings primarily provide academic and office space for the Department of Psychology. Guthrie Annexes 1 and 2 were both constructed in 1918 and are two-story structures that contain approximately 6,300 gross square feet and 7,700 gross square feet, respectively. The one-story Guthrie Annex 3 was constructed in 1927 and contains approximately 5,300 gross square feet. The one-story Guthrie Annex 4 was constructed in 1947 and contains approximately 3,400 square feet.

University parking lot C8 is located in the northeastern portion of Site 22C and presents a visual character of a surface parking lot. Asotin Place NE is also located in the eastern portion of the site and connects with Stevens Way NE to the east.

The current views of Site 22C reflect smaller, low-rise campus buildings (one- to two-story) along the western portion of the site with existing trees along the site edge adjacent to 15th Avenue NE. The eastern portion of the site reflects existing surface parking, access roadways, pedestrian pathways and landscaped open space.

Surrounding Area

The visual character of the area surrounding Site 22C is reflective of a university campus and is generally comprised of a variety of building types and academic use (i.e., classrooms, student support uses, administrative uses, and student housing). The existing surrounding buildings range from two- to nine-stories in height and includes a mix of more recent development (i.e., Physics-Astronomy, UW Police Department) and older development (i.e., Architecture Hall and the Commodore Duchess).

To the north of Site 22C, beyond NE Grant Lane, is the West Gatehouse and Meany Hall (four- to five-story performing arts center); the Commodore Duchess apartments are also located to the northwest. To the east of Site 22C is the four-story Architecture Hall (Department of Architecture and Department of Construction Management), and the four-story Guthrie Hall (Department of Psychology). To the south is the five-story Physics-Astronomy Building and nine-story Physics/Astronomy Tower. To the west, beyond 15th Avenue NE, is Gould Hall (four-story building for the University's Department of Architecture), the UW Police Department building (three-stories), the University's West Campus Utility Plant, and the Church of Jesus Christ of Latter-day Saints building (two-stories).

Alternative 3 – Development Site 50S/51S

Visual Character

The approximately 2.75-acre (120,000-square foot) Alternative 3 site (*CMP-Seattle 2003* Development Site 50S/51S) is located in the South Campus of the University of Washington and is generally bounded by NE Columbia Road and the Magnuson Health Sciences Center to the north, the Central Utility Plan Building on the east, the South Campus Center on the south, and NE Columbia Road and the South Gatehouse on the west.

The visual character of Site 50S/51S is defined by the S1 parking lot and associated access roadways and landscaping. The S1 parking lot is a three-level structure parking garage with space for approximately 869 vehicles. A vehicular connection to San Juan Road NE is located at the western edge of the garage. Associated landscaping and trees are located adjacent to NE Columbia Road and San Juan Road NE.

The current views of Site 50S/51S are reflective of the existing parking garage and at-grade surface parking at the top of the garage along NE Columbia Road. Existing trees and landscape/grass planter strips are located along the north edge of the site, adjacent to NE Columbia Road.

Surrounding Area

The visual character of the area surrounding Site 50S/51S is urban in nature and is generally comprised of a variety of building types and land uses, including academic/research uses, Medical Center uses, student support uses, and administrative uses. The majority of the existing surrounding buildings range from two- to 15-stories in height and includes a mix of larger, denser building development (i.e., Magnuson Health Sciences Center and UW Medical Center) and smaller, less dense buildings (i.e., Oceanography Building, Harris Hydraulics Laboratory and Oceanography Teaching Building).

To the north of Site 50S/51S, beyond NE Columbia Road, is the Magnuson Health Sciences Center which includes multiple wings ranging from five-stories to seven-stories in height and the University of Washington Medical Center which includes buildings ranging from six-stories to fifteen-stories in height. To the east of Site 50S/51S is the two-story Central Utility Plant Building and the Center on Human Development and Disability. To the south of Site 50S/51S is the two-story Portage Bay Building (Applied Physics Laboratory, Department of Radiology and School of Aquatic and Fishery Sciences), the two-story Institute for Learning

and Brain Sciences, the three-story South Campus Center (Health Sciences Academic Services and Facilities), and the three-story Oceanography Building (Department of Earth and Space Sciences and Applied Physics Lab). To the west of the site is the two-story Harris Hydraulics Laboratory, the South Gatehouse, the three-story Oceanography Teaching Building and University parking lots S5, S7 and S12.

3.2.2 Impacts

This section of the Draft SEIS identifies the potential impacts on existing aesthetic and visual conditions on the University of Washington campus and in the surrounding areas that could occur with development of the Population Health Facility Project under the Draft SEIS Alternatives.

No Action Alternative

Under the No Action Alternative, the Population Health Facility Project would not be constructed. The existing buildings, parking, landscaping and other site features on the EIS Alternative sites would remain and there would be no impacts to the existing aesthetic character of the sites or surrounding uses.

Alternative 1 – Development Site 37W

Visual Character

Under Alternative 1, existing uses on Site 37W are assumed to be demolished as part of the construction activities, including the existing buildings (Purchasing and Accounting Building, the Instructional Center/Ethnic Cultural Theater, and buildings listed as 3935, 3939, 3941 and 3947 University Way NE). The existing W12 and W13 surface parking lots are assumed to be removed and approximately 154 existing trees would be removed to accommodate the assumed development of Population Health Facility Project.

Under Alternative 1, the design of the Population Health Facility building is assumed to include five stories (including one basement level) and up to approximately 330,000 gross square feet of building space. The assumed building height would be approximately 63 feet at its highest point, which would be below the 65-foot height limit established for the site under the *CMP-Seattle 2003*. The assumed building would be similar to or less than the height of existing surrounding buildings (i.e., Alder Hall, Lander Hall, Gould Hall and the Commodore Duchess), but would be taller than other adjacent buildings (i.e., Ethnic Cultural Center, Brooklyn Trail Building, UW Police Department and the Church of Jesus Christ of Latter-day Saints building). The assumed density of the building (up to

approximately 330,000 square feet) would be greater than the existing uses to the east and west, but would be similar to existing uses to the north and south (student residence halls).

A specific building design has not been determined at this point of the process, but a general design concept to achieve the Population Health Facility program has been defined and certain aspects of a building on Site 37W can be assumed for the purpose of environmental review. It is anticipated that under Alternative 1, the project would be designed to be consistent with the *CMP-Seattle 2003* and would consider the relationship of building facade and entries from the E-W Walk (which follows along NE 40th Street and NE Grant Lane), University Way, Brooklyn Avenue, 40th Street NE, and the Burke-Gilman Trail. The building's design, massing and exterior materials would be intended to be compatible with other nearby University structures and to minimize the potential land use impact of the building's height and density on surrounding uses. Considerations would include building height and scale, building materials, building orientation, provisions of setback/buffers from adjacent uses, and landscaping.

Landscaping would be provided as part of the project and would be designed to be consistent with University of Washington design standards. The landscape design would be reviewed by the University's landscape architect and the University Landscape Advisory Committee prior to development.

Visual Impact

Consistent with the *CMP-Seattle 2003*, assumed development of the Population Health Facility Project under Alternative 1 would change the views of Site 37W to reflect a large, five-story (plus a basement level) academic and research facility. As described above, the assumed height (63 feet) and scale (up to approximately 330,000 square feet) would be similar to some buildings in the area and greater than others.

To illustrate the visual conditions of the Population Health Facility Project under the SEIS Alternatives, conceptual visual massing simulations were prepared to illustrate the conditions that could occur with assumed development on Site 37W. The visual massings include a conceptual massing of what the building could look like based on the program requirements of the Population Health Facility (up to approximately 330,000 square feet), as well as a *CMP-Seattle 2003* zoning building envelope which illustrate where a building could be located on the site and how tall it could be based on existing *CMP-Seattle 2003* requirements and development standards (i.e., maximum building heights, setbacks, etc.)[1].

[1] The conceptual massing is indicated in the figures in dark/solid purple and the zoning building envelope is indicated by a lighter/translucent purple.

Conceptual visual massing simulations were completed for two locations (see **Figure 3.2-1** for map of viewpoint locations for Alternative 1), including:

- Alternative 1 – Location 1.1: University Way NE/NE Pacific Street – looking north.
- Alternative 1 – Location 1.2: Brooklyn Avenue NE/NE 40th Street looking south.

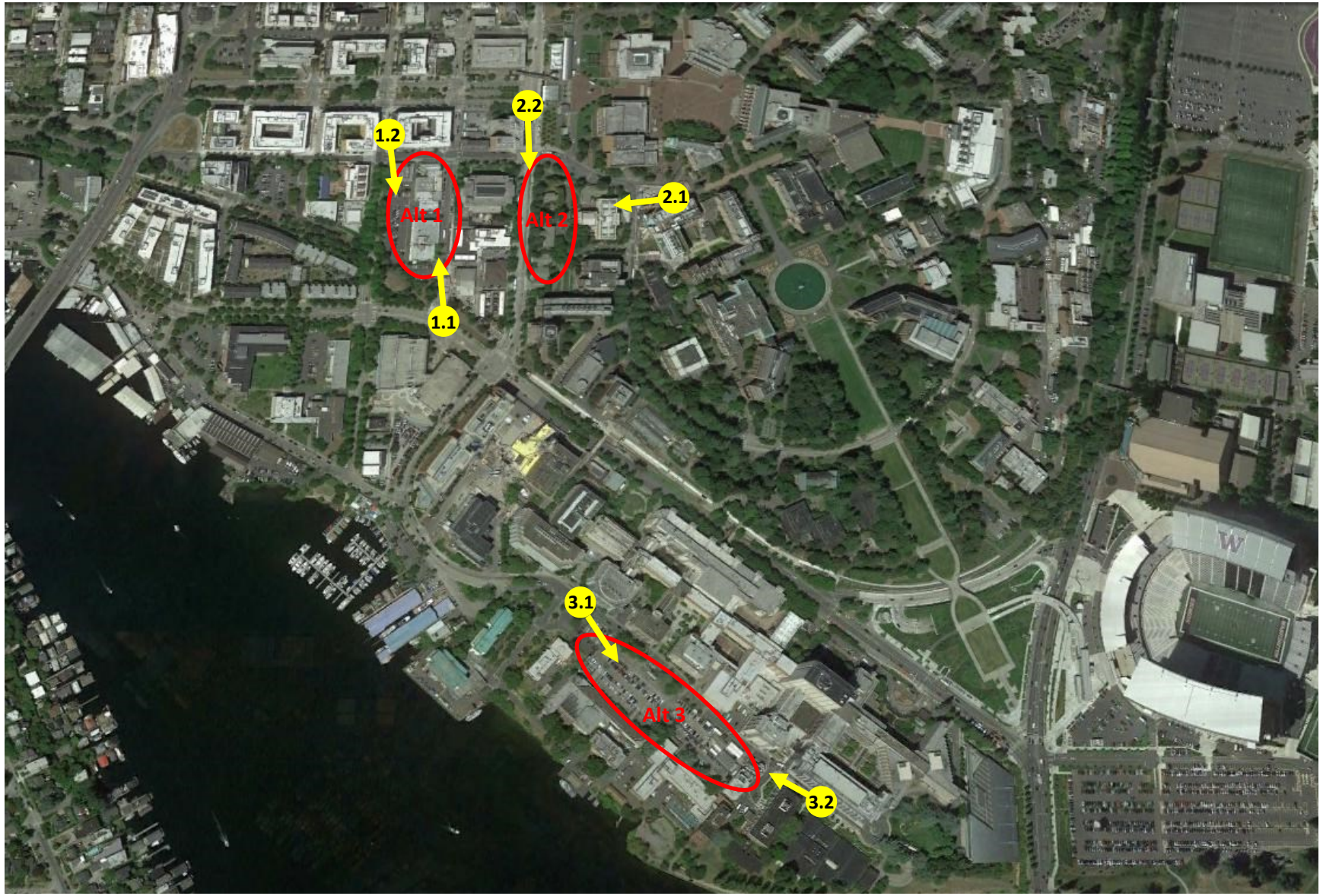
From Alternative 1 Location 1.1 – University Way NE/NE Pacific Street (**Figure 3.2-2**), looking to the north, the view would consist of University Way NE and the Burke-Gilman Trail and adjacent vegetated areas in the foreground view. The assumed five-story Population Health Facility would be located prominent in the mid-ground view and would appear to be similar to or lower in height to the surrounding adjacent buildings within the field of view. Background views of taller buildings in the University District area would be visible beyond the Population Health Facility, including the existing UW Tower (22-story building).

As indicated in **Figure 3.2-2**, the *CMP-Seattle 2003* zoning building envelope extends further to the south than the conceptual building massing, and views to building development consistent with the *CMP-Seattle 2003* could be located further to the south on Site 37W.

From Alternative 1 Location 1.2 – Brooklyn Avenue NE/NE 40th Street (**Figure 3.2-3**), the view is comprised of the Brooklyn Avenue NE corridor looking south. The foreground view includes Brooklyn Avenue NE, NE 40th Street and the adjacent Alder Hall. The assumed five-story Population Health Facility building would be located in the mid-ground view and would appear shorter than Alder Hall and taller than development to the west and south, including the Ethnic Cultural Center and Brooklyn Trail Building. The assumed building would appear similar in height with than existing buildings in the background view, including the Portage Bay Parking Facility and the John M. Wallace Building located further south.

Alternative 2 – Development Site 22C

Under Alternative 2, assumed development on Site 22C includes the same amount of building space (up to approximately 330,000 square feet) and uses as Alternative 1, but two scenarios for the assumed building design are analyzed. Scenario 1 assumes the development of a four-story building with a larger building footprint. Scenario 2 assumes the development of an eight-story building with a smaller building footprint and the University of Washington is committed to the E-W walkway through is area and will be a key building design criteria.



Source: Google Earth and EA Engineering, 2016.

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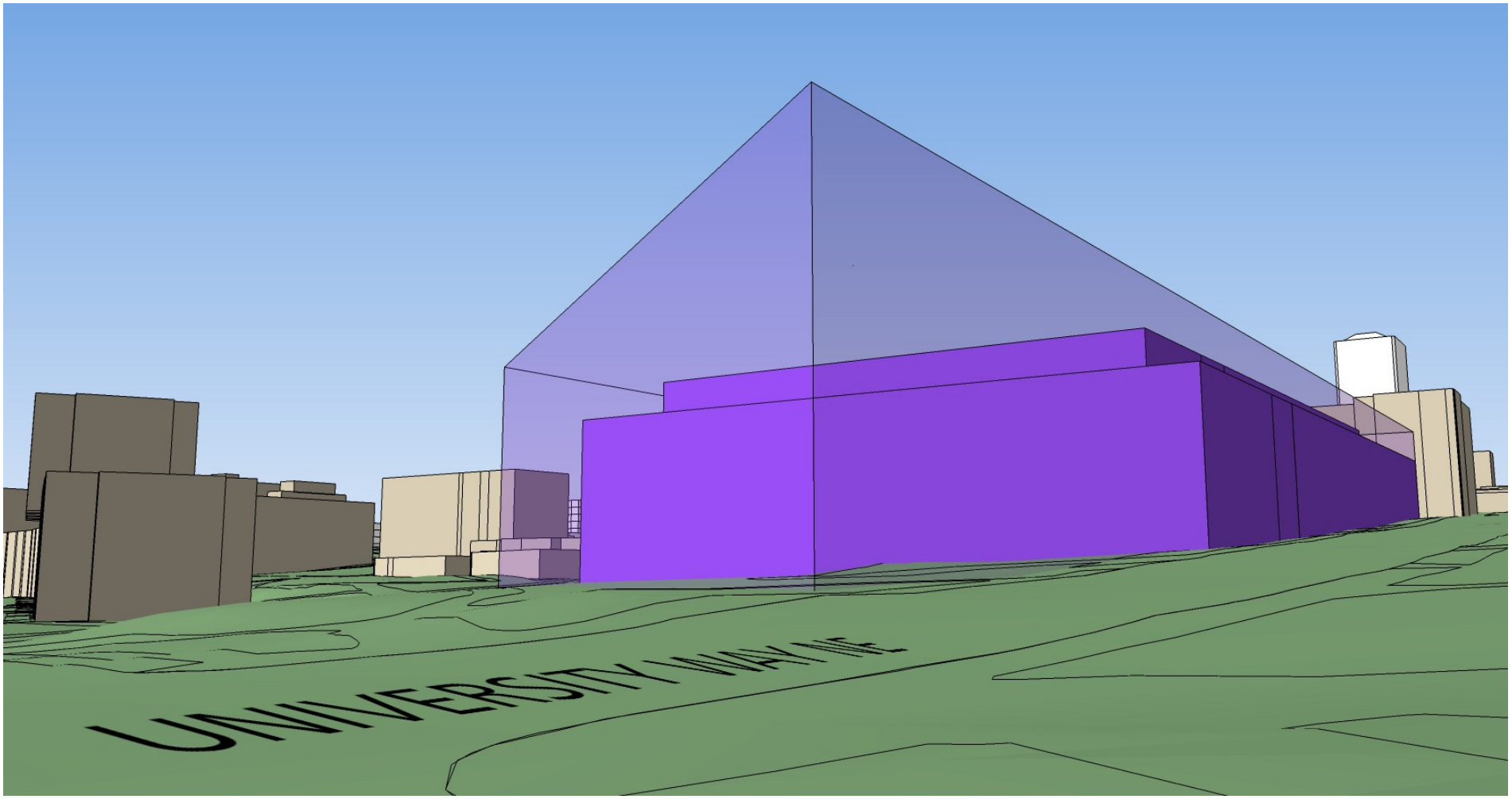
Figure 3.2-1
Massing Viewpoint Locations



Note: This illustration is intended to represent a conceptual plan and massing for the Population Health Facility under Alternative 1 and is not intended to represent the specific project design. The conceptual massing is indicated in the figures in dark/solid purple and the CMP-Seattle 2003 building envelope is indicated by a lighter/translucent purple.

Source: Mahlum, 2016.

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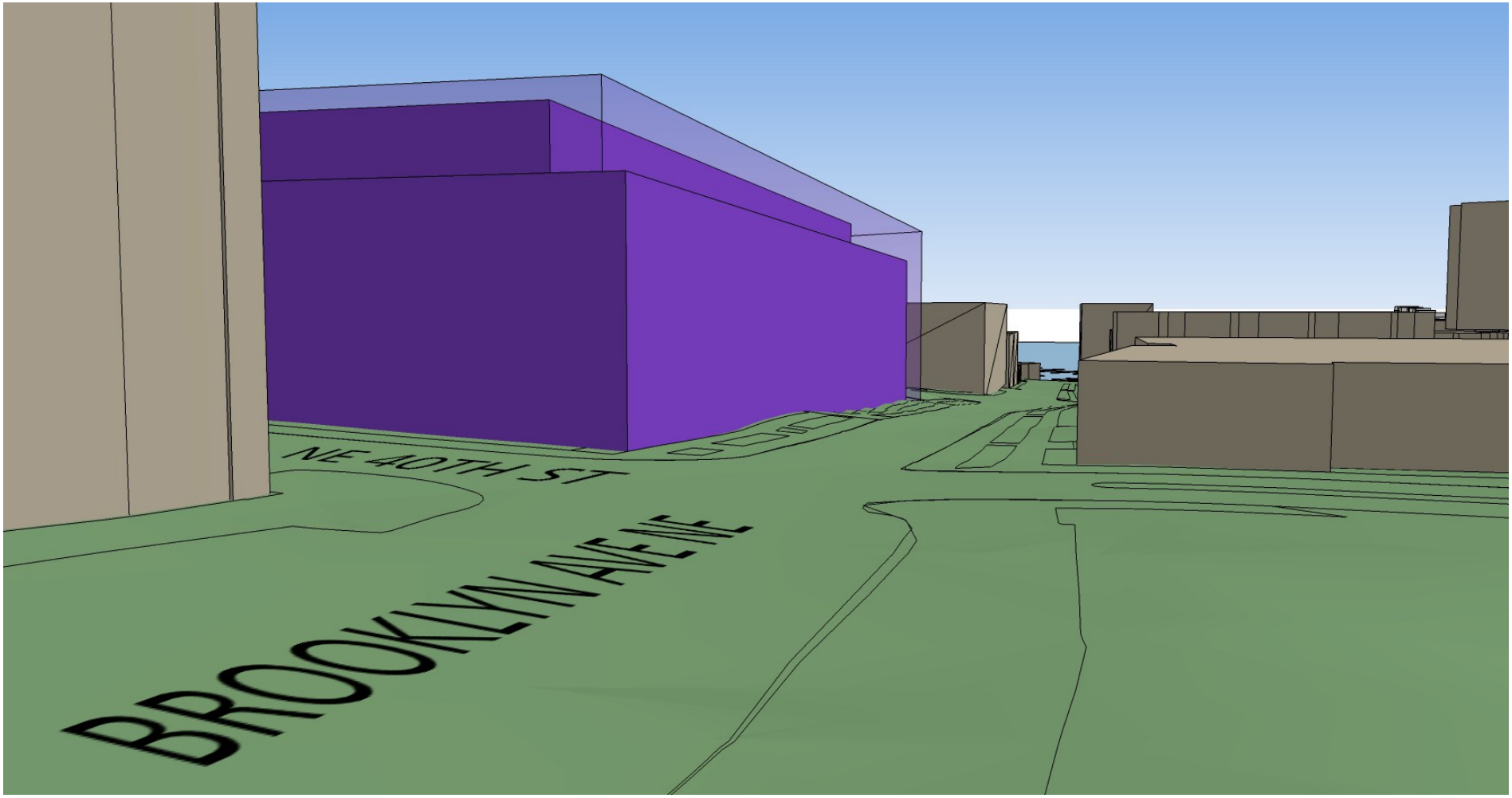
Figure 3.2-1
Alternative 1 Massing—Location 1.1



Note: This illustration is intended to represent a conceptual plan and massing for the Population Health Facility under Alternative 1 and is not intended to represent the specific project design. The conceptual massing is indicated in the figures in dark/solid purple and the CMP-Seattle 2003 building envelope is indicated by a lighter/translucent purple.

Source: Mahlum, 2016.

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Figure 3.2-3
Alternative 1 Massing—Location 1.2

Alternative 2 – Scenario 1

Visual Character

Under Alternative 2 – Scenario 1, existing uses on Site 22C are assumed to be demolished as part of the construction activities, including the existing buildings (Guthrie Annexes 1 through 4) and existing parking associated with the C8 surface parking lot (approximately 15 parking spaces). Approximately 123 existing trees are assumed to be removed to accommodate the assumed development of Population Health Facility Project.

The design of the Population Health Facility building under Alternative 2 – Scenario 1 is assumed to include four stories (including one basement level) and up to approximately 330,000 gross square feet of building space. The assumed building height would be approximately 60 feet at its highest point, which would be below the 105-foot height limit established for the site under the *CMP-Seattle 2003*. The assumed building would be similar to or less than the height of existing surrounding buildings (i.e., Architecture Hall, Meany Hall, Guthrie Hall, the Physics-Astronomy Building, the Physics-Astronomy Tower and the Commodore Duchess), but would be taller than other adjacent buildings (i.e., UW Police Department, West Campus Utility Plant and the Church of Jesus Christ of Latter-day Saints building). The assumed density of the building (up to approximately 330,000 square feet) would be greater than the majority of the surrounding buildings in the site vicinity but would be similar to buildings such as the Commodore Duchess and Physics-Astronomy Building and Tower.

Under Alternative 2 – Scenario 1, the assumed building would be located immediately west of Architecture Hall. While the Population Health Facility would be similar in height to Architecture Hall, the assumed building would have a larger footprint and would be visible from the east behind Architecture Hall to the north and south.

While a specific building design has not been determined at this point of the process, a general design concept to achieve the Population Health Facility program has been defined and certain aspects of a building on Site 22C can be assumed for the purpose of environmental review. It is anticipated that under Alternative 2 – Scenario 1, the project would be designed to be consistent with the *CMP-Seattle 2003* and would consider the relationship of building facade and entries from the E-W Walk (which follows along NE 40th Street and NE Grant Lane), 15th Avenue NE and George Washington Lane extension. The building's design, massing and exterior materials would be intended to be compatible with other nearby University structures (including the adjacent Architecture Hall) and to minimize the potential land use impact of the building's height and density on surrounding uses. Considerations would include building height and scale, building materials, building orientation, provisions of setback/buffers from adjacent uses, and landscaping.

Landscaping would be provided as part of the project and would be designed to be consistent with University of Washington design standards. The landscape design would be reviewed by the University's landscape architect and the University Landscape Advisory Committee prior to development.

Visual Impact

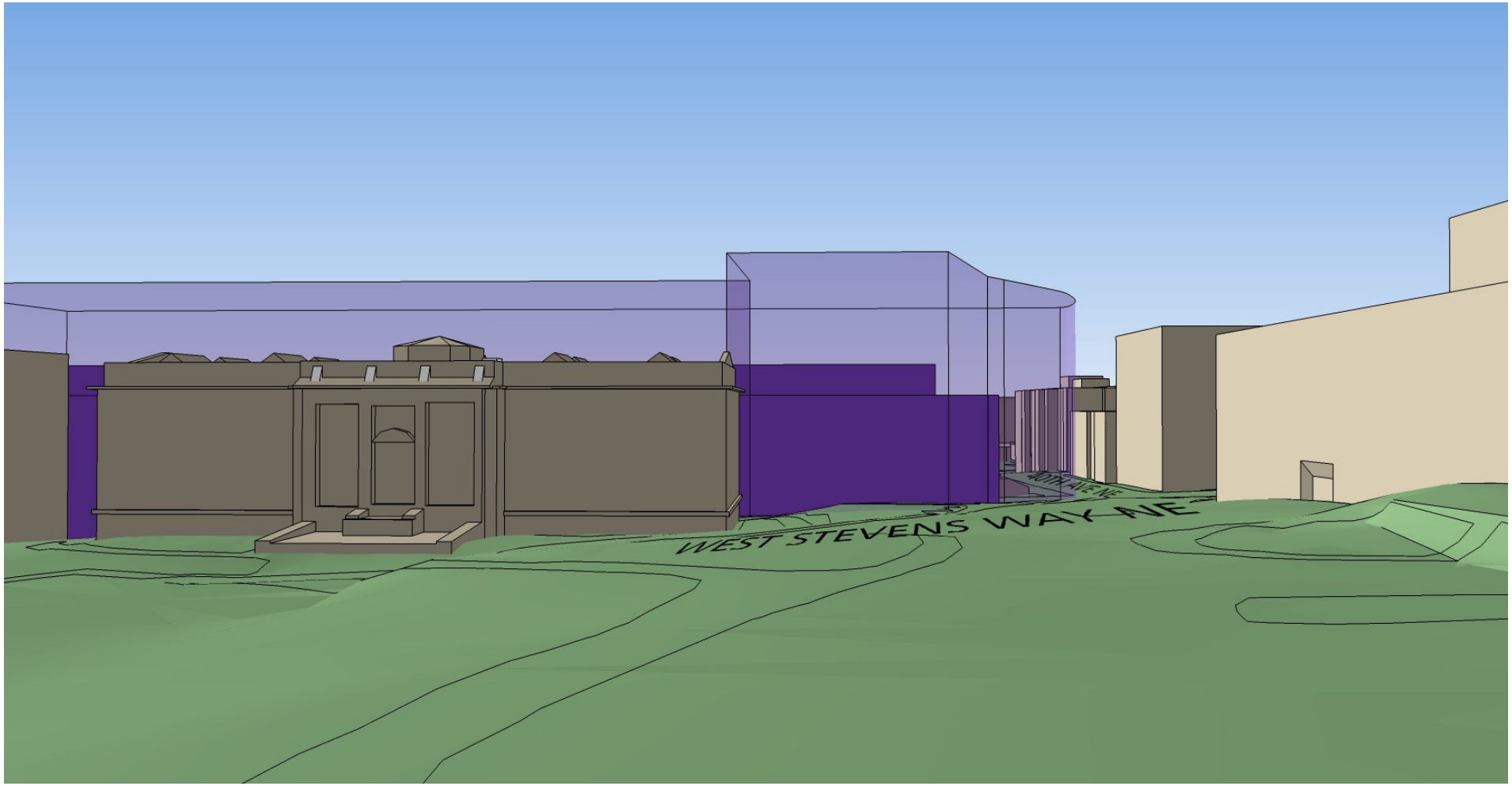
Consistent with the *CMP-Seattle 2003* and similar to Alternative 1, assumed development of the Population Health Facility Project under Alternative 2 – Scenario 1 would change the views of Site 22C to reflect a four-story (plus a basement level) academic and research facility. The assumed building height (60 feet) and scale (up to approximately 330,000 square feet) would be similar to some buildings in the area and greater than others. To illustrate the visual conditions of the Population Health Facility Project under the SEIS Alternatives, conceptual visual massing simulations were prepared to illustrate the conditions that could occur with assumed development on Site 22C. Conceptual visual massing simulations were completed for two locations (see **Figure 3.2-1** for map of viewpoint locations for Alternative 2 – Scenario 1), including:

- Alternative 2 – Scenario 1 – Location 2.1: Grant Lane NE/Stevens Way NE looking west.

- Alternative 2 – Scenario 1 – Location 2.2: 15th Avenue NE/NE Campus Parkway looking south.

From Alternative 2 – Scenario 1 Location 2.1 – Grant Lane NE/Stevens Way NE (**Figure 3.2-4**), the current foreground and mid-ground view under Scenario 1 would remain similar to existing conditions and include Architecture Hall, Meany Hall, Guthrie Hall, Grant Lane NE, Stevens Way NE, sidewalks, trees, and landscaping. The assumed Population Health Facility would be visible in the background view to the north and south of Architecture Hall and would appear similar or lower in height than the Commodore Duchess and Alder Hall in the background view.

From Alternative 2 – Scenario 1 Location 2.2 – 15th Avenue NE/NE Campus Parkway (**Figure 3.2-5**), the foreground view would remain similar to the existing conditions and include the Commodore Duchess, 15th Avenue NE and NE 40th Street/NE Grant Lane. The assumed Population Health Facility building would be located in the mid-ground view and be featured prominently along 15th Avenue NE, thereby changing the current visual corridor looking south down 15th Avenue NE to reflect a more dense built environment. The assumed building would appear to be similar in height to the adjacent Architecture Hall, but would also appear to be a larger and denser building. The existing Physics-Astronomy Tower would continue to be visible in the background and views down the 15th Avenue NE corridor



Note: This illustration is intended to represent a conceptual plan and massing for the Population Health Facility under Alternative 2 and is not intended to represent the specific project design. The conceptual massing is indicated in the figures in dark/solid purple and the CMP-Seattle 2003 building envelope is indicated by a lighter/translucent purple.

Source: Mahlum, 2016.

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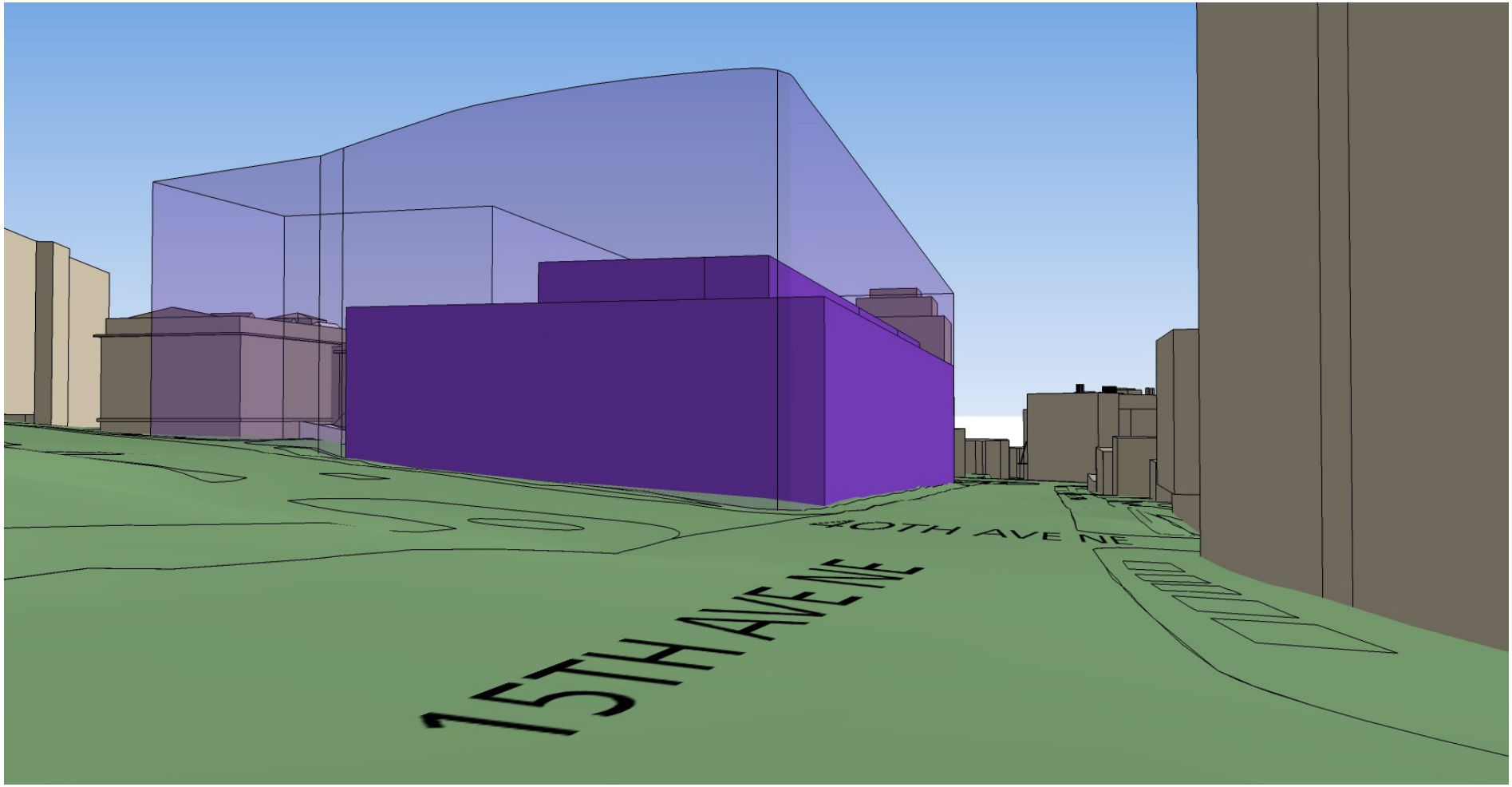
Figure 3.2-4
Alternative 2 Scenario 1 Massing—Location 2.1



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Source: Mahlum, 2016.

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Figure 3.2-5
Alternative 2 Scenario 1 Massing—Location 2.2

(beyond Site 22C) would remain. The assumed Population Health Facility would appear lower in height than the Commodore Duchess located in the foreground view.

Alternative 2 – Scenario 2

Visual Character

Under Alternative 2 – Scenario 2, existing uses on Site 22C are assumed to be demolished as part of the construction activities, similar to Alternative 2 – Scenario 1. The design of the Population Health Facility building under Alternative 2 – Scenario 2 is assumed to include eight stories (compared with four stories under Alternative 2 – Scenario 1) and up to approximately 330,000 gross square feet of building space. The assumed building height would be approximately 95 feet at its highest point, which would be consistent with the 105-foot height limit established for the site under the *CMP-Seattle 2003*. The assumed building height would be greater than the majority of the existing surrounding buildings (i.e., Architecture Hall, Meany Hall, Guthrie Hall, the Physics-Astronomy Building, and the Commodore Duchess). The assumed density of the building (up to approximately 330,000 square feet) would also be greater than the majority of the surrounding buildings in the site vicinity but would be similar to buildings such as the Commodore Duchess and Physics-Astronomy Building and Tower.

Under Alternative 2 – Scenario 2, the assumed building would be located immediately west of Architecture Hall. The provision of smaller building footprint could allow for the opportunity to create a larger separation between the Population Health Facility building and Architecture Hall than under Scenario 1. However, the Population Health Facility would be taller than Architecture Hall (eight stories compared to the four-story Architecture Hall) and would appear to be substantially larger and denser than Architecture Hall when viewed from areas to the east.

General design concepts and conceptual landscaping under Alternative 2 – Scenario 2 are assumed to be the same as described under Alternative 2 – Scenario 1.

Visual Impact

To illustrate the visual conditions of the Population Health Facility Project under the Alternative 2 – Scenario 2, conceptual visual massing simulations were prepared to illustrate the conditions that could occur with assumed development on Site 22C. Conceptual visual massing simulations were completed for the same viewpoint locations that were identified under Alternative 2 – Scenario 1 (see **Figure 3.2-1** for map of viewpoint locations for Alternative 2 – Scenario 1).

From Alternative 2 – Scenario 2 Location 2.1 – Grant Lane NE/Stevens Way NE (**Figure 3.2-6**), the current foreground and mid-ground view would remain similar to existing conditions and include Architecture Hall, Meany Hall, Guthrie Hall, Grant Lane NE, Stevens Way NE, sidewalks, trees, and landscaping. The assumed Population Health Facility be taller than under Alternative 2 – Scenario 1 and the assumed building would be visible in the background view to the north and south of Architecture Hall. The assumed Population Health Facility would appear to be taller and denser than Architecture Hall and similar in height and density to the Commodore Duchess and Gould Hall to the west.

From Alternative 2 – Scenario 2 Location 2.2 – 15th Avenue NE/NE Campus Parkway (**Figure 3.2-7**), the foreground view would remain similar to the existing conditions and would include the Commodore Duchess, 15th Avenue NE and NE 40th Street/NE Grant Lane. The assumed Population Health Facility building would be located in the mid-ground view and would be featured prominently along 15th Avenue NE, thereby changing the current visual corridor looking south down 15th Avenue NE to reflect a taller and denser built environment. The assumed building would be taller than under Scenario 1 and would also be taller and denser than the adjacent Architecture Hall. The existing Physics-Astronomy Tower would not be visible in the background due to the assumed height of the Population Health Facility. Background views down the 15th Avenue NE corridor (beyond Site 22C) would remain. The assumed Population Health Facility would appear similar in height to the Commodore Duchess in the foreground view.

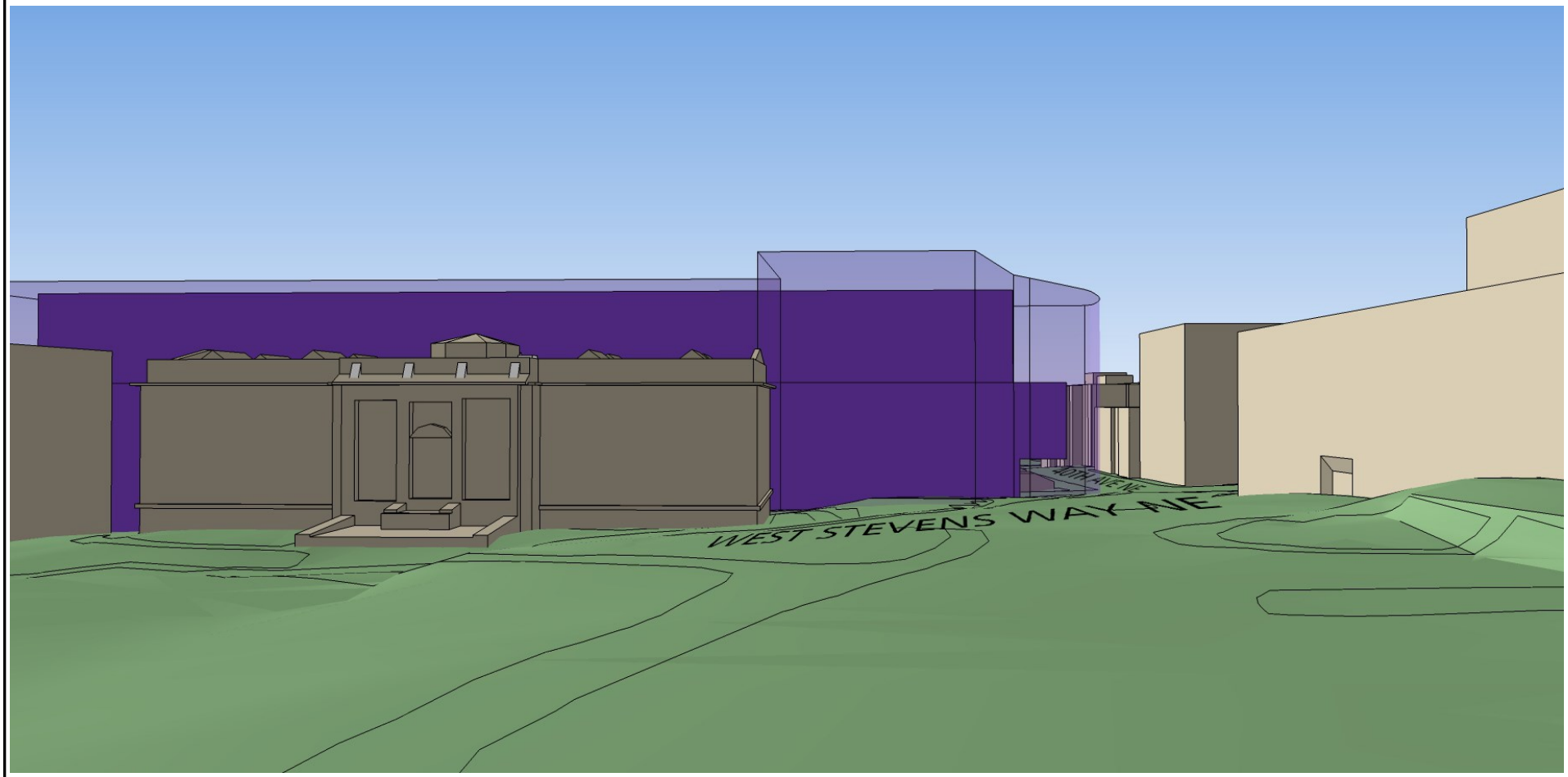
Alternative 3 – Development Site 50S/51S

Under Alternative 3, assumed development on Site 50S/51S includes the same amount of building space (up to approximately 330,000 square feet) and uses as Alternative 1, but two scenarios for the assumed building design are analyzed. Scenario 1 assumes that all replacement parking (approximately 724 spaces) would be provided within a new garage with six above-grade levels and two below-grade levels on the western portion of Site 50S. Scenario 2 assumes that replacement parking (approximately 833 spaces) would be provided by a garage with five above-grade levels and two below-grade levels, including one below-grade level that spans the entire length of site 50S/51S.

Alternative 3 – Scenario 1

Visual Character

Under Alternative 3 – Scenario 1, existing uses on Site 50S/51S are assumed to be demolished as part of the construction activities, including the existing buildings S1 parking garage (approximately 869 parking spaces). Approximately 59 existing trees



Note: This illustration is intended to represent a conceptual plan and massing for the Population Health Facility under Alternative 2 and is not intended to represent the specific project design. The conceptual massing is indicated in the figures in dark/solid purple and the CMP-Seattle 2003 building envelope is indicated by a lighter/translucent purple.

Source: Mahlum, 2016.

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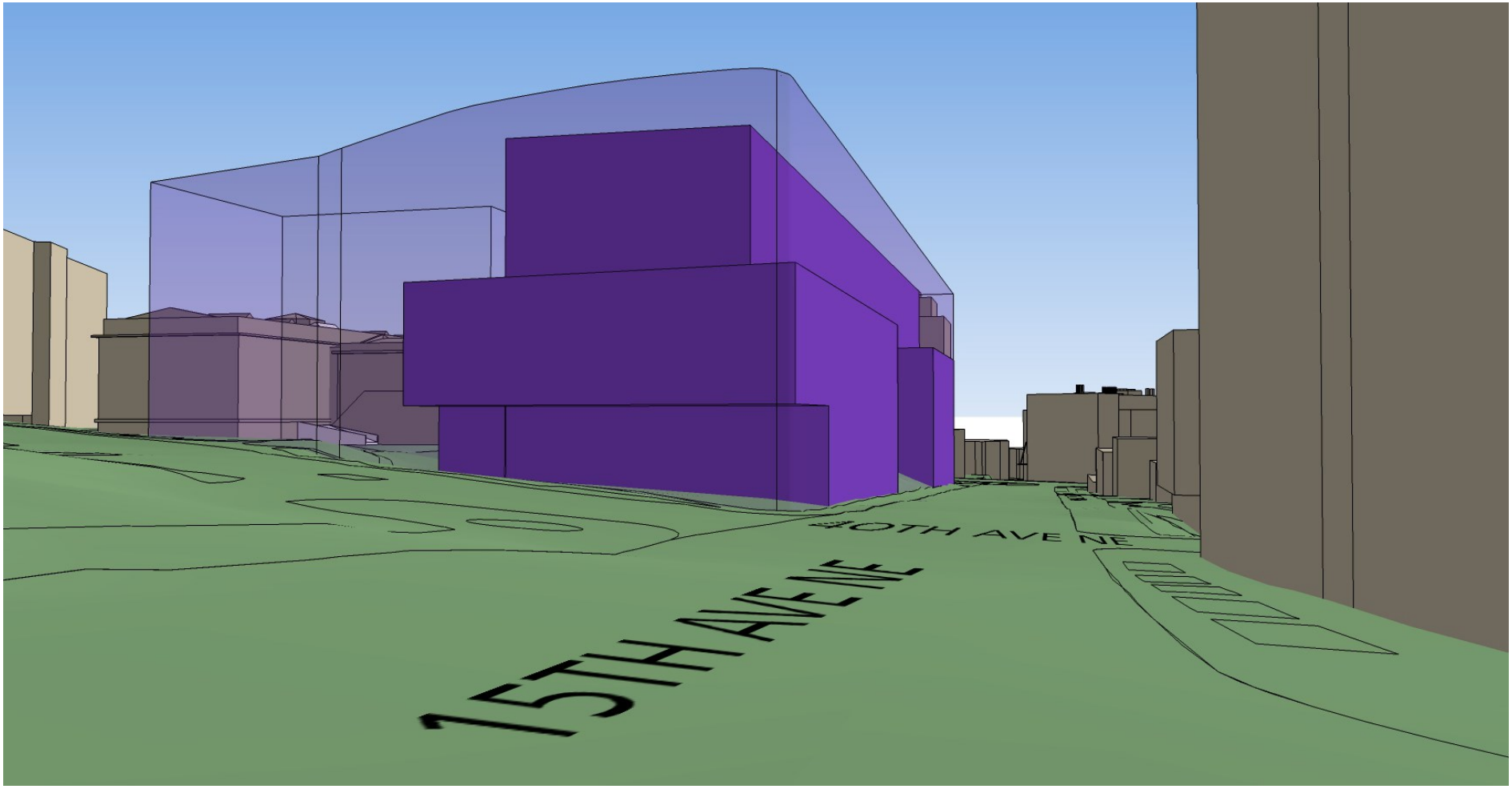
Figure 3.2-6
Alternative 2 Scenario 2 Massing—Location 2.1



Note: This illustration is intended to represent a conceptual plan and massing for the Population Health Facility under Alternative 2 and is not intended to represent the specific project design. The conceptual massing is indicated in the figures in dark/solid purple and the CMP-Seattle 2003 building envelope is indicated by a lighter/translucent purple.

Source: Mahlum, 2016.

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Figure 3.2-7

Alternative 2 Scenario 2 Massing—Location 2.2

are assumed to be removed to accommodate the assumed development of Population Health Facility Project.

The design of the Population Health Facility building under Alternative 3 – Scenario 1 is assumed to include four stories (plus one basement level) and up to approximately 330,000 gross square feet of building space. The assumed parking garage would include six above-grade levels. The assumed building height of both buildings (Population Health Facility and garage building) would be approximately 65 feet at its highest point, which would be consistent with the 65-foot height limit established for the site under the *CMP-Seattle 2003*. The assumed buildings would be similar to or less than the height of existing surrounding buildings to the north (i.e., Magnuson Health Sciences Center and University of Washington Medical Center), but would be taller than other adjacent buildings to the south, east and west (i.e., Central Utility Plant Building, the Center on Human Development and Disability, the Portage Bay Building, the Institute for Learning and Brain Sciences, the South Campus Center, the Oceanography Building, the Harris Hydraulics Laboratory and the Oceanography Teaching Building). The assumed density of the building (up to approximately 330,000 square feet) would be greater than the majority of the surrounding buildings to the south, east and west, and lower than the surrounding buildings to the north.

A general design concept has been defined for the purposes of environmental review and certain aspects of a building on Site 50S/51S can be assumed. It is anticipated that under Alternative 3 – Scenario 1, the project would be designed to be consistent with the *CMP-Seattle 2003* and would consider the potential for connections to the Magnuson Health Sciences Center, provisions of courtyard areas, connections to the South Campus Center, and connections to the waterfront. The building's design, massing and exterior materials would be intended to be compatible with other nearby University structures and to minimize the potential land use impact of the building's height and density on surrounding uses. Considerations would include building height and scale, building materials, building orientation, provisions of setback/buffers from adjacent uses, and landscaping.

Landscaping would be provided as part of the project and would be designed to be consistent with University of Washington design standards. The landscape design would be reviewed by the University's landscape architect and the University Landscape Advisory Committee prior to development.

Visual Impact

Consistent with the *CMP-Seattle 2003*, assumed development of the Population Health Facility Project under Alternative 3 – Scenario 1 would change the views of Site 50S/51S to reflect a large, four-story (plus a basement level) academic and research facility and a parking garage with six above-grade levels. The assumed building height (65 feet) and scale (up to approximately 330,000 square feet for the Population Health Facility) would be

consistent with the *CMP-Seattle 2003* requirements and similar to or less than buildings to the north and greater than buildings to the south, east and west.

To illustrate the visual conditions of the Population Health Facility Project under the Alternative 3 – Scenario 1, conceptual visual massing simulations were prepared to illustrate the conditions that could occur with assumed development on Site 50S/51S. Conceptual visual massing simulations were completed for two viewpoint locations (see **Figure 3.2-1** for map of viewpoint locations for Alternative 3 – Scenario 1), including:

- Alternative 3 – Scenario 1 – Location 3.1: NE Columbia Road/San Juan Road NE looking east.

- Alternative 3 – Scenario 1 – Location 3.2: NE Columbia Road near the University of Washington Medical Center looking west.

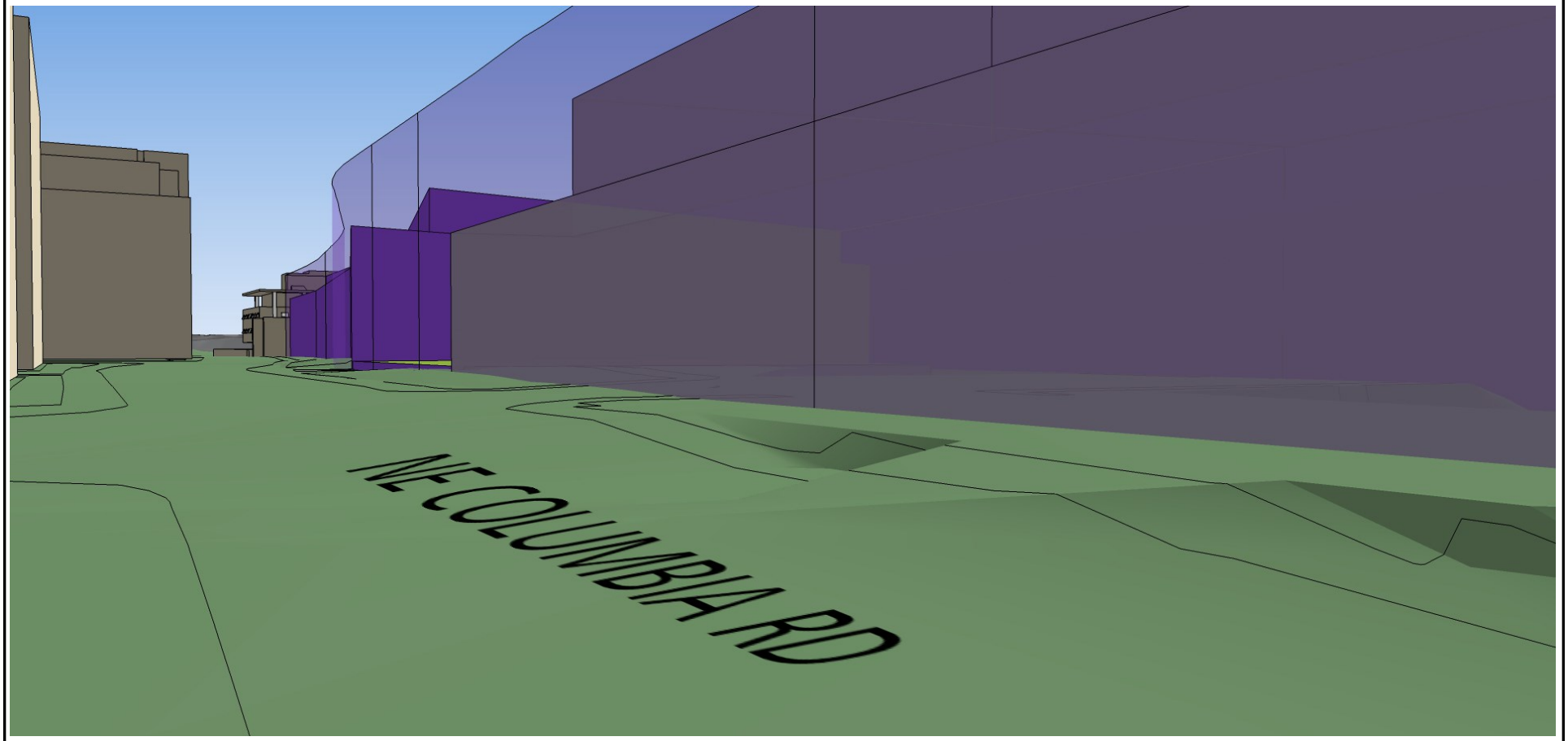
From Alternative 3 – Scenario 1 Location 3.1 – NE Columbia Road/San Juan Road NE (**Figure 3.2-8**), the foreground and mid-ground view under Alternative 3 – Scenario 1 would NE Columbia Road and the assumed Population Health Facility. The assumed Population Health Facility would appear similar in height and size to the adjacent Magnuson Health Sciences Center and Medical Center to the north. Views of existing buildings (i.e., Portage Bay Building and Center on Human Development and Disability) to the east and south of Site 50S/51S would be obstructed by the assumed building.

From Alternative 2 – Scenario 1 Location 3.2 – NE Columbia Road near the Medical Center (**Figure 3.2-9**), the foreground view would remain similar to the existing conditions and include NE Columbia Road, the Central Utility Plant Building and Medical Center. The assumed Population Health Facility would be featured prominently in the mid-ground view along NE Columbia Road and would be visible behind the Central Utility Plant Building due to the assumed building height (four stories). Background views that are currently available across the existing S1 parking garage would be obstructed by the assumed Population Health Facility including the upper floor of the Harris Hydraulics Laboratory, South Campus Center and existing trees and vegetation surrounding existing buildings.

Alternative 3 – Scenario 2

Visual Character

Under Alternative 2 – Scenario 2, existing uses on Site 50S/51S are assumed to be demolished as part of the construction activities, similar to Alternative 3 – Scenario 1.

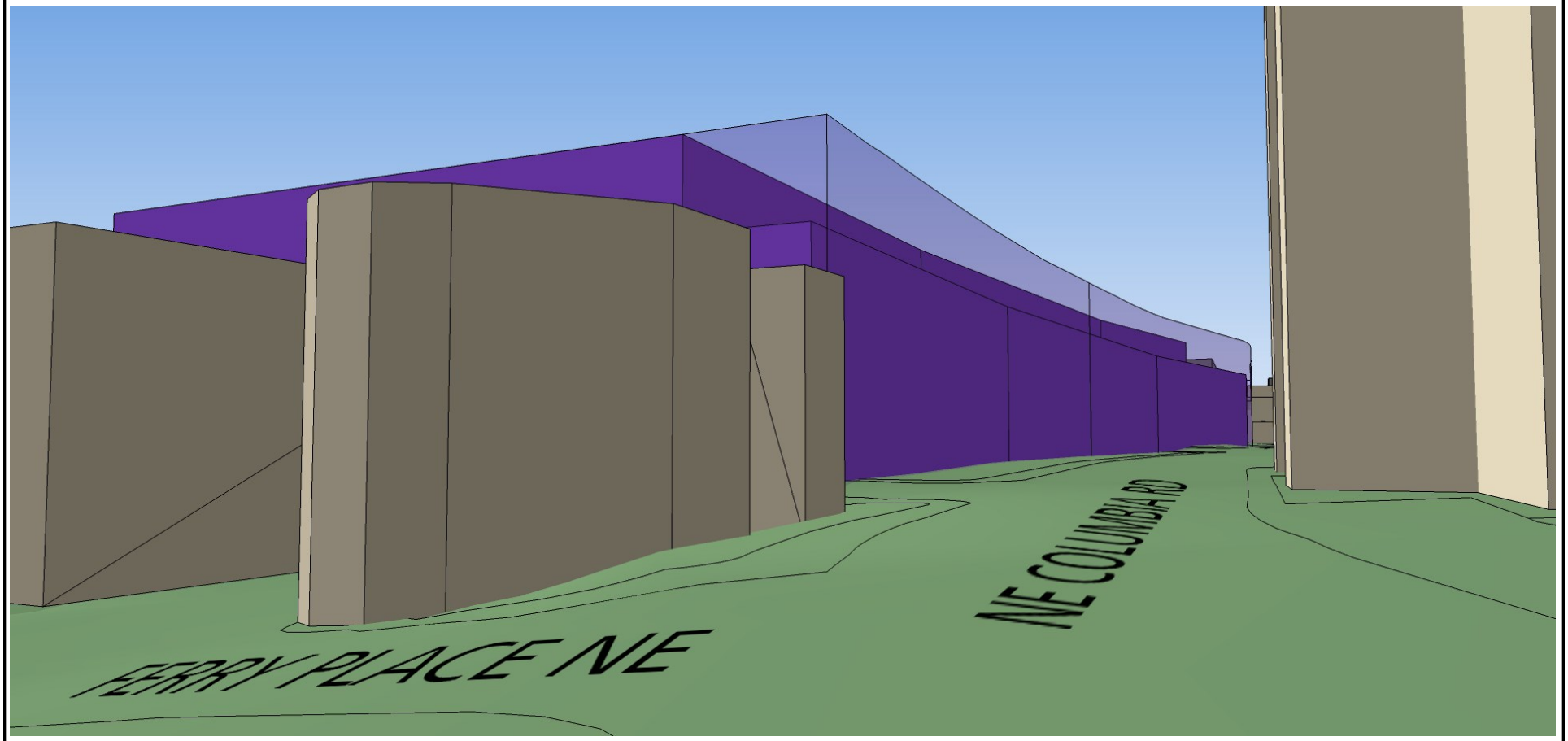


Note: This illustration is intended to represent a conceptual plan and massing for the Population Health Facility under Alternative 3 and is not intended to represent the specific project design. The conceptual massing is indicated in the figures in dark/solid purple and the CMP-Seattle 2003 building envelope is indicated by a lighter/translucent purple.

Source: Mahlum, 2016.

EA Engineering, Science, and Technology, Inc., PBC

Figure 3.2-8
Alternative 3 Scenario 1 Massing—Location 3.1



Note: This illustration is intended to represent a conceptual plan and massing for the Population Health Facility under Alternative 3 and is not intended to represent the specific project design. The conceptual massing is indicated in the figures in dark/solid purple and the zoning building envelope is indicated by a lighter/translucent purple.

Source: Mahlum, 2016.

EA Engineering, Science, and Technology, Inc., PBC

Figure 3.2-9
Alternative 3 Scenario 1 Massing—Location 3.2

The design of the Population Health Facility building under Alternative 3 – Scenario 2 is assumed to be the same as under Alternative 3 – Scenario 1 with the primary difference being that the assumed parking garage structure would be one less above-grade level under Alternative 3 – Scenario 2. The assumed building height would remain greater than the majority of the existing surrounding buildings, with the exception of the Magnuson Health Sciences Center and the University of Washington Medical Center. The assumed density of the building (up to approximately 330,000 square feet) would also be greater than the majority of the surrounding buildings to the south, east and west, and less than surrounding buildings to the north.

General design concepts and conceptual landscaping under Alternative 3 – Scenario 2 are assumed to be the same as described under Alternative 3 – Scenario 1.

Visual Impact

Consistent with the *CMP-Seattle 2003*, assumed development under Alternative 3 – Scenario 2 would feature the same height and density for the Population Health Facility building as under Alternative 3 – Scenario 1 with a slightly shorter parking garage structure (one above-grade level less than Scenario 1). As a result, it is anticipated that the visual impacts under Alternative 3 – Scenario 2 would be similar to or less than those described for Alternative 3 – Scenario 1 (see **Figure 3.2-10** and **Figure 3.2-11**).

Summary of Aesthetic Conditions

The following **Table 3.2-1** provides a summary of the potential aesthetic conditions under the EIS Alternatives.

TABLE 3.2-1

SUMMARY OF AESTHETICS CHANGES UNDER THE EIS ALTERNATIVES

Site Condition	Alternative 1	Alternative 2		Alternative 3	
		Scenario 1	Scenario 2	Scenario 1	Scenario 2
Building Height	63	60	105	64[1]/50[2]	64[1]/30[2]
Building Sq. Ft	330,000	330,000	330,000	330,000	330,000
Building Sq. Ft. Demolished	72,560	22,700	22,700	99,870	99,870
Parking Spaces Demolished	104	15	15	869	869
Parking Spaces Replaced	0	0	15	724	917
Net Parking Gain/Loss	-104	-15	0	-145	+48
Visual Character	Replaces the existing one- to two-story buildings, surface	Replaces the existing one- to two-story buildings, surface	Replaces the existing one- to two-story buildings, surface	Replaces existing three-level parking structure with a new four-story	Replaces existing three-level parking structure with a new four-story

Table 3.2-1 Continued

Site Condition	Alternative 1	Alternative 2		Alternative 3	
	parking lots and vegetation with a new four-story building and associated landscaping.	parking lot, roadways, walkways and vegetation with a new four-story building and associated landscaping.	parking lot, roadways, walkways and vegetation with a new eight-story building and associated landscaping.	building and a parking garage with six above-grade levels	building and a parking garage with five above-grade levels
View Conditions	Featured prominently along University Way NE and Brooklyn Avenue NE. Similar building height to some existing uses, but greater than others. Greater building density than surrounding uses.	Featured prominently along 15th Avenue NE. Appears visible to north and south of Architecture Hall but would be similar height. Similar building height to some existing uses but greater than others. Greater building density than surrounding uses.	Similar to Alternative 2 – Scenario 1. Blocks some background views along 15th Avenue NE. Similar building height to some existing uses, but greater than others (including taller and denser than Architecture Hall). Greater building density than surrounding uses.	Featured prominently along NE Columbia Road. Blocks some background views of existing buildings near the waterfront. Similar height and density to existing use to the north but taller and greater density than existing uses to the south, east and west.	Similar to or less than Alternative 3 – Scenario 1. Shorter parking garage (one less above grade level) than Alternative 3 – Scenario 1.

[1] Population Health Facility building height.

[2] Parking garage building height.

3.2.3 Mitigation Measures

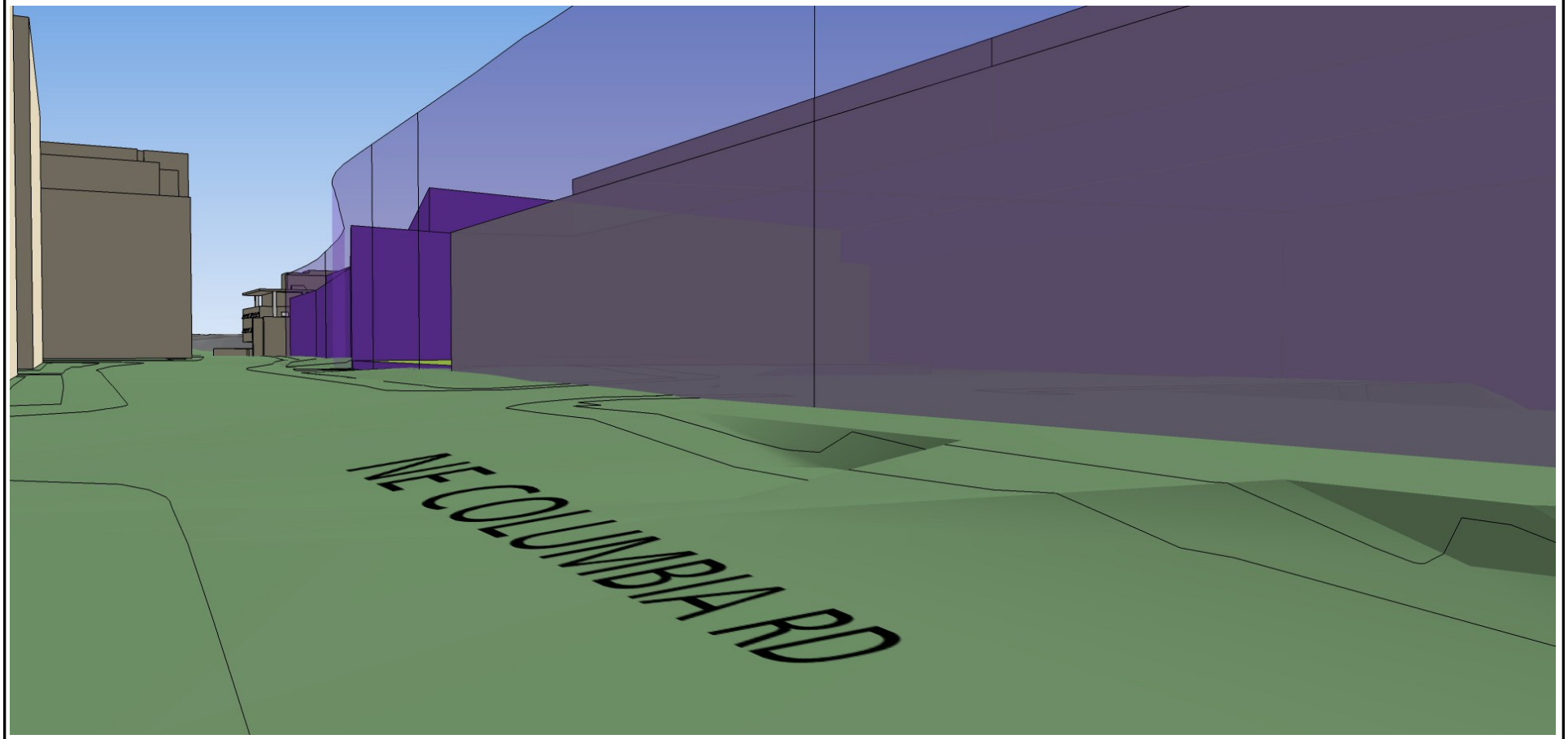
The following mitigation measures would minimize potential aesthetic impacts that could occur with development of the Population Health Facility under the Draft SEIS Alternatives.

Measures Applicable for All Alternatives

- Development of the Population Health Facility would be consistent with applicable provisions of the *CMP-Seattle 2003*.

- Architectural design features would be incorporated into the design of the Population Health Facility to ensure that the development is compatible with existing surrounding uses.

- Landscaping would be included as part of the development of Population Health Facility to provide a buffer between the building and surrounding uses and enhance the visual appeal of the site.

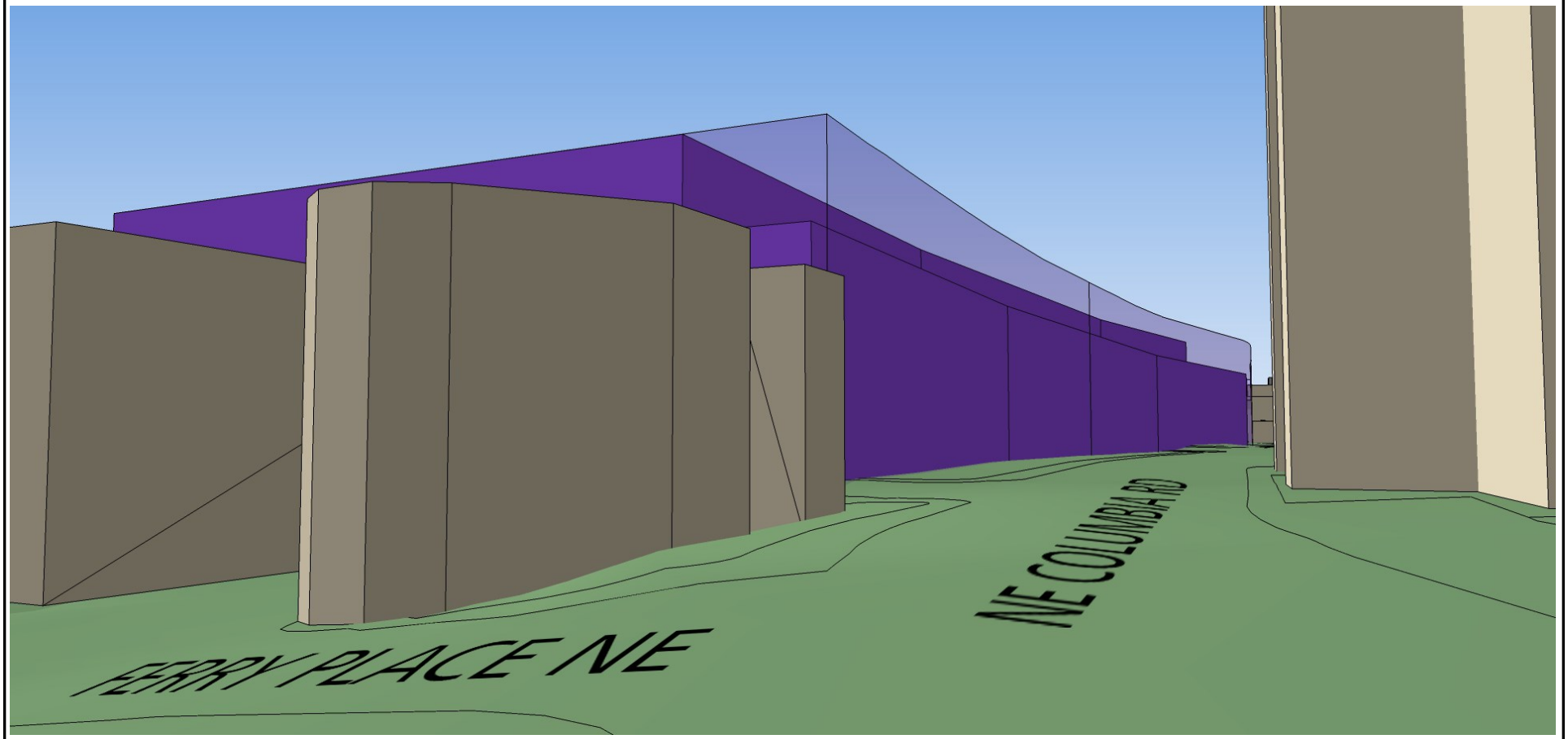


Note: This illustration is intended to represent a conceptual plan and massing for the Population Health Facility under Alternative 3 and is not intended to represent the specific project design. The conceptual massing is indicated in the figures in dark/solid purple and the zoning building envelope is indicated by a lighter/translucent purple.

Source: Mahlum, 2016.

EA Engineering, Science, and Technology, Inc., PBC

Figure 3.2-10
Alternative 3 Scenario 2 Massing—Location 3.1



Note: This illustration is intended to represent a conceptual plan and massing for the Population Health Facility under Alternative 3 and is not intended to represent the specific project design. The conceptual massing is indicated in the figures in dark/solid purple and the zoning building envelope is indicated by a lighter/translucent purple.

Source: Mahlum, 2016.

EA Engineering, Science, and Technology, Inc., PBC

Figure 3.2-11
Alternative 3 Scenario 2 Massing—Location 3.2

3.2.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse aesthetic impacts would be anticipated under the EIS Alternatives.

3.3 HISTORIC AND CULTURAL RESOURCES

This section of the Draft SEIS identifies historic and cultural resources on and in the vicinity of the alternative sites, and analyzes the potential for impacts associated with development of the Population Health Facility Project on the alternative sites (*CMP-Seattle 2003* Sites 37W, 22C and 50S/51S) on the University of Washington's Seattle Campus. A Cultural Resources Report and Historic Resource Addendums (HRA) were prepared by Historical Research Associates, Inc. and are summarized within this section. The Cultural Resources Report is included in **Appendix B** of this Draft SEIS.

3.3.1 Affected Environment

Regulatory Context

This cultural resources and architectural resources inventory is intended to identify resources that need to be considered during State Environmental Policy Act (SEPA) review, including whether the construction of the facility would impact any historic or cultural resources (listed or eligible for listing in federal, state, or local historic registers[1]) on or immediately adjacent to the alternative sites.

In addition to the mandated SEPA process, the University of Washington outlines its own process for considering the potential effects of new project planning on campus buildings and features in the University of Washington Master Plan – Seattle Campus (*CMP-Seattle 2003*). The *CMP-Seattle 2003* calls for the production of a Historic Resources Addendum (HRA) for any project that makes exterior alterations to a building over 50 years old, and this HRA will be included as an attachment to all project documentation and considered by the appropriate decision makers. The HRA provides context and analysis to insure that important elements of the campus, its historical character and value, environmental considerations, and landscape context are preserved, enhanced, and valued. The HRA further ensures that improvements, changes, and modifications to the physical environment may be clearly analyzed and documented. Consistent with the *CMP-Seattle 2003* guidelines, an HRA has been prepared for each of the alternative sites (Site 37W, 22C and 50S/51S). The HRAs for each site are on file with the University of Washington.

[1] *Refer to Appendix B for discussion on the criteria for eligibility for listing on the various historic registers.*

General Background

The following provides information on the cultural resources and architectural context of the University of Washington campus.

Cultural Resources

Archaeological and historical evidence indicates that Native Americans moved into the area at the close of the last ice age, occupying Western Washington for at least the last 11,000 years. More evidence is available for occupation after about 5,000 years ago and especially for the last 2,500 years when populations apparently increased and large, permanent villages were inhabited. The human history of the area is a response to the availability of natural resources along the rivers, streams, marshes, sloughs, prairies, and nearby coastal areas.

Prehistory

The earliest archaeological evidence of human presence in Washington State comes from Clovis fluted projectile points and stone tools dating to about 11,000 before present (BP). These tools are believed to be associated with highly mobile Paleoindian groups adapted to hunting large fauna such as mammoth and mastodon, with some reliance on plants and other animals. Clovis materials are rare in Washington, known from nine isolated finds. Other evidence for this adaptation includes the Manis Mastodon site near the town of Sequim where extinct bison and mastodon remains dating from 12,000 BP and 10,000 BP were found in possible association with cultural remains.

The Early period in Western Washington spans from approximately 8,000-5,000 BP. Artifacts are referred to as “Olcott” after the site type in Snohomish County and referred to in other areas of the country as “Old Cordilleran” or “Early Lithic”. The distinctive Olcott stone tool assemblage consists of large, leaf-shaped and stemmed points, and cobble and flake tools, often made of heavily weathered volcanic rock like dacite or basalt. Sites with Olcott assemblages, which generally lack organics and features, are usually found inland on raised terraces where human occupation likely became established as landforms stabilized during the middle Holocene.

The Middle period in Puget Sound prehistory, from approximately 5,000-2,500 BP, is characterized by increasing populations with more complex socio-economic organization and evidence for greater reliance on marine and riverine resources. Marine resource use may extend back further in time; however, earlier shoreline sites would have been inundated by rising sea levels which reached near-modern elevations by about 5,000 BP. Middle period sites yield more stone and bone tools in addition to chipped stone tools. The developing importance of woodworking is evident in the presence of tools such as adzes,

wedges, and mauls. A diversification of economic pursuits in this period is indicated by sites in a variety of environmental settings and common finds of the remains of sea mammals, fish, and shellfish.

The Late period of the last 2,500 years in the Pacific Northwest is marked by sites and assemblages that indicate development of craft specialization and a significant concentration of wealth, both traits being representative of the "classic" Northwest Coast cultural complex. Of note are abundant shells, and increase in art objects and status markers, and a large variety of tools including ground slate knives and points, celts, and bone harpoons and points. The seasonal use of resources and locations continued, and permanent and semi-permanent winter villages were established. Archaeological sites of the Late period provide evidence of subsistence and settlement patterns including hunting, fishing, woodworking, and plant processing.

Native Americans

Areas of campus were formerly occupied by the Duwamish, a Lushootseed speaking group who inhabited all of present-day Seattle and Renton, and who occupied villages along the shorelines of Lake Union, Lake Sammamish, Lake Washington, Elliott Bay, Shilshole Bay, and the Duwamish, Black, and Cedar Rivers. The Duwamish maintained close ties with neighboring groups, including the Snoqualmie, Suquamish, Puyallup, and people living on the Upper Green and White Rivers. Known as the *xa'tcoabc* (lake people), the Lake Washington people were considered by some to be intermediate between the Duwamish and Snoqualmie.

Recorded place names indicate native presence in the project vicinity, as well as, through the environs of greater Seattle. East of the project area, longhouses of the group living at *SWAH-tsu-gweel* on the shore of Union Bay near the present day University of Washington campus marked the eastern end of an important portage route that led to salt water. An "Indian trail" marked on the 1856 land survey map is shown from the northwest side of Union Bay and entering Portage Bay on the east side just south of the project area. Another trail farther south connects the lower end of Union Bay with the southern end of Portage Bay and continues across the terrain to reach the east side of Lake Union, crossing land again in the vicinity of today's Gaswork's Park.

There are references in the literature to Native American names for features in the site vicinity. *Baqwob* referred to a prairie or open space north of Portage Bay. *Waq^{3}e'q^{3}ab* from the word for frog, was a small creek that entered Lake Union just east of today's Interstate 5 Bridge. A small promontory, Sqwitsqs, jutted into Lake Union where the University Boat Club once stood. SS*lu?wi't* referred to a creek passage from the north shore of Union Bay through the marsh lying between Webster Point and the buildings of the University. It may have been the location of a fish trap. In Union Bay on today's Foster Island, the Duwamish

had a burial ground, *Stitici*, where the dead were placed in boxes placed up in the branches of trees. Other places were noted in the vicinity of Webster Point, Sand Point, and Laurel Point.

The annual cycle of activities was based on the availability of resources in different seasons and varied environments. In spring and summer, traveling along trails or by dugout canoe, small groups set up temporary camps to fish, hunt, harvest shellfish, and gather berries, roots, bulbs, and other plant resources. Salmon and shellfish, especially clams, formed the most important part of their diet. Other resources included freshwater fish caught in the lakes and streams throughout the area; deer, bear, and small mammals hunted in the valleys, uplands, and lake shores, waterfowl found on the numerous waterways; and, marine resources including sea mammals, clams, crabs, shrimp, oysters, mussels, and other invertebrates found along the coast.

The Duwamish spent the winter months in cedar plank houses built along shorelines and riverbanks living on the salmon, clams, berries, roots and other foods they had preserved by smoking or drying and tending to social relationships through visiting, trading, and engaging in festivities and ceremonies. The Duwamish were linked by marital ties as well as by shared use of some resource areas with the Suquamish to the west, Snohomish to the north, Snoqualmie to the east, and with groups on the White and Green Rivers to the south now collectively referred to as the Muckleshoot.

The Duwamish maintained friendly relations with Seattle pioneers, providing them with labor, salmon, shellfish, baskets, and other resources, and continuing to live among them in spite of treaty-era tensions and diminishing means of pursuing a traditional lifestyle. The last Duwamish natives known to live in the project vicinity were Cheshiahud (also known as Lake John), a canoe maker and lake guide who lived with his family at the foot of today's Shelby Street on Portage Bay until about 1900. Formerly the leader of a village on Lake Union, he and his family lived on a small piece of land with a cabin and potato patch. He is believed to have moved to the Suquamish Reservation following the death of his wife Madeline. A trail recently opened around Lake Union was named the Cheshiahud Lake Union Loop Trail in honor of the association of Duwamish natives with the area.

Today many people of Duwamish decent live among the Muckleshoot, Snoqualmie, Suquamish, and Tulalip Tribes, as a result of the 1854-1855 treaties that led to the creation of area reservations and to shifts in settlement and inter-group relationships. Others continue to seek independent Duwamish tribal status.

Historic Context

The University of Washington was established by the State Legislature in 1861, as the first public university in the state. It was sited on a ten-acre parcel of land in what is now

downtown Seattle. In 1895, the campus was moved to its present site, and the University Regents sought some type of campus plan to guide the location of future buildings. In 1898, engineering professor A.H. Fuller developed a plan known as the Oval Plan.

In 1903, the Board of Regents hired the Olmsted Brothers renowned landscape architects, to prepare a design for a general campus plan. However, this 1904 Olmsted Plan was never realized, and the present campus plan descends from the Olmsted's Beaux-Arts design for the Alaska Yukon Pacific Exposition (AYPE) of 1906. The AYPE grounds reverted back to the University in 1909, providing the central axis of Rainier Vista and an emphasis on landscaping. Cunningham Hall, the Auditorium (which became the original Meany Hall), the Machinery Building, the Washington Building, the Arctic Brotherhood Building, the Forestry Building, and the Fine Arts Building are the seven permanent buildings retained after the fair.

Henry Suzzallo was the University of Washington's fifteenth president with a tenure lasting eleven years (1915-1926), and he worked closely with architect Carl Gould in the physical planning of the campus and its buildings. The Regents Plan of 1915, adopted during Suzzallo's first year as president, became the University's guiding planning document. It reaffirmed the Olmsted's AYPE grounds and proposed grouping Liberal Arts programs on the upper campus, administrative and library facilities at its core on the Central Quadrangle, and the Science programs along Rainier Vista and the southern portion of Stevens Way. The plan placed Suzzallo Library clearly beside the intersecting axis from Liberal Arts Quadrangle and Rainier Vista, and the main axis of the Science Quadrangle. Major athletic facilities were later located along the eastern edge of the campus near Lake Washington. This plan served as the basis for subsequent construction, and set the Collegiate Gothic character for architectural design.

Planning for the Magnuson medical complex began directly after World War II on the site of the former golf course and training facilities. University enrollment swelled at the end of the war, and in 1949, the University opened the Health Sciences Building, the first of its sprawling medical complex. In 1959, the University Hospital was opened. The complex was renamed the Magnuson Health Sciences Center in 1978, when it was approximately a third of its current size.

Other buildings on the campus that were constructed after World War II were designed in a variety of Modern styles that emphasized new materials and expressive structural qualities. In the 1950s, a University Architectural Commission was established and a University architect appointed. Collegiate Gothic was replaced by modern architecture as the preferred style for new buildings. The 1962 General Development Plan was prepared by the University architect, with input from consultants including alumnus Paul Thiry.

While development in the southern campus was still sparse, the Northern Pacific Railroad (NPRR), owners of the segment of line within the campus, continued heavy use of the line until 1963. The NPRR merged with two other railroad companies, Burlington and The Great Northern, in 1970, and the new company, the Burlington Northern Railroad, abandoned the line that would become the Burke-Gilman Trail in 1971. The first section of the line to be paved and turned into the Burke-Gilman Trail connected Gas Works Park within Tracy Owen Park in Kenmore.

Historic Resources (Buildings and Spaces)

The following provides detail on architectural resources on the SEIS Alternative sites and in the site vicinity.

Alternative 1 - Site 37W

Buildings and features on Site 37W that are over 50 years of age and/or have the potential for historic significance including the Purchasing and Accounting Building (3917 University Way NE), the Behavior Research and Therapy Clinic (3935 University Way NE), the Stress and Development Lab (3939 University Way NE), the Drama Scene Shop (3941 University Way NE) and the Instructional Center/Ethnic Cultural Theater (3940 Brooklyn Avenue NE). A brief discussion on these buildings and features is provided below. Refer to **Appendix B** for additional detail. The building addressed as 3947 University Way NE is less than 50 years of age and is not evaluated in this section.

Purchasing and Accounting Building (1959)

The Purchasing and Accounting Building (3917 University Way NE) was originally constructed in 1959 as a utilitarian building in the modern style of architecture for use as a sheet metal warehouse. The University of Washington acquired the building in 1964 and renovated the building to provide space for University offices that require public accessibility. In 1982, the building was renovated and expanded to include a two-story addition to the south of the existing building.

The building is not considered to be architecturally significant, retains poor integrity from its period of construction and is not known to be associated with specific important events or people in our shared history. As a result, the building is not considered to be eligible for listing in local, state or national registers of historic places.

3935 University Way NE (Behavior Research and Therapy Clinic - 1931)

The Behavior Research and Therapy Clinic (3935 University Way NE) was originally constructed in 1931 for the Columbia Lumber Company as an office building. It was purchased by the University of Washington in 1962 and is used by the Behavioral Research Therapy Clinic. The building is a twentieth-century example of Greek Revival architectural style and is an example of a Depression-era building constructed with ornamentation.

In 2008, the Washington State Department of Archaeology and Historic Preservation (DAHP) determined that the building was eligible for listing in the National Register of Historic Places (NRHP) for its associations with important economic and commercial trends in the history of the University District and as a well-executed example of architectural type and style.

3939 University Way NE (Stress and Development Lab - 1946)

The Stress and Development Lab (3939 University Way NE) was originally constructed in 1946 as a warehouse/office building for Strand and Sons General Contractors. The building was purchased by the University of Washington around 1962 and has been used by several University departments, including most recently as the Stress and Development Lab as part of the Child Clinical Psychology program.

The building was constructed in the modern architectural style but does not possess the high artistic qualities that would distinguish it from others of its type. The building is also not considered significant based on any of its historic associations. Therefore, this building is not considered to be eligible for listing in local, state or national registers.

3941 University Way NE (Drama Scene Shop - 1942)

The Drama Scene Shop (3941 University Way NE) was originally constructed in 1942 for the University Plumbing and Heating Company as an office building with an open shop in the back of the building. The University of Washington purchased the building around 1962 and in 1970 it was remodeled for use by the Drama Department.

The building was constructed in the utilitarian modern architectural style, but is not a distinctive example of its architectural type or style and does not possess high artistic values. While the building has been used by prominent local companies and the University's Drama Department, it would not be considered significant for its historic associations and would not be considered eligible for listing in local, state or national registers.

Instructional Center/Ethnic Cultural Theater (1912)

The Instructional Center/Ethnic Cultural Theater (3940 Brooklyn Avenue N) was constructed in 1912 by the University Plumbing and Heating Company. The building was acquired by the University of Washington around 1966 and was remodeled in 1971 as a theater for the adjacent Ethnic Cultural Center (immediately west). The current building is a combination of three distinct masses from three different periods of construction.

Due to several additions and alterations, the original building has lost a great deal of its integrity. As a result, it is not considered an example of its architectural style/type and does not possess high artistic values. The building would be considered significant for its associations with cultural heritage and would be considered eligible for listing in the NRHP under Criterion A.

Alternative 1 - Site 37W Vicinity

Buildings over 50-years old in the immediate vicinity of Site 37W include the Ye College Inn. Brief discussion on the historic characteristics of this building is provided below.

Ye College Inn (1909) – The Ye College Inn building (4000 University Way NE) was originally constructed in 1909 and is one of the last remaining buildings associated with the 1909 AYP. The building was originally listed in the NRHP in 1982 and the eligibility of the building was reevaluated and confirmed in 2011.

Alternative 2 - Site 22C

Buildings and features on Site 22C that are over 50 years of age and/or have the potential for historic significance include the Guthrie Annex 1, Guthrie Annex 2, Guthrie Annex 3 and Guthrie Annex 4. A brief discussion on these buildings is provided below.

Guthrie Annex 1 (1918)

Guthrie Annex 1 was constructed in 1918 as part of the US Navy Training Camp during World War I and was moved to its current location in 1920. A second (south) wing was added to the building in 1934 as the University began to utilize the building as the Pharmacy Building. The Washington Emergency Relief Administration (WERA) and Works Progress Administration (WPA) also utilized portions of the building during the Great Depression. During the 1950s and 1960s, the building was used by the School of Social Work and most recently has been used by the Department of Psychology.

Guthrie Annex 1 is associated with a number of significant periods of history in the campus, city, state and nation, but because the building was moved and number of additions/renovations have occurred to the building, it is no longer able to convey the historic context of the building. Due to a lack of integrity and inability to convey historic significance, the building is not considered eligible for local, state or national registers.

Guthrie Annex 2 (1918)

Guthrie Annex 2 is a two-story, utilitarian frame building with minimal architectural ornament. The building was used as a nursing education building as well as by the Department of Psychology. The building is not considered to be architecturally significant as it is intentionally utilitarian in design and style, is not an example of its type and does not possess high artistic qualities. The building is not considered eligible for listing on local, state or national registers.

Guthrie Annex 3 (1942)

Guthrie Annex 3 was constructed in 1942 as the Home Management House for the University's Home Economics Department. The two-story building is distinctly residential in character with the exception of the north wing which features classroom space. It is currently used by the Department of Psychology. The building is an altered example of a home management

house constructed in the International Style specifically as a practice cottage or home management house for a university program. The building is considered eligible for listing in the NRHP for its association with the once popular School of Home Economics.

Guthrie Annex 4 (1947)

Guthrie Annex 4 is a single-story L-shaped building that was constructed around a projecting wing of the adjacent Architecture Hall. The building was known as the Safety Division Building but is currently used by the Department of Psychology. The building appears to be a conglomeration of two buildings that were moved to the current location after World War I. The building would not be considered eligible for listing on local, state or national registers due to a lack of integrity.

Alternative 2 - Site 22C Vicinity

Buildings over 50-years old in the immediate vicinity of Site 22C include: Architecture Hall. A brief discussion on the historic characteristics of this building is provided below.

Architecture Hall (1909) – Architecture Hall was constructed in 1909 as the Fine Arts Pavilion for the AYPE and was listed in the Washington Heritage Register (WHR) in 1971. The building is considered significant for its architectural character as well as its association with historic events. DAHP determined the building was eligible for listing in the NRHP in 2008 under Criteria A and C due to its original construction as the Fine Arts Pavilion for the AYPE and its Romanesque style of architecture with brick and terra cotta.

Alternative 3 - Site 50S/51S

The South Campus Parking Garage is the only building located on Site 50S/51S. A brief discussion on that building is provided below.

South Campus Parking Garage (1967)

The South Campus Parking Garage (S1 parking lot) was constructed in 1967 in a utilitarian, modern style that was

responsive to the surrounding landscape and buildings. While it was designed by a well-known firm (NBBJ) is it is not significant when compared to other projects designed by the firm on campus and is not a particularly distinctive example of its type or style. The building would not be considered eligible for listing in local, state or national registers.

Alternative 3 - Site 50S/51S Vicinity

Buildings over 50-years old in the immediate vicinity of Site 50S/51S include: the Harris Hydraulics Laboratory, the Oceanographic Teaching Building, and the Portage Bay Building. Brief discussions on the historic characteristics of these buildings are provided below.

Harris Hydraulics Laboratory (1920) – The Harris Hydraulics Laboratory was constructed in 1920 and essentially consists of two buildings: the original 1920 two-story building and a southwest addition constructed in 1960. The original 1920 building is an example of Collegiate Gothic architecture, the dominant style of construction on campus since 1915. The 1960 addition, while constructed to honor the original building is distinctly modern. While the original building is an example of Collegiate Gothic architecture, the building lacks integrity as a result of the 1960 addition. The building would not be considered eligible for individual listing in the NRHP but would qualify as a contributing resource to a historically significant district.

Oceanographic Teaching Building (1969) – The Oceanographic Teaching Building was constructed in 1969 and is brutalist in style with the look and feel of a monumental structure, but the building is utilitarian rather than creative in its use of forms. While the building is a recognizable brutalist building, it is not a distinct enough expression of the architectural style to be considered individually eligible for listing in the NRHP.

Portage Bay Building (1951 and 1969) – The Portage Bay Building was originally constructed in 1951 as the Fisheries Center and an addition was added to the east wing in 1969. The original 1951 building was designed in a utilitarian modern form with few references to earlier styles. The 1969 addition would be considered an example of Northwest Regional Style on its own, but is more appropriately considered an addition to an existing building and not a distinct entity. As mix of styles, the Portage Bay Building does not

distinguish itself as an example of any one particular type of architectural style and would not be considered to be eligible for listing in the NRHP.

Cultural Resources (Archaeology)

The SEIS Alternative sites are located in the vicinity of seven previously recorded archaeological sites. The following provides a brief description of archaeological sites in the vicinity of the EIS Alternative sites (see **Appendix B** for further details on each site).

Precontact sites include Site 45KI957 (the UW Greenhouse Site) and Site 45KI1181, which was an isolated basalt flake located along the Burke-Gilman Trail. Site 45KI957 is a precontact lithic scatter located on an eroded slope overlooking the Burke-Gilman Trail. Materials observed included two lithic quartzite flakes and a chert projectile point mixed with historic-era debris (iron fragments, hardware, gardening tags, and ceramic sherds). The context was thought by the recorders to have been redeposited during construction of the railroad grade of the modern Burke-Gilman Trail. Site 45KI1030, the Lewis Hall Stone Staircase. This was a structural remnant of a 1920s construction at the north end of the University of Washington campus.

Historic-period sites include the University Landfill Site 45KI1201, a currently abandoned landfill on 166 acres of reclaimed marshland in the East Campus, which operated between 1926 and 1966. It was capped with fill in 1973 and now is the site of recreational fields, facilities, and parking for the University of Washington. Historic-era isolate Site 45KI952 was an amber glass bottle dating to the 1920s or 1930s that was found during construction excavation in redeposited fill dirt at approximately four feet below ground surface. In the same general location as Site 45KI952, the remnants of an abandoned wood stave pipeline and associated metal pipeline were identified as Site 45KI955. The pipe is probably associated with the sewage system constructed in Seattle during the early 1900s, as its trajectory was downhill toward Portage Bay. The historic-era Site 45KI760 (Miller Street Dump) is also in the vicinity. This historic-era site included a diverse collection of domestic and construction debris as well as some human remains. The stratified 4-meter-thick deposit dated to the 1910s or 1920s (see **Appendix B** for more details concerning the inventory methodology and results).

Washington State Department of Archaeology and Historic Preservation - Predictive Model and UW Predictive Model

The Washington State Department of Archaeology and Historic Preservation (DAHP) predictive model for archaeological sites is based on statewide information, using largescale factors. Information on geology, soils, site types, landforms, and from General Land Office (GLO) maps was used to establish or predict probabilities for archaeological resources throughout the state. The DAHP model uses five categories of prediction: Low Risk,

Moderately Low Risk, Moderate Risk, High Risk, and Very High Risk. Additionally, the University of Washington contracted HRA to develop a campus-specific archaeological predictive model to assist with planning and development. This model weighted factors, including slope, distance to water, geology, previously recorded sites, previous surveys, the native shoreline, and campus features, to generate a predictive model specific to the UW campus. Ground disturbance associated with the construction of the campus are factored into the HRA model.

The DAHP predictive model map indicates that Site 37W is in an area of High Risk for the discovery of archaeological resources. The HRA model predicts a low to medium probability for encountering cultural resources, due to the inclusion of campus construction in the model.

Site 22C is indicated as an area of High Risk for the discovery of archaeological resources based on the DAHP predictive model. The HRA model predicts a low to medium probability for encountering cultural resources, due to the inclusion of campus construction in the model.

The DAHP predictive model map indicates that the Site 50S/51S area is located in a Very High Risk area, based on its proximity to the shoreline. The HRA model predicts Site 50S/51S to be in an area of low probability, due to the inclusion of campus construction in the model (see **Appendix B** for more details).

3.3.2 Impacts

As noted in the *CMP-Seattle 2003*, the Regents provide stewardship for historic University properties. Based on historic campus planning documents, the *CMP-Seattle 2003* identified well known buildings that are associated with the early development of the campus and early master plans.

As part of development on campus, the University assures that the preservation of historic resources is considered through the provision of a Historic Resources Addendum (HRA). An HRA is required for any project that makes exterior alternations to a building over 50 years old. The information and analysis provided in the HRA provides a framework and context to ensure that important elements of campus, its historical character and values, environmental considerations and landscape context are valued. An HRA has been prepared for each of the SEIS Alternative sites. The HRAs are on file with the University of Washington. Refer to **Appendix B** to this Draft SEIS for additional details.

No Action Alternative

Under the No Action Alternative, the Population Health Facility Project would not be constructed and no direct or indirect long-term or construction-related impacts would affect historic or cultural resources on campus.

Alternative 1 – Development Site 37W

The University of Washington Campus Master Plan approved by the Board of Regents and the City of Seattle in 2003 (*CMP-Seattle 2003*) contemplates demolition of the existing buildings on Site 37W and development of approximately 330,000 square feet of potential building development.

Under Alternative 1, the existing uses on the site would be demolished as part of the construction activities, including the existing Purchasing and Accounting Building, Instructional Center/Ethnic Cultural Theater Building, and buildings addressed as 3935, 3939, 3941 and 3947 University Way NE. Existing pavement on the site associated with parking lots W12 and W13, walkways and other paved areas would also be demolished.

Historic Resources (Buildings and Spaces)

Buildings and Spaces on the Site (Site 37W)

As indicated above, through the *CMP-Seattle 2003*, the Regents provide stewardship for historic University properties. Based on historic campus planning documents, the *CMP-Seattle 2003* identified well known buildings that are associated with the early development of the campus and early master plans. None of the buildings on Site 37W are identified in the *CMP-Seattle 2003* as being historically significant; however, the 3935 University Way NE Building (Behavior Research and Therapy Clinic) and Instructional Center/Ethnic Cultural Theater (3940 Brooklyn Avenue NE) were determined to be eligible for listing in the NRHP and potential demolition of this building would be considered an adverse impact and require mitigation. The Purchasing and Accounting Building (3917 University Way NE), Stress and Development Lab (3939 University Way NE), Drama Scene Shop (3941 University Way NE) are not considered eligible for listing in historic registers and demolition of these buildings would not be considered an adverse impact.

To mitigate the loss of the 3935 University Way NE Building and Instructional Center/Ethnic Cultural Theater, DAHP Level II recordation would be provided which consists of a report including an in-depth history of the building and archival-quality contemporary and historic images and maps, which can be shared with local libraries, archives and historical societies.

Vicinity Buildings and Spaces

The Ye College Inn is located immediately northeast of Site 37W. It is not anticipated that the assumed Population Health Facility Project would create indirect impacts to the Ye College Inn, and the assumed building under Alternative 1 would not be anticipated to impact the eligibility or have an adverse impact on the Ye College Inn.

Cultural Resources (Archaeology)

Based on archival research, Site 37W is surrounded by the fewest recorded archaeological sites; however, sites and isolates were present in the 0.5 mi area surrounding Site 37W, indicative of both precontact and historic-era activity at this locale. The shallow geology and history of construction in the area (including the presence of belowground construction in the historic and modern eras) diminishes the potential that additional archaeological resources would be encountered at Site 37W. For these reasons, the discovery of intact archaeological deposits is not anticipated within Site 37W. Mitigation measures related to inadvertent discovery of cultural resources would be implemented for construction activities under Alternative 1 (see Section 3.3.3, Mitigation Measures, for further details).

Alternative 2 – Development Site 22C

Under Alternative 2, the design of the Population Health Facility Project is assumed to include the same amount of building space as Alternative 1 (up to approximately 330,000 gross square feet) and would include the same types of uses and number of staff, faculty and students. The *CMP-Seattle 2003* establishes a 105-foot height limit for Site 22C, which allows for flexibility in building design. Given this flexibility of potential building design, the following two scenarios for the assumed building design is considered under Alternative 2.

It is assumed under both Alternative 2 scenarios that the existing uses on Site 22C would be removed as part of the construction activities, including the existing Guthrie Annex 1, 2, 3 and 4 buildings. Existing pavement on the site associated with parking lot C8, walkways and other paved areas would also be demolished and transported from the site to a permitted regional recycling facility. Pedestrian access along adjacent sidewalks on 15th Avenue NE and NE Grant Lane could be temporarily rerouted during portions of the construction process.

Historic Resources (Buildings and Spaces)

Buildings and Spaces on the Site (Site 22C)

Based on historic campus planning documents, the *CMP-Seattle 2003* identified well known buildings that are associated with the early development of the campus and early master

plans. None of the buildings on Site 22C are identified in the *CMP-Seattle 2003* as being historically significant. The Guthrie Annex 3 building is determined to be eligible for listing in the NRHP and potential demolition of this building would be considered an adverse impact and require mitigation. The Guthrie Annex 1, Guthrie Annex 2 and Guthrie Annex 4 buildings are not considered eligible for listing in historic registers and demolition of these buildings would not be considered an adverse impact.

To mitigate the loss of Guthrie Annex 3, DAHP Level II recordation would be provided which consists of a report including an in-depth history of the building and archival-quality contemporary and historic images and maps, which can be shared with local libraries, archives and historical societies.

Vicinity Buildings and Spaces

Architecture Hall is located immediately east of Site 22C and is listed in the WHR; the building has also been determined to be eligible for listing in the NRHP. It is not anticipated that the assumed Population Health Facility Project on Site 22C would create the potential for indirect impacts to Architecture Hall. Development under Alternative 2 would change the area behind Architecture Hall (to the west) but this area is comprised of parking, trees, landscaping and other structures and would not be considered to have an adverse impact on Architecture Hall.

Cultural Resources (Archaeology)

Site 22C is nearest of all of the SEIS Alternative sites to the center of campus. This area was found to have a relatively high density of cultural resources within a 0.5 mi area surrounding Site 22C, with evidence of precontact activity and historic-era trash deposits, infrastructure, and structural remains recorded. However, the shallow geology and history of building (including below ground construction in at least two buildings) within the Site 22C area diminishes the likelihood that additional archaeological resources would be found in the area. As under Alternative 1, mitigation measures related to inadvertent discovery of cultural resources would be implemented for construction activities under Alternative 2 (see Section 3.3.3 Mitigation Measures, for further details).

Alternative 3 – Development Site 50S/51S

Under Alternative 3, the design of the Population Health Facility building is assumed to include the same amount of building space (up to approximately 330,000 gross square feet) and would include the same types of uses and number of staff, faculty and students (1,800) as under Alternative 1. The assumed building height would be approximately 64 feet at its highest point, which would be below the 65-foot height limit established for the site under the *CMP-Seattle 2003*. Two scenarios are identified for development under Alternative 3.

The existing S1 parking structure on Site 50S/51S would be removed as part of the construction activities under either Alternative 3 scenario. Existing pavement on the site associated with parking structure driveways and other paved areas would also be demolished and transported from the site to a permitted regional recycling facility. Pedestrian access along sidewalks on NE Columbia Road and San Juan Road NE could be temporarily rerouted during portions of the construction process.

Historic Resources (Buildings and Spaces)

Buildings and Spaces on the Site (Site 50S/51S)

Based on historic campus planning documents, the *CMP-Seattle 2003* identified well known buildings that are associated with the early development of the campus and early master plans. None of the buildings on Site 50S/51S are identified in the *CMP-Seattle 2003* as being historically significant. The South Campus Parking Garage (S1 parking lot) is located on Site 56S/51S and is not considered eligible for listing in historic registers. Demolition of this building would not be considered an adverse impact.

Vicinity Buildings and Spaces

There are three buildings in the immediate vicinity of Site 50S/51S that are over 50 years of age, including the Harris Hydraulics Laboratory, the Oceanography Teaching Building and the Portage Bay Building. None of these building are considered eligible for listing in historic registers and indirect impacts to these buildings would not be anticipated.

Cultural Resources (Archaeology)

Site 50S/51S is located on the shoreline of Portage Bay near the Montlake Cut. A review of the archaeological records shows a presence of both precontact and historic-era sites recorded in the 0.5 mi area. However, this area has been subject to ground disturbing modifications to the terrain since the early days of Euroamerican settlement in Seattle. Large scale excavations to connect Lake Washington to Lake Union altered water levels and may have led to the deposition of spoils or dredge material on the shoreline. Subsequent to the completion of the Montlake Cut, additional ground-disturbing construction projects took place to create the modern architectural landscape. Due to the extensive ground disturbance there is a low likelihood of encountering intact archaeological deposit within the Site 50S/51S area (see Section 3.3.3 Mitigation Measures, for further details).

Summary of Historic and Cultural Resource Impacts

The following **Table 3.3-1** provides a summary of the potential historic and cultural resource impacts under the SEIS Alternatives.

TABLE 3.3-1
SUMMARY OF HISTORIC/CULTURAL IMPACTS UNDER THE EIS ALTERNATIVES

Site Condition	Alternative 1	Alternative 2		Alternative 3	
		Scenario 1	Scenario 2	Scenario 1	Scenario 2
Building Height	63	60	105	64[1]/50[2]	64[1]/30[2]
Building Sq. Ft	330,000	330,000	330,000	330,000	330,000
Building Sq. Ft. Demolished	72,560	22,700	22,700	99,870	99,870
Historic Resources	Removal of two NRHP potentially eligible buildings (3935 University Way NE and Instructional Center/Ethnic Cultural Theater).	Removal of one NRHP potentially eligible building (Guthrie Annex 3).	Same as Alternative 2 – Scenario 1	No NRHP eligible buildings would be impacted.	Same as Alternative 3 – Scenario 1.
Cultural Resources	Archaeological deposits not anticipated.	Low likelihood of archaeological deposits on the site.	Same as Alternative 2 – Scenario 1	Low likelihood of archaeological deposits on the site.	Same as Alternative 3- Scenario 1.

[1] Population Health Facility building height.
[2] Parking garage building height.

3.3.3 Mitigation Measures

The following mitigation measures would minimize potential historic and cultural resource impacts that could occur with the development of the Population Health Facility under the SEIS Alternatives.

Measures Applicable for All Alternatives

- An inadvertent discovery plan would be included as part of the construction process for the Population Health Facility. The inadvertent discovery plan would indicated that in the event that archaeological deposits are inadvertently discovered during construction, ground-disturbing activities should be halted immediately, and the University of Washington should be notified. The University of Washington would then contact DAHP and the interested Tribes, as appropriate.

- If ground-disturbing activities encounter human skeletal remains during the course of construction, then all activity that may cause further disturbance to those remains must cease, and the area of the find would be secured and protected from further disturbance. In addition, the finding of human skeletal remains would be reported to the county coroner and local law enforcement in the most expeditious manner possible. The remains should not be touched, moved, or further disturbed. The county coroner would assume jurisdiction over the human skeletal remains, and make a determination of whether those remains are forensic or non-forensic. If the county coroner determines the remains are non-forensic, they would report that finding to DAHP. DAHP would then take jurisdiction over those remains and report them to the appropriate cemeteries and affected tribes. The State Physical Anthropologist would make a determination of whether the remains are Indian or non-Indian, and report that finding to any appropriate cemeteries and the affected tribes. DAHP would then handle all consultation with the affected parties as to the future preservation, excavation, and disposition of the remains.

Measures Applicable for Alternative 1 (Site 37W) and Alternative 2 (Site 22C)

- In the event that potentially NRHP-eligible buildings are removed from Site 37W (3935 University Way NE Building and the Instructional Center/Ethnic Cultural Theater) or Site 22C (Guthrie Annex 3), DAHP Level II recordation would be provided, which consists of a report including an in-depth history of the building and archival-quality contemporary and historic images and maps, which can be shared with local libraries, archives, and historical societies.

3.3.4 Significant Unavoidable Adverse Impacts

Historic Resources and Spaces

Under Alternative 1, the 3935 University Way NE Building and Instructional Center/Ethnic Cultural Theater are assumed to be demolished and the historic features associated with the buildings would no longer be on Site 37W, which would result in an adverse impact. Under Alternative 2, Guthrie Annex 3 is assumed to be demolished from Site 22C, which would also result in an adverse impact. No historic eligible buildings are located on the Alternative 3 site (Site 50S/51S) and no adverse impacts would be anticipated. With the implementation of the identified mitigation measures, significant historic resource impacts would not be anticipated.

Cultural Resources

With implementation of the identified mitigation measures, significant impacts to cultural resources would not be anticipated under the SEIS Alternatives.

3.4 CONSTRUCTION IMPACTS

This section of the Draft SEIS describes and evaluates the potential impacts associated with the construction of the Population Health Facility Project under the EIS Alternatives. Construction-related impacts associated with air quality, greenhouse gases (GHG), noise, vibration, trees and transportation/parking are analyzed in this section. Tree surveys and assessments for the EIS Alternative sites are on-file at the University of Washington Capital Planning and Development Office.

3.4.1 Affected Environment

Alternative 1 – Development Site 37W

Existing Site

The approximately 2.3-acre (99,500-square foot) Alternative 1 site (CMP-Seattle 2003 Development Site 37W) is located in the West Campus of the University of Washington and is generally bounded by NE 40th Street on the north, the Burke-Gilman Trail on the south, University Way NE on the east, and Brooklyn Avenue NE on the west. Site 37W currently contains: the University of Washington Purchasing and Accounting Building; University-owned buildings addressed as 3935, 3939, 3941 and 3947 University Way NE; the Instructional Center/Ethnic Cultural Theater; and, University parking lots W12 and W13. The existing buildings on Site 37W currently provide space for approximately 250 staff members.

Vehicular access to the site is provided by University Way NE and Brooklyn Avenue NE. Approximately 104 parking spaces are provided on the site, including 98 spaces within parking lot W12 and 6 spaces within parking lot W13 (see **Figure 2-2** of Chapter 2 for a map of the existing site survey).

Vegetation on the site primarily consists of shrubs, landscaping and trees surrounding the existing buildings and parking areas, as well as along Brooklyn Avenue NE. A total of 154 trees are located on the site, including 132 trees that meet the City of Seattle's definition of significant trees[1]. Of these 132 significant trees, 36 trees meet the City of Seattle's designation of Exceptional Trees[2] (see **Figure 3.4-1** for a map of existing trees on Site 37W).

[1] *Significant trees are defined as any tree that is six inches in diameter or greater at standard height (4.5 feet above average grade).*

[2] *City of Seattle Department of Planning and Development – Director's Rule 16-2008.*

Source: Mahlum, 2016.

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Figure 3.4-1

Tree Survey—Alternative 1 (Site 37W)

Surrounding Area

Surrounding land uses in the vicinity of Site 37W generally include academic uses, student support uses, administrative uses, student housing, and open space. To the north of Site 37W, beyond NE 40th Street, is Alder Hall (a six-story student residence hall), the College Inn (retail/commercial use), the Commodore Duchess apartments (an eight-story student apartment building), and Lander Hall (an eight-story student residence hall). To the east of the site, beyond University Way NE, is Gould Hall (four-story building for the University's Department of Architecture), the UW Police Department building (three-stories), the University's West Campus Utility Plant, and the Church of Jesus Christ of Latter-day Saints building (two-stories). To the south of the site is a portion of the Burke Gilman Trail and associated vegetated/landscaped areas. To the west of the site, beyond Brooklyn Ave NE, is the Ethnic Cultural Center (three-stories) and the Brooklyn Trail Building (one-story building for the University's Center for Child and Family Well-Being).

Alternative 2 – Development Site 22C

Existing Site

The approximately 1.9-acre (81,700-square foot) Alternative 2 site (CMP-Seattle 2003 Development Site 22C) is located in the Central Campus of the University of Washington and is generally bounded by NE Grant Lane on the north, Architecture Hall and Guthrie Hall on the east, the Physics/Astronomy Building on the south, and 15th Avenue NE on the west.

Site 22C currently contains the Guthrie Annexes 1, 2, 3 and 4, University parking lot C8, a portion of Asotin Place NE, and pedestrian walkways. Guthrie Annexes 1 and 2 were both constructed in 1918 and are two-story structures that contain approximately 6,300 gross square feet and 7,700 gross square feet, respectively. The one-story Guthrie Annex 3 was constructed in 1927 and contains approximately 5,300 gross square feet. The one-story Guthrie Annex 4 was constructed in 1947 and contains approximately 3,400 square feet. The existing buildings on Site 22C currently provide space for approximately 120 staff members. Vehicular access to the site is provided by Stevens Way NE to the east of the site. University parking lot C8 is located in the northern portion of Site 22C and includes approximately 15 surface parking spaces.

Vegetation on the site primarily consists of shrubs, landscaping and trees surrounding the existing buildings and parking areas, as well as along Asotin Place NE, 15th Avenue NE and NE Grant Lane. A total of 123 trees are located on the site, including 107 trees that meet the City of Seattle's definition of significant trees. Of these 107 significant trees, 13 trees meet the City of Seattle's designation of Exceptional Trees (see **Figure 3.4-2** for a map of existing trees on Site 22C).

Source: Tree Solutions, Inc., 2016.

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Figure 3.4-2

Tree Survey—Alternative 2 (Site 22C)

Surrounding Area

Existing land uses in the vicinity of Site 22C generally include academic uses, student support uses, and student housing. To the north of the site, beyond NE Grant Lane, is the West Gatehouse and Meany Hall (four- to five-story performing arts center); the Commodore Duchess apartments are also located to the northwest. To the east of the site is the four-story Architecture Hall (Department of Architecture and Department of Construction Management), and the four-story Guthrie Hall (Department of Psychology). To the south is the five-story Physics-Astronomy Building and nine-story Physics/Astronomy Tower. To the west, beyond 15th Avenue NE, is Gould Hall (four-story building for the University's Department of Architecture), the UW Police Department building (three-stories), the University's West Campus Utility Plant, and the Church of Jesus Christ of Latter-day Saints building (two-stories).

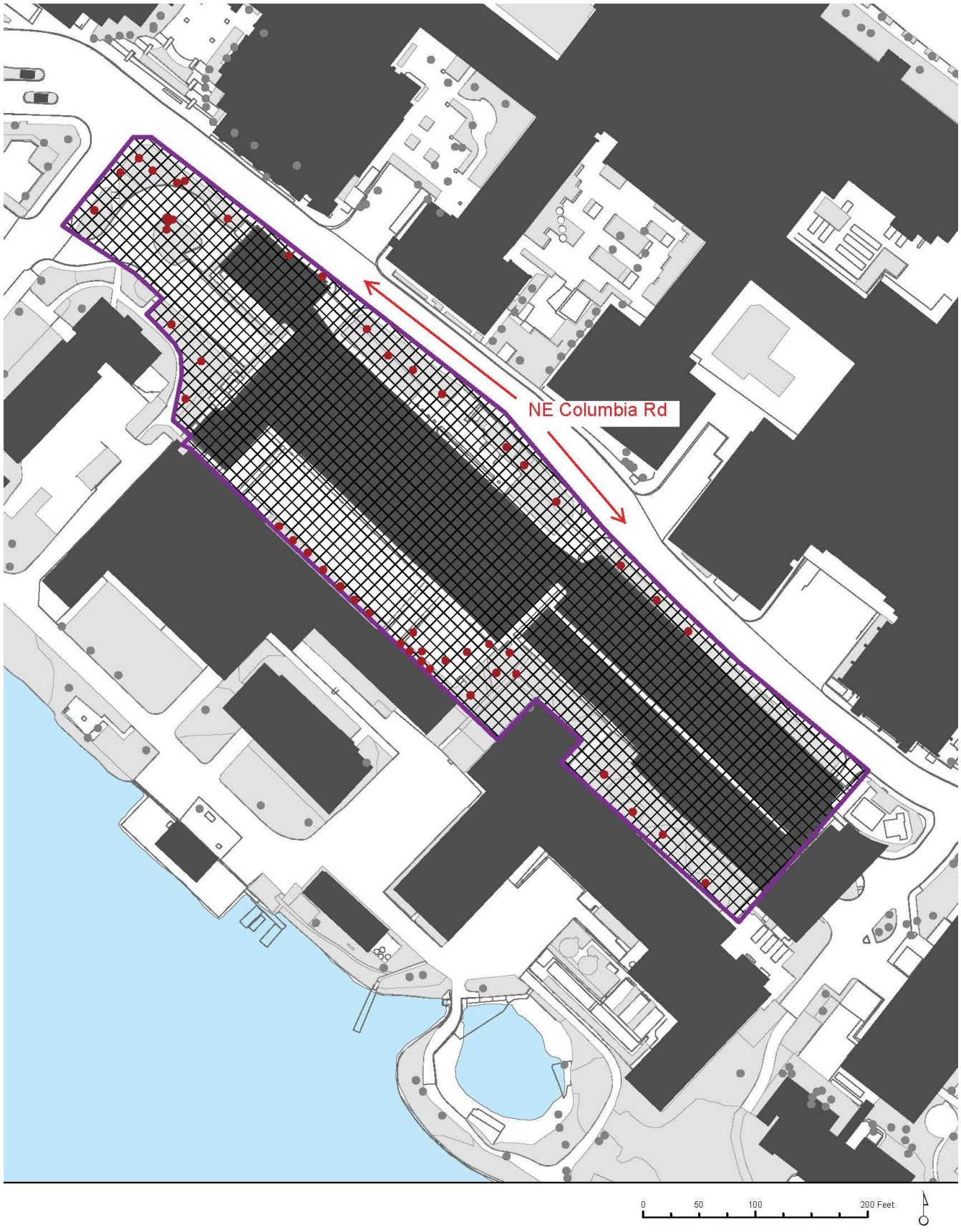
Alternative 3 – Development Site 50S/51S

Existing Site

The approximately 2.75-acre (120,000-square foot) Alternative 3 site (CMP-Seattle 2003 Development Site 50S/51S) is located in the South Campus of the University of Washington and is generally bounded by NE Columbia Road and the Magnuson Health Sciences Center to the north, the Central Utility Plan Building on the east, the South Campus Center on the south, and San Juan Road NE and the South Gatehouse on the west.

Vehicular access to the site is provided by San Juan Road NE via NE Columbia Road. The site is comprised of University parking lot S1 and associated landscaping. Parking lot S1 is a structured parking garage with space for approximately 869 vehicles. This parking area is a primary parking area within the South Campus.

Vegetation on the site primarily consists of shrubs, landscaping and trees surrounding the existing parking areas, as well as along NE Columbia Road. A total of 59 trees are located on the site, including 51 trees that meet the City of Seattle's definition of significant trees. Of these 51 significant trees, three (3) trees meet the City of Seattle's designation of Exceptional Trees (see **Figure 3.4-3** for map of existing trees on Site 50S/51S).



Source: Tree Solutions, Inc., 2016.

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Figure 3.4-3

Tree Survey—Alternative 3 (Site 50S/51S)

Surrounding Area

Existing land uses in the vicinity of Site 50S/51S generally include academic uses, medical center uses, student support uses, and campus infrastructure. To the north of the site, beyond NE Columbia Road, is the Magnuson Health Sciences Center which includes multiple wings ranging from five-stories to seven-stories in height and the University of Washington Medical Center which includes building ranging from six-stories to fifteen-stories in height. To the east of the site is the two-story Central Utility Plant Building and the Center on Human Development and Disability. To the south of Site 50S/51S is the two-story Portage Bay Building (Applied Physics Laboratory, Department of Radiology and School of Aquatic and Fishery Sciences), the two-story Institute for Learning and Brain Sciences, the three-story South Campus Center (Health Sciences Academic Services and Facilities), and the three-story Oceanography Building (Department of Earth and Space Sciences and Applied Physics Lab). To the west of the site, beyond San Juan Road NE, is the two-story Harris Hydraulics Laboratory, the South Gatehouse, the three-story Oceanography Teaching Building and University parking lots S5, S7 and S12.

3.4.2 Impacts

This section of the Draft SEIS identifies the potential construction-related impacts that could occur with assumed development of the Population Health Facility Project under the EIS Alternatives, including air quality, GHG emissions, noise, vibration, trees and transportation/parking.

No Action Alternative

Under the No Action Alternative, the proposed Population Health Facility Project would not be constructed and the existing uses on the sites would remain, including:

- **Site 37W** - the University of Washington Purchasing and Accounting Building; University-owned buildings addressed as 3935, 3939, 3941 and 3947 University Way NE; the Instructional Center/Ethnic Cultural Theater; and, University parking lots W12 and W13.

- **Site 22C** - Guthrie Annex Buildings 1, 2, 3 and 4, and University parking lot C8.

- **Site 50S/51S** - S1 parking structure and associated drive lanes.

No construction activities would occur on either of sites under the No Action Alternative and there would be no construction-related impacts on the sites or to adjacent surrounding uses.

Alternative 1 – Development Site 37W

Under Alternative 1, the design of the Population Health Facility building is assumed to include five stories (including one basement level) and approximately 330,000 gross square feet of building space. The assumed building height would be approximately 63 feet at its highest point, which would be below the 65-foot height limit established for the site under the *CMP-Seattle 2003*. The new building would include classrooms, research labs, communal spaces, offices, administrative areas, and student and faculty support space. The building would support approximately 1,800 staff, faculty and students; 1,200 of which would be considered new population to the Seattle campus (see **Figure 2-7** for a site plan of Alternative 1).

Construction Activities

Construction activities associated with the Population Health Facility Project would occur throughout Site 37W and would include: the removal of existing buildings (the Purchasing and Accounting building, Instructional Center/Ethnic Cultural Theater building, and buildings at 3935, 3939, 3941, and 3947 University Way NE), parking areas (W12 and W13 lots), pavement and landscaping; excavation and grading; and, construction of the approximately 330,000-gross square foot building.

It is anticipated that construction activities would begin in Spring 2018 and that the proposed building would be operational by Spring 2020.

The primary construction access would be from the south end of Site 37W via University Way NE. It is possible that some construction activities for the project could occur in the evening hours; however, such activities would generally be limited to scheduled utility switchovers and emergency work during the evening hours.

Prior to demolition the existing uses within the on-site buildings and their associated staff (approximately 250 staff) would be relocated to a new facility on-campus consistent with existing University procedures. When a University building is proposed to be closed for renovation or removal, a relocation plan is developed for the effected department(s) and staff. Campus Planners would work with the department(s) to understand their program, space needs, desired adjacencies and access requirements. A new location would then be researched, reviewed and selected based on factors such as the relocation plan, available space, and financial considerations.

Demolition activities would include the demolition and removal of the existing on-site buildings, including the Purchasing and Accounting building, Instructional Center/Ethnic Cultural Theater building, and buildings at 3935, 3939, 3941, and 3947 University Way NE.

Demolition of the building would be conducted in accordance with applicable local and state regulations.

In addition to building demolition, existing pavement would be demolished and transported from site to a permitted regional recycling facility. A portion of this existing pavement would include the demolition of the existing W12 and W13 parking areas which would result in the removal of approximately 104 parking spaces on the site. Approximately 132 significant trees are assumed to be removed from the site to accommodate proposed construction, including approximately 36 Exceptional trees.

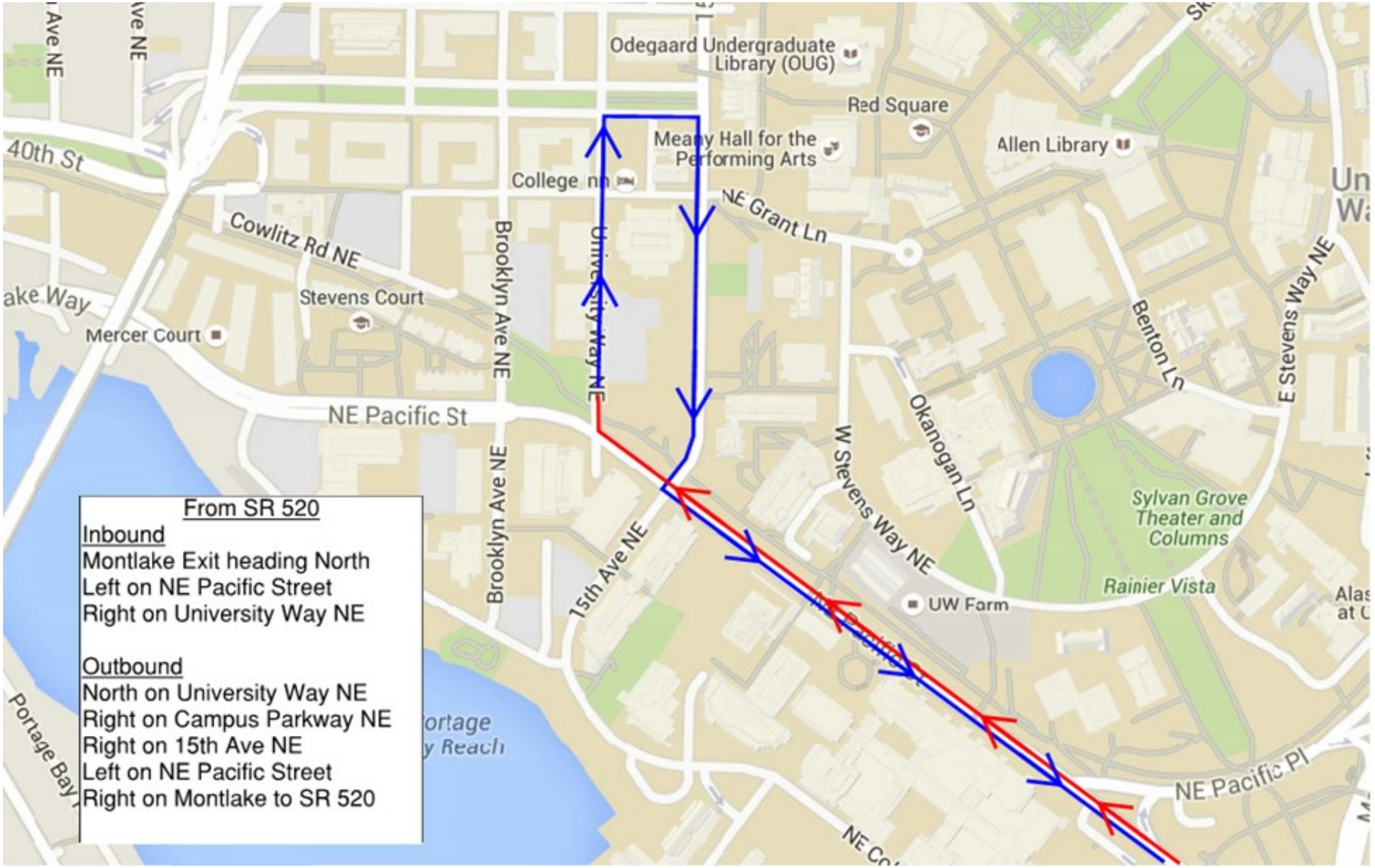
Some site grading (cut, fill and site regarding) would be required to accommodate construction of buildings and associated facilities. Construction of the project under Alternative 1 would require approximately 44,500 cubic yards of cut/excavated materials and approximately 1,500 cubic yards of imported fill material. Fill material would be provided from an approved source. During excavation and construction activities, groundwater could be encountered on Site 37W. Temporary construction dewatering mitigation measures are identified in Section 3.4.3, Mitigation Measures and could be implemented in the event that groundwater is encountered on the site.

A construction staging area and construction parking plan would be coordinated between the general contractor/construction manager (GCCM) and the University of Washington prior to development on the site. Construction vehicle traffic routes would also be coordinated between the GCCM and the University of Washington and would likely direct construction truck traffic to the site from SR-520 via NE Pacific Street and University Way NE (see **Figure 3.4-4** for an illustration of the potential construction truck route for Alternative 1). The construction traffic route would be intended to minimize disturbance to the extent feasible, while also protecting pedestrian and vehicle safety in the area. During the construction process, construction staging areas and temporary construction offices would be located on the south portion of Site 37W.

The University of Washington Police Department would remain fully operational during the construction process under Alternative 1.

Air Quality

Under Alternative 1, construction activities on Site 37W would generate air pollutants as a result of fugitive dust from demolition, earthwork/excavation activities, emissions associated with construction vehicles and equipment, as well as dust/emissions from other construction-related activities. Uses in nearby buildings such as residential uses in Alder and Lander Halls; academic/research/service uses in Gould Hall, the Ethnic Cultural Center and the Brooklyn Trail building; and, non-University uses such as the Church of Jesus Christ



Source: University of Washington, 2016.

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Figure 3.4-4
Construction Routes—Alternatives 1 and 2

of Latter-day Saints building could be sensitive to fugitive dust due to their proximity to the project site. Pedestrians and bicyclists in the site vicinity (including users of the Burke-Gilman Trail) could also be sensitive to fugitive dust from the site. Measures such as wetting of exposed soils, covering or wetting of transported earth materials, washing of truck tires and undercarriages prior to travel on public streets, and prompt cleanup of any materials tracked or spilled onto public streets would help to minimize potential air quality impacts. Buildings that utilize operable windows for cooling could also experience a higher level of impact from construction-related dust and emissions during warm periods when windows are relied upon for building cooling. It is anticipated that the air intakes of adjacent buildings would be temporarily ducted and protected to minimize the intake of fugitive dust and exhaust fumes during construction activities, as necessary.

The primary types of pollutants expected during construction would be particulates and hydrocarbons. Gasoline or diesel-powered machinery used for demolition, excavation and construction would emit carbon monoxide and hydrocarbons. Such emissions, however, would be temporary in nature and localized to the immediate vicinity of the construction activity.

Trucks transporting excavated earth and/or construction materials would emit carbon monoxide and hydrocarbons along truck routes used by construction vehicles. No construction activity or off-site construction-related truck traffic would be expected to cause violations of applicable ambient air quality standards.

Demolition of existing buildings could potentially result in exposure to hazardous materials that may be located in the existing buildings. In the event that hazardous materials are found onsite, the materials would be treated and/or removed in accordance with all applicable regulations and standards.

Greenhouse Gas Emissions

Earth's Natural Climate and Human Influence on Climate

The global climate is continuously changing, as evidenced by repeated episodes of warming and cooling documented in the geologic record. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. Scientists have observed, however, an unprecedented increase in the rate of warming in the past 150 years. This recent warming has coincided with the global Industrial Revolution, which resulted in widespread deforestation to accommodate development and agriculture and an increase in the use of

fossil fuels which has released substantial amounts of greenhouse gases into the atmosphere.

Greenhouse gases (GHG) such as carbon dioxide, methane and nitrous oxide trap heat in the atmosphere and are emitted by both natural processes and human activities. The accumulation of GHG in the atmosphere affects the earth's temperature. While research has shown that earth's climate has natural warming and cooling cycles, evidence indicates that human activity has elevated the concentration of GHG in the atmosphere beyond the level of naturally occurring concentrations resulting in more heat being held within the atmosphere. The Intergovernmental Panel on Climate Change (IPCC), the leading international body on the assessment of climate change with 195 member countries, concluded that "human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history. Recent climate changes have had wide spread impacts on human and natural systems".[3]

The IPCC predicts that under current human GHG emission trends, the following results could be realized within the next 100 years:[4]

- global temperature increases between 0.3 – 4.8 degrees Celsius;
- potential sea level rise between 0.45 – 0.75 meters or 17 – 29 inches;
- reduction in snow cover and sea ice;
- potential for more intense and frequent heat waves, tropical cycles and heavy precipitation; and
- impacts to biodiversity, drinking water and food supplies.

The Climate Impacts Group (CIG), a Washington-state based interdisciplinary research group which collaborates with federal, state, local, tribal, and private agencies, organizations, and businesses, studies impacts of natural climate variability and global climate change on the Pacific Northwest. CIG research and modeling indicates the following possible impacts of human-based climate change in the Pacific Northwest:[5]

- changes in water resources such as decreased snowpack; earlier snowmelt; decreased water for irrigation, fish and summertime hydropower production; increased conflict over water; and increased urban demand for water.
- changes in salmon migration and reproduction.
- changes in forest growth and species diversity and increases in forest fires; and

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[3] *IPCC, Fifth Assessment Report – Climate Change 2014 Synthesis Report, November 2014.*

[4] *IPCC, Fifth Assessment Report – Summary for Policymakers, November 2014.*

[5] *Climate Impacts Group, Climate Impacts in Brief, http://www.cses.washington.edu/cig/pnwc/ci.shtml. Accessed June 2015.*

- changes along the coast such as increased coastal erosion and beach loss due to rising sea levels; increased landslides due to increased winter rainfall, permanent inundation in some areas; and increased coastal flooding due to sea level rise and increased winter streamflow.

Regulatory Context for Global Climate Change

United States Environmental Protection Agency – The United States Environmental Protection Agency (USEPA) is charged with enforcing the Clean Air Act and has established air quality standards for common pollutants. In addition, the USEPA has been directed to develop regulations to address the GHG emissions of cars and trucks. At the time of this writing, however, EPA regulations for GHGs have not yet been developed.

State of Washington – In February of 2007, Governor Christine Gregoire signed Executive Order No. 07-02 establishing goals for reductions in climate pollution, increases in jobs, and reductions in expenditures on imported fuel. This statewide effort is intended to address climate change, grow the clean energy economy and move Washington toward energy independence. This executive order directed the Washington departments of Ecology and Community, Trade and Economic Development to lead the "Washington Climate Challenge," a process intended to engage business, community and environmental leaders over the next year. Washington Climate Challenge was directed to consider the full range of policies and strategies that could be adopted to achieve the goals established by the Governor.

In 2007, the Washington legislature passed SB 6001, which among other things, adopted the Governor's Climate Change Challenge goals into statute and created a performance standard for electrical utilities that serve Washington. Utilities may capture and store (sequester) carbon associated with the production of electricity to meet the performance standard. By June 2008, Ecology is to have rules on implementing the standard and how sequestration plans will be approved. No regulatory guidance has been provided from Ecology to date.

In 2008, the Washington Legislature passed E2SHB 2815, the Greenhouse Gas Emissions Bill. While SB 6001 set targets to reduce emissions, the E2SHB 2815 made those firm requirements and directed the state to submit a comprehensive GHG reduction plan to the Legislature by December 1, 2008. As part of the plan, Ecology was mandated to develop a system for reporting and monitoring GHG emissions within the state and a design for a regional multi-sector, market-based system to reduce statewide GHG emissions.

Ecology also issued a memorandum in 2008[6] which stated that climate change and GHG emissions should be included in all State Environmental Policy Act (SEPA) analyses and committed to providing further clarification and analysis tools.

On June 1, 2010, Ecology issued draft guidelines entitled, *Guidance on Climate Change and SEPA*. These draft guidelines included: guidance regarding the types of GHG emissions that should be calculated; a discussion of how to determine if emissions surpass a threshold of "significance"; and, a description of different types of mitigation measures. Guidance was also provided regarding the requirement to discuss the ability of a proposal to adapt to climate changes as a result of global warming. In 2011, Ecology narrowed the focus of the draft guidelines and in its place developed internal guidance for Ecology staff to use when Ecology is the lead agency or an agency with jurisdiction in *Guidance for Ecology Including Greenhouse Gas Emissions in SEPA Reviews* and *SEPA GHG Calculation Tool*. Ecology began using this guidance document in June 2011 and planned to update the document based on feedback from users.

City of Seattle – On December 3, 2007, the Seattle City Council adopted Ordinance 122574 that requires City departments that perform environmental review under the State Environmental Policy Act (SEPA) to evaluate GHG emissions when reviewing permit applications for development. King County began this evaluation in October 2007, becoming the nation's first local government to officially add GHG emissions to the environmental review of construction projects. Seattle was one of the first cities in the country to require such a review.

The Seattle City Council adopted Comprehensive Plan goals and policies in 2007 related to achieving reductions in GHG emissions. To carry out these goals and policies, assessment of greenhouse gas emissions from proposed development is required. Under this assessment, developers for projects that trigger environmental review are required to identify the climate change impact of their proposals as shown by calculating the GHG emissions. At this point, the legislation does not require changes in the development proposals as a result of the review. Instead, the requirement is a first step toward limiting the potential negative effects of construction projects on the environment by disclosing emissions.

University of Washington – The University of Washington is a signatory on the American College and University Presidents Climate Commitment. The University is also one of the founding partners of the Seattle Climate Partnerships and has prepared an initial quantitative estimate of the University's GHG emissions profile. In October 2007, the University of Washington also released the "2005 Inventory of Greenhouse Gas Emissions

[6] *Manning, Jay. RE: Climate Change - SEPA Environmental Review of Proposals, April 30, 2008.*

Ascribable to the University of Washington" which provided a quantitative estimate of the total GHG emissions produced on the University of Washington Campus.

Existing Greenhouse Gas Emissions – In order to provide a context for GHG emissions associated with the Population Health Facility Project, it is useful to consider the estimated overall emissions. A 2007 study[7] provided the statistics shown in **Table 3.4-1** for GHG for Central Puget Sound, Washington and the United States.

Table 3.4-1

COMPARISON OF GREENHOUSE GAS EMISSIONS

	2005 Population	Estimate of Annual Greenhouse Gas Emissions (tons/year)
United States	296,410,404	7,100,000,000
Washington State	6,256,400	88,000,000
Seattle	573,911	6,600,000

Source: Seattle's Community Carbon Footprint, City of Seattle, October 29, 2007.

Impacts

Climate change is a global problem and it is not possible to discern the impact that greenhouse gas emissions from a single development project may have on global climate change.

Neither the federal Environmental Protection Agency, State of Washington nor City of Seattle currently have regulations in place to provide guidance on analysis of the impacts of climate change and associated greenhouse gas emissions. For the purposes of discussion of the climate change impacts of the Proposed Action for this EIS, the *SEPA Greenhouse Gas Emissions Worksheet* formulated by King County (see **Appendix C** for the completed worksheet) was used to grossly estimate the emissions footprint of the Proposed Action for the lifecycle of the development[8]; specifically:

- The extraction, processing, transportation, construction and disposal of materials and landscape disturbance (embodied emissions);
- Energy demands created by the development after it is completed (energy emissions); and
- Transportation demands created by the development after it is completed (transportation emissions).

[7] *City of Seattle, Seattle's Community Carbon Footprint, October 29, 2007.*

[8] *The King County worksheet was utilized rather than the Washington State Department of Ecology form because the King County Worksheet calculation characteristics most closely reflect those of the Proposed Action.*

It is anticipated that the proposed development of the Population Health Facility Project under Alternative 1 would generate GHG emissions associated with construction activities (including demolition), production/extraction of construction materials, energy consumption from construction and operation, and vehicle emissions from associated delivery vehicle trips. **Table 3.4-2** shows the anticipated lifespan emissions and estimated annual emissions associated with Alternative 1.

Table 3.4-2
GREENHOUSE GAS EMISSIONS – ALTERNATIVE 1

	Gross Square Feet	Lifespan Emissions ($MTCO_2e$)[9]	Anticipated Lifespan	Estimated Annual Emissions ($MTCO_2e$)
Population Health Facility	330,000	345,009	62.5	5,520

Source: EA Engineering, 2015.

Noise

During construction, localized sound levels would temporarily increase in the vicinity of the site and streets used by construction vehicles accessing the construction site. The increase in sound levels would depend upon the type of equipment being used, the duration of such use, and the proximity of the equipment to the property line. Sound levels within 50 feet of construction equipment often exceed the levels typically recommended for residential and institutional land uses and, in general, decrease at a rate of about 6 dBA for each doubling of distance from the noise source. Average noise levels associated with various types of construction equipment are listed in **Table 3.4-3**. For a relative comparison, **Table 3.4-4** provides a list of typical sound levels for a variety of activities.

Table 3.4-3
TYPICAL NOISE LEVELS FROM CONSTRUCTION EQUIPMENT[10]

Equipment	Average Noise Level (dBA measured 50 ft. from the equipment)
Dump Truck (15-20 cu.yd. capacity)	91
Scraper	88
Backhoe	85
Concrete Mixer	85
Concrete Pump	82
Air Compressor	81

[9] $MTCO_2e$ is defined as Metric Ton Carbon Dioxide Equivalent which is a standard measure of amount of CO2 emissions reduced or sequestered.
[10] United States EPA, 1971

Table 3.4-3 Continued

Bulldozer (D-8)	80
Generator	78
Pump	76

Source: US EPA, 1971.

Table 3.4-4
TYPICAL SOUND LEVELS

Noise Source	dB(A)
Aircraft Carrier Flight Deck Operations	140
Threshold of Pain	130-140
Fireworks	130
Jet Takeoff (200 ft. distance	120
Jack Hammer	120
Auto Horn (3 ft. distance)	120
Chain Saw/Noisy Snowmobile	110
Jet Takeoff (2,000 ft. distance	105
Noisy Motorcycle (50 ft. distance)	100
Heavy Truck (50 ft. distance)	90
Busy Urban Street	80
Normal Automobile, Commercial Area	70
Normal Conversation (3 ft. distance)	60
Moderate Rainfall	50
Quiet Residence, Library	40
Bedroom at Night or Whisper	30
Rustle of Leaves	10
Threshold of Hearing	0

Source: EPA, 1978; EPA, 1972

Construction noise would result in temporary annoyance and possibly increased speech interference near the construction site. These impacts would temporarily affect adjacent uses in the vicinity of Site 37W, particularly residential (Alder Hall and Lander Hall), academic/student support uses (Gould Hall, Ethnic Cultural Center, Brooklyn Trail Building) and non-University uses such as the Church of Jesus Christ of Latter-day Saints building. Construction noise may also be perceived by pedestrians in the area, including users of the Burke-Gilman Trail to the south and NE 40th Street to the north. Construction-related noise would be temporary in nature and could result in temporary impacts to adjacent uses. However, buildings that utilize operable windows for cooling could also experience a higher level of impact from construction-related noise during warm periods when windows are relied upon for building cooling. The University of Washington maintains a requirement that construction noise cannot impact academic classroom activities. To minimize the potential for construction activities to interfere with academic uses, as well as residential, child care and other activities at the adjacent buildings, measures such as limiting the use of higher noise equipment, ensuring properly sized/maintained mufflers and other silencers, and

limiting the hours of construction would be implemented. See **Section 3.4.3**, Mitigation Measures, for detail.

Vibration

Operation of heavy construction equipment during construction under Alternative 1, such as drilling rigs, excavators, and haul trucks, would create waves that radiate along the surface and downward into the earth; the waves dissipate with distance from the source. These surface waves can be felt as ground vibration and create the potential to affect sensitive research uses that employ highly sensitive equipment such as electron microscopy.

Given that the adjacent residential uses, student support uses, and academic uses located adjacent to Site 37W (Alder Hall, Lander Hall, Gould Hall, Ethnic Cultural Center, Brooklyn Trail building, etc.) do not typically employ highly sensitive equipment, vibration conditions at adjacent buildings would be typical of University of Washington construction projects and would not be anticipated to result in significant impacts. However, to the extent feasible, construction activities would utilize practices that would minimize vibration levels, such as the use of sawcutting for concrete removal in lieu of using impact tools.

Trees

It is assumed that approximately 154 existing trees are assumed to be removed as part of the project, including 132 existing significant trees (of which 36 trees would be considered Exceptional). Proposed tree removal and replacement would be intended to meet or exceed the City of Seattle's tree replacement requirements and would be in accordance with the University of Washington's Tree Management Plan. Tree replacement on the site would be designed to meet or exceed the University of Washington requirement to provide tree replacement at a 1:1 ratio.

The landscape design for the Population Health Facility Project would be consistent with the University of Washington's landscape design standards.

Transportation/Parking

The Alternative 1 site (Site 37W) contains approximately 104 parking spaces, including 98 spaces within parking lot W12 and 6 spaces within parking lot W13. Development of the Population Health Facility Project is anticipated to displace the existing parking on the site. It is assumed that displaced parking on the site and new parking demand from the Population Health Facility Project would be accommodated by the existing University of Washington parking supply that is available in the West Campus and Central Campus sectors. In particular, existing University parking lots in the West Campus sector have

available capacity with parking lot utilization rates of 68 to 81 percent (see **Appendix D** for further details on parking lot utilization).

A construction staging area and construction parking plan would be coordinated between the general contractor/construction manager (GCCM) and the University of Washington prior to development on the site. Construction vehicle traffic routes would also be coordinated between the GCCM and the University of Washington, and approved by the City of Seattle as part of the permit process, and would be intended to minimize disturbance to the extent feasible, while also protecting pedestrian and vehicle safety in the area. It is assumed that construction truck traffic would be routed to the site from SR-520 via NE Pacific Street and University Way NE.

Pedestrian and bicycle access along sidewalks on Brooklyn Avenue NE, University Way NE and NE 40th Street could be temporarily rerouted during portions of the construction process; it is not anticipated that pedestrian and bicycle access along the Burke-Gilman Trail would be affected by construction of the Population Health Facility on Site 37W.

Impact Summary

The following **Table 3.4-5** provides a summary of construction-related impacts under Alternative 1.

Table 3.4-5

SUMMARY OF CONSTRUCTION IMPACTS – ALTERNATIVE 1

Site Condition	Alternative 1
Building Sq. Ft. Demolished	72,560
Total Cubic Yards of Grading	46,000
Staff Displaced/Relocated	250
Air Quality	Temporary emissions from construction and GHGs from building operation.
Noise	Temporary noise from construction activities.
Vibration	No vibration-sensitive uses
Significant Trees Removed	132
Exceptional Trees Removed[1]	36
Parking Spaces Demolished	104
Parking Spaces Replaced	0
Net Parking Gain/Loss	-104

[1] Exceptional trees are also counted within the significant tree total.

Alternative 2 – Development Site 22C

Under Alternative 2, the design of the Population Health Facility Project is assumed to include the same amount of building space as Alternative 1 (approximately 330,000 gross square feet) and would include the same types of uses and number of staff, faculty and students. The *CMP-Seattle 2003* establishes a 105-foot height limit for Site 22C, which allows for flexibility in building design. Given this flexibility of potential building design, two scenarios for the assumed building design is considered under Alternative 2.

Alternative 2 – Scenario 1

Construction Activities

Construction activities associated with development under Alternative 2 – Scenario 1 would occur throughout Site 22C and would include: the removal of approximately 22,700 square feet of existing buildings (Guthrie Annexes 1, 2, 3 and 4), parking areas (parking lot C8), pavement and landscaping; excavation and grading; and, construction of the approximately 330,000-gross square foot building.

It is anticipated that construction activities would occur during the same timeframe as Alternative 1 (Spring 2018 through Spring 2020).

The primary construction access would be from the west end of the site via 15th Avenue NE and NE Grant Lane. It is possible that some construction activities for the project could occur in the evening hours; however, such activities would generally be limited to scheduled utility switchovers and emergency work during the evening hours.

Prior to demolition, the existing uses within the on-site buildings and their associated staff (approximately 120 staff) would be relocated to a new facility on-campus consistent with existing University procedures (see the discussion of Alternative 1 for details on the University's relocation process). Demolition activities would include the demolition and removal of the existing on-site buildings, including the Guthrie Annexes 1, 2, 3 and 4. Demolition of the building would be conducted in accordance with applicable local and state regulations.

In addition to building demolition, existing pavement would be demolished and transported from site to a permitted regional recycling facility. A portion of this existing pavement would include the demolition of the existing C8 parking area which would result in the removal of approximately 15 parking spaces on the site. Approximately 107 significant trees are assumed to be removed from the site to accommodate construction under Alternative 2, including approximately 13 Exceptional trees.

Some site grading (cut, fill and site regarding) would be required to accommodate construction of buildings and associated facilities. Construction of the project under Alternative 2 – Scenario 1 would require approximately 37,000 cubic yards of cut/excavated materials and approximately 1,000 cubic yards of imported fill material. Fill material would be provided from an approved source. During excavation and construction activities, groundwater could be encountered on Site 22C. Temporary construction dewatering mitigation measures are identified in Section 3.4.3, Mitigation Measures and could be implemented in the event that groundwater is encountered on the site.

A construction staging area and construction parking plan would be coordinated between the general contractor/construction manager (GCCM) and the University of Washington prior to development on the site. Construction vehicle traffic routes would also be coordinated between the GCCM and the University of Washington and would likely direct construction truck traffic to the site from SR-520 via NE Pacific Street, University Way NE and 15th Avenue NE (see **Figure 3.4-1** for an illustration of the potential construction truck route for Alternative 2). The construction traffic route would be intended to minimize disturbance to the extent feasible, while also protecting pedestrian and vehicle safety in the area.

During the construction process, construction staging areas and temporary construction offices would be located on the south portion of Site 22C.

Air Quality

Under Alternative 2 – Scenario 1, construction activities on the site would generate air pollutants similar to Alternative 1, including fugitive dust from demolition, earthwork/excavation activities, emissions associated with construction vehicles and equipment, as well as dust/emissions from other construction-related activities. Uses in nearby buildings such as residential uses in Commodore Duchess apartments; academic uses in Architecture Hall, Guthrie Hall, The Physics/Astronomy Building and Gould Hall; and, non-University uses such as the Church of Jesus Christ of Latter-day Saints building could be sensitive to fugitive dust due to their proximity to the project site. Pedestrians and bicyclists in the site vicinity could also be sensitive to fugitive dust from the site. Measures such as wetting of exposed soils, covering or wetting of transported earth materials, washing of truck tires and undercarriages prior to travel on public streets, and prompt cleanup of any materials tracked or spilled onto public streets would help to minimize potential air quality impacts. Buildings that utilize operable windows for cooling could also experience a higher level of impact from construction-related dust and emissions during warm periods when windows are relied upon for building cooling. It is anticipated that the air intakes of adjacent buildings would be temporarily ducted and protected to minimize the intake of fugitive dust and exhaust fumes during construction activities, as necessary.

Demolition of existing buildings could potentially result in exposure to hazardous materials that may be located in the existing buildings. In the event that hazardous materials are found onsite, the materials would be treated and/or removed in accordance with all applicable regulations and standards.

Greenhouse Gas Emissions

Due to the similar amount of building square footage that is identified for Alternative 2 – Scenario 1, it is anticipated that development of the Population Health Facility Project would generate the same level of GHG emissions as described under Alternative 1. See **Table 3.4-2** for a summary of anticipated lifespan emissions and estimated annual emissions associated with the development of the Population Health Facility Project.

Noise

During construction, localized sound levels would temporarily increase in the vicinity of Site 22C and streets used by construction vehicles accessing the construction site and would be similar to those described under Alternative 1. Construction noise impacts would temporarily affect adjacent uses in the site vicinity, particularly residential uses (Commodore Duchess apartments), academic/student support uses (Architecture Hall, Guthrie Hall, Physics/Astronomy Building and Gould Hall) and non-University uses such as the Church of Jesus Christ of Latter-day Saints building. Construction noise may also be perceived by pedestrians in the area, including along NE Grant Lane. Construction-related noise would be temporary in nature and could result in temporary impacts to adjacent uses. However, buildings that utilize operable windows for cooling could also experience a higher level of impact from construction-related noise during warm periods when windows are relied upon for building cooling. The University of Washington maintains a requirement that construction noise cannot impact academic classroom activities. To minimize the potential for construction activities to interfere with academic uses, as well as residential and other activities at the adjacent buildings, measures such as limiting the use of higher noise equipment, ensuring properly sized/maintained mufflers and other silencers, and limiting the hours of construction would be implemented. See **Section 3.4.3**, Mitigation Measures, for detail.

Vibration

During construction, temporary increases in vibration from construction activities and equipment would occur, similar to those described under Alternative 1. Given that the adjacent residential uses, student support uses, and academic uses (Commodore Duchess apartments, Architecture Hall, Guthrie Hall, Gould Hall, etc.) do not typically employ highly sensitive equipment, vibration conditions at adjacent buildings would be typical of

University of Washington construction projects and would not be anticipated to result in significant impacts. However, the Physics/Astronomy Building to the south of Site 22C and Molecular Engineering Building to the west are noted to contain some equipment that could be sensitive to vibration from construction activities and equipment. Prior to construction, communication and coordination should occur with those people within adjacent buildings that utilize potential vibration sensitive uses and to the extent feasible, construction activities would utilize practices that would minimize vibration levels, such as the use of sawcutting for concrete removal in lieu of using impact tools.

Trees

Approximately 123 existing trees are assumed to be removed as part of the Population Health Facility Project under Alternative 2 – Scenario 1, including approximately 107 existing significant trees (of which 13 trees would be considered Exceptional). Proposed tree removal and replacement would be intended to meet or exceed the City of Seattle's tree replacement requirements and would be in accordance with the University of Washington's Tree Management Plan. Tree replacement on the site would be designed to meet or exceed the University of Washington requirement to provide tree replacement at a 1:1 ratio.

The landscape design for the Population Health Facility Project would be consistent with the University of Washington's landscape design standards.

Transportation/Parking

Site 22C contains approximately 15 parking spaces within parking lot C8. Development of the Population Health Facility Project is anticipated to displace the existing parking on the site and it is assumed that displaced parking on the site, as well as new parking demand from the Population Health Facility Project, would be accommodated by the existing University of Washington parking supply that is available in the West Campus and Central Campus sectors. In particular, existing University parking lots in the West Campus sector have available capacity with parking lot utilization rates of 68 to 81 percent (see **Appendix D** for further details on parking lot utilization).

A construction staging area and construction parking plan would be coordinated between the general contractor/construction manager (GCCM) and the University of Washington prior to development on the site. Construction vehicle traffic routes would also be coordinated between the GCCM and the University of Washington, and approved by the City of Seattle as part of the permit process, and would be intended to minimize disturbance to the extent feasible, while also protecting pedestrian and vehicle safety in the area. It is assumed that construction truck traffic would be routed to the site from SR-520 via NE Pacific Street, University Way NE and 15th Avenue NE.

Pedestrian and bicycle access along sidewalks on 15th Ave NE, NE 40th Street and Asotin Place NE could be temporarily rerouted during portions of the construction process on Site 22C.

Alternative 2 – Scenario 2

Construction Activities

Construction activities associated with development under Alternative 2 – Scenario 2 would be similar to those described for Scenario 1. The primary difference would be the amount of grading that would be required to accommodate the smaller building footprint that is assumed under Scenario 2. Construction of the project under Alternative 2 - Scenario 2 would require approximately 27,500 cubic yards of cut/excavated materials and approximately 1,000 cubic yards of imported fill material (compared with 37,000 cubic yards of cut/excavated materials and approximately 1,000 cubic yards of fill material under Alternative 2 – Scenario 1). Fill material would be provided from an approved source.

Air Quality

Construction activities on the site would generate air pollutants similar to Alternative 2 – Scenario 1, including fugitive dust from demolition, earthwork/excavation activities, emissions associated with construction vehicles and equipment, as well as dust/emissions from other construction-related activities. Construction-related air quality impacts would temporarily affect the same adjacent uses that are described under Alternative 2 – Scenario 1. Buildings that utilize operable windows for cooling could also experience a higher level of impact from construction-related dust and emissions during warm periods when windows are relied upon for building cooling.

Demolition of existing buildings could potentially result in exposure to hazardous materials that may be located in the existing buildings. In the event that hazardous materials are found onsite, the materials would be treated and/or removed in accordance with all applicable regulations and standards.

Greenhouse Gas Emissions

Due to the similar amount of building square footage that is identified for Alternative 2 - Scenario 2, it is anticipated that development of the Population Health Facility Project would generate the same level of GHG emissions as described under Alternative 1. See **Table 3.4-2** for a summary of anticipated lifespan emissions and estimated annual emissions associated with the development of the Population Health Facility Project.

Noise

During construction, localized noise would temporarily increase in the vicinity of the site and streets used by construction vehicles accessing the construction site and would be similar to those noise sources described under Alternative 2 – Scenario 1. Construction noise impacts would temporarily affect the same adjacent uses that are described under Alternative 2 – Scenario 1. The extent and duration of construction-related noise would likely be similar to Scenario 1 due to the reduced amount of grading/excavation activities but increased building height that would be constructed under Scenario 2. To minimize the potential for construction activities to interfere with academic and other activities at the adjacent buildings and uses, measures such as limiting the use of higher noise equipment, ensuring properly sized/maintained mufflers and other silencers, and limiting the hours of construction would be implemented. See **Section 3.4.3**, Mitigation Measures, for detail.

Vibration

During construction, temporary increases in vibration from construction activities and equipment would occur, similar to those described under Alternative 2 – Scenario 1. Construction activities under Alternative 2 – Scenario 2 would result in a potential decrease in vibration when compared to Alternative 2 – Scenario 1 due to the reduced amount of construction grading activities that would be required for the development of the parking garage structure. Construction-related vibration would potentially impact the same adjacent uses described under Alternative 2 – Scenario 1. Prior to construction, communication and coordination should occur with potential vibration sensitive uses and to the extent feasible, construction activities would utilize practices that would minimize vibration levels, such as the use of sawcutting for concrete removal in lieu of using impact tools.

Trees

Tree removal and landscaping design under Alternative 2 – Scenario 2 are assumed to be similar to Alternative 2 – Scenario 1.

Transportation/Parking

Development under Alternative 2 – Scenario 2 would result in the same displacement of existing parking as described under Alternative 2 – Scenario 1. Displaced existing parking on Site 22C (approximately 15 parking spaces) would be replaced as part of the lower level of the assumed Population Health Facility Project. New parking demand from the Population Health Facility Project would be accommodated by existing available campus parking in the site vicinity as described under Alternative 2 – Scenario 1.

It is anticipated that construction staging areas, construction parking plans, construction vehicle routes and pedestrian/bicycle access would all be the same as described under Alternative 2 – Scenario 1.

Impact Summary

The following **Table 3.4-6** provides a summary of construction-related impacts under Alternative 2.

Table 3.4-6

SUMMARY OF CONSTRUCTION IMPACTS – ALTERNATIVE 2

Site Condition	Alternative 2	
	Scenario 1	**Scenario 2**
Building Sq. Ft. Demolished	22,700	22,700
Total Cubic Yards of Grading	38,000	28,500
Staff Displaced/Relocated	120	120
Air Quality	Similar to Alternative 1	Similar or less than Alternative 1 due to smaller building footprint.
Noise	Similar to Alternative 1	Similar to Alternative 1
Vibration	Adjacent vibration sensitive uses (Physics/ Astronomy)	Adjacent vibration sensitive uses (Physics/ Astronomy)
Significant Trees Removed	107	107
Exceptional Trees Removed[1]	13	13
Parking Spaces Demolished	15	15
Parking Spaces Replaced	0	15
Net Parking Gain/Loss	-15	0

[1] Exceptional trees are also counted within the significant tree total.

Alternative 3 – Development Site 50S/51S

Under Alternative 3, the design of the Population Health Facility building on Site 50S/51S is assumed to include the same amount of building space (approximately 330,000 gross square feet) and would include the same types of uses and number of staff, faculty and students (1,800) as under Alternative 1. The assumed building height would be approximately 64 feet at its highest point, which would be below the 65-foot height limit established for the site under the *CMP-Seattle 2003*. Two scenarios are identified for development under Alternative 3.

Alternative 3 – Scenario 1

Construction Activities

Construction activities associated with development under Alternative 3 on Site 50S/51S would occur throughout the site and would include: the demolition and removal of the existing S1 parking garage (approximately 869 parking spaces) and associated pavement and landscaping; excavation and grading; and, construction of the approximately 330,000-gross square foot building and associated parking garage.

It is anticipated that construction activities would occur during the same timeframe as Alternative 1 (Spring 2018 through Spring 2020).

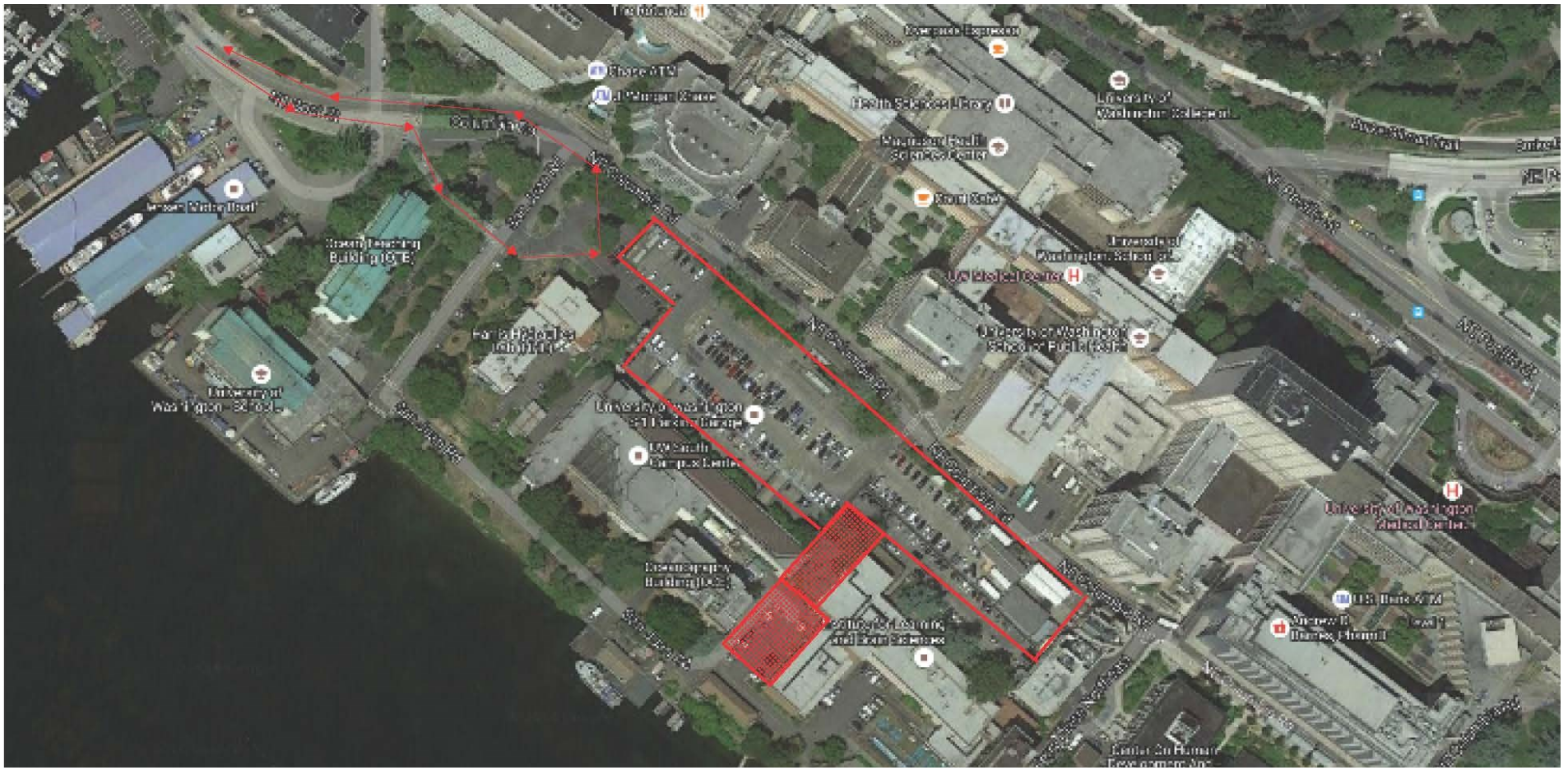
The primary construction access would be from the west end of Site 50S/51S via NE Columbia Road. It is possible that some construction activities for the project could occur in the evening hours; however, such activities would generally be limited to scheduled utility switchovers and emergency work during the evening hours.

Demolition activities would include the demolition and removal of the existing S1 parking garage. Demolition of the garage building would be conducted in accordance with applicable local and state regulations.

In addition to building demolition, existing pavement would be demolished and transported from site to a permitted regional recycling facility. Approximately 51 significant trees would be assumed to be removed from the site to accommodate proposed construction, including approximately three (3) Exceptional trees.

Some site grading (cut, fill and site regarding) would be required to accommodate construction of buildings and associated garage facilities. Construction of the project under Scenario 1 would require approximately 28,000 cubic yards of cut/excavated materials and approximately 1,000 cubic yards of imported fill material. Fill material would be provided from an approved source. During excavation and construction activities, groundwater could be encountered on Site 50S/51S. Temporary construction dewatering mitigation measures are identified in Section 3.4.3, Mitigation Measures and could be implemented in the event that groundwater is encountered on the site.

A construction staging area and construction parking plan would be coordinated between the general contractor/construction manager (GCCM) and the University of Washington prior to development on the site. Construction vehicle traffic routes would also be coordinated between the GCCM and the University of Washington and would likely direct construction truck traffic to the site from SR-520 via NE Pacific Street, 15th Avenue NE and NE Columbia Road (see **Figure 3.4-5** for an illustration of the potential construction truck



Source: University of Washington, 2016.

EA Engineering, Science, and Technology, Inc., PBC

Figure 3.4-5
Construction Routes—Alternative 3

route for Alternative 3). The construction traffic route would be intended to minimize disturbance to the extent feasible, while also protecting pedestrian and vehicle safety in the area.

During the construction process, construction staging areas and temporary construction offices would be located on the south portion of the project site.

Air Quality

Under Alternative 3 – Scenario 1, construction activities on Site 50S/51S would generate air pollutants similar to Alternative 1, including fugitive dust from demolition, earthwork/excavation activities, emissions associated with construction vehicles and equipment, as well as dust/emissions from other construction-related activities. Due to the additional construction that would be associated with the parking garage structure under Alternative 3 – Scenario 1, it is anticipated that the amount of air pollutants would be greater than Alternative 1. Uses in nearby buildings such as academic, hospital, child care and other support uses in the Portage Bay Building, South Campus Center, Magnuson Health Sciences Center, University of Washington Medical Center, Oceanography Building, Institute for Learning and Brain Sciences Building, Harris Hydraulics Laboratory and Center on Human Development and Disability could be sensitive to fugitive dust due to their proximity to the project site. Pedestrians and bicyclists in the site vicinity could also be sensitive to fugitive dust from the site. Measures such as wetting of exposed soils, covering or wetting of transported earth materials, washing of truck tires and undercarriages prior to travel on public streets, and prompt cleanup of any materials tracked or spilled onto public streets would help to minimize potential air quality impacts. Buildings that utilize operable windows for cooling could also experience a higher level of impact from construction-related dust and emissions during warm periods when windows are relied upon for building cooling. It is anticipated that the air intakes of adjacent buildings would be temporarily ducted and protected to minimize the intake of fugitive dust and exhaust fumes during construction activities, as necessary.

Demolition of existing buildings could potentially result in exposure to hazardous materials that may be located in the existing buildings. In the event that hazardous materials are found onsite, the materials would be treated and/or removed in accordance with all applicable regulations and standards.

Greenhouse Gas Emissions

Due to the similar amount of building square footage that is identified for Alternative 3 - Scenario 1, it is anticipated that development of the Population Health Facility Project would generate the same level of GHG emissions as described under Alternative 1. See

Table 3.4-2 for a summary of anticipated lifespan emissions and estimated annual emissions associated with the development of the Population Health Facility Project.

Noise

During construction, localized sound levels would temporarily increase in the vicinity of Site 50S/51S and streets used by construction vehicles accessing the construction site. Due to the additional construction that would be associated with the parking garage structure under Alternative 3 – Scenario 1, it is anticipated that the amount of noise generated during construction would be greater than Alternative 1. Construction noise impacts would temporarily affect adjacent uses in the vicinity Site 50S/51S particularly academic, hospital, child care and support uses in the Portage Bay Building, South Campus Center, Magnuson Health Sciences Center, University of Washington Medical Center, Oceanography Building, Institute for Learning and Brain Sciences Building Harris Hydraulics Laboratory and Center on Human Development and Disability. Construction noise may also be perceived by pedestrians in the area, including along NE Grant Lane. Construction-related noise would be temporary in nature and could result in temporary impacts to adjacent uses. However, buildings that utilize operable windows for cooling could also experience a higher level of impact from construction-related noise during warm periods when windows are relied upon for building cooling. The University of Washington maintains a requirement that construction noise cannot impact academic classroom activities. To minimize the potential for construction activities to interfere with academic, as well as other activities at the adjacent buildings and uses, measures such as limiting the use of higher noise equipment, ensuring properly sized/maintained mufflers and other silencers, and limiting the hours of construction would be implemented. See **Section 3.4.3**, Mitigation Measures, for detail.

Vibration

During construction, temporary increases in vibration from construction activities and equipment would occur, similar to those described under Alternative 1. The South Campus area adjacent to the 50S/51S site is noted to contain several buildings that include equipment and uses that could be sensitive to vibration from construction activities and equipment. These buildings include the Magnuson Health Sciences Center, Center on Human Development and Disability, Marine Sciences Building, Oceanography Building and University of Washington Medical Center Cyclotron. Prior to construction, communication and coordination should occur with those people in adjacent buildings that utilize potential vibration sensitive uses and to the extent feasible, construction activities would utilize practices that would minimize vibration levels, such as the use of sawcutting for concrete removal in lieu of using impact tools.

Trees

Approximately 59 existing trees are assumed to be removed as part of the Population Health Facility Project under Alternative 3 – Scenario 1, including 51 existing significant trees (of which three trees would be considered Exceptional). Proposed tree removal and replacement would be intended to meet or exceed the City of Seattle's tree replacement requirements and would be in accordance with the University of Washington's Tree Management Plan. Tree replacement on the site would be designed to meet or exceed the University of Washington requirement to provide tree replacement at a 1:1 ratio.

The landscape design for the Population Health Facility Project would be consistent with the University of Washington's landscape design standards.

Transportation/Parking

Site 50S/51S contains approximately 869 parking spaces that are associated with the S1 parking garage, all of which are assumed to be temporarily displaced as part of the development of the Population Health Facility Project on this site. It is anticipated that temporarily displaced parking on the site would be accommodated by the existing University of Washington parking supply that is available in the South Campus, West Campus and Central Campus sectors. In particular, other existing University parking lots in the South Campus have a utilization rate of approximately 86 percent, while parking lots in the West Campus sector have available capacity with parking lot utilization rates of approximately 68 to 81 percent (see **Appendix D** for further details on parking lot utilization). As part of the development of the Population Health Facility Project under Alternative 3 – Scenario 1, a new parking garage would be constructed on the western portion of the site to replace a portion of the parking that would be displaced from the S1 parking garage. The new garage would provide space for approximately 724 vehicles (approximately 83 percent of the current S1 garage capacity). As described above, additional available parking capacity in the South Campus, West Campus and Central Campus would be anticipated to accommodate the remaining displaced parking and additional parking demand from the Population Health Facility.

A construction staging area and construction parking plan would be coordinated between the general contractor/construction manager (GCCM) and the University of Washington prior to development on the site. Construction vehicle traffic routes would also be coordinated between the GCCM and the University of Washington, and approved by the City of Seattle as part of the permit process, and would be intended to minimize disturbance to the extent feasible, while also protecting pedestrian and vehicle safety in the area. It is assumed that construction truck traffic would be routed to Site 50S/51S from SR-520 via NE Pacific Street, 15th Avenue NE and NE Columbia Road.

Pedestrian and bicycle access along sidewalks on NE Columbia Road and San Juan Road NE could be temporarily rerouted during portions of the construction process on Site 50S/51S.

Alternative 3 – Scenario 2

Construction Activities

Construction activities associated with development under Alternative 3 – Scenario 2 would be similar to those described for Scenario 1. The primary difference would be the amount of grading that would be required to accommodate development of the parking garage structure that would include a level that would span the entire 50S/51S site under Scenario 2. Construction of the project under Scenario 2 is assumed to require the same amount of excavation and fill as Alternative 3 – Scenario 1. Fill material would be provided from an approved source.

Air Quality

Construction activities on Site 50S/51S would generate air pollutants similar to Alternative 3 – Scenario 1, including fugitive dust from demolition, earthwork/excavation activities, emissions associated with construction vehicles and equipment, as well as dust/emissions from other construction-related activities. Construction-related air quality impacts would temporarily affect the same adjacent uses that are described under Alternative 3 – Scenario 1. Buildings that utilize operable windows for cooling could also experience a higher level of impact from construction-related dust and emissions during warm periods when windows are relied upon for building cooling. Measures such as wetting of exposed soils, covering or wetting of transported earth materials, washing of truck tires and undercarriages prior to travel on public streets, and prompt cleanup of any materials tracked or spilled onto public streets would help to minimize potential air quality impacts.

Demolition of existing buildings could potentially result in exposure to hazardous materials that may be located in the existing buildings. In the event that hazardous materials are found onsite, the materials would be treated and/or removed in accordance with all applicable regulations and standards.

Greenhouse Gas Emissions

Due to the similar amount of building square footage that is identified for Alternative 3 - Scenario 2, it is anticipated that development of the Population Health Facility Project would generate the same level of GHG emissions as described under Alternative 1. See **Table 3.4-2** for a summary of anticipated lifespan emissions and estimated annual emissions associated with the development of the Population Health Facility Project.

Noise

During construction, localized noise would temporarily increase in the vicinity of Sit 50S/51S and streets used by construction vehicles accessing the construction site and would be similar to those noise sources described under Alternative 3 – Scenario 1. Construction noise impacts would temporarily affect the same adjacent uses that are described under Alternative 3 – Scenario 1. To minimize the potential for construction activities to interfere with academic and other activities at the adjacent buildings and uses, measures such as limiting the use of higher noise equipment, ensuring properly sized/maintained mufflers and other silencers, and limiting the hours of construction would be implemented. See **Section 3.4.3**, Mitigation Measures, for detail.

Vibration

During construction, temporary increases in vibration from construction activities and equipment would occur, similar to those described under Alternative 3 – Scenario 1. Construction activities under Alternative 3 – Scenario 2 would result in a potential increase in vibration when compared to Alternative 3 – Scenario 1 due to the increased amount of construction grading activities that would be required for the development of the parking garage structure. Construction-related vibration would potentially impact the same adjacent uses described under Alternative 3 – Scenario 1. Prior to construction, communication and coordination should occur with potential vibration sensitive uses and to the extent feasible, construction activities would utilize practices that would minimize vibration levels, such as the use of sawcutting for concrete removal in lieu of using impact tools.

Trees

Development under Alternative 3 – Scenario 2 would require a similar amount of tree removal and replacement as under Scenario 1. Landscaping design would also be similar to Alternative 3 – Scenario 1.

Transportation/Parking

Development under Alternative 3 – Scenario 2 would result in the same displacement of existing parking as described under Alternative 3 – Scenario 1. As part of the development of the Population Health Facility Project under Alternative 3 – Scenario 2, a new parking garage would be constructed on the western portion of the site (with a portion of the below-grade parking spanning the entire site) that would be intended to replace a portion of the parking that would be displaced from the S1 parking garage. The new garage would provide space for approximately 917 vehicles (full replacement of displaced parking from

the existing S1 parking garage and 48 additional stalls). As described above, additional available parking capacity in the South Campus, West Campus and Central Campus would be anticipated to accommodate the remaining displaced parking and additional parking demand from the Population Health Facility.

It is anticipated that construction staging areas, construction parking plans, construction vehicle routes and pedestrian/bicycle access would all be the same as described under Alternative 3 – Scenario 1.

Impact Summary

The following **Table 3.4-7** provides a summary of construction-related impacts under Alternative 3.

Table 3.4-7

SUMMARY OF CONSTRUCTION IMPACTS – ALTERNATIVE 3

Site Condition	Alternative 3	
	Scenario 1	**Scenario 2**
Building Sq. Ft. Demolished	99,870	99,870
Total Cubic Yards of Grading	29,000	29,000
Staff Displaced/Relocated	0	0
Air Quality	Greater than Alternatives 1 and 2 due to the construction of the parking garage.	Similar to Alternative 3 – Scenario 1.
Noise	Greater than Alternatives 1 and 2 due to the construction of the parking garage.	Similar to Alternative 3 – Scenario 1.
Vibration	Adjacent vibration sensitive uses (Health Sciences Center, Center on Human Development and Disability, Marine Sciences Building, Oceanography Building and Medical Center Cyclotron)	Similar to Alternative 3 – Scenario 1.
Significant Trees Removed	51	51
Exceptional Trees Removed[1]	3	3
Parking Spaces Demolished	869	869
Parking Spaces Replaced	724	917
Net Parking Gain/Loss	-145	+48

[1] Exceptional trees are also counted within the significant tree total.

Indirect/Cumulative Impacts

Development of the Population Health Facility Project under Alternatives 1 through 3 would contribute to the overall amount of construction on the University of Washington campus and, in combination with other potential future new development in the area, would

contribute to indirect/cumulative increases in construction-related impacts, including short-term, localized construction activities, dust, emissions, noise, vibration, tree/vegetation removal and traffic/parking (refer to **Chapter 2**, for additional detail on these separate projects on the University of Washington campus and **Figure 2-12** of Chapter 2 for a map of the separate projects in the site vicinity).

All temporary construction activities associated with potential future development projects in the area would be required to comply with applicable University of Washington (for campus projects) and/or City of Seattle regulations and guidelines, including hours of construction activity. Additionally, all area projects would prepare Construction Management Plans to control and mitigate potential transportation issues during the construction process.

All construction activities in the area, both on the University of Washington campus and in the site vicinity, would be required to follow applicable construction-related regulations and significant cumulative construction impacts would not be anticipated.

Summary of Construction Impacts

The following **Table 3.4-8** provides a summary of the construction-related impacts under the EIS Alternatives.

TABLE 3.4-8

SUMMARY OF CONSTRUCTION IMPACTS UNDER THE EIS ALTERNATIVES

Site Condition	Alternative 1	Alternative 2		Alternative 3	
		Scenario 1	Scenario 2	Scenario 1	Scenario 2
Building Sq. Ft. Demolished	72,560	22,700	22,700	99,870	99,870
Total Cubic Yards of Grading	46,000	38,000	28,500	28,800	28,800
Staff Displaced/ Relocated	250	120	120	0	0
Air Quality	Emissions from construction and GHGs from building operation.	Similar to Alternative 1.	Similar or less than Alternative 1 due to smaller building footprint.	Greater than Alternative 1 due to the construction of the parking garage.	Similar to Alternative 3 – Scenario 1.
Noise	Noise from construction activities.	Similar to Alternative 1.	Similar to Alternative 1.	Greater than Alternative 1 due to the demolition and construction of the parking garage.	Similar to Alternative 3 – Scenario 1.

Table 3.4-8 Continued

Site Condition	Alternative 1	Alternative 2		Alternative 3	
Vibration	No vibration sensitive uses	Adjacent vibration sensitive uses (Physics/ Astronomy and Molecular Engineering Building).	Similar to Alternative 2 – Scenario 1.	Adjacent vibration sensitive uses (Health Sciences Center, Center on Human Development and Disability, Marine Sciences Building, Oceanography Building and Medical Center Cyclotron).	Similar to Alternative 3 – Scenario 1.
Significant Trees Removed	132	107	107	51	51
Exceptional Trees Removed[1]	36	13	13	3	3
Parking Spaces Demolished	104	15	15	869	869
Parking Spaces Replaced	0	0	15	724	917
Net Parking Gain/Loss	-104	-15	0	-145	+48

[1] Exceptional trees are also counted within the significant tree total.

3.4.3 Mitigation Measures

The following measures would be implemented to mitigate potential construction-related impacts from the development of the Population Health Facility Project under Alternatives 1 through 3.

Measures Applicable for All Alternatives

Air Quality

Because of the proximity of residential, academic (classrooms), hospital, child care and other uses near the sites, the University agrees that the mitigation of construction-related air quality impacts is important and are committed to the measures listed below.

- Site development would adhere to the Puget Sound Clean Air Agency (PSCAA) regulations regarding demolition activity and fugitive dust emissions, including: wetting of exposed soils, covering or wetting of transported earth materials, washing of truck tires and undercarriages prior to travel on public streets, and prompt cleanup of any materials tracked or spilled onto public streets.

- The University and project contractor would coordinate to temporarily duct and protect air intakes of adjacent buildings to minimize the potential for the intake of fugitive dust and exhaust fumes, as necessary.

Greenhouse Gas Emissions

- Continued implementation of the University's Transportation Management Plan (TMP) would reduce vehicle trips to the campus (including the from the Population Health Facility EIS Alternative sites), thereby reducing GHG emissions. Implementation of a Construction Management Plan would also help to control transportation issues during construction and could reduce construction-related GHG emissions.

Noise

Because of the proximity of residential, academic (classrooms), hospital, child care, and other University uses near the sites, the University agrees that the mitigation of construction-related noise impacts is important and are committed to the measures listed below.

- Low noise portable air compressors would be used where feasible.
- Nighttime activities would not exceed allowable noise levels.
- Construction activities and the use of noise impact-type equipment, such as pavement breakers, pile drivers, jackhammers, sand blasting tools, and other impulse noise sources would comply with City of Seattle construction noise regulations (SMC 25.08). General construction activities could occur between 7 AM and 10 PM on weekdays or between 9 AM and 10 PM on weekends. Impact construction activities (i.e. pile drivers, jackhammers, etc.) could occur between 8 AM and 5 PM on weekdays or between 9 AM and 5 PM on weekends. Alternate means of saw cutting and impact hammer demolition would also be reviewed with the contractor.
- Placement of materials and backing up of trucks, would be accomplished without warning beepers (with flagger walking behind vehicle, or with alternate white noise backup warning systems.
- Loud talking, music, or other miscellaneous noise-related activities would be limited.
- Construction noise would be reduced with properly sized and maintained mufflers, engine intake silencers, engine enclosures, and turning-off idling equipment.

- Truck haul routes would be jointly developed by the UW, Seattle Department of Transportation (SDOT) and Department of Construction and Inspections (DCI) and approved by SDOT.

Trees

- Tree removal and replacement would be intended to meet or exceed the City of Seattle's tree replacement requirements and be in accordance with the University's Tree Management Plan.

- Tree replacement on the site would be designed to meet or exceed the University of Washington requirement to provide tree replacement at a 1:1 ratio.

Transportation/Parking

- Construction activities would occur in compliance with applicable University of Washington and City of Seattle regulations and would include the preparation of a Construction Management Plan to control and minimize potential construction-related transportation issues.

- Bicycle parking would be provided on the SEIS Alternative sites with the specific amount and location determined during the project design phase.

Other Construction Measures

- In the event that groundwater is encountered on the SEIS Alternative sites, temporary construction dewatering measures would be provided. Such measures could include vacuum dewatering points, deep wells or other measures as identified by a geotechnical engineer.

Measures Applicable for Alternative 2 (Site 22C) and Alternative 3 (Site 50S/51S)

Vibration

- To the extent feasible, construction activities would utilize practices that would minimize vibration, such as the use of sawcutting for concrete removal in lieu of using impact tools.
- Orientation would be provided for all construction workers to inform them of the importance of minimizing impacts to adjacent buildings, including vibration.

- Advanced notification could be provided to surrounding building users to inform them of construction activities that would cause vibration (e.g., drilling of soldier piles). Early notification would allow surrounding uses to prepare in advance of potential vibration activities.

3.4.4 Significant Unavoidable Adverse Impacts

Construction of the Population Health Facility Project under Alternatives 1 through 3 would result in some short-term, temporary construction-related air quality, GHG emissions, noise, vibration, tree and transportation/parking impacts that would be unavoidable with the project. However, with the implementation of proposed mitigation measures, construction activities would not be anticipated to result in significant impacts.

CHAPTER 4

References

CHAPTER 4
REFERENCES

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APPENDIX A

Distribution List

Population Health Facility Distribution List

	Name
AGENCIES	SEPA Public Info Center City of Seattle Dept. of Construction & Inspections
	University Neighborhood Service Center
	SEPA Center Dept. of Natural Resources
	Dept. of Ecology SEPA Unit Environmental Review Section
	Harold Scoggins Fire Chief Seattle Fire Department
	Office of EPA Environmental Protection Agency
	Patty Hayes Director Seattle & King County-Public Health
	Environmental & Safety Division Seattle City Light
	James Irish Environmental Manager Sound Transit Link
	Lindsay King Dept. of Construction & Inspection
	Director Seattle Dept. of Transportation
	Seattle Police Department
	Seattle Dept. of Parks and Recreation
	SEPA Coordinator Seattle Public Utilites
	Russell Holter Project Complience Reviewer Dept. of Archeology & Historic Preservation
	Executive Director Puget Sound Clean Air Agency
	Isabel Tinoco Fisheries Director Muckelshoot Tribe
	Eastlake Community Council
	Laurelhurst Community Club
	Montlake Communtiy Club
	Northeast District Council
	Ravenna Bryant Community Association c/o Ravenna-Eckstein Community Center

Population Health Facility Distribution List

	Name
COMMUNITY ORGANIZATIONS	Roosevelt Neighbors' Alliance
	View Ridge Community Club
	Wallingford Community Council
	President Wedgewood Community Council
	Matthew Fox c/o University District Community Council
	Alternate University District Community Council
	Roosevelt Neighborhood Association
	The U District Partnership
	Greater University Chamber of Commerce
	President Portage Bay/Roanoke Park Community Council
LIBRARIES	Montlake Branch Seattle Public Library
	University Branch Seattle Public Library
	Documents Department - Central Library Seattle Public Library
	UW Health Sciences Library
	Shingeko Podgorny Reference Division UW Suzzallo Library
	Carla Rickerson NW Collection UW Suzzallo Library
UW STAFF	Charles Kennedy Associate Vice President Facilities Services
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	Doug Gallucci Environmental Programs Office SEPA Advisory Committee
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	Frieda Taub Aquatic and Fisheries Sciences SEPA Advisory Committee
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	Betsey McLaughlin Transportation Services SEPA Advisory Committee
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	Doug Cambell University District Partnership
	Kay Kelly Laurelhurst Community Club
	Tamitha Blake Montlake Community Club
	John Gaines Portage Bay Roanoke Park Community Council
	Joan Kelday Ravenna Springs Community Group
	Brett Frosaker Ravenna-Bryant Community Association
	Eric Larson Roosevelt Neighbors Alliance

Population Health Facility Distribution List

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	Brian O'Sullivan Wallingford Community Council
	Kerry Kahl UW at Large Rep
	Ashley Emery UW Faculty Senate Rep
	Chris Leman Eastlake Community Council
	Louise Little University District Partnership
	Leslie Wright Laurelhurst Community Club
	Barbara Krieger Portage Bay Roanoke
	Pamela Clark Ravenna Springs Community Group
	Jorgen Bader Ravenna-Bryant Community Association
	Ruedi Risler University Park Community Club
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	Rick Mohler UW Faculty Senate Rep
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	Karen Ko City of Seattle, DON
	Julie Blakeslee UW Environmental Planner
	Elizabeth McCoury University District Partnership
	Jeannie Hale Laurelhurst Community Club
	Bryan Haworth Montlake Community Club
	Inga Manskopf Ravenna-Bryant Community Group
	Matt Hoehnen Roosevelt Neighbor's Alliance
	Dirk Farrell Roosevelt Neighborhood Association
	Matt Fox University District Council

Population Health Facility Distribution List

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Building Managers	Michele Jacobs Guthrie Hall
	Amanda Patrick Guthrie Annex 1
	Kim Lee Guthrie Annex 2
	Michele Jacobs Guthrie Annex 3
	Michele Jacobs Guthrie Annex 4
	Meegan Amen Architecture Hall
	Jason Alferness Physics/Astronomy
	Richard Moore Purchasing Accounting Building
	Michele Jacobs 3935 University Way
	Meegan Amen 3947 University Way
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	Meegan Amen Gould Hall
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APPENDIX B

Historic and Cultural Resources Report

Cultural Resources Report for the Population Health Facility Project, University of Washington, Seattle, King County, Washington

Submitted to:
EA Engineering, Science and Technology, Inc.

Submitted by:
Historical Research Associates, Inc.
Chrisanne Beckner, MS
Carol Schultze, PhD, RPA

Seattle, Washington
December 2016

Historical Research Associates, Inc.

This report was prepared by HRA Principal Investigators Chrisanne Beckner MS, and Carol Schultze, PhD, RPA, who meet the Secretary of the Interior's professional qualifications standards for architectural history and archaeology, respectively. This report is intended for the exclusive use of the Client and its representatives. It contains professional conclusions and recommendations concerning the potential for project-related impacts to archaeological resources based on the results of HRA's investigation. It should not be considered to constitute project clearance with regard to the treatment of cultural resources or permission to proceed with the project described in lieu of review by the appropriate reviewing or permitting agency. This report should be submitted to the appropriate state and local review agencies for their comments prior to the commencement of the project.

Executive Summary

The University of Washington (UW) proposes to construct a new building to create space for education and research for the Population Health Sciences program. The structure will house new team-based interdisciplinary learning space; flexible space offering classrooms, labs**,** and distance learning; and offices allowing health science areas of Dentistry, Medicine, Nursing, Pharmacy, Public Health**,** and Social Work to participate. Three Alternative Site locations are under consideration for the new building.[1] Known as Alternative Sites 22C, 37W, and 50/51S the proposed locations include a site in the central campus, a site in the west campus, and a site in the south campus. A no action alternative (no construction of a new building) is also being considered for purposes of the EIS.

The UW has determined that the proposed construction project has the potential to significantly impact the environment, as it may entail ground disturbance and the demolition of resources over 45 years old at two of the three proposed alternative locations (Alternative Sites 37W and 22C). In support of the project, EA Engineering, Science and Technology, Inc., tasked Historical Research Associates, Inc. (HRA), with preparing a cultural resource technical report that includes an archaeological resource record search and an above ground resources addendum for each of the three proposed Alternative Sites (Appendices A, B, and C) with historic property inventory forms (HPIs) for any adjacent resources over 45 years old that could potentially be impacted by the proposed project (Appendix D).

No archaeological resources were identified at any of the Alternative Sites. Due to extensive prior ground disturbance, an archaeological inventory would not be fruitful. As a result, HRA recommends a finding of no adverse impacts for archaeological resources and that no further study is necessary.

HRA recommends that two buildings slated for demolition at Alternative Site 37W are eligible for listing in the National Register of Historic Places (NRHP) under either Criterion A or Criterion C and that demolition may pose adverse impacts to historic resources. HRA further recommends that one building slated for demolition at Alternative Site 22C is eligible for listing in the NRHP under Criterion C and that demolition may pose an adverse impact. HRA recommends that no resources within Alternative Site 50/51S will be adversely impacted if that alternative is chosen as the site for the new Population Health Facility.

[1] The word "site" does not refer to archaeological sites when used to define the three site alternatives.

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1. Introduction and Project Description

The University of Washington (UW) proposes to construct a new building to create space for education and research for the Population Health Sciences program. The structure will house new team-based interdisciplinary learning space; flexible space offering classrooms, labs, and distance learning; and offices allowing health science areas of Dentistry, Medicine, Nursing, Pharmacy, Public Health, and Social Work to participate. Three Alternative Sites are under consideration for the new building (Figure 1-1).

1. Alternative Site 22C is in the Central Campus and bounded by NE Grant Ln. on the north, Architecture and Guthrie Halls on the east, the Physics/Astronomy Building to the south, and 15th Ave. NE on the west. Demolition of up to four structures would occur (Guthrie Annexes 1, 2, 3, and 4).

2. Alternative Site 37W is in the West Campus in an area bounded by NE 40th St. on the north, University Way NE on the east, the Burke-Gilman Trail and NE Pacific St. on the south, and Brooklyn Ave. NE on the west. Demolition of up to five structures would occur (3947, 3941, 3939, 3935, and 3917 University Way NE). 3947 is not yet 45 years old and is not considered as part of the current study.

3. Alternative Site 50/51S is in the South Campus and bounded by the Magnuson Health Sciences Center to the north, the Central Utility Plant Building to the east, the South Campus Center to the south, and NE Columbia Rd. and South Gatehouse to the west. The S1 parking garage, or a portion of it, would be demolished.

4. No action alternative—a new building would not be constructed and all buildings would be left in their existing condition.

The UW has determined that the proposed construction project has the potential to significantly impact the environment, as it may entail ground disturbance and the demolition of above ground resources over 45 years old at two of the three proposed alternative locations (Alternative Sites 22C and 37W).

In support of the project, EA Engineering, Science and Technology, Inc., tasked Historical Research Associates, Inc. (HRA), with preparing a cultural resources technical report that includes an archaeological record search and an historic resources addendum for each of the three proposed Alternative Sites (Appendices A, B, and C) along with reconnaissance-level survey and historic property inventory forms (HPIs) for any adjacent resources over 45 years old that could potentially be impacted by the proposed project (Appendix D).

1.1 Regulatory Context

The proposed Alternative Sites are owned and managed by the UW. The proposed project is subject to state permitting oversight and review under the State Environmental Policy Act (SEPA), for which the UW is considering the environmental impacts of its proposals. Under SEPA, the UW must consider the impacts of its project on archaeological and above ground resources over 45 years of age as well as all adjacent resources over 45 years old, as per Washington Department of Archaeology and Historic Preservation (DAHP) guidelines.

The proposed project is also subject to the UW's own historic preservation policies and practices, as detailed in the 2003 Master Plan. For any project that proposes to make changes to the exterior of a building over 50 years old, the UW prepares a Historic Resources Addendum that includes, among other details, a physical description; the history of the resource's construction; information regarding any associations the building may have with our shared heritage or important historic events or people; information regarding the role the resource has played on campus and within the city, state, or nation; a description of the proposed project and its possible impacts on the historically significant resources; and potential mitigation measures for adverse impacts (UW 2003).

1.2 Area of Impacts

At this phase, the Population Health Facilities project encompasses three potential areas of impacts (AIs/Alternatives), two of which overlap (Figure 1-2).

The UW, as part of its 2003 Master Plan, established a list of prominent features for which the University has been recognized. The majority of these are outside the AI for each of the proposed alternatives. Architecture Hall, located in Alternative Site 22C, is the only resource represented on the list of resources "to be treated with the respect they deserve as keys to the evolution of a campus which has come to support world-class education, research, and public service" (UW 2003:26). The building is only subject to indirect impacts under the proposed project Alternative Site 22C (Appendix A).

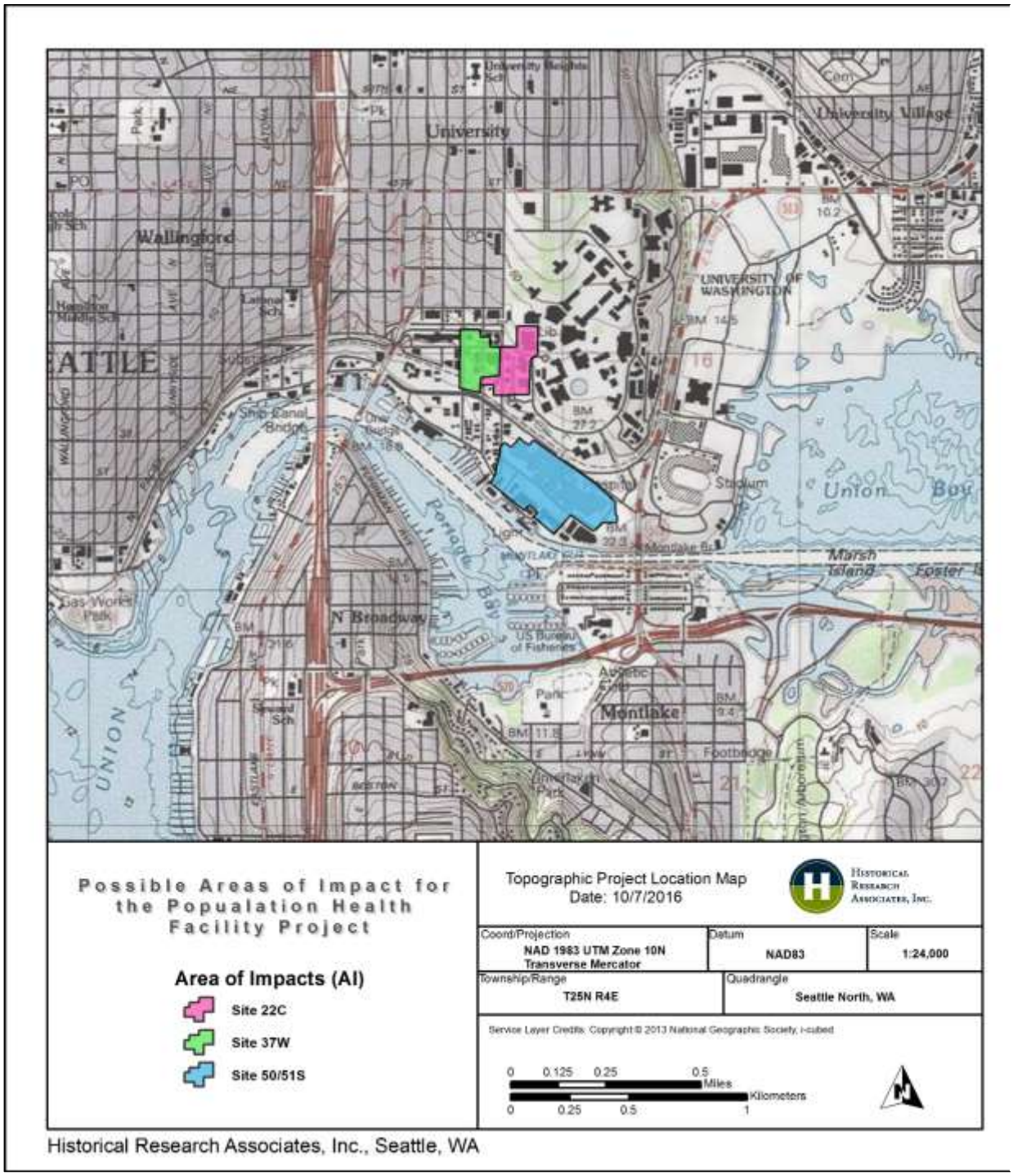

Figure 1-1. Locations of possible areas of impact for the Population Health Facility.

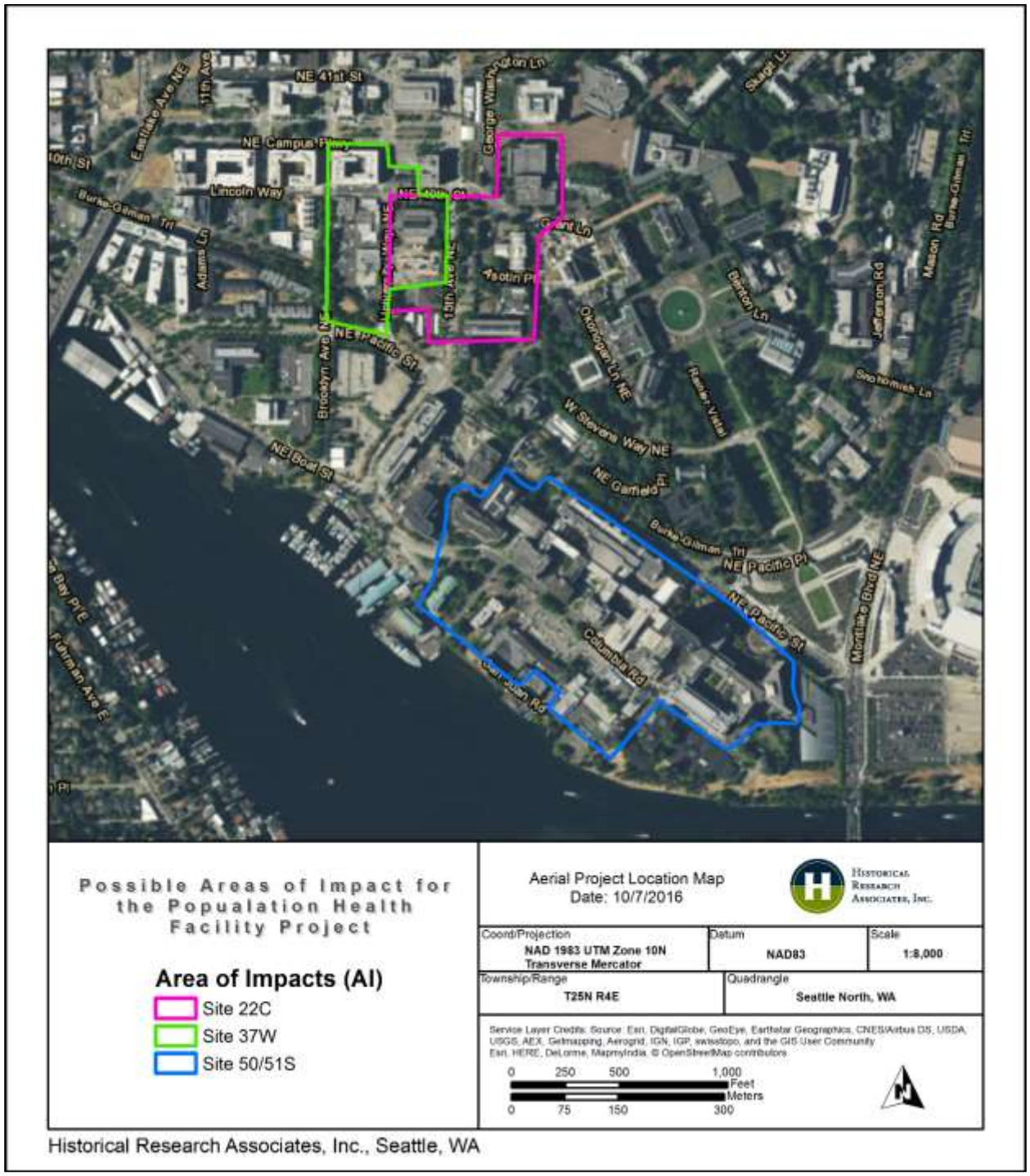

Figure 1-2. Locations of possible areas of impact for the Population Health Facility.

2. Archival Research

This chapter provides a review of archival data including previous cultural resources surveys; documented archaeological sites, historic buildings, structures, and objects; and historic maps. Understanding previous cultural resource surveys and known cultural resources in the vicinity of a project is important for understanding how intensively work has been conducted in the area. This archival research is necessary for developing expectations for this project, which will be outlined in Section 6.

2.1 Research Methods and Materials Reviewed

HRA archaeologist Carol Schultze, PhD, RPA, conducted an archival search for records pertaining to locations within 0.5 mile (mi) of the AIs for each alternative. Schultze searched the Department of Archaeology and Historic Preservation's (DAHP's) online database (WISAARD) for archaeological site records, cultural resource survey reports, historic register information, and cemetery records. HRA's architectural historian Chrisanne Beckner, MS, reviewed historic maps and campus plans for the history of development in each proposed AI. A statewide archeological predictive model on DAHP's WISAARD was reviewed for probability estimates for archaeological resources, and to aid in developing the field strategy. The UW provided as-built drawings of the buildings to be impacted by the project. These were reviewed to assess the amount of subsurface disturbance entailed in their construction.

2.2 Archival Research Results

2.2.1 Previous Cultural Resources Studies

Table 2-1 lists the cultural resource studies that have been conducted within 0.5 mi of all Alternative Sites. This distance was measured as 0.5 mi from the center point of each of the Alternative Sites. There are a total of 30 cultural resource studies within this larger area. These studies have included both surface and subsurface survey. Most of these surveys were conducted in areas that have seen moderate to high degrees of historic-era disturbances consistent with their location in urbanized northeast Seattle. They are discussed in greater detail below.

Table 2-1. Previous Cultural Resources Studies within 0.5 mi of the AI.

Reference	NADB#	Title	Alternative Site: Distance and Direction	Cultural Resources Identified Within or Adjacent to the AI
Emerson 2009a	1352771	*Letter to Adam Escalona RE: SE01126A UW Medical BB Tower*	22C: 0.4 mi southeast 37W: 0.5 mi southeast 50/51S: Within the AI	UW Medical Center UW BB Tower Both evaluated as not eligible for listing in the NRHP
Emerson 2009b	1352793	*Letter to Adam Escalona RE: SE01123A Haggett Hall*	22C: 0.4 mi northeast 37W: 0.5 mi northeast 50/51S: 0.8 mi north	None
Emerson 2009c	1352800	*Letter to Adam Escalona RE: SE01124A Suzzallo Library*	22C: 0.1 mi east 37W: 0.2 mi east 50/51S: 0.3 mi north	None
BOLA 2010	1353812	*Husky Union Building Historic Resources Addendum*	22C: Encompasses 37W: Encompasses 50/51S: Adjacent to the north	None
Sharley and Smith 2011	1680533	*Cultural Resource Assessment for the Thomas Burke Memorial Washington State Museum Renovation Project, University of Washington*	22C: 0.4 mi north 37W: 0.4 mi north 50/51S: 1 mi north	None
Minor 2011	1680887	*Cultural Resource Inventory for Anderson Hall, University of Washington Campus*	Encompasses all Alternative Sites	None

Table 2-1. Previous Cultural Resources Studies within 0.5 mi of the AI.

Reference	NADB#	Title	Alternative Site: Distance and Direction	Cultural Resources Identified Within or Adjacent to the AI
Gilpin and Vogel 2011	1681083	*Archaeological Assessment for the weleb?altx, or Intellectual House Project, University of Washington*	22C: 0.4 mi northeast 37W: 0.5 mi northeast 50/51S: 0.8 mi northeast	None
Elder 2011	1682027	*Cultural Resources Investigations at the Bryant Building Section 6(f) Replacement Site*	22C: 0.1 mi south 37W: 0.2 mi south 50/51S: adjacent to the west	None
Elder and Reed 2011	1682029	*Results of Archaeological Monitoring of Geotechnical Borings within the SR 520 Limits of Construction*	22C: 0.1 mi south 37W: 0.2 mi south 50/51S: Encompasses AI	None
Elder and Cascella 2013	1683661	*SR 520 Bridge Replacement and HOV Program, I-5 to Medina: Bridge Replacement and HOV Project Corridor Archaeological Landform Sensitivity Assessment*	22C: 0.1 mi south 37W: 0.2 mi south 50/51S: Encompasses AI	None
Schultze and Stevenson 2014	1687351	*Archaeological Inventory for the University of Washington Animal Research and Care Facility Construction Project, City of Seattle*	22C: 0.1 mi south 37W: 0.1 mi south 50/51S: Adjacent to west	None
Stevenson and Little 2014a	1685157	*Archaeological Inventory for the University of Washington Burke-Gilman Trail, Brooklyn Avenue NE to 15th Avenue NE (Garden Reach) Segment, City of Seattle, King County, Washington*	22C: 0.1 mi south 37W: 0.2 mi south 50/51S: adjacent to the west	None

Table 2-1. Previous Cultural Resources Studies within 0.5 mi of the AI.

Reference	NADB#	Title	Alternative Site: Distance and Direction	Cultural Resources Identified Within or Adjacent to the AI
Stevenson and Dellert 2013	1684507	*University of Washington Burke-Gilman Trail, Rainier Vista to 15th Avenue NE Segment, Cultural Resources Inventory Project, Seattle, King County, Washington*	22C: 0.1 mi south 37W: 0.2 mi south 50/51S: Adjacent to the north	None
Stevenson and Little 2014b	1685154	*Archaeological Inventory for the University of Washington Burke-Gilman Trail, University Bridge to Brooklyn Avenue NE (Neighborhood Reach) Segment, City of Seattle, King County, Washington*	22C: 0.4 mi west 37W: 0.3 mi west 50/51S: 0.3 mi west	None
Stevenson and Little 2014c	1685155	*Archaeological Inventory for the University of Washington Burke-Gilman Trail, Pasadena Place NE to University Bridge (Northlake Reach) Segment, City of Seattle, King County, Washington*	22C: 0.5 mi west 37W: 0.4 mi west 50/51S: 0.8 mi west	None
Stevenson et al. 2014	1685156	*Cultural Resources Inventory for the University of Washington Burke-Gilman Trail, Rainier Vista to Northeast 47th Street (Forest Reach) Segment, City of Seattle, King County, Washington*	22C: 0.2 mi northeast 37W: 0.5 mi east 50/51S: 0.4 mi east	None
Courtois et al. 1999	1339836	*Central Link Rail Transit Project Historic and Prehistoric Archaeological Sites Historic Resources Native American Traditional Cultural Properties Paleontological Sites*	22C: Segment B Corridor crosses AI 37W: Segment B Corridor crosses adjacent to AI 50/51S: 0.2 mi to the northwest	None
Courtois & Associates 2003	1350148	*Preliminary Report on University of Washington Main Campus, Seattle; Significant Buildings and Features Completed Prior to 1953*	22C: Encompasses 37W: Encompasses 50/51S: Adjacent to north	Three NRHP listed properties: UW Cunningham Hall UW Architecture Hall UW Guthrie Annex 3

Table 2-1. Previous Cultural Resources Studies within 0.5 mi of the AI.

Reference	NADB#	Title	Alternative Site: Distance and Direction	Cultural Resources Identified Within or Adjacent to the AI
Rooke 2002	1341144	*Letter report describing the procedures and results of a cultural resources survey of Cingular Wireless tower site WA-539 (Cavilier Apartments)*	22C: Encompasses 37W: Encompasses 50/51S: Overlaps western edge of AI	Eight NRHP listed properties: UW Observatory UW Lewis Hall UW Architecture Hall UW Clark Hall UW Parrington Hall 4142 Brooklyn Avenue NE. University Methodist-Episcopal church 4000 University Way. College Inn Lake Union/Portage Bay. University Bridge
McReynolds 2016	1688008	*A Visual Effects Report for SEA Stevens Way in Seattle, King County, Washington*	22C: 0.3 mi east 37W: 0.4 mi east 50/51S: 0.2 mi north	None
Walker Gray 2008	1352120	*Ship Canal Bridge Survey Office-Lease to Lincoln Towing Company*	22C: 0.5 mi west 37W: 0.4 mi west 50/51S: 0.7 mi northwest	None
Trudel and Larson 2004	1343204	*Letter to Merideth Redmon Regarding Final Archaeological Monitoring of Geotechnical Borings for the Proposed University/Densmore CSO Control System Improvements Project*	22C:0.6 mi west 37W: 0.5 mi west 50/51S: 0.7 mi west	None
Walker Gray and Juell 2009	1353924	*Cultural Resources Survey Lake Washington Congestion Management Program SR 520/I-90 - Active Traffic Management Project*	22C: 0.7 mi south 37W: 0.7 mi south 50/51S: 0.4 mi south	None

Table 2-1. Previous Cultural Resources Studies within 0.5 mi of the AI.

Reference	NADB#	Title	Alternative Site: Distance and Direction	Cultural Resources Identified Within or Adjacent to the AI
Schneyder and Fernandez 2010	1354566	*SR 520, I-5 to Medina: Bridge Replacement and HOV Project; NRHP Evaluation Report for the Miller Street Landfill (45KI760), Seattle, Washington*	22C: 0.7 mi south 37W: 0.8 mi southeast 50/51S: 0.5 mi southeast	None
Blukis Onat et al. 2005	1680617	*Preliminary Ethnographic and Geomorphological Study of the SR 520 Bridge Replacement and HOV Project*	22C: 0.6 mi south 37W: 0.6 mi south 50/51S: 0.4 mi south	None
Elder et al. 2011	1680657	*Section 106 Technical Report (Volume I Archaeology and Volume II Built Environment) SR 520 Bridge Replacement and HOV Program, I-5 to Medina: Bridge Replacement and HOV Program*	22C: 0.6 mi south 37W: 0.6 mi south 50/51S: 0.4 mi south	None
Schneyder and Walker Gray 2011	1681089	*Section 106 Technical Report, SR 520 Bridge Replacement and HOV Program, I-5 to Medina: Bridge Replacement and HOV Project (Summary)*	22C: 0.6 mi south 37W: 0.6 mi south 50/51S: 0.4 mi south	None
Tait et al. 2011	1681090	*Section 106 Technical Report: Volume 1 Archaeology, SR 520 Bridge Replacement and HOV Program, I-5 to Medina: Bridge Replacement and HOV Project*	22C: 0.6 mi south 37W: 0.6 mi south 50/51S: 0.4 mi south	None
Walker Gray et al. 2011	1681091	*Section 106 Technical Report: Volume 2 Built Environment, SR 520 Bridge Replacement and HOV Program, I-5 to Medina: Bridge Replacement and HOV Project*	22C: 0.6 mi south 37W: 0.6 mi south 50/51S: 0.4 mi south	Not Eligible

Table 2-1. Previous Cultural Resources Studies within 0.5 mi of the AI.

Reference	NADB#	Title	Alternative Site: Distance and Direction	Cultural Resources Identified Within or Adjacent to the AI
Johnson 2010	1685861	*Interim Report on Archaeological Monitoring for the Central Link Light Rail Transit Project, University Link Contract U210: Utility Relocation - University of Washington*	22C: 0.5 mi southeast 37W: 0.7 mi southeast 50/51S: 0.2 mi east	None

2.2.1.1 Alternative Site 22C

Nineteen cultural resource studies have been completed within 0.5 mi of Alternative Site 22C. These included studies carried out on the campus of the UW itself (Emerson 2009a, 2009b, 2009c; BOLA 2010; Elder 2011; Elder and Cascella 2013; Elder and Reed 2011; Gilpin and Vogel 2011; Minor 2011; Schultze and Stevenson 2014; Sharley and Smith 2011; Stevenson and Little 2014a), along the Burke Gilman trail (Stevenson and Dellert 2013; Stevenson and Little 2014b, 2014c; Stevenson et al. 2014), for transportation (Courtois & Associates 2003; Courtois et al. 1999), and infrastructure improvement (McReynolds 2016; Rooke 2002). Historic-era buildings have been recorded within the AI and in the surrounding 0.5 mi area (Courtois & Associates 2003; Emerson 2009a; Rooke 2002). The subsurface investigations concluded that the areas of proposed development include highly disturbed sediments.

2.2.1.2 Alternative Site 37W

Seventeen cultural resource studies have been carried out within 0.5 mi of Alternative Site 37W (Table 2-1). These include the same studies discussed for Alternative Site 22C (with the exception of Emerson [2009a, 2009b], Gilpin and Vogel [2011], and Stevenson et al. [2014]). Additional studies in the 0.5 mi area surrounding Alternative Site 37W were associated with private development (Walker Gray 2008) and infrastructure improvement projects (Stevenson and Little 2014b; Trudel and Larson 2004). Historic-era buildings have been recorded within the AI and in the surrounding 0.5 mi area (Rooke 2002). The subsurface investigations again showed that the areas of proposed development included highly disturbed and glacial sediments. Subsurface disturbance resulting from construction of the historic-era buildings, evaluated below, is also likely to have displaced or destroyed any archaeological deposits that may have been present within this Alternative Site.

2.2.1.3 Alternative Site 50/51S

A total of 25 cultural resources studies have been completed within 0.5 mi of Alternative Site 50/51S, including a majority of those listed above (See Table 2-1). The AI of Alternative Site 50/51S

is located farther to the south and the 0.5 mi search area includes cultural resources studies done for the 520 bridge expansion and improvement projects (Blukis Onat et al. 2005; Elder et al. 2011; Johnson 2010; Schneyder and Fernandez 2010; Schneyder and Walker Gray 2011; Walker Gray and Juell 2009; Walker Gray et al. 2011). A number of the UW-related projects also were located within the 0.5 mi area surrounding this Alternative Site, as such a number of historic-era buildings have been recorded in and around the AI (Courtois & Associates 2003; Emerson 2009a; Rooke 2002; Walker Gray et al. 2011) that will be described and evaluated below. The subsurface investigations concurred with those of the other Alternative Sites, in that the areas of proposed development include highly disturbed sediments and/or intact glacially deposited sediment that has had the original surface removed.

2.2.2 Previously Recorded Archaeological Sites

Table 2-2 lists the previously recorded sites and isolates surrounding all Alternative Sites, and notes their proximity to each. This table will be referenced in the following sections.

Table 2-2. Previously Recorded Archaeological Isolates and Sites within 0.5 mi of the Alternative Sites.

Site Number and Name	Site Type/Description	Alternative Site: Distance and Direction to the Closest AI	Eligibility for NRHP	Reference
45KI957 *UW Greenhouse Site*	Multicomponent-Prehistoric Lithic Material and Historic Debris	22C: 0.1 mi south 37W: 0.2 mi southeast 50/51S: <0.1 mi north	Not Evaluated	Louderback and Jolivette 2009
KI01181	Pre Contact Isolate; Pre Contact Lithic Material	22C: 0.6 mi west 37W: 0.4 mi west 50/51S: 0.8 mi northwest	Not Eligible	Stevenson 2013
KI01201 *University Landfill*	Historic Debris Scatter/Concentration	22C: 0.4 mi east 37W: 0.6 mi east 50/51S: 0.5 mi northeast	Not Evaluated	Lockwood 2014
45KI760 *Miller Street Dump*	Historic Debris Scatter/Concentration	22C: 0.7 mi south 37W: 0.8 mi southeast 50/51S: 0.5 mi southeast	Not Evaluated	Kiers 2007

Table 2-2. Previously Recorded Archaeological Isolates and Sites within 0.5 mi of the Alternative Sites.

Site Number and Name	Site Type/Description	Alternative Site: Distance and Direction to the Closest AI	Eligibility for NRHP	Reference
45KI952	Historic Bottle Isolate, circa 1920s to early 1930s	22C: 0.5 mi southeast 37W: 0.7 mi southeast 50/51S: 0.2 mi east	Not Evaluated	Boggs 2009a
45KI955	Historic Public Works	22C: 0.5 mi southeast 37W: 0.7 mi southeast 50/51S: 0.2 mi east	Not Evaluated	Boggs 2009b
KI01030 *Lewis Hall Stone Staircase*	Historic Structure	22C: 0.4 mi northeast 37W: 0.5 mi northeast 50/51S: 0.6 mi northeast	Not Evaluated	Gilpin 2011

2.2.2.1 Alternative Site 22C

Alternative Site 22C is in the near vicinity (within 0.5 mi) of five recorded archaeological sites (Table 2-2). Site Number 45KI957, the UW Greenhouse Site, is just 0.1 mi to the south. It is a precontact lithic scatter located on an eroded slope overlooking the Burke-Gilman Trail. Materials observed included two lithic quartzite flakes and a chert projectile point mixed with historic-era debris (iron fragments, hardware, gardening tags, and ceramic sherds). The context was thought by the recorders to have been redeposited during construction of the railroad grade of the modern Burke-Gilman Trail (Louderback and Jolivette 2009).

Other sites within 0.5 mi of Alternative Site 22C date to the historic-era. Historic-period sites include the University Landfill Site 45KI1201, a currently abandoned landfill on 166 acres of reclaimed marshland, which operated between 1926 and 1966. It was capped with fill in 1973 and now is the site of recreational fields, facilities, and parking for the UW (Lockwood 2014). Historic-era isolate 45KI952 was an amber glass bottle dating to the 1920s or 1930s that was found during construction excavation in redeposited fill dirt at approximately 4 feet below ground surface (Boggs 2009a). In the same general location as 45KI952, the remnants of an abandoned wood stave pipeline and associated metal pipeline were identified as Site 45KI955. The pipe is probably associated with the sewage system constructed in Seattle during the early 1900s, as its trajectory was downhill toward Hudson Bay (Boggs 2009b).

2.2.2.2 Alternative Site 37W

There are three sites recorded within 0.5 mi of Alternative Site 37W (Table 2-2). Precontact sites include 45KI957, the UW Greenhouse Site, described above, and Site 45KI1181, which was an isolated basalt flake located along the Burke-Gilman Trail (Stevenson 2013).

Approximately 0.5 mi to the northeast is Site 45KI1030, the Lewis Hall Stone Staircase. This was a structural remnant of a 1920s construction at the north end of the UW campus (Gilpin 2011).

2.2.2.3 Alternative Site 50/51S

Five sites are recorded within 0.5 mi of Alternative Site 50/51S. These include several discussed above, including the UW Greenhouse Site 45KI957 (Louderback and Jolivette 2009), the University Landfill Site KI1201 (Lockwood 2014), amber glass bottle isolate 45KI952 (Boggs 2009a), and historic-era pipe structure Site 45KI955 (Boggs 1990b).

Also, approximately 0.5 mi to the southeast of the Alternative Site 50/51S AI is the Miller Street Dump, Site 45KI760. This historic-era site included a diverse collection of domestic and construction debris as well as some human remains. The stratified 4-meter-thick deposit dated to the 1910s or 1920s (Kiers 2007).

2.2.3 Historic-Era Cemeteries

No historic-era cemeteries were identified within 0.5 mi of any of the Alternative Sites. The nearest is the Calvary Cemetery, located between 1 and 1.2 mi to the northeast of all the Alternative Sites (DAHP 2016a). A number of Civil War veterans are buried here, and the earliest recorded burial was 1891.

2.2.4 Historic-Era Buildings, Structures, and Objects

Alternative Sites 22C and 37W each include Washington Heritage Register (WHR) and/or National Register of Historic Places (NRHP) -eligible or -listed resources. Alternative Site 50/51S includes no previously recorded WHR- or NRHP-eligible or listed resources (DAHP 2016b). No buildings within the proposed Alternative Sites were found to be listed on the City of Seattle's List of Historic Landmarks (DON 2016).

2.2.4.1 Alternative Site 22C

In July 2008, DAHP determined that Architecture Hall (also known as the Fine Arts Pavilion) was eligible for listing in the NRHP. It was listed on the WHR in 1971 (DAHP 2016b). No other buildings within the AI for Alternative Site 22C were previously evaluated by DAHP for listing in the NRHP.

2.2.4.2 Alternative Site 37W

In July 2008, DAHP determined that one building, the former Columbia Lumber Company building at 3935 University Way NE, was eligible for listing in the NRHP (DAHP 2016b). A second building, the College Inn at 4000 University Way, was listed in the NRHP in 1982. No other buildings within the AI for Alternative Site 37W were previously evaluated by DAHP for listing in the NRHP.

2.2.4.3 Alternative Site 50/51S

In January 2013, DAHP determined that the Washington Medical Center and the Warren G. Magnuson Health Sciences Center were not eligible for listing in the NRHP (DAHP 2016b). No other buildings within the AI for Alternative Site 50/51S were previously evaluated by DAHP for listing in the NRHP.

2.2.5 Historic-Era Map Research

2.2.5.1 Alternative Site 22C

General Land Office (GLO) plats

A historic nineteenth-century plat from 1856 created by the United States Geological Survey (USGS) General Land Office (GLO) depicts no features in the area of Alternative Site 22C. The closest cultural feature is the Native American overland trail used to travel between Portage Bay (Lake Union) and Lake Washington, which runs through the UW campus (BLM GLO 1856). A USGS land classification sheet produced from an 1887 survey shows the future UW campus to be "cut areas not restocking" (USGS 1890). This is likely in anticipation of further development by the burgeoning city of Seattle.

Sanborn Fire Insurance Maps

1905: The UW campus was not included on Sanborn Fire Insurance maps prior to 1905. Page 463 of the 1905 Sanborn map details nine buildings on campus, including today's Denny, Lewis, and Clark Halls, but no buildings within Alternative Site 22C (Sanborn 1905).

1909: A 1909 Sanborn map for the grounds of the Alaska-Yukon-Pacific Exposition (AYPE) provides a detailed record of the building and landscape plan for the World's Fair. The map includes the Fine Arts Pavilion (today's Architecture Hall) in its present location within the AI for Alternative Site 22C. Two buildings, the American Women's League Building and the Masonic Building, were located at the present site of Guthrie Annexes 1, 2, and 3 (Sanborn 1909).

1919: The 1919 Sanborn Map shows that some of the buildings in Alternative Site 22C remained in place after the AYPE. The Fine Arts Building was identified as Meany Hall and included "chemical laboratories." The American Women's League Building was either being used as, or had been replaced by, the "Practice Cottage," presumably used by the Home Economics Department; and the

Masonic Building was by then either replaced by or used as the "Psychological Clinic" (Sanborn 1919).

1950: The 1950 Sanborn Fire Insurance Map depicts the Fine Arts Building, which was still identified as "chemical laboratories." To its west, Guthrie Annex 1 was labeled as the "relief building." Guthrie Annex 2 was labeled "Nurses Education." Guthrie Annex 3 was labeled "Home Economics." A building between Guthrie Annexes 1 and 2 was labeled "the Practice Cottage." Guthrie Annex 4 had not yet been built (Sanborn 1950).

University of Washington Campus Plans

Maps and plans of the UW campus have been collected by the UW and made available through Special Collections and through archived collections of memorabilia, including campus catalogs published biannually. Maps are available from the 1890s through the 1980s. A comparison of available maps shows that development in the central campus predated development along the western and southern edges of the campus.

The oldest building within the proposed AI remains the Fine Arts Building, or Architecture Hall, which dates to 1909. Other resources, including the northern wing of today's Guthrie Annex 1, were developed in association with the Naval Training Camp established on the south campus during World War I. Other portions of Alternative Site 22C were developed by the Home Economics Department near the mid-century.

2.2.5.2 Alternative Site 37W

General Land Office (GLO) plats

A historic nineteenth-century plat from 1856 created by the USGS GLO depicts no features on Alternative Site 37W. The closest cultural feature is the Native American overland trail used to travel between Portage Bay (Lake Union) and Lake Washington, which runs through the UW campus (BLM GLO 1856). A USGS land classification sheet produced from an 1887 survey shows the future UW campus to be "cut areas not restocking" (USGS 1890). This is likely in anticipation of further development by the burgeoning city of Seattle.

Sanborn Fire Insurance Maps

1905: In 1905 the lands west of 15th Ave. NE on Alternative Site 37W included a mix of residential and commercial uses, including lumber sheds along today's University Way, but development was inconsistent in the AI (Sanborn 1905).

1919: West of the campus boundary, residences and rooming houses lined 15th Ave. NE. Farther west, on today's University Way NE, dwellings were interspersed with commercial and industrial buildings, including woodworking shops and an automobile service garage (Sanborn 1919).

1950: In 1950 dwellings continued to line the western side of 15th Ave. NE. University Way NE had grown increasingly commercial, with dwellings on the east side of the street and businesses including the Potlatch Lumber Company, office buildings, a plumbing supply business, and an automobile service station on the west side of the street (Sanborn 1950).

University of Washington Campus Plans

Buildings along University Way were not originally part of the campus until after 1962. Some buildings in Alternative Site 37W predate their use as university buildings.

2.2.5.3 Alternative Site 50/51S

General Land Office (GLO) plats

A historic nineteenth-century plat from 1856 created by the USGS GLO depicts no features within Alternative Site 50/51S. The closest cultural feature is the Native American overland trail used to travel between Portage Bay (Lake Union) and Lake Washington, which runs through the UW campus (BLM GLO 1856). A USGS land classification sheet produced from an 1887 survey shows the future UW campus to be "cut areas not restocking" (USGS 1890). This is likely in anticipation of further development by the burgeoning city of Seattle.

Sanborn Fire Insurance Maps

1905: No buildings were located in Alternative Site 50/51S (Sanborn 1905).

1909: Alternative Site 50/51S was partially developed as the "Pay Streak," a pathway flanked by "Oriental Village and the Streets of Cairo" to the west and "Igorrote Village" with "all buildings palm thatched" to the east (Sanborn 1909).

1930: In 1930, additional Sanborn maps included details of the southern campus, noting the construction of an armory and Reserve Officers' Training Corps (ROTC) offices on the site of the former "Oriental Village" and a golf course on other portions of Alternative Site 50/51S (Sanborn 1930).

1950: The southern end of campus had also been developed, with the first of many large medical and dental buildings on the site of today's Magnuson Center, the Showboat Theater on the bank of Lake Union, and laboratories, including the Oceanographic Laboratory, in place (Sanborn 1950).

2.2.5.4 University of Washington Campus Plans

The southern section of campus was primarily developed post-World War II, although buildings including the Harris Lab remain from the early years of the twentieth century.

2.2.6 DAHP and UW Predictive Models

The DAHP predictive model for archaeological sites is based on statewide information, using large-scale factors. Information on geology, soils, site types, landforms, and from GLO maps was used to establish or predict probabilities for archaeological resources throughout the state. The DAHP model uses five categories of prediction: Low Risk, Moderately Low Risk, Moderate Risk, High Risk, and Very High Risk.

Additionally, the UW contracted HRA to develop a campus-specific archaeological predictive model to assist with planning and development (Stevenson and Frazier 2016). This model weighted factors, including slope, distance to water, geology, previously recorded sites, previous surveys, the native shoreline, and campus features, to generate a predictive model specific to the UW campus. Ground disturbance associated with the construction of the campus are factored into the HRA model.

2.2.6.1 Alternative Site 22C

The DAHP predictive model map indicates that Alternative Site 22C is in an area of High Risk for the discovery of archaeological resources. The HRA model predicts a low to medium probability for encountering cultural resources, due to the inclusion of campus construction in the model.

2.2.6.2 Alternative Site 37W

The DAHP predictive model map indicates that Alternative Site 37W is in an area of High Risk for the discovery of archaeological resources. The HRA model predicts a low to medium probability for encountering cultural resources, due to the inclusion of campus construction in the model.

2.2.6.3 Alternative Site 50/51S

The DAHP predictive model map indicates that the Alternative Site 50/51S AI is located in a Very High Risk area, based on its proximity to the shoreline. The HRA model predicts Alternative Site 50/51S to be in an area of low probability, due to the inclusion of campus construction in the model.

2.2.7 University of Washington As-Built Drawings

HRA examined as-built drawings of the building properties in order to determine the amount of subsurface disturbance that was entailed in their construction, specifically in the form of foundations, subfloors and basements.

2.2.7.1 Alternative Site 22C

For Alternative Site 22C, basements appear in the drawings for Guthrie Annex 3, and the Institute of Religion, Church of Jesus Christ of Latter-Day Saints at 3925 15th Ave. NE.

2.2.7.2 Alternative Site 37W

Within Alternative Site 37W, basements are depicted on the Purchasing and Accounting Building at 3917 University Way NE and the Behavior Research and Therapy Clinic at 3935 University Way NE properties.

2.2.7.3 Alternative Site 50/51S

Subsurface construction took place on behalf of the existing parking at this location.

3. Environmental Context

This chapter provides a brief overview of the local environment, including historic modification to this landscape and natural resources. Conditions of the local environment, including geology, climate, flora, and fauna, play a major role in the way people will have used the landscape in the past. This environmental context will be used to develop expectations for this Project, as outlined in Section 5.

3.1 Topography and Geology

The Alternative Sites are situated within the Southern Puget Sound Basin, which is a portion of the Puget Trough Physiographic Province (Franklin and Dyrness 1973). The north–south trough of the Puget Lowland separates the Olympic Mountains to the west from the Cascade Range on the east. The lowland was carved out during the last major glaciation of western Washington which ended approximately 16,000 years before present (B.P.) (Alt and Hyndeman 1995; Booth et al. 2004; Dethier et al. 1995; Easterbrook and Rahm 1970:49; Galster and Laprade 1991:249). As glaciers retreated, they left thick sediment deposits. This sediment forms the parent material of many soils throughout this part of King County, including those of the AI (Snyder et al. 1973). Surface sediments in the Alternative Sites are glacial till deposited during the Vashon Stade of the last major glaciation (Booth et al. 2009). As glaciers retreated, the land on which they rested began to rebound. Only then, would they have become available for colonization by plant and animal communities as the climate began to ameliorate.

The Alternative Sites are located on the southern and western portions of the UW campus. Alternative Site 50/51S is at the south end of campus, less than 0.1 mi from the modern day shoreline of Portage Bay. Alternative Sites 22C and 37W are on the west side of the campus, approximately 0.17 mi from the Portage Bay. Water levels along Portage Bay and the Montlake Cut have been altered in the Euroamerican period by the excavation of a connection canal between Portage Bay and Union Bay. These projects began as early as 1861 and were completed by 1916. Once completed, the result was a lowering of the level of Lake Washington approximately 10 feet to the level of Lake Union. This project exposed marsh land on the northern and southern shores of Union Bay and altered the drainage patterns of the Black and Cedar Rivers (Blukis Onat et al. 2005).

3.2 Climate and Vegetation

Between approximately 13,000 and 12,000 years ago, the region had a much cooler and drier climate, which supported an ecosystem characterized by lodgepole pine (*Pinus contorta*), sedges (*Cyperaceae* sp.), sage (*Artemisia*), and a variety of grasses and herbs. After 12,000 years ago, the climate warmed while continuing to dry, and Douglas fir (*Pseudotsuga menziesii*), western hemlock (*Tsuga heterophylla*), and red

alder (*Alnus rubra*) joined the developing parkland forest. By around 6,000 years ago, the climate of the region had cooled and moistened to levels comparable to today's maritime regime, producing the current western hemlock (*Tsuga heterophylla*) vegetation zone. Presently, uplands are moderately to heavily forested with Douglas fir (*Pseudotsuga menziesii*), western hemlock (*Tsuga heterophylla*), and western red cedar (*Thuja plicata*). Red alder (*Alnus rubra*) and big-leaf maple (*Acer macrophyllum*) represent secondary species in forested habitats and are dominant in disturbed areas (Barnosky 1984; Barnosky et al. 1987; Brubaker 1991; Whitlock 1992).

3.3 Fauna

During the late Pleistocene, western North America would have provided habitat for a number of animal taxa not found in the region after about 11,000 B.P. (Gilmour 2011). These animals would have done well in the developing forested parkland environment in the Puget Sound region, which would have provided food for both grazers and browsers and, in turn, food for large carnivores. Climatic changes undoubtedly reduced the habitat for these animals, leading to their eventual extinction across the North American landscape.

Throughout the Holocene, and prior to extensive Euroamerican influence in the area, larger terrestrial mammals would have included elk (*Cervus elaphus*), deer (*Odocoileus* spp.), black bear (*Ursus americanus*), coyote (*Canis latrans*), and mountain lion (*Felis concolor*) (Johnson and Cassidy 1997). Smaller mammals that inhabited the area included snowshoe hare (*Lepus americanus*), raccoon (*Procyon lotor*), and beaver (*Castor canadensis*) (Kruckeberg 1991; Larrison 1967). Avifauna found in the Puget Sound region include raptors such the bald eagle (*Haliaeetus leucocephalus*) and waterfowl (*Aix* and *Anas* species). Freshwater fish including trout (*Salmo* sp.), suckers (*Castomidae* spp.) and minnows (*Gila* sp.) would have been readily available in in Lake Washington and Lake Union. Pacific salmon and trout (*Onchorhynchus* spp.), including land locked Kokanee (*O. nerka*), would have also been readily available in the region and from waterways near the Alternative Sites (Berge and Higgins 2003; WDFW 2012). Freshwater mussels (*Unionidea*) are found in Lake Washington and Lake Union (Xerces 2010).

4. Cultural Context

This chapter provides a brief overview of nearly 14,000 years of human occupation in North America, focusing specifically on western Washington and the Puget Sound area where possible. The history of human occupation and land use in an area forms the basis for understanding what types of archaeological sites may be encountered during a project.

4.1 Precontact Background

The current understanding of Pacific Northwest precontact lifeways is derived from the archaeological record, which is constantly changing as newer finds increase our knowledge. How archaeologists see archaeological data is conditioned by natural and cultural factors leading to selective preservation (Schiffer 2002). New discoveries can either challenge or reinforce prior theories of human cultural development (Trigger 2008).

Investigators have proposed a variety of chronologies for the region's archaeological record (e.g., Ames and Maschner 1999; Kidd 1964; King 1950). Ames and Maschner's (1999) chronology is used in this document to structure discussion of precontact archaeology and infer past lifeways. The chronological sequence is divided into three basic developmental periods: Paleoindian, Archaic, and Pacific. The archaeological evidence from these periods suggests a gradual shift from small nomadic groups relying on generalized hunting and gathering to larger sedentary groups with increased social complexity and specialized reliance on marine and riverine resources (Ames and Maschner 1999). The archaeological record in this region documents a shift from foraging to collecting strategies (Binford 1980) and cultural change from small, mobile populations toward the semi-settled patterns observed ethnographically.

4.1.1 Paleoindian (~12,500 B.C. to 10,500 B.C.)

The Paleoindian period is characterized as the earliest phase of human occupation. Both Clovis and pre-Clovis waves of in-migration are currently recognized (Madsen 2004). Evidence for late Pleistocene occupation of western North America comes from a small number of archaeological sites, including Paisley 5-miles Cave in Oregon (Gilbert et al. 2008) and sites on California's Channel Islands (Erlandson et al. 2011). Mounting evidence (e.g., Dillehay et al. 2008) suggests that occupants of the New World exploited both marine and terrestrial environments, contrary to long held hypotheses (e.g., Martin 1967).

The earliest occupants of the Americas were nomadic, large-game hunters who left minimal trace in the archeological record. Evidence for late Pleistocene occupation of western North America comes from a small but growing number of archaeological sites, including Paisley 5-miles Cave and Fort Rock Cave in Oregon (Gilbert et al. 2008) and sites on California's Channel Islands (Erlandson et al.

2011). Data from these sites have reinforced the idea that these first inhabitants of the region lived in small groups, were probably highly mobile, and followed the migration patterns of animals across the landscape.

Other early western Washington sites dating to this period include the Manis Mastodon Site (45CA218) near Sequim, and Site 45KI839 on Bear Creek in Redmond. The Manis Site dates from roughly 11,800 B.P., and consists of the remains of a mammoth found in a peat bog with a human-made bone point lodged in a rib fragment (Waters et al. 2011). Site 45KI839 dates from approximately 10,000 to 12,000 B.P., and consists of a highly diverse stone tool kit (Kopperl et al. 2010). This site has been interpreted as a short term occupation site and has yielded evidence of mammal, fish, and plant exploitation. Western Stemmed points, as well as the more famous Clovis points, are not uncommon in sites across Washington State (Beck and Jones 2010; Osborne 1956).

4.1.2 Archaic (10,500 B.C. to 4400 B.C.)

Sites dating to the Archaic period, especially prior to 5000 B.P., are rare, at least in part because of natural processes, like sea level rise, which have undoubtedly obscured sites that are currently underwater. The current view of this period is generally one of stasis, but this is likely at least partially conditioned by the rarity of sites dating to this period.

The most discussed sites dating to the Archaic period are often referred to as Cascade or, locally, "Olcott" sites (Kidd 1964). These sites typically lack good absolute dates, are highly disturbed, are located near rivers, and contain expedient tools such as scrapers, flaked cobbles, and debitage in addition to large lanceolate projectile points (Chatters et al. 2011; Dancey 1969; Kidd 1964; Morgan 1999; Stilson and Chatters 1981). A number of Archaic period sites have been recorded in King County. Greengo and Houston (1965) excavated the Marymoor site, located in Marymoor Park, during the 1950s. This site yielded a large array of Archaic period artifacts, including large projectile points, modified cobbles, and microblades. The earliest component of the West Point site complex, located in Seattle's Magnolia neighborhood, also falls into the Archaic period (Larson and Lewarch 1995).

4.1.3 Pacific (4400 B.C. to A.D. 1775)

Based on the archaeological record, the Pacific period is the most culturally dynamic precontact period in the Pacific Northwest (Chatters 1987; Larson and Lewarch 1995; Lewarch 2006). Over time, changing technologies and site locations suggest increased sedentism and specialization in the use of particular environments and resources (Ames and Maschner 1999). During this period, evidence of exploitation of the littoral environment increases, and shell middens become a prominent site type across Puget Sound. After about 5000 B.P., populations on or near the Puget Sound coast grew and became more complex in organization. Technological organization and subsistence practices became increasingly complex during the Pacific period as well. During this period, there is apparent increasing emphasis on the use of plants including berries and root-

vegetables (Elder and Sparks 2010). Social stratification and inequality, a hallmark of Northwest coast cultures, is thought to be less pronounced in the Puget Sound than in other parts of the Pacific Northwest; however, objects like labrets, indicative of social stratification, do appear in the Pacific period in the Puget Sound at sites like West Point (45KI248) (Larson and Lewarch 1995). By shortly after 2500 B.P., a variety of bone, chipped stone, and groundstone artifacts represent coastal marine-oriented cultures and inland hunting/fishing/gathering cultures (Ames and Maschner 1999; Nelson 1976, 1990).

Shell midden sites dating to the past several thousand years have been recorded in and around the Puget Sound area. The most well studied shell middens are found around Seattle. The West Point Sites (45KI428 and 45KI429), located at Discovery Park in West Seattle, have been interpreted as long-term camping and food-processing activity areas (Larson and Lewarch 1995). Five distinct cultural components indicate use of the sites between 4200 and 200 B.P. These sites included a number of personal items, including beads, bracelets, and labrets, which may be related to developing social inequality in the region (Ames and Maschner 1999). The West Point sites also yielded a highly diverse tool kit, including bone as well as ground and chipped stone implements used for capturing and processing prey (Larson and Lewarch 1995). The highly diverse faunal assemblage includes sea mammals, fish, terrestrial mammals, birds, and shellfish, indicating exploitation of a number of available niches.

4.2 Ethnographic Background

The Alternative Sites are located within the traditional territory of the Duwamish Indians, members of the Coast Salish cultural group that spoke Southern Lushootseed (Suttles 1990). The Duwamish traditionally lived in winter villages on the shores of Elliott Bay, Salmon Bay, Lake Washington, and Lake Union, as well as along the Black, Cedar, and Duwamish Rivers (Ruby and Brown 1992; Stevens 1854; United States Court of Claims 1927). Ethnographer T. T. Waterman (in Hilbert et al. 2001:15–16), who worked in the Puget Sound region during the 1920s, pointed out that the Duwamish, like other groups, identified themselves in relation to their local geography. For example, a group who lived in the vicinity of the Alternative Sites identified themselves as the *Xa^{3}tcua'bc* (Waterman orthography), or "people of the small lake." While this distinction is taken into account ethnographically, these groups have historically been grouped into a larger entity (the Duwamish) based on shared culture and language.

Ethnographic and archaeological evidence suggests that the Salish Lushootseed-speaking Duwamish, whose name means "inside [the bay] people," practiced their life way of hunting, fishing, and gathering for centuries before contact with white settlers (Hilbert et al. 2001). Duwamish settlement and subsistence were inextricably linked throughout the year.

The Duwamish, like other Coast Salish groups, spent the majority of the winter inside large longhouses made from cedar planks that had shed-style roofs, which Waterman and Greiner (1921)

note were common among tribes around the Sound. These houses could be hundreds of feet long, providing room for very large extended families and much of the food they would need for the cold months. The houses were often arranged into villages of two to five structures. The Duwamish occupied extended family villages and established a flexible system of intermarriage with the surrounding peoples, including the Sammamish and Snohomish (Ruby and Brown 1992). Winter was spent engaged in storytelling and ceremonial performances (Amoss 1972).

During spring, fall, and summer, people from the winter villages dispersed to hunt, fish, and gather plant foods for immediate consumption and winter storage (Buerge 1984; Haeberlin and Gunther 1930). Summer camps usually consisted of small, temporary reed or grass-mat structures occupied by a single family, although several families might join together to build a larger mat house (Haeberlin and Gunther 1930; Suttles 1990; Suttles and Lane 1990). Upland forested environment not only attracted and supported deer and elk populations for hunting, but likely also provided a variety of plant resources such as berries, nuts, and root foods.

T. T. Waterman (Hilbert et al. 2001) identified several Duwamish ethnographic place names in the vicinity of the Alternative Sites (Figure 4-1). These include two "Indian Trails," or ***sùac¢¨ï¿***, which are depicted on the 1856 GLO map. These connected Lake Washington and Lake Union. These trails are both likely canoe portage routes and are evidence of the transportation corridor stretching between Shilshole Bay and Lake Washington (BLM GLO 1856; Miller and Blukis Onat 2004:70).

4.2.1 Alternative Site 22C

Within 0.5 mi of Alternative Site 22C, Waterman recorded one trail and two named locations. The trail runs approximately 0.2 mi south of this Alternative Site. Approximately 0.3 mi to west is a location called ***waßwaßab***, where a small creek drains into Portage Bay. This name is translated as "like a frog" (Hilbert et al. 2001). Along the Portage Bay shoreline, approximately 0.4 mi south, Waterman's informants identified a small hill as ***sçicqs***, meaning "down river promontory." This is now the location of the UW Boathouse.

4.2.2 Alternative Site 37W

The same ethnographically recorded place names occur in within 0.5 mi of Alternative Site 37W as were described for Alternative Site 22C.

4.2.3 Alternative Site 50/51S

Within 0.5 mi of Alternative Site 50/51S, Waterman recorded the same named locations described above and included the second trail discussed above, located approximately 0.4 mi to the south of Alternative Site 50/51S.

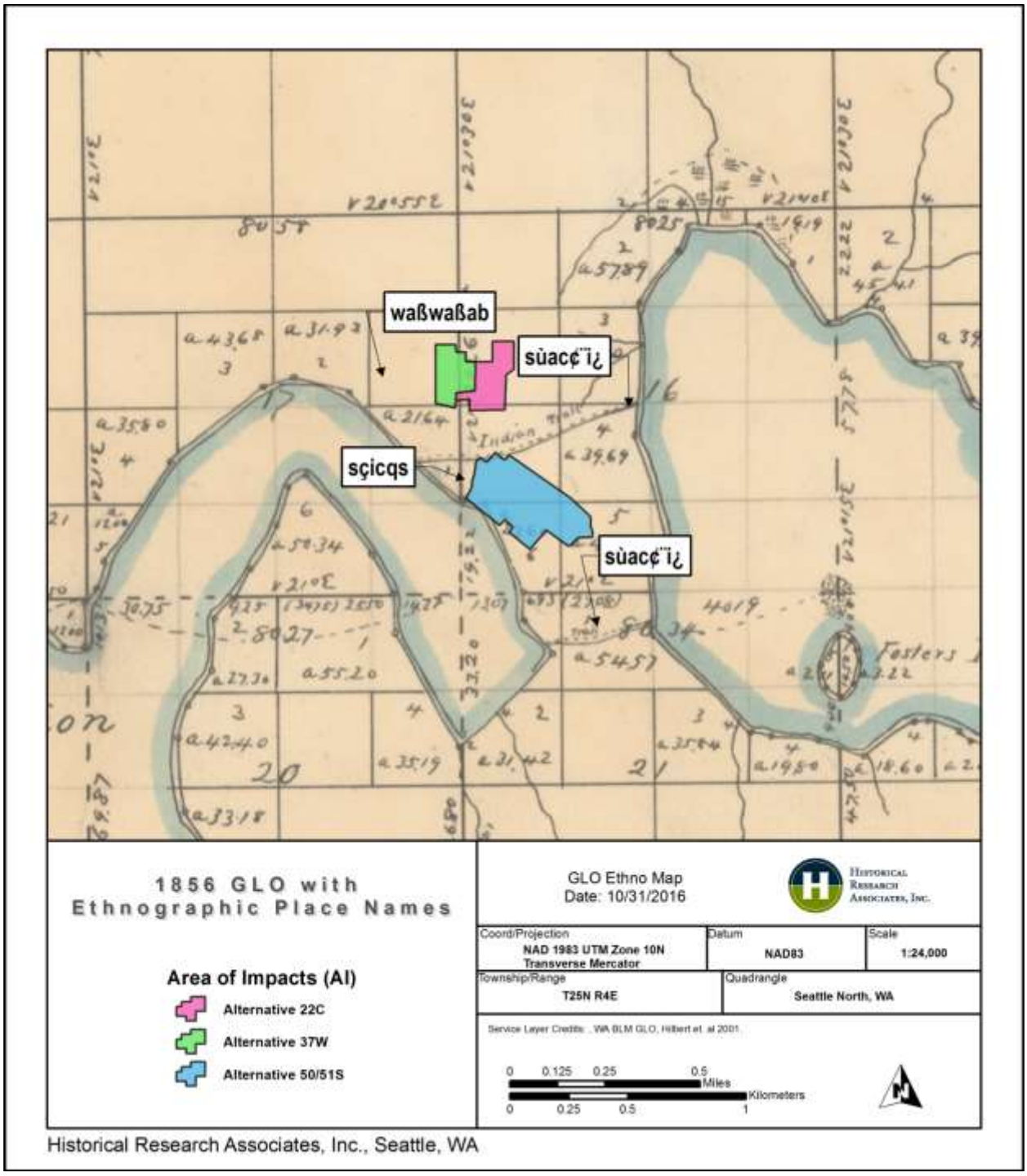

Figure 4-1. Native American place names in the vicinity of each Alternative Site (BLM GLO 1856; Hilbert et al. 2001).

5. Historic Context

5.1 Seattle and the University of Washington

European visitation to the Puget Sound region began in 1792 when George Vancouver and his crew explored the region. Within the next 100 years, native populations would plummet due to repeated outbreaks of introduced diseases such as small pox, influenza, and typhoid fever (Boyd 1990; Suttles and Lane 1990). Fort Nisqually, located approximately 40 mi southeast of the Duwamish headwaters, was established as a trading post by the Hudson's Bay Company in 1833. The Treaty of Washington in 1852 conveyed the territory to the United States, and in 1853, Congress separated the Oregon and Washington Territories. The Donation Land Claim Act drew settlers into land occupied by the Duwamish and their neighbors. In 1855, members of the Duwamish and neighboring Puget Sound tribes signed the Treaty of Point Elliott, which provided for the removal of tribal members to reservations, including the Port Madison Reservation (Suquamish/Fort Kitsap). Some Duwamish people continued to live in and around Seattle, maintaining friendly relations, working for, and trading with incoming settlers. Many others, meanwhile, relocated to the Port Madison Reservation, but due to undesirable conditions were compelled to leave. Many then attempted to return to their ancestral lands, and a few were able to claim or purchase land (Ruby and Brown 1992; Thrush 2007).

The first Euroamerican settlers in the Seattle vicinity were the Denny Party, who arrived in 1851 (Bagley 1929). As early as 1855, the territorial legislature passed an Act to establish a territorial university in Seattle, with a branch in Lewis County (WA SOS 1855). In 1861, the first university building was constructed on 10 acres of "Denny's Knoll," donated by Arthur A. Denny (8.5 acres) and Charles C. Terry (1.5 acres), which would eventually become Seattle's commercial downtown district. With lumber from Henry Yesler's mill and stone from a quarry near Port Orchard, the university's first buildings, including the main educational building, the president's home, and a boarding house, were completed in the summer of 1862 (Bagley 1916:136). The university struggled to secure appropriate funding and only graduated its first pupil, Clara McCarthy, in 1876. By the late 1880s, the population of Seattle had boomed from 1,100 in 1870 to over 40,000. The city needed a stable university and a major rail line with a transcontinental link; over the next decade, it would get both.

In 1885, the Seattle, Lake Shore & Eastern Railroad (SLS&E) Company became a corporation (Bagley 1929). The company formed as a result of the efforts of Thomas Burke, a local judge, and Daniel Gilman. Although Seattle was a vibrant city during the late 1880s, major railroad companies like the Northern Pacific Railway (NPRR) had yet to build a line through the town, having chosen the southern city of Tacoma as the western terminus for their transcontinental rail line in 1874. Gilman and Burke, along with others, saw this as an opportunity, and built the SLS&E line to connect the burgeoning city of Seattle to Canada. The new line reached the northern bank of Union

Bay in 1887, preparing the region for additional development. After years of dispute between NPRR and the city, the SLS&E line would eventually become incorporated into the NPRR line.

By 1890, the regents of the university wrote in their annual report to the governor that they would like to dispose of the university campus and choose a new site with more space that was somewhat removed from the center of Seattle's speeding development (Bagley 1916:146). In 1891, the legislature appointed Edmond S. Meany the chair of a new search committee. In February, Meany invited the legislature to join him on a visit to a pretty piece of land fronting Union Bay. The site was accepted, and the legislature established a new committee to site the university and sell the former site to the highest bidder (Bagley 1916:147).

William E. Boone was the first architect to develop a campus plan (Figure 5-1). While his plan was never realized, it illustrates hypothetical building placement and also appears to show that the campus was forested at the time of his design. Construction on the campus began with the building of Denny Hall in 1895, followed by at least seven more buildings, including Lewis and Clark Halls, the Observatory, the Assay Laboratory (now demolished), Water Tank (later Chimes Tower, demolished), Powerhouse (demolished), and the Armory and Gymnasium (Bagley 1929; Courtois & Associates 2003:2; Johnston 2001:1–4).

Over the next two decades, a succession of plans helped guide the growing campus. In 1898, Professor A. H. Fuller designed the Oval Plan for the upper campus. The lower campus remained devoted to pasture land. Fuller's plan drew together existing buildings and prepared for the construction of new buildings around a central oval. This plan influenced the location of the new Science Hall (Parrington), but was soon eclipsed by the Olmsted plans (UW Special Collections 2014).

At the turn of the century, the Olmsted Brothers, descendants of Frederick Law Olmsted, were already well known for their landscape designs. In 1903, they were invited to Seattle and asked to prepare a master plan for a citywide system of parks and boulevards. The Olmsted plan, which has continued to guide park development throughout Seattle, consisted of a 20-mi-long system of parks that featured trademark views and were connected by winding, scenic boulevards, along with new innovations in public recreation like playgrounds and ball fields. Their plan provided the young city of Seattle with a world class park system (Williams and Crowley 2001).

While the Olmsteds were planning the city's parks, enrollment at the UW was growing. In 1904, the administration invited the Olmsted Brothers to produce a new campus plan to replace Fuller's. Their plan converted the oval to an arts quadrangle and paired it with a science quadrangle to the south to accommodate a growing student body (UW Special Collections 2014). Between 1902 and 1906, the campus population doubled to more than 1,200 students (Ott 2009).

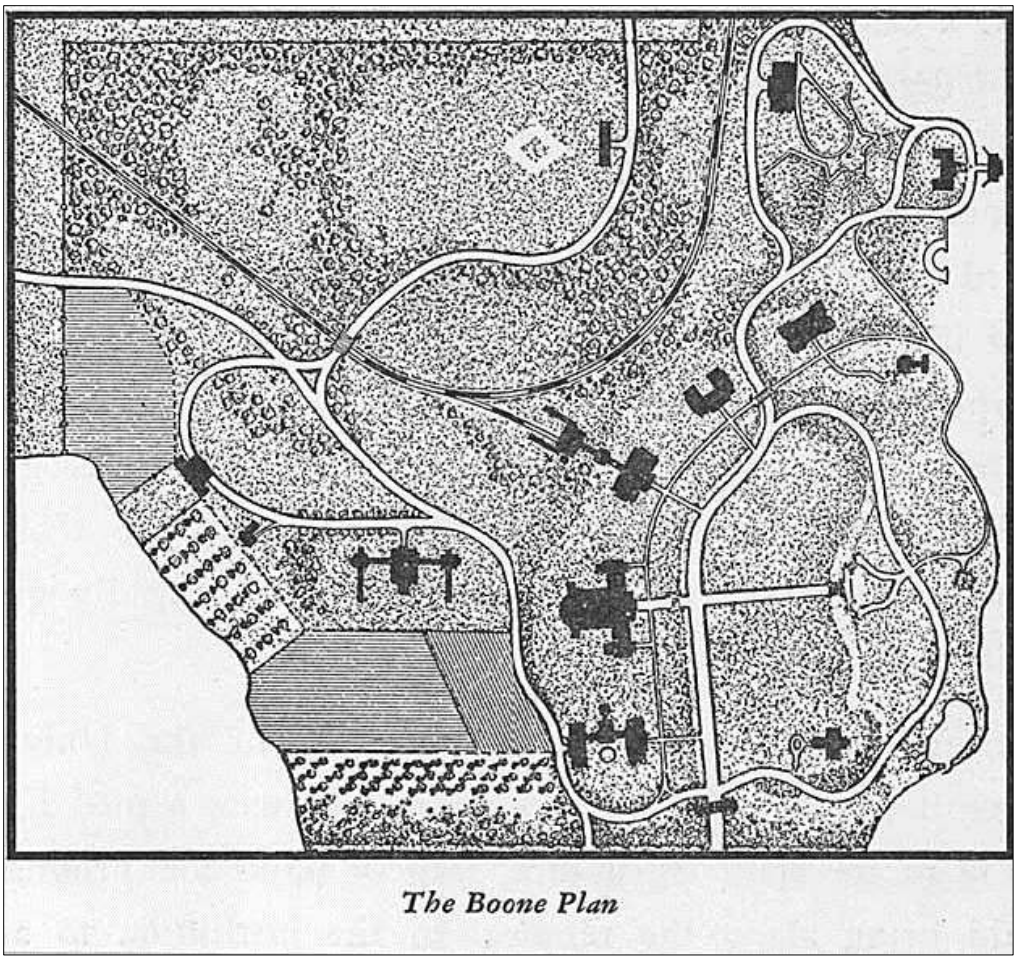

Figure 5-1. The Boone Plan of the UW Campus ca. 1890 (UW Special Collections 2014).

In the early years of the twentieth century, Seattle was also preparing to host the 1909 World's Fair, and the university's underdeveloped south campus was chosen as an ideal location. The Olmsteds were hired to prepare a new plan, this one to accommodate the fair and to site permanent buildings for the growing university to use after the fair closed (Bagley 1929; Courtois & Associates 2003). John C. Olmsted's 1906 plan became the design for the AYPE, as the 1909 World's Fair came to be known. The AYPE was planned for the southern portion of the UW campus, north of the NPRR line, where little previous development had occurred. The 1906 plan focused on major land clearing and construction of large open spaces, generally devoid of trees. Rainier Vista was developed under this plan and provided then, as it does today, breathtaking views of Mount Rainier. In order to create these unimpeded views and open spaces, the Olmsted plan required major land clearing efforts, including logging as well as extensive filling and grading. Nearly 210,000 cubic yards of soil were moved by men and horses during the development of Rainier Vista and the surrounding area. Some of this earth was used to fill low spots in the design area, but much of it was transported off site. The plan also called for extensive gardens, including 10,000 rhododendrons, 5,000 roses, and

80,000 dwarf phlox. To prepare for these plantings, Olmsted designed nursery grounds on 20 acres near the southern end of campus (Ott 2009).

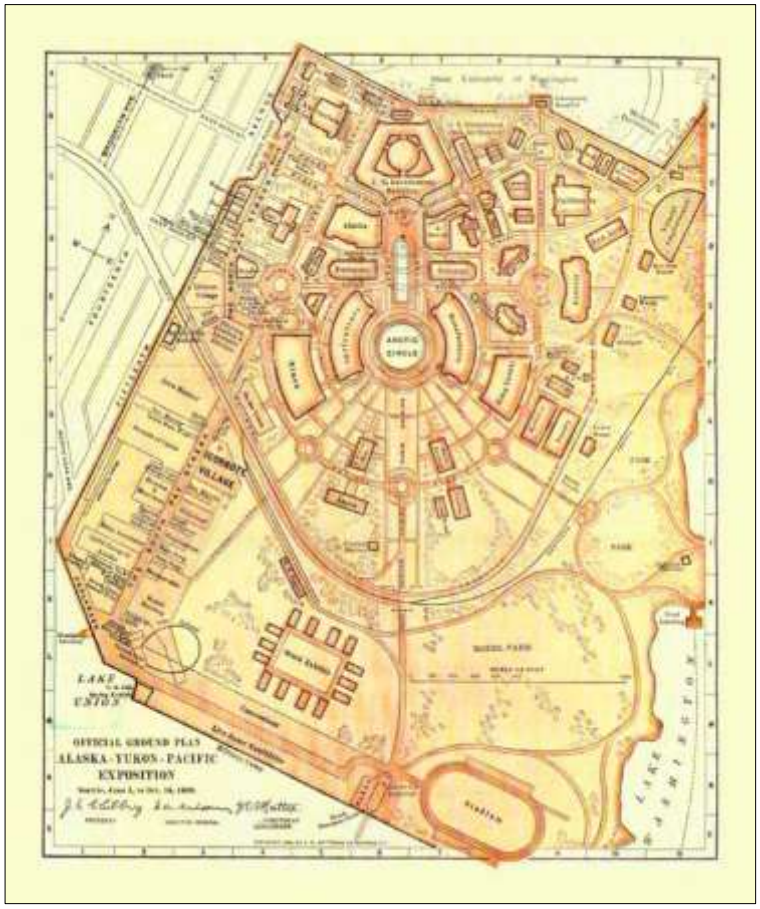

Figure 5-2. Official Ground Plan of the Alaska Yukon Pacific Exposition (UW Special Collections 2014).

The official map of the fairgrounds shows that portions of the southern campus were generally devoted to open space, with the Japan Building to the west of Rainier Vista and Stock Exhibits south of the railroad tracks, while development centered around Rainier Vista, which was canted to take in views of Mount Rainier (Figure 5-2).

The city of Seattle was growing alongside the university campus at this time. This growth came with a necessary expansion of public utilities to supply electricity, water, and sewer services to the buildings surrounding Lake Washington and Lake Union. In 1908, Seattle constructed an 8-foot-diameter sewer by tunneling roughly 20 feet below surface in the vicinity of East Pacific St. (Seattle Public Utilities 2013).

The AYPE, which attracted 3.7 million people, was considered a success for the region, but only a few buildings survived to be used as permanent campus buildings. The New York State Building was used both as the President's House and as the University's Music Building before it was demolished in 1950 (Johnson 2005). The AYPE's "Good Roads" building was converted to the university's Naval ROTC building. It was destroyed by fire in 1968 during the tumultuous Vietnam War era (Kopkind 1996:147). The Forestry Building, which was believed at the time of its construction in 1900 to be the largest log structure in the world, was also demolished (UW n.d.). Today, more than one hundred years after the exhibition, only four buildings remain: the Women's Building, now known as Cunningham Hall, which was recently moved; the old Fine Arts Building (Architecture Hall); the Physical Plant Office Building; and the Powerhouse. The landscape design, however, is still dominated by Rainier Vista and is visible in some of the curving roads and walkways throughout the campus.

The AYPE helped kick off an age of expansive university development, particularly in the southern portion of campus. In 1910, a group of alumni advocated to shrink the right-of-way held by the NPRR from 200 feet to 80 feet, freeing up more campus land. In 1912, the College of Engineering students and staff built a nine-hole golf course on the southern edge of campus (UW Alumni 1941). By 1914, the Olmsteds had designed another campus plan to help integrate the remaining AYPE resources and older campus buildings into a harmonious new design. The plan included still undeveloped sections of the southern campus, but was soon replaced by a plan designed in 1915 by the architectural firm of Bebb & Gould. The Bebb & Gould plan guided the next phase of university development (UW Special Collections 2014).

Other large projects were taking shape on the campus's borders. The locks of the Lake Washington Ship Canal were completed in 1916, lowering the level of Lake Washington. As one historian noted, "by this development the University campus was transformed from an isolated 'country estate' into a riparian property of shipping activity" (UW Alumni 1941).

The First World War changed the look and feel of the campus as the university devoted resources to the U.S. effort overseas. Lewis and Clark Halls were used as naval officers' hospitals, and new buildings supporting Army and Naval training bases were constructed on campus, including one built on the site of the former golf course (UW Alumni 1941). More than 5,000 military personnel went through naval or aviation training on campus before 1919. The war also took the lives of former students and faculty. Fifty-eight sycamore trees were planted along Memorial Way to memorialize those who died (UW Alumni 1941).

The University continued to expand in the 1920s and 1930s, sometimes with the help of federal relief programs during the Great Depression. The University's stadium was constructed in 1920, and in 1925, Charles Lathrop Pack donated 2,000 acres to the School of Forestry. In 1927, the Associated Students presented the university with 23 acres of land on the east side of campus.

A 1938 map shows how far the university had expanded since the Boone Plan (Figure 5-3). Note that Rainier Vista was bordered on the west by buildings that remain today, including the Anderson Hall Forestry Lab, Bagley Hall (labeled as the Community Building), and the "Drug Gardens," which was later known as the university's pharmaceutical herb garden. South of the NPRR and street car line, no evidence appears of the Warren G. Magnuson Health Sciences Center, although planning for the first medical building at this location dates to the 1934 campus plan revision (Jones & Binden 1949; UW 1938).

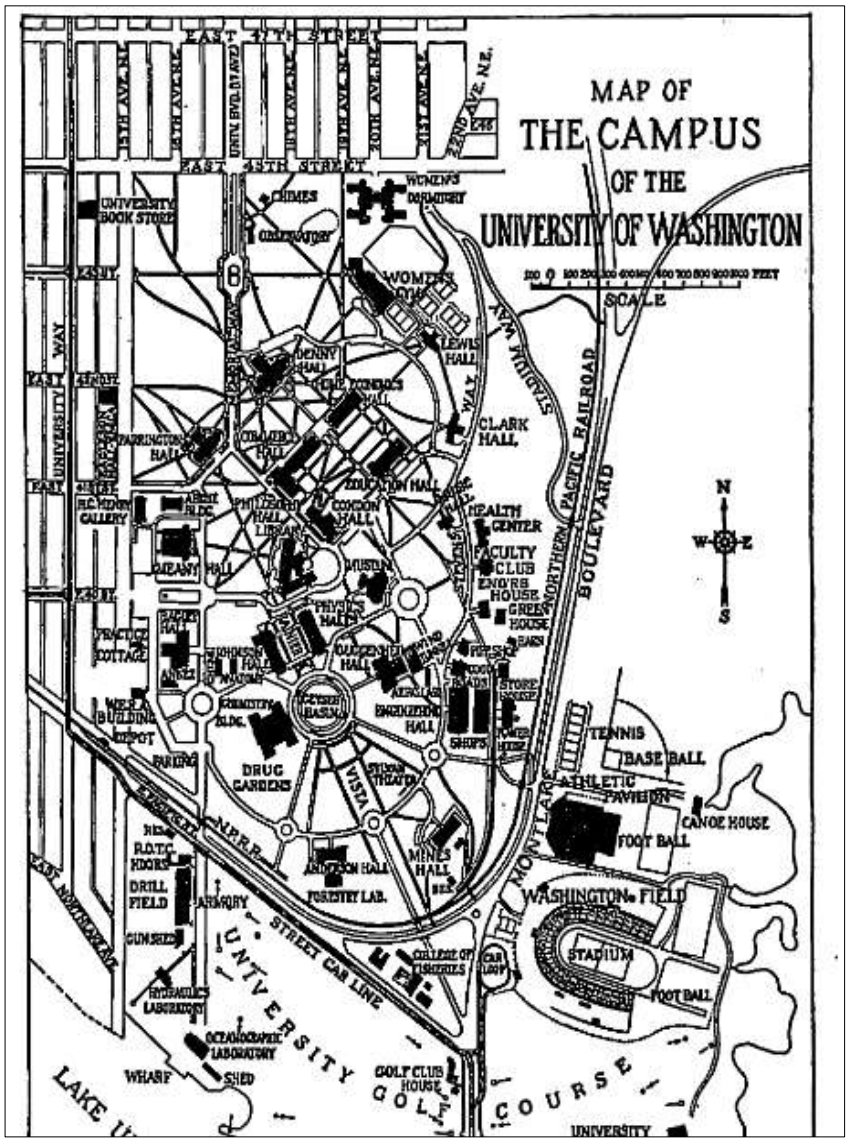

Figure 5-3. A map of the University of Washington campus from the 1938 General Catalog (UW 1938).

From 1941 to 1945, the U.S. participated in World War II, an effort that would leave lasting effects on the county and on campuses like the UW's. Washington's colleges first lost enrollment, which dipped to roughly 13,000 in 1943 as young men entered the military. At the end of the war, enrollment swelled as returning soldiers used the G.I. Bill to enter or return to college. By 1946, enrollment across all state colleges had grown to nearly 39,000. The UW struggled to meet the needs of its own growing population and made plans to expand. In 1948/1949, the UW prepared a new campus plan revision that proposed stretching the university grounds west past 15th Ave. NE to encompass the lightly developed lands that were, at that time, zoned commercial or light industrial. Also in 1949, the UW opened the Health Sciences Building, the first of its sprawling medical complex, with plans already in place to expand the building with an addition on the west and a new teaching hospital on the east (Jones and Binden 1949). In 1959, the University Hospital was opened. The complex would be renamed the Magnuson Health Sciences Center in 1978, when it was approximately a third of its current size (Tate 2012).

Architectural styles were changing after World War II, and landscape planning became increasingly important on the UW campus. In the 1950s, the UW established the University Architectural Commission and began preparing for a 1962 campus plan revision, bringing in noted modernists like Paul Thiry to consult on the 1962 plan, which would, among other things, replace the University's

Collegiate Gothic style with a modern aesthetic that matched trends in both architectural development and in the UW's own architectural school. In 1960, California landscape architect Lawrence Halprin was brought in to collaborate with Thiry and others on the campus plan revision, and in 1970, the UW established the University Landscape Advisory Committee (Johnston 1995:49–53).

New construction in the south campus developed quickly during the last half of the twentieth century. Between 1960 and 2003, 100 construction projects took place on campus, and many of them were constructed in the open spaces between buildings south of Frosh Pond. Benson Hall was constructed in 1966, Bloedel Hall was completed in 1971, Kincaid Hall in 1971, Hitchcock Hall in 1981, and the Chemistry Building in 1995 (Johnston 2001). Development has continued into the twenty-first century, with new student housing west of the central campus.

5.2 The Evolution of Architectural Style on Campus

The UW evolved through a number of distinct periods of development. The first campus building, Denny Hall, was constructed for the UW as it prepared to move from central Seattle to Portage Bay in 1895. It was designed by Charles W. Saunders, who won a design competition with his chateauesque plan for a building in a refined French Renaissance style. Denny Hall was constructed of sandstone with turrets flanking the entry, Richardson Romanesque arches, and a copper cupola. The cupola, designed by Gottlieb Weibell, still holds the original UW bell, which once announced the beginning of classes and was even employed to alert the city during the great Seattle fire of 1889 (Johnston 2001:18; Ochsner 2014:66). The building served as the UW's original Administration building.

The UW next constructed the Men's and Women's dorms, known today as Lewis and Clark Halls, in 1899. The twin buildings, each of which housed fifty students, were designed by Josenhans & Allan and complimented Denny Hall, employing a similar form and massing, although the ornament was more modest and the buildings were constructed of red brick. This solid construction would characterize the early years of the campus, but would give way to Beaux Arts classicism when the UW was taken over for the AYPE. Most AYPE buildings were temporary in nature, but today's Architecture Hall, designed by Howard & Galloway, remains, with its bilateral symmetry, temple front with Ionic pilasters and pediment over the entry, and buff-colored brick. While the AYPE left few buildings on campus, it is responsible for Rainier Vista, which has remained a defining factor in every successive campus plan.

In 1915, with the acceptance of Bebb & Gould's Regents Plan, a new campus "style" was adopted as a unifying aesthetic for all new construction. Evolved from a late nineteenth century Gothic revival, "collegiate Gothic" was found first in colleges like Bryn Mawr, Princeton, and then Yale (Whiffen 1999:174). At the UW, the highly ornamental style would allow for varied rooflines, light colors, and

elaborate detailing, all of which defined the university's next generation of buildings (Johnston 1995:32; UW Special Collections 2014).

As noted by author Norman J. Johnston, the Regents Plan was distinctive not only for its abilities to unite future buildings under a single architectural language, but to tie together two quadrangles: the liberal arts quad and the science quad (remnants of historical uses). It also provided landscapes spaces big and small and a skeleton of vistas, walkways, and axes for the development of the future campus.

> The outstanding example is Central Quad. From that space spring a number of axes that link it both functionally and visually with Liberal Arts Quad to the northeast, with Memorial Way and North Entrance due north, to views of the city and Olympics beyond via Campus Parkway to the west, and—most grandly—along the magnificent Rainier Vista to Science Quad in the southeast, Drumheller Fountain, and of course Mount Rainier beyond. [Johnston 2001:8]

The firm of Bebb & Gould would go on to design a total of 18 buildings between 1915 and 1938, including the iconic Suzzallo Library (Ochsner 2014:211). While the style would soon give way to modernism in a variety of forms, the collegiate Gothic style has remained influential, even until 1991, when Edward Larrabee Barnes and John M. Y. Lee & Partners designed the Allen Library, which, while constructed late in the twentieth century, was an extension of Suzzallo Library and designed to be both modern and compatible. The building's red brick, gables, and pinnacles represent a modest, modern representation of the collegiate Gothic style (Johnston 2001:38).

Modernism became a dominant force in campus construction beginning in the 1950s. Architects who graduated from the UW's architecture program either before World War II or shortly after began to form private practices, go into partnership with other modern architects, and push forward the ideals of sub-forms like Regionalism, Internationalism, New Formalism, and Brutalism in and around Seattle. New faculty brought in to grow the university's increasingly popular Department of Architecture included Jack Sproule, Robert Dietz, Norman Johnston, John Rohrer and others—all committed modernists. Norman Johnston, in his history of the UW, quoted a colleague saying "after World War II it became more difficult to consistently maintain that (collegiate-Gothic) rigid design control. 'The philosophies of modern architectural design did not accept eclecticism, and the university's role as a leader in teaching and research was not consistent with façade design and construction methods developed centuries earlier'" (Johnston 1995:50).

While Modernism is an umbrella term that encompasses a number of categories and subcategories, it is generally understood as a rebellion against the classicism and formalism of earlier styles, including collegiate Gothic. Finding new uses for flexible materials like concrete and aluminum, and a new interest in the geometric possibilities of those materials, modernists struck out for new ground, experimenting with shape and form, and the relationship between interior and exterior spaces. Some modern architects also felt a responsibility to use their work as a tool for social betterment. Speaking of modernism, author Owen Hopkins claimed that what we now think of as modernism "emerged from the conclusion that architecture should not only reflect the spirit of the modern age but also that it had a moral obligation to do so," as architecture has the "power to transform how people

lived, worked, and fundamentally, understood and responded to the world around them" (Hopkins 2014:148).

As modernism grew in popularity, the UW added buildings by architects like Paul Thiry, an internationally known Modernist and the principal architect for the Century 21 Exhibit, Seattle's second world's fair. He designed the Wilson Ceramic Laboratory, completed in 1946, and the Computer Sciences and Engineering Building, completed in 1972 and since demolished (Johnston 2001:100). Much of the new construction took place in the campus's southern and southwestern sections, and much of it was devoted to the UW Medical Center and Magnuson Health Sciences Center, which was begun by Naramore, Bain, Brady & Johanson (NBBJ) in 1948, and was expanded throughout the 1960s, 1970s, 1980s, and 1990s. NBBJ went on to build a number of buildings on campus, including the Marine Studies Building in 1984, Fluke Hall in 1990, and the Physics/Astronomy Building, completed in 1994.

While modernism was increasingly popular on the UW campus, it also became the dominant and much celebrated style of residential, commercial, and institutional architecture throughout Seattle and the West Coast. Architects themselves praised projects like the Yesler Terrace Housing Project as "good contemporary architecture," not only because of its modern design but because it incorporated private outdoor space, views, and play areas, thereby providing not just housing, but an improved quality of life. Tilt-up concrete walls, expanses of well-proportioned windows, and sandstone façade treatments were all popular with local architects of the early 1950s (Steinbrueck 1953:21). In 1953, local architect Victor Steinbrueck collected images of some of his favorite modern buildings in Seattle. Among the UW buildings, he featured the stadium addition, by George Wellington Stoddard, Paul Thiry's ceramics lab, mentioned above, and the "Home Economics Practice Cottage" by John R. Sproule (Steinbrueck 1953:42–43).

Today, the UW features many buildings designed by graduates of the UW's architecture program, including some included in the present study by Richard Anderson, John R. Sproule, and Robert M. Jones.

6. Expectations for Prehistoric, Ethnographic Period, and Historic Period Cultural Resources

6.1 Archaeological Expectations

Anticipated precontact materials could include fragments of fire-modified rock (FMR), either singly or in intact clusters (sometimes with charcoal and/or oxidized soils), indicating the presence of cooking or processing hearths; lithic and/or bone tools and tool fragments; and isolated bone tools and tool fragments.

Historic features and artifacts encountered would likely be associated with the SLS&E railroad and NPRR. Some artifacts associated with the AYPE or the U.S. Naval Training Camp may be encountered as well. Artifacts and features may include railroad spikes, brick, nails, glass and metal refuse, building foundations, and objects related to operation of the railway (e.g., portions of signals).

6.1.1 Alternative Site 22C

Based on archival research, the environmental and the cultural setting and available predictive modelling, HRA considers there to be a low to moderate probability for encountering precontact to ethnohistoric-period cultural remains in Alternative Site 22C. This is largely due to construction disturbance of the area during the historic and modern periods.

The likelihood of finding historic-period archaeological remains moderate, given the use of the location as a residential and transportation corridor early in the history of the development of Seattle and the presence of historic-period buildings

6.1.2 Alternative Site 37W

Based on the research described above, HRA considers there to be a low to moderate probability for encountering precontact to ethnohistoric-period cultural remains in Alternative Site 37W. This is due again to construction disturbance of the area during the historic and modern periods.

The likelihood of finding historic-era archaeological is considered to be moderate, given the use of the location for residences and as a transportation corridor early in the history of the development of Seattle and the presence of historic-period buildings

6.1.3 Alternative Site 50/51S

HRA considers there to be a low to moderate probability for encountering precontact to ethnohistoric-period cultural remains in Alternative Site 50/51S. This is due to construction disturbance of the area during the historic and modern periods.

The likelihood of finding historic-era archaeological is considered to be moderate, given the use of the location along the shoreline of Portage Bay, for travel and occupation during the early history of the City of Seattle, as well as the presence of historic-period buildings.

7. Field Strategy and Methods

7.1 Archaeological Inventory

The AIs are entirely covered with architecture. As such, no field survey or subsurface testing was recommended.

7.2 Architectural Inventory

As discussed in Section 2, prior to field investigations, architectural historian Chrisanne Beckner reviewed aerial photographs, historic maps, data from the WISAARD database, former survey reports, and archival materials from the UW to determine dates of construction for buildings, structures, and objects within the three proposed AIs. When dates of construction differed between sources in the historic record, Beckner relied primarily on dates published in the UW Master Plan, Seattle Campus (UW 2003).

Beckner performed architectural field survey on September 23 and October 7, 2016, documenting built resources within each of the three proposed AIs in photos and field notes. When possible, Beckner documented building interiors. However, not all interiors were accessible. Beckner completed additional research through the Seattle Public Library, UW Special Collections, Washington State Library, HRA's own libraries, online collections including newspaper archives, and the Puget Sound Regional Archives.

8. Alternative Sites Analysis

8.1 Archeological Analysis

HRA considers the potential for encountering intact subsurface archaeological deposits to be low to moderate across all three Alternative Sites. The record search demonstrates the UW campus vicinity to have had a long history of human occupation, which is similar across all these Alternative Sites. There may be slightly deeper alluvial, shoreline deposits in Alternative Site 50/51S given its location along the water. However, all three Alternative Sites have been altered in large measure by the construction activities during the historic and modern eras.

8.2 Architectural Analysis

Based on HRA's evaluation of historic-era resources within each of the proposed Alternative Sites, Alternative Site 50/51S is the least likely to pose adverse impacts to historically significant resources, as no buildings over 45 years old are slated for demolition and no adverse impacts are expected on adjoining historic-era buildings.

8.3 Results for Alternative Site 22C

8.3.1 Archaeology

Alternative Site 22C is nearest of all the AIs to the center of campus. The study found that there was a relatively high density of cultural resources within a 0.5 mi area surrounding it, with evidence of precontact activity and historic-era trash deposits, infrastructure, and structural remains recorded. The shallow geology and history of building (including below ground construction in at least two buildings) within the AI diminishes the likelihood that additional archaeological resources will be found here.

8.3.2 Architectural Resources

The AI includes six buildings. Up to four historic-era buildings within Alternative Site 22C are proposed for demolition, and HRA recommends that one of these buildings, Guthrie Annex 3, is eligible for listing in the NRHP. Demolition would pose an adverse impact to the historic Guthrie Annex 3 and may require mitigation (Table 8-1). The AI also includes two buildings adjacent to the proposed construction area. One of these is listed in the WHR and is NRHP-eligible. HRA recommends that development of Alternative Site 22C would not pose adverse impacts to this

adjacent resource. Details are found in the attached historic resources addendum for Alternative Site 22C (Appendix A).

Table 8-1. Survey Results for Buildings at Alternative Site 22C.

Common Name/Address	Date of Construction/ Major Renovation	NRHP Eligibility (Appendix A)	Impacts Assessment/ Mitigation
Guthrie Annex 1	1917; 1935	Recommended Not Eligible	No Adverse Impact/No Mitigation Required
Guthrie Annex 2	1918; 1925	Recommended Not Eligible	No Adverse Impact/No Mitigation Required
Guthrie Annex 3	1942	Recommended Eligible under Criterion A	Demolition Poses an Adverse Impact/Mitigation Required
Guthrie Annex 4	1947	Recommended Not Eligible	No Adverse Impact/No Mitigation Required
Architecture Hall	1909	Listed in the WHR; previously determined eligible for the NRHP	No Adverse Impact/No Mitigation Required

8.4 Results for Alternative Site 37W

8.4.1 Archaeology

Alternative Site 37W was surrounded by the fewest recorded archaeological sites; however, sites and isolates were present in the 0.5 mi area surrounding it, indicative of both precontact and historic-era activity at this locale. The shallow geology and history of construction within the AI is the same that of Alternative Site 22C, including the presence of belowground construction in the historic and modern eras. For these reasons, the discovery of intact archaeological deposits is not anticipated within Alternative Site 37W.

8.4.2 Architectural Resources

The AI includes six historic-era buildings. Five buildings within Alternative Site 37W are proposed for demolition, and one of these buildings, 3935 University Ave. NE, was previously determined eligible for listing in the NRHP (Table 8-2). HRA recommends that a second building, the ECC Theater at 3940 Brooklyn Ave. NE, is also eligible for listing in the NRHP. Demolition of either resource poses an adverse impact to historic resources and may require mitigation. The AI also includes one building adjacent to the proposed construction area. Ye College Inn at 4000 University

Way NE is listed in the NRHP. HRA recommends that the proposed project does not have the potential to impact this adjacent resource. Details are found in the attached historic resources addendum for Alternative Site 37W (Appendix B).

Table 8-2. Survey Results for Buildings at Alternative Site 37W.

Common Name/Address	**Date of Construction/ Major Renovation**	**NRHP Eligibility (Appendix B)**	**Impacts Assessment/ Mitigation**
Purchasing and Accounting ***3917 University Way NE***	1959; 1964; 1982	Recommended Not Eligible	No Adverse Impact/No Mitigation Required
Behavior Research and Therapy Clinic ***3935 University Way NE***	1931	Previously Determined Eligible by DAHP in 2008	Demolition Poses an Adverse Impact/Mitigation Required
Stress and Development Lab ***3939 University Way NE***	1946	Recommended Not Eligible	No Adverse Impact/No Mitigation Required
Drama Scene Shop ***3941 University Way NE***	1942	Recommended Not Eligible	No Adverse Impact/No Mitigation Required
Samuel E. Kelly Ethnic Cultural Center (ECC) Theater ***3940 Brooklyn Ave. NE***	1912; 1971; 1980	Recommended Eligible under Criterion A	Demolition Poses an Adverse Impact/Mitigation Required
Ye College Inn ***4000 University Way NE***	1909	Listed in the NRHP in 1982; eligibility confirmed by DAHP in 2011	No Adverse Impact/No Mitigation Required

8.5 Results for Alternative Site 50/51S

8.5.1 Archaeology

Alternative Site 50/51S is located on the shoreline of Portage Bay near the Montlake Cut. A review of the archaeological records shows a presence of both precontact and historic-era sites recorded in the 0.5 mi area similar to that of Alternative Site 22C. However, this area has been subject to ground disturbing modifications to the terrain since the early days of Euroamerican settlement in Seattle. Large scale excavations to connect Lake Washington to Lake Union altered water levels and may have led to the deposition of spoils or dredge material on the shoreline. Subsequent to the completion of the Montlake Cut, additional ground-disturbing construction projects took place to create the modern architectural landscape. Due to the extensive ground disturbance there is a low likelihood of encountering intact archaeological deposit within this Alternative Site.

8.5.2 Architectural Resources

The AI includes three historic-era buildings adjacent to the proposed construction footprint. HRA recommends that none of these buildings is eligible for listing in the NRHP under Criterion C and that the proposed project does not have the potential to impact historically significant resources. No mitigation would be necessary (Table 8-3). Details are found in the attached historic resources addendum for Alternative Site 50/51S (Appendix C).

Table 8-3. Survey Results for Buildings at Alternative Site 50/51S.

Common Name/Address	**Date of Construction/ Major Renovation**	**NRHP Eligibility (Appendix C)**	**Impacts Assessment/ Mitigation**
Harris Hydraulics Laboratory	1920; 1961	Recommended not eligible under NRHP Criterion C	No Adverse Impact/No Mitigation Required
Oceanography Teaching Building	1969	Recommended not eligible under NRHP Criterion C	No Adverse Impact/No Mitigation Required
Portage Bay Building	1951; 1968	Recommended not eligible under NRHP Criterion C	No Adverse Impact/No Mitigation Required
South Campus Parking Garage	1967/1997	Recommended not eligible under NRHP Criterion C	No Adverse Impact/No Mitigation Required

8.6 No Action Alternative

8.6.1 Archaeology

The no action alternative would have no impact on existing recorded or unknown cultural resources. No additional cultural resources work would be required.

8.6.2 Architectural Resources

The no action alternative would have no direct or indirect impacts on historic buildings, structures, or objects. No additional cultural resources work would be required.

9. Summary and Recommendations

9.1 Archaeological Resources

The HRA predictive model anticipates a low to moderate possibility of encountering archaeological resources within any of the Alternative Sites. The construction of the buildings on these AIs would have entailed significant ground disturbance, as detailed in the as-built drawings, described in Section 2.2.7. It is anticipated that no intact archaeological deposits remain within the AIs. However, ground-disturbing work should proceed under the guidance of an Inadvertent Discovery Plan (Sections 9.1.1 and 9.1.2). If the project design changes in ways that will impact additional areas, further cultural resources investigations may be needed.

9.1.1 Accidental Discovery of Archaeological Resources

In the event that archaeological deposits are inadvertently discovered during construction in any portion of the AI, ground-disturbing activities should be halted immediately, and the UW should be notified. The UW would then contact DAHP and the interested Tribes, as appropriate.

9.1.2 Discovery of Human Remains

Any human remains that are discovered during construction of the project will be treated with dignity and respect.

If ground-disturbing activities encounter human skeletal remains during the course of construction, then all activity that may cause further disturbance to those remains **must** cease, and the area of the find must be secured and protected from further disturbance. In addition, the finding of human skeletal remains **must** be reported to the county coroner **and** local law enforcement in the most expeditious manner possible. The remains should not be touched, moved, or further disturbed.

The county coroner will assume jurisdiction over the human skeletal remains, and make a determination of whether those remains are forensic or non-forensic. If the county coroner determines the remains are non-forensic, they will report that finding to DAHP. DAHP will then take jurisdiction over those remains and report them to the appropriate cemeteries and affected tribes. The State Physical Anthropologist will make a determination of whether the remains are Indian or non-Indian, and report that finding to any appropriate cemeteries and the affected tribes. DAHP will then handle all consultation with the affected parties as to the future preservation, excavation, and disposition of the remains.

9.2 Architectural Resources

HRA considers Alternative Site 50/51S to be the alternative with the lowest potential to impact historically significant resources, as no NRHP-eligible or -listed resources are located within the AI (Appendix C). Should the UW choose to develop the Population Health Facility on either Alternative Site 37W or 22C, mitigation may be necessary due to the demolition of NRHP-eligible or -listed architectural resources (Appendixes A and B). Mitigation can take any number of forms but is generally designed to offset the loss of historic structures that cannot be replaced.

9.2.1 Alternative Site 22C

Development of Alternative Site 22C would result in the loss of the NRHP-eligible Guthrie Annex 3 (Home Management House), a relic of the University's once popular School of Home Economics and the work of a well-known modern architect, John R. Sproule (Appendix A). HRA recommends DAHP Level II recordation. DAHP Level II recordation consists of a report including an in-depth history of the building and archival-quality contemporary and historic images and maps, which can be shared with local libraries, archives, and historical societies.

9.2.2 Alternative Site 37W

Development of Alternative Site 37W would result in the loss of an NRHP-eligible 1935 office building at 3935 University Way NE and the loss of an NRHP-eligible multicultural theater at 3940 Brooklyn Ave. NE (Appendix B).

The building at 3935 University Way NE was designed as a showpiece for the lumber company that constructed it. HRA recommends DAHP Level II recordation.

The building at 3940 Brooklyn Ave. NE is significant for its historic associations with important events and trends in our history. Therefore, HRA recommends that it is more important to preserve and interpret the building's history as one of the earlier multicultural centers on a U.S. university campus rather than preserve the building itself or any element of it. HRA recommends that the UW consider commissioning an interpretive display for the new ECC or some other work of cultural expression to tell the story of the ECC Theater, as an example of UW's early efforts on behalf of its multicultural student body.

9.2.3 Alternative Site 50/51S

Alternative Site 50/51S includes no NRHP-eligible resources subject to direct or indirect adverse impacts (Appendix C). Development at Alternative Site 50/51S would not require mitigation.

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APPENDIX C

GHG Emissions Worksheet

City of Seattle Department of Planning and Development
SEPA GHG Emissions Worksheet
Version 1.7 12/26/07

Introduction

The Washington State Environmental Policy Act (SEPA) requires environmental review of development proposals that may have a significant adverse impact on the environment. If a proposed development is subject to SEPA, the project proponent is required to complete the SEPA Checklist. The Checklist includes questions relating to the development's air emissions. The emissions that have traditionally been considered cover smoke, dust, and industrial and automobile emissions. With our understanding of the climate change impacts of GHG emissions, the City of Seattle requires the applicant to also estimate these emissions.

Emissions created by Development

GHG emissions associated with development come from multiple sources:

- The extraction, processing, transportation, construction and disposal of materials and landscape disturbance (Embodied Emissions)
- Energy demands created by the development after it is completed (Energy Emissions)
- Transportation demands created by the development after it is completed (Transportation Emissions)

GHG Emissions Worksheet

This GHG Emissions Worksheet has been developed to assist applicants in answering the SEPA Checklist question relating to GHG emissions. The worksheet was originally developed by King County, but the City of Seattle and King County are working together on future updates to maintain consistency of methodologies across jurisdictions.

The SEPA GHG Emissions worksheet estimates all GHG emissions that will be created over the life span of a project. This includes emissions associated with obtaining construction materials, fuel used during construction, energy consumed during a buildings operation, and transportation by building occupants.

Using the Worksheet

1. Descriptions of the different residential and commercial building types can be found on the second tabbed worksheet ("Definition of Building Types"). If a development proposal consists of multiple projects, e.g. both single family and multi-family residential structures or a commercial development that consists of more than on type of commercial activity, the appropriate information should be estimated for each type of building or activity.

2. For paving, estimate the total amount of paving (in thousands of square feet) of the project.

3. The Worksheet will calculate the amount of GHG emissions associated with the project and display the amount in the "Total Emissions" column on the worksheet. The applicant should use this information when completing the SEPA checklist.

4. The last three worksheets in the Excel file provide the background information that is used to calculate the total GHG emissions.

5. The methodology of creating the estimates is transparent; if there is reason to believe that a better estimate can be obtained by changing specific values, this can and should be done. Changes to the values should be documented with an explanation of why and the sources relied upon.

6. Print out the “Total Emissions” worksheet and attach it to the SEPA checklist. If the applicant has made changes to the calculations or the values, the documentation supporting those changes should also be attached to the SEPA checklist.

University of Washington Population Health Facility Project

Section I: Buildings

Type (Residential) or Principal Activity (Commercial)	# Units	Square Feet (in thousands of square feet)	Emissions Per Unit or Per Thousand Square Feet (MTCO2e)			**Lifespan Emissions (MTCO2e)**
			Embodied	Energy	Transportation	
Single-Family Home	0		98	672	792	**0**
Multi-Family Unit in Large Building	0		33	357	766	**0**
Multi-Family Unit in Small Building	0		54	681	766	**0**
Mobile Home	0		41	475	709	**0**
Education		330.0	39	646	361	**345009**
Food Sales		0.0	39	1,541	282	**0**
Food Service		0.0	39	1,994	561	**0**
Health Care Inpatient		0.0	39	1,938	582	**0**
Health Care Outpatient		0.0	39	737	571	**0**
Lodging		0.0	39	777	117	**0**
Retail (Other Than Mall)		0.0	39	577	247	**0**
Office		0.0	39	723	588	**0**
Public Assembly		0.0	39	733	150	**0**
Public Order and Safety		0.0	39	899	374	**0**
Religious Worship		0.0	39	339	129	**0**
Service		0.0	39	599	266	**0**
Warehouse and Storage		0.0	39	352	181	**0**
Other		0.0	39	1,278	257	**0**
Vacant		0.0	39	162	47	**0**

Section II: Pavement

Pavement		0.00				**0**

Total Project Emissions: **345009**

Definition of Building Types

Type (Residential) or Principal Activity (Commercial)	Description
Single-Family Home	Unless otherwise specified, this includes both attached and detached buildings
Multi-Family Unit in Large Building	Apartments in buildings with more than 5 units
Multi-Family Unit in Small Building	Apartments in building with 2-4 units
Mobile Home	
Education	Buildings used for academic or technical classroom instruction, such as elementary, middle, or high schools, and classroom buildings on college or university campuses. Buildings on education campuses for which the main use is not classroom are included in the category relating to their use. For example, administration buildings are part of "Office," dormitories are "Lodging," and libraries are "Public Assembly."
Food Sales	Buildings used for retail or wholesale of food.
Food Service	Buildings used for preparation and sale of food and beverages for consumption.
Health Care Inpatient	Buildings used as diagnostic and treatment facilities for inpatient care.
Health Care Outpatient	Buildings used as diagnostic and treatment facilities for outpatient care. Doctor's or dentist's office are included here if they use any type of diagnostic medical equipment (if they do not, they are categorized as an office building).
Lodging	Buildings used to offer multiple accommodations for short-term or long-term residents, including skilled nursing and other residential care buildings.
Retail (Other Than Mall)	Buildings used for the sale and display of goods other than food.
Office	Buildings used for general office space, professional office, or administrative offices. Doctor's or dentist's office are included here if they do not use any type of diagnostic medical equipment (if they do, they are categorized as an outpatient health care building).
Public Assembly	Buildings in which people gather for social or recreational activities, whether in private or non-private meeting halls.
Public Order and Safety	Buildings used for the preservation of law and order or public safety.
Religious Worship	Buildings in which people gather for religious activities, (such as chapels, churches, mosques, synagogues, and temples).
Service	Buildings in which some type of service is provided, other than food service or retail sales of goods
Warehouse and Storage	Buildings used to store goods, manufactured products, merchandise, raw materials, or personal belongings (such as self-storage).
Other	Buildings that are industrial or agricultural with some retail space; buildings having several different commercial activities that, together, comprise 50 percent or more of the floorspace, but whose largest single activity is agricultural, industrial/ manufacturing, or residential; and all other miscellaneous buildings that do not fit into any other category.
Vacant	Buildings in which more floorspace was vacant than was used for any single commercial activity at the time of interview. Therefore, a vacant building may have some occupied floorspace.

Sources: .....

Residential 2001 Residential Energy Consumption Survey
Square footage measurements and comparisons
http://www.eia.doe.gov/emeu/recs/sqft-measure.html

Commercial Commercial Buildings Energy Consumption Survey (CBECS),
Description of CBECS Building Types
http://www.eia.doe.gov/emeu/cbecs/pba99/bldgtypes.html

Embodied Emissions Worksheet

Section I: Buildings

Type (Residential) or Principal Activity (Commercial)	# thousand sq feet/ unit or building	Life span related embodied GHG missions (MTCO2e/ unit)	Life span related embodied GHG missions (MTCO2e/ thousand square feet) - See calculations in table below
Single-Family Home	2.53	98	39
Multi-Family Unit in Large Building	0.85	33	39
Multi-Family Unit in Small Building	1.39	54	39
Mobile Home	1.06	41	39
Education	25.6	991	39
Food Sales	5.6	217	39
Food Service	5.6	217	39
Health Care Inpatient	241.4	9,346	39
Health Care Outpatient	10.4	403	39
Lodging	35.8	1,386	39
Retail (Other Than Mall)	9.7	376	39
Office	14.8	573	39
Public Assembly	14.2	550	39
Public Order and Safety	15.5	600	39
Religious Worship	10.1	391	39
Service	6.5	252	39
Warehouse and Storage	16.9	654	39
Other	21.9	848	39
Vacant	14.1	546	39

Section II: Pavement

All Types of Pavement			50

	Columns and Beams	Intermediate Floors	Exterior Walls	Windows	Interior Walls	Roofs		
Average GWP (lbs CO2e/sq ft): Vancouver, Low Rise Building	5.3	7.8	19.1	51.2	5.7	21.3		
Average Materials in a 2,272-square foot single family home	0.0	2269.0	3206.0	285.0	6050.0	3103.0	Total Embodied Emissions (MTCO2e)	Total Embodied Emissions (MTCO2e/ thousand sq feet)
MTCO2e	0.0	8.0	27.8	6.6	15.6	30.0	88.0	38.7

Sources

All data in black text — King County, DNRP. Contact: Matt Kuharic, matt.kuharic@kingcounty.gov

Residential floorspace per unit
2001 Residential Energy Consumption Survey (National Average, 2001)
Square footage measurements and comparisons
http://www.eia.doe.gov/emeu/recs/sqft-measure.html

Floorspace per building
EIA, 2003 Commercial Buildings Energy Consumption Survey (National Average, 2003)
Table C3. Consumption and Gross Energy Intensity for Sum of Major Fuels for Non-Mall Buildings, 2003
http://www.eia.doe.gov/emeu/cbecs/cbecs2003/detailed_tables_2003/2003set9/2003excel/c3.xls

Average GWP (lbs CO2e/sq ft): Vancouver, Low Rise Building
Athena EcoCalculator
Athena Assembly Evaluation Tool v2.3- Vancouver Low Rise Building
Assembly Average GWP (kg) per square meter
http://www.athenasmi.ca/tools/ecoCalculator/index.html
Lbs per kg 2.20
Square feet per square meter 10.76

Average Materials in a 2,272-square foot single family home
Buildings Energy Data Book: 7.3 Typical/Average Household
Materials Used in the Construction of a 2,272-Square-Foot Single-Family Home, 2000
http://buildingsdatabook.eren.doe.gov/?id=view_book_table&TableID=2036&t=xls
See also: NAHB, 2004 Housing Facts, Figures and Trends, Feb. 2004, p. 7.

Average window size
Energy Information Administration/Housing Characteristics 1993
Appendix B, Quality of the Data. Pg. 5.
ftp://ftp.eia.doe.gov/pub/consumption/residential/rx93hcf.pdf

Pavement Emissions Factors
MTCO2e/thousand square feet of asphalt
or concrete pavement 50 (see below)

Embodied GHG Emissions……Worksheet Background Information

Buildings
Embodied GHG emissions are emissions that are created through the extraction, processing, transportation, construction and disposal of building materials as well as emissions created through landscape disturbance (by both soil disturbance and changes in above ground biomass).

Estimating embodied GHG emissions is new field of analysis; the estimates are rapidly improving and becoming more inclusive of all elements of construction and development.

The estimate included in this worksheet is calculated using average values for the main construction materials that are used to create a typical family home. In 2004, the National Association of Home Builders calculated the average materials that are used in a typical 2,272 square foot single-family household. The quantity of materials used is then multiplied by the average GHG emissions associated with the life-cycle GHG emissions for each material.

This estimate is a rough and conservative estimate; the actual embodied emissions for a project are likely to be higher. For example, at this stage, due to a lack of comprehensive data, the estimate does not include important factors such as landscape disturbance or the emissions associated with the interior components of a building (such as furniture).

King County realizes that the calculations for embodied emissions in this worksheet are rough. For example, the emissions associated with building 1,000 square feet of a residential building will not be the same as 1,000 square feet of a commercial building. However, discussions with the construction community indicate that while there are significant differences between the different types of structures, this method of estimation is reasonable; it will be improved as more data become available.

Additionally, if more specific information about the project is known, King County recommends two online embodied emissions calculators that can be used to obtain a more tailored estimate for embodied emissions: www.buildcarbonneutral.org and www.athenasmi.ca/tools/ecoCalculator/.

Pavement
Four recent life cycle assessments of the environmental impacts of roads form the basis for the per unit embodied emissions of pavement. Each study is constructed in slightly different ways; however, the aggregate results of the reports represent a reasonable estimate of the GHG emissions that are created from the manufacture of paving materials, construction related emissions, and maintenance of the pavement over its expected life cycle. For specifics, see the worksheet.

Special Section: Estimating the Embodied Emissions for Pavement

Four recent life cycle assessments of the environmental impacts of roads form the basis for the per unit embodied emissions of pavement. Each study is constructed in slightly different ways; however, the aggregate results of the reports represent a reasonable estimate of the GHG emissions that are created from the manufacture of paving materials, construction related emissions, and maintenance of the pavement over its expected life cycle.

The results of the studies are presented in different units and measures; considerable effort was undertaken to be able to compare the results of the studies in a reasonable way. For more details about the below methodology, contact matt.kuharic@kingcounty.gov.

The four studies, Meil (2001), Park (2003), Stripple (2001) and Treolar (2001) produced total GHG emissions of 4-34 MTCO2e per thousand square feet of finished paving (for similar asphalt and concrete based pavements). This estimate does not including downstream maintenance and repair of the highway. The average (for all concrete and asphalt pavements in the studies, assuming each study gets one data point) is ~17 MTCO2e/thousand square feet.

Three of the studies attempted to thoroughly account for the emissions associated with long term maintenance (40 years) of the roads. Stripple (2001), Park et al. (2003) and Treolar (2001) report 17, 81, and 68 MTCO2e/thousand square feet, respectively, after accounting for maintenance of the roads.

Based on the above discussion, King County makes the conservative estimate that 50 MTCO2e/thousand square feet of pavement (over the development's life cycle) will be used as the embodied emission factor for pavement until better estimates can be obtained. This is roughly equivalent to 3,500 MTCO2e per lane mile of road (assuming the lane is 13 feet wide).

It is important to note that these studies estimate the embodied emissions for roads. Paving that does not need to stand up to the rigors of heavy use (such as parking lots or driveways) would likely use less materials and hence have lower embodied emissions.

Sources:

Meil, J. A Life Cycle Perspective on Concrete and Asphalt Roadways: Embodied Primary Energy and Global Warming Potential. 2006. Available: http://www.cement.ca/cement.nsf/eee9ec7bbd630126852566c40052107b/6ec79dc8ae03a782852572b90061b914/$FILE/ATTK0WE3/athena%20report%20Feb.%202%202007.pdf

Park, K, Hwang, Y., Seo, S., M.ASCE, and Seo, H. , "Quantitative Assessment of Environmental Impacts on Life Cycle of Highways," Journal of Construction Engineering and Management , Vol 129, January/February 2003, pp 25-31, (DOI: 10.1061/(ASCE)0733-9364(2003)129:1(25)).

Stripple, H. Life Cycle Assessment of Road. A Pilot Study for Inventory Analysis. Second Revised Edition. IVL Swedish Environmental Research Institute Ltd. 2001. Available: http://www.ivl.se/rapporter/pdf/B1210E.pdf

Treloar, G., Love, P.E.D., and Crawford, R.H. Hybrid Life-Cycle Inventory for Road Construction and Use. Journal of Construction Engineering and Management. P. 43-49. January/February 2004.

Energy Emissions Worksheet

Type (Residential) or Principal Activity (Commercial)	Energy consumption per building per year (million Btu)	Carbon Coefficient for Buildings	MTCO2e per building per year	Floorspace per Building (thousand square feet)	MTCE per thousand square feet per year	MTCO2e per thousand square feet per year	Average Building Life Span	Lifespan Energy Related MTCO2e emissions per unit	Lifespan Energy Related MTCO2e emissions per thousand square feet
Single-Family Home	107.3	0.108	11.61	2.53	4.6	16.8	57.9	672	266
Multi-Family Unit in Large Building	41.0	0.108	4.44	0.85	5.2	19.2	80.5	357	422
Multi-Family Unit in Small Building	78.1	0.108	8.45	1.39	6.1	22.2	80.5	681	489
Mobile Home	75.9	0.108	8.21	1.06	7.7	28.4	57.9	475	448
Education	2,125.0	0.124	264.2	25.6	10.3	37.8	62.5	16,526	646
Food Sales	1,110.0	0.124	138.0	5.6	24.6	90.4	62.5	8,632	1,541
Food Service	1,436.0	0.124	178.5	5.6	31.9	116.9	62.5	11,168	1,994
Health Care Inpatient	60,152.0	0.124	7,479.1	241.4	31.0	113.6	62.5	467,794	1,938
Health Care Outpatient	985.0	0.124	122.5	10.4	11.8	43.2	62.5	7,660	737
Lodging	3,578.0	0.124	444.9	35.8	12.4	45.6	62.5	27,826	777
Retail (Other Than Mall)	720.0	0.124	89.5	9.7	9.2	33.8	62.5	5,599	577
Office	1,376.0	0.124	171.1	14.8	11.6	42.4	62.5	10,701	723
Public Assembly	1,338.0	0.124	166.4	14.2	11.7	43.0	62.5	10,405	733
Public Order and Safety	1,791.0	0.124	222.7	15.5	14.4	52.7	62.5	13,928	899
Religious Worship	440.0	0.124	54.7	10.1	5.4	19.9	62.5	3,422	339
Service	501.0	0.124	62.3	6.5	9.6	35.1	62.5	3,896	599
Warehouse and Storage	764.0	0.124	95.0	16.9	5.6	20.6	62.5	5,942	352
Other	3,600.0	0.124	447.6	21.9	20.4	74.9	62.5	27,997	1,278
Vacant	294.0	0.124	36.6	14.1	2.6	9.5	62.5	2,286	162

Sources

All data in black text — King County, DNRP. Contact: Matt Kuharic, matt.kuharic@kingcounty.gov

Energy consumption for residential buildings
- 2007 Buildings Energy Data Book: 6.1 Quad Definitions and Comparisons (National Average, 2001)
- Table 6.1.4: Average Annual Carbon Dioxide Emissions for Various Functions
- http://buildingsdatabook.eren.doe.gov/
- Data also at: http://www.eia.doe.gov/emeu/recs/recs2001_ce/ce1-4c_housingunits2001.html

Energy consumption for commercial buildings and Floorspace per building
- EIA, 2003 Commercial Buildings Energy Consumption Survey (National Average, 2003)
- Table C3. Consumption and Gross Energy Intensity for Sum of Major Fuels for Non-Mall Buildings, 2003
- http://www.eia.doe.gov/emeu/cbecs/cbecs2003/detailed_tables_2003/2003set9/2003excel/c3.xls

Note: Data in plum color is found in both of the above sources (buildings energy data book and commercial buildings energy consumption survey).

Carbon Coefficient for Buildings
- Buildings Energy Data Book (National average, 2005)
- Table 3.1.7. 2005 Carbon Dioxide Emission Coefficients for Buildings (MMTCE per Quadrillion Btu)
- http://buildingsdatabook.eere.energy.gov/?id=view_book_table&TableID=2057
- Note: Carbon coefficient in the Energy Data book is in MTCE per Quadrillion Btu.
- To convert to MTCO2e per million Btu, this factor was divided by 1000 and multiplied by 44/12.

Residential floorspace per unit
- 2001 Residential Energy Consumption Survey (National Average, 2001)
- Square footage measurements and comparisons
- http://www.eia.doe.gov/emeu/recs/sqft-measure.html

average lief span of buildings,
estimated by replacement time method

	Single Family Homes	Multi-Family Units in Large and Small Buildings	All Residential Buildings	
New Housing Construction, 2001	1,273,000	329,000	1,602,000	
Existing Housing Stock, 2001	73,700,000	26,500,000	100,200,000	
Replacement time:	57.9	80.5	62.5	(national average, 2001)

Note: Single family homes calculation is used for mobile homes as a best estimate life span.
Note: At this time, KC staff could find no reliable data for the average life span of commercial buildings.
Therefore, the average life span of residential buildings is being used until a better approximation can be ascertained.

Sources:

New Housing Construction, 2001
Quarterly Starts and Completions by Purpose and Design - US and Regions (Excel)
http://www.census.gov/const/quarterly_starts_completions_cust.xls
See also: http://www.census.gov/const/www/newresconstindex.html

Existing Housing Stock, 2001
Residential Energy Consumption Survey (RECS) 2001
Tables HC1:Housing Unit Characteristics, Million U.S. Households 2001
Table HC1-4a. Housing Unit Characteristics by Type of Housing Unit, Million U.S. Households, 2001
Million U.S. Households, 2001
http://www.eia.doe.gov/emeu/recs/recs2001/hc_pdf/housunits/hc1-4a_housingunits2001.pdf

Transportation Emissions Worksheet

Type (Residential) or Principal Activity (Commercial)	# people/ unit or building	# thousand sq feet/ unit or building	# people or employees/ thousand square feet	vehicle related GHG emissions (metric tonnes CO2e per person per year)	MTCO2e/ year/ unit	MTCO2e/ year/ thousand square feet	Average Building Life Span	Life span transportation related GHG emissions (MTCO2e/ per unit)	Life span transportation related GHG emissions (MTCO2e/ thousand sq feet)
Single-Family Home	2.8	2.53	1.1	4.9	13.7	5.4	57.9	792	313
Multi-Family Unit in Large Building	1.9	0.85	2.3	4.9	9.5	11.2	80.5	766	904
Multi-Family Unit in Small Building	1.9	1.39	1.4	4.9	9.5	6.8	80.5	766	550
Mobile Home	2.5	1.06	2.3	4.9	12.2	11.5	57.9	709	668
Education	30.0	25.6	1.2	4.9	147.8	5.8	62.5	9247	361
Food Sales	5.1	5.6	0.9	4.9	25.2	4.5	62.5	1579	282
Food Service	10.2	5.6	1.8	4.9	50.2	9.0	62.5	3141	561
Health Care Inpatient	455.5	241.4	1.9	4.9	2246.4	9.3	62.5	140506	582
Health Care Outpatient	19.3	10.4	1.9	4.9	95.0	9.1	62.5	5941	571
Lodging	13.6	35.8	0.4	4.9	67.1	1.9	62.5	4194	117
Retail (Other Than Mall)	7.8	9.7	0.8	4.9	38.3	3.9	62.5	2394	247
Office	28.2	14.8	1.9	4.9	139.0	9.4	62.5	8696	588
Public Assembly	6.9	14.2	0.5	4.9	34.2	2.4	62.5	2137	150
Public Order and Safety	18.8	15.5	1.2	4.9	92.7	6.0	62.5	5796	374
Religious Worship	4.2	10.1	0.4	4.9	20.8	2.1	62.5	1298	129
Service	5.6	6.5	0.9	4.9	27.6	4.3	62.5	1729	266
Warehouse and Storage	9.9	16.9	0.6	4.9	49.0	2.9	62.5	3067	181
Other	18.3	21.9	0.8	4.9	90.0	4.1	62.5	5630	257
Vacant	2.1	14.1	0.2	4.9	10.5	0.7	62.5	657	47

Sources

All data in black text — King County, DNRP. Contact: Matt Kuharic, matt.kuharic@kingcounty.gov

people/ unit

Estimating Household Size for Use in Population Estimates (WA state, 2000 average)
Washington State Office of Financial Management
Kimpel, T. and Lowe, T. Research Brief No. 47. August 2007
http://www.ofm.wa.gov/researchbriefs/brief047.pdf
Note: This analysis combines Multi Unit Structures in both large and small units into one category;
the average is used in this case although there is likely a difference

Residential floorspace per unit

2001 Residential Energy Consumption Survey (National Average, 2001)
Square footage measurements and comparisons
http://www.eia.doe.gov/emeu/recs/sqft-measure.html

employees/thousand square feet

Commercial Buildings Energy Consumption Survey commercial energy uses and costs (National Median, 2003)
Table B2 Totals and Medians of Floorspace, Number of Workers, and Hours of Operation for Non-Mall Buildings, 2003
http://www.eia.doe.gov/emeu/cbecs/cbecs2003/detailed_tables_2003/2003set1/2003excel/b2.xls

Note: Data for # employees/thousand square feet is presented by CBECS as square feet/employee.
In this analysis employees/thousand square feet is calculated by taking the inverse of the CBECS number and multiplying by 1000.

vehicle related GHG emissions

Estimate calculated as follows (Washington state, 2006)_

56,531,930,000	2006 Annual WA State Vehicle Miles Traveled Data was daily VMT. Annual VMT was 365*daily VMT. http://www.wsdot.wa.gov/mapsdata/tdo/annualmileage.htm
6,395,798	2006 WA state population http://quickfacts.census.gov/qfd/states/53000.html
8839	vehicle miles per person per year
0.0506	gallon gasoline/mile This is the weighted national average fuel efficiency for all cars and 2 axle, 4 wheel light trucks in 2005. This includes pickup trucks, vans and SUVs. The 0.051 gallons/mile used here is the inverse of the more commonly known term “miles/per gallon” (which is 19.75 for these cars and light trucks). Transportation Energy Data Book. 26th Edition. 2006. Chapter 4: Light Vehicles and Characteristics. Calculations based on weighted average MPG efficiency of cars and light trucks. http://cta.ornl.gov/data/tedb26/Edition26_Chapter04.pdf Note: This report states that in 2005, 92.3% of all highway VMT were driven by the above described vehicles. http://cta.ornl.gov/data/tedb26/Spreadsheets/Table3_04.xls
24.3	lbs CO2e/gallon gasoline The CO2 emissions estimates for gasoline and diesel include the extraction, transport, and refinement of petroleum as well as their combustion. Life-Cycle CO2 Emissions for Various New Vehicles. RENew Northfield. Available: http://renewnorthfield.org/wpcontent/uploads/2006/04/CO2%20emissions.pdf Note: This is a conservative estimate of emissions by fuel consumption because diesel fuel,
2205	with a emissions factor of 26.55 lbs CO2e/gallon was not estimated.
4.93	lbs/metric tonne
	vehicle related GHG emissions (metric tonnes CO2e per person per year)

average lief span of buildings, estimated by replacement time method — See Energy Emissions Worksheet for Calculations

Commercial floorspace per unit — EIA, 2003 Commercial Buildings Energy Consumption Survey (National Average, 2003)
Table C3. Consumption and Gross Energy Intensity for Sum of Major Fuels for Non-Mall Buildings, 2003
http://www.eia.doe.gov/emeu/cbecs/cbecs2003/detailed_tables_2003/2003set9/2003excel/c3.xls

APPENDIX D

Existing Parking Utilization Data

Name/description parking region	Total regular parking inventory (Unrestricted stalls)	Peak Average Utilization: Occupancy Oct-15 to Jun-16	Peak Average Utilization: Oct-16 Daily Gatehouse Sales	Peak Average Utilization: Daily Throughput Utilization	Peak Average Utilization: % Lot Utilization Oct-15 to Jun-16	Sold Committed SOV Permits
Central*	915	611	514	1125	123%	681
South**	728	583	507	1090	150%	542
E12 - Gated Oct-16	815	703	*Gated*	703	86%	2444
	1543	1286				
West***	1446	1003	N/A	1003	69%	1283
W8 - Gated Oct-16	167	114	*Gated*	114	68%	303
PBG - Gated Oct-16	877	712	*Gated*	712	81%	2873
	2490	1829				

* Includes C-1,2,3,4,5,6,

** Includes S-1,5,6,7,8,12

***Includes W-10,11,12,13,20,21,22,23,29,32,33,35,39,40,41,44,45,46

Note: Current Gatehouse Parking includes Short Term Visitors to Campus, VIP Visitors, Departmental Guests, Events

Note: CPG Gatehouse Parking sales reach max threshold at least once per day where sales are suspended to ensure ample space is available for regular daily business

Note: Construction Worker parking impact in West Campus currently 150 stalls which is typical for a large project