APPENDICES

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A.1 SEPA CHECKLIST

SEPA ENVIRONMENTAL CHECKLIST

Purpose of checklist:

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions for applicants:

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for Lead Agencies:

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals:

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

A. Background

1. Name of proposed project, if applicable:

Fircrest School Campus Master Development Plan

2. **Name of applicant:**

Washington State Department of Social and Health Services
Larry Covey, LEED AP
Chief, Office of Capital Programs
Department of Social and Health Services
PO Box 45848
Olympia, WA 98504
Phone: 360-628-6662

3. **Address and phone number of applicant and contact person:**

Wayne Carlson FAICP
AHBL, Inc.
1200 6th Ave #1620
Seattle WA 98101
Phone: 206-267--2425

4. **Date checklist prepared:**

September 12, 2022

5. **Agency requesting checklist:**

Washington State Department of Social and Health Services (DSHS)

6. **Proposed timing or schedule (including phasing, if applicable):**

Proposed new capital projects are tied to the DSHS Biennial Capital Budget and Ten-Year Capital Plan and given the uncertainty of the market and the State's continually changing financial situation exact project timing and phasing is difficult to predict. Estimated project phasing is shown in the table below.

Project Element	Project Phasing
New 120-Bed Skilled Nursing Facility	2023-2027
Relocate Adult Training Program (Phase 1)	2023-2024
ICF Cottages HVAC Improvements	2023-2025
New Maintenance Building	2028-2031
New Laundry Facility	2028-2031
New Commissary Building	2028-2031
Activities Building *(remodel)*	2023-2026
Building 66 *(remodel)*	2024-2025
Water System Improvements-Phase I	2024-2025
Boulevard Improvement	2026-2028
Water System Improvements-Phase II	2026-2027
Water System Improvements-Phase III	2028-2029
Activities Building *(addition)*	2035-2039
New Walking Trails	2023-2035
Interior Vehicular Circulation Improvements	2026-2038
New 48-Bed Behavioral Health Facility	2026-2029

Project Element	Project Phasing
Adult Training Program *(demolition)*	2036
ICF Cottages (#52 & #53) *(demolition)*	2036
Warehouse (Building #91) *(demolition)*	2032-2033
New 4-Bedroom ICF Cottages	2032-2035
ICF Cottages (#44 & #45) *(demolition)*	2036-2037
Commissary Building (Building #24), Plant Mechanics Shop (Building # 25 & #27), Carpentry and Plumbing Shop (Building #34), Plant Operations (Building #35), & Paint Shop (Building #43) *(demolition)*	2032-2033
Steam Plant (Building #28) *(demolition)*	2032
Decentralize Heat System	2026-2030
New SE Corner Private Development #1	2023-2027
New SE Corner Private Development #2	2030-2033

7. **Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.**

   No. All plans for future additions, expansion, or further activity are included in the Master Development Plan.

8. **List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.**

   - Critical Areas Report, prepared by Herrera Environmental Consultants, Inc., June 2022
   - Report of Geotechnical Engineering Services, prepared by GeoDesign, Inc., March 2021
   - Stormwater Site Plan Report, prepared by AHBL, Inc., May 2022
   - Transportation Technical Report, prepared by Heffron Transportation Inc., June 2022

9. **Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.**

   Yes, a short plat will be filed to create a separate lot for the nursing facility.

10. **List any government approvals or permits that will be needed for your proposal, if known.**

    - Special Use Permit
    - Master Development Plan Permit
    - SEPA Environmental Review
    - Demolition Permit
    - Site Development Permit
    - Building Permits

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

A Master Development Plan has been prepared by the Washington State Department of Social & Health Services (DSHS) to support the redevelopment of the campus.

Proposed development in this Master Development Plan includes a new 120-bed skilled nursing facility, potential siting of a new 48-bed behavioral health facility, demolition of several outdated and depleted maintenance and storage buildings, relocation of the Adult Training Program into an existing building, a new laundry building, a new maintenance building, new pedestrian and vehicular circulation, expansion of on-site surface parking, an expansion to the existing activities building, the construction of 14 new four-bed Intermediate Care Facility (ICF) cottages, future civic and/or commercial development, and publicly accessible open space within the southeast corner of the campus.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The project address is 15230 15th Avenue NE, Shoreline, WA 98155. The Master Development Plan covers an area of approximately 65 acres which covers the majority of King County Parcel #1626049010.

Legal Description: PCL B SHORELINE BSP #SHBSP 201815 REC #20100803900004 SD BSP LYING IN POR OF S 1/2 OF NW 1/4 & N 1/2 OF SW 1/4 STR 16-26-04

The project site is bounded by Hamlin Park to the north, Shorecrest High School to the east, NE 150th Street to the south, and 15th Avenue NE to the west.

Figure 1: Project Site Vicinity Map

B. Environmental Elements

1. *Earth*

a. General description of the site:
(circle one): Flat, rolling, hilly, steep slopes, mountainous, other _____

The site gently slopes upwards from south to north, ranging from 350 to 420 feet in elevation. Some steep slopes exist on the eastern property line bordering Shorecrest High School.

b. What is the steepest slope on the site (approximate percent slope)?

The steepest slop on the site is along the eastern property line adjacent to the ballfields of Shorecrest High School. Topography of the west-facing slope shows an elevation change of about 50 feet per King County GIS topographic information. Average slope inclination is on the order of 30 to 35 percent.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

According to the US Department of Agriculture Natural Resource Conservation Web Soil Survey, the site soil is predominantly Urban land- Alderwood complex, 0 to 5 percent slopes (48.8%) and Urban land-Alderwood complex, 5 to 12 percent slopes (46.3%). The remaining soil types are Alderwood-Everett complex 0 to 12 percent slopes (0.3%) and Alderwood-Everett complex 12 to 35 percent slopes (4.7%).

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

To the best of the applicant's knowledge, there are no surface indications of unstable soils and/or a history of soil instability manifesting itself, either onsite or in the immediate vicinity.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

Approximately 40% of the site will be disturbed during site development activities. Cut and fill will be balanced across the site. Fill, where necessary, will be sourced from clean sources.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Erosion could occur during construction activities associated with grading, filling, and excavating. To minimize potential erosion impacts, a Temporary Erosion Control Plan (TESC) will be prepared as part of the site development plans for each phase of development. The TESC will include construction procedures and best management practices.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

Approximately 42% of the site will be covered with impervious surfaces following the completion of all projects contained in the Master Development Plan. This is a decrease in impervious surface coverage from the current site which is approximately 47.7%.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

Construction activities will use BMPs found in the City of Shoreline's Engineering Development Manual and the Washington State Department of Ecology's 2019 Stormwater Management Manual for Western Washington (SWMMWW). Proposed development will utilize stormwater BMPs such as inlet protection, silt fence, construction entrances, and a sediment pond.

2. Air

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

Construction activities have the potential to create temporary dust emissions during earth-moving activities and exhaust emissions due to the combustion of gasoline and diesel fuels. Dust and exhaust emissions are expected to be minimal, localized, and temporary. After construction, emissions will be generated by vehicles accessing the site.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

Other than vehicle emissions from traffic on adjacent streets, there are no sources of off-site emissions that will affect the proposal.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

During construction, temporary measures will be applied where necessary, which may include limiting the idling of construction equipment, water sprays to control dust, limiting vehicle speeds, and general maintenance of construction equipment.

3. Water

a. Surface Water:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

Yes, a critical areas investigation was performed by Herrera Environmental that found there are two non-fish-bearing streams on the project site: East Hamlin Creek and West Hamlin Creek.

East Hamlin Creek flows south into the project site from the north east corner and flows out of the project site at the southeast corner after joining West Hamlin Creek.

West Hamlin Creek flows south from Hamlin Park through the eastern portion of the project site. At the southeastern corner of the project site West Hamlin Creek flows into East Hamlin Creek.

Both streams are Type Ns and are piped streams with the exception of small segments that are non-piped in the northern portion of the site.

2) **Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.**

Yes, the proposed developments will include work adjacent to described waters. Developments will be outside of the City of Shoreline established buffer widths of 45-foot buffers on non-piped stream sections and 10-foot buffers on piped stream sections.

3) **Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.**

No fill or dredge material will be placed in or removed from any surface water or wetlands.

4) **Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.**

Surface waters will not be withdrawn or diverted as a result of this proposal.

5) **Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.**

The site is located in Zone X, which is an area of minimal flood hazard.

6) **Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.**

No waste materials will be discharged to surface waters.

b. **Ground Water:**

1) **Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.**

No groundwater will be withdrawn as part of this proposal. No water will be discharged to groundwater.

2) **Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the**

following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

The site is connected to sanitary sewer. No waste material will be discharged into the ground.

c. Water runoff (including stormwater):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Stormwater will be generated by the creation of new impervious surfaces (rooftops and paving) associated with the campus expansion activities identified in the Master Plan.

Onsite stormwater management will be provided to the maximum extent feasible using bioretention, permeable pavements, vegetated filter strips, and post-construction soil quality and depth. These facilities will be sized and placed to provide both runoff treatment for pollution generating surfaces and Low Impact Development (LID) standards.

Flow control will be evaluated and provided on a per building scale, rather than installing a regional facility. The project will be required to meet historical land cover discharge requirements per the City of Shoreline Engineering Development Manual. This will be achieved using underground storage facilities, such as galvanized CMP tanks, precast concrete vaults, or chamber systems with control structures to limit outflow from project site.

2) Could waste materials enter ground or surface waters? If so, generally describe.

The project has been designed to eliminate and/or limit any potential for groundwater contamination. While excessive amounts are highly unlikely, there is a possibility for surface runoff conveying unspent hydrocarbons and/or other surface contaminants from paved surfaces onsite into groundwater.

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

The proposal is not expected to affect drainage patterns in the vicinity of the site.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

The project site is subject to Ecology's 2019 SWMMWW, the 2022 City of Shoreline Engineering Design Manual, and Shoreline Municipal Code (SMC) 13.10.200.

4. Plants

a. Check the types of vegetation found on the site:

_X_ deciduous tree: **alder**, **maple**, aspen, other
_X_ evergreen tree: **fir**, **cedar**, pine, other
_X_ shrubs
_X_ grass
____ pasture
____ crop or grain
____ orchards, vineyards or other permanent crops.
____ wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
____ water plants: water lily, eelgrass, milfoil, other

b. What kind and amount of vegetation will be removed or altered?

Approximately 40% of the site vegetation will be disturbed during site development activities.

c. List threatened and endangered species known to be on or near the site.

No threatened or endangered plant species are known to be located on or near the site.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Approximately 65% of the significant trees and/or stands will be preserved. Where significant trees are removed, the project will comply with the SMC 20.50.360.

e. List all noxious weeds and invasive species known to be on or near the site.

Himalayan blackberry (Rubus armeniacus), common hawthorn (Crataegus monogyna), English ivy (Hedera helix), English holly, and herb Robert, (Geranium robertianum), English laurel, creeping buttercup (Ranunculus repens), field bindweed (Convolvulus arvensis), and Norway maple saplings.

5. Animals

a. List any birds and other animals which have been **observed on or near the site or are known to be on or near the site.**

Examples include:

birds: hawk, heron, eagle, songbirds, other:
mammals: deer, bear, elk, beaver, other: Small mammals
fish: bass, salmon, trout, herring, shellfish, other _____

b. List any threatened and endangered species known to be on or near the site.

WDFW's Priority Habitats and Species Map depicts the Little Brown Bat species being found in the quarter section. The Little Brown Bat is not a State listed Species classified as either Endangered, Threatened, or Sensitive. The little brown bat is not federally regulated or

regulated within Washington State. According to the critical areas report no critical little brown bat roost habitat was identified on the site.

c. Is the site part of a migration route? If so, explain.

The Puget Sound region is part of the Pacific Flyway, a bird migration route.

d. Proposed measures to preserve or enhance wildlife, if any:

There are no impacts to endangered, threatened or sensitive species and therefore no mitigation measures are proposed.

e. List any invasive animal species known to be on or near the site.

No invasive animal species are known to be located on or near the site.

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

New buildings will use electricity and natural gas to meet needs for heating, lighting, appliances, etc.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No, the potential use of solar energy by adjacent properties will not be impacted.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

The design of buildings on the Fircrest campus will conform to applicable portions of the State of Washington Energy Code. Energy efficient methods will be used for the mechanical and lighting systems. The on-site lighting will include the use of LED fixtures.

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

During construction for projects included in the Master Development Plan accidental spills of hazardous materials from equipment and vehicles could occur during construction. A spill prevention and control plan will be developed to prevent the accidental release of contaminants into the environment.

1) Describe any known or possible contamination at the site from present or past uses.

Washington Department of Ecology "What's in My Neighborhood" database identifies eight cleanup sites withing 0.5 miles of the project site.

Site Name	CSID	Site Status
All Tune & Lube Seattle	6543	No Further Action
Chevron 96266	10760	Cleanup Started
Continental Baking Co	6195	No Further Action
Fircrest School LUST	6572	No Further Action
Fircrest School PCB Spilled	14779	Cleanup Started
Shorecrest High School	12687	No Further Action
WA State DOH Public Health Labs	12206	No Further Action
Watson Groen Christian School	10115	No Further Action

2) **Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.**

   There are no known hazardous chemicals or conditions – including transmission pipelines - present onsite or in the immediate vicinity which could affect project development and/or design.

3) **Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.**

   The proposal does not involve the storage or use of toxic or hazardous chemicals.

4) **Describe special emergency services that might be required.**

   No additional special emergency services will be required other than those normally provided such as police, emergency medical, and fire protection.

5) **Proposed measures to reduce or control environmental health hazards, if any:**

   Any soils contaminated by spills would be excavated and disposed of in a manner consistent with the level of contamination and in accordance with federal, state, and local regulatory requirements.

b. Noise

1) **What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?**

   The primary source of noise in the area of the project site is from vehicular traffic from the adjacent 15th Avenue NE. There is also occasional noise from the adjacent Shorecrest High School. There is no noise that will affect the proposed projects in the Master Development Plan.

2) **What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.**

The operation of trucks, excavators, and front-end loaders will likely result in temporary noise and vibration impacts during construction. The temporary increase in noise will return to the original noise levels once construction of the project is complete. Noise levels will not exceed the maximum permissible noise levels allowed under SMC 9.05.040.

3) **Proposed measures to reduce or control noise impacts, if any:**

Noise levels will not exceed the maximum permissible noise levels allowed under SMC 9.05.040.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

The site is currently being used as a residential rehabilitation center providing support to about 200 people with intellectual and developmental disabilities in a residential setting. Adjacent land uses are as follows:

North: Hamlin Park – public recreational open space
East: Shorecrest High School
South: Multifamily and limited nonresidential uses
West: Mix of institutional, multi-family and single-family

The proposal will not affect current land uses on nearby or adjacent properties.

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?

Prior to its current use the site was used as a tuberculosis treatment center and prior to that a WWII navy hospital. There is no indication of the project site being used as working farmlands or forestlands prior to its current use.

1) **Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:**

No, the proposal will not impact, nor be impacted by, farm or forest land operations.

c. Describe any structures on the site.

The site has several structures used for the operations of the school campus as well as several supporting structures. Current structures on the site are as follows

Building	Building(s) Footprint
Pat 'N' / "Y Buildings" (Buildings #55-60)	65,628
Adult Training Programs (ATP) (Building #85-90)	47,021
Pat 'A' (Independent Living Facility Cottages) (Buildings #44-53)	65,790
Commissary Building (Building #24)	8,000
Kitchen (Building #39)	21,950
Steam Plant (Building #28)	8,256
Chapel (Building #64)	3,518
Administration Building (Building #65)	16,304
Activities Building (Building #67)	35,341
Vacant Building (Building #66)	13,682
Plant Mechanics Shop (Building #25 & #27)	13,324
Carpentry and Plumbing Shop (Building #34)	5,578
Plant Operations (Building #35)	6,532
Paint Shop (Building #43)	2,932
Warehouse (Building #91)	6,438
Gatehouse Building (Building #68)	174

d. Will any structures be demolished? If so, what?

Yes

- Pat 'N'/ "Y Buildings" (Buildings #55-60)
- Pat 'A - ICF Cottages (Building #52, #53, #44, & #45)
- Adult Training Program (Buildings #85-90)
- Commissary Building (Building #24)
- Warehouse (Building #91)
- Plant Mechanics Shop (Building #25 & #27)
- Carpentry and Plumbing Shop (Building #34)
- Plant Operations (Building #35)
- Paint Shop (Building #43)
- Stream Plant (Building #28)

e. What is the current zoning classification of the site?

Campus

f. What is the current comprehensive plan designation of the site?

Institution/Campus

g. If applicable, what is the current shoreline master program designation of the site?

Not Applicable

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

According to the Critical Areas Report produced Herrera Environmental the critical areas present on the site include two non-fish-bearing streams and one priority habitat (critical roosting habitat for little brown bat).

i. Approximately how many people would reside or work in the completed project?

Up to 296 residents are expected could reside in the completed project. This includes 128 in the ICF cottages, 120 in the nursing facility, and 48 in the behavioral health/residential treatment facility. In addition to employees that would work in the commercial, office, and/or civic uses that will be constructed in the southeastern portion of the site, approximately 409 are anticipated within various structures on the site as follows:

144	ICF Cottages
50	Administration Building
35	Adult Training Program (ATP)
20	Kitchen
5	Activities Building
66	Nursing Facility
25	Behavioral Health Facility
10	Laundry Facility
4	Commissary
50	Maintenance Facility

j. Approximately how many people would the completed project displace?

The completed project will not displace any people.

k. Proposed measures to avoid or reduce displacement impacts, if any:

No specific measures are proposed as the proposal would not result in the displacement of any individuals.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

None proposed. The proposal is compatible with existing and projected land uses.

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any:

None proposed. The proposal is not anticipated to impact agricultural and forest lands of long-term commercial significance.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

No additional residential capacity will be added with this proposal. Fircrest School currently has 10 Intermediate Care Facility (ICF) cottages each with a 16-bed capacity. The proposal will remove four of the 16-bed cottages and construct 14 new 4-bed ICF cottages. The cottages function as intermediate care facilities for individuals with intellectual disabilities.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

Four of the 16-bed ICF cottages will be eliminated with this proposal.

c. Proposed measures to reduce or control housing impacts, if any:

None proposed.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

All proposed developments contained within the Master Development Plan are either one- or two-story structures with the exception of possible multi-story development in the southeast corner where civic and/or commercial development is proposed. The maximum height of these multi-story buildings will be less than the maximum allowed in the campus zone of 65 feet. The principal exterior building material will be durable, high quality, and urban building materials that minimize maintenance cost and provide visual interest from all observable vantage points.

b. What views in the immediate vicinity would be altered or obstructed?

There are no views in the immediate vicinity that would be altered or obstructed by this proposal.

c. Proposed measures to reduce or control aesthetic impacts, if any:

New buildings will replace depleted aging facilities and will meet the City's development and design standards and therefore be more aesthetic by nature. New development will also include landscaping and parking lot improvements.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

Proposed projects will provide exterior lights on the building, site pedestrian paths, and parking areas. Lights will be used to enhance safety and lighting would mainly occur from dusk to dawn. Indoor lighting may be seen through building windows after daylight hours.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No, the lighting will be produced to enhance safety. The lights will be directed downward so as not to interfere with views or cause glare.

c. What existing off-site sources of light or glare may affect your proposal?

No off-site sources of light or glare are expected to impact the proposal.

d. Proposed measures to reduce or control light and glare impacts, if any:

The majority of buildings on the site are setback and shielded from adjacent properties and public rights-of-way. Lighting fixtures will be shielded, and lighting will be cast downward to reduce light and glare impacts to adjacent properties.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

In the southern portion of the campus there is a small off-leash dog park leased by the City of Shoreline. Directly north of the project site is Hamlin Park which offers wooded walking trails, baseball fields, and covered picnic areas. Directly east of the project site is Shorecrest High School which has an athletic track, football field, and baseball fields. Approximately 1,500 feet to the west of the project site is Paramount Park where there is a playground, soccer field, baseball fields, skate park, walking loop, and covered picnic areas.

b. Would the proposed project displace any existing recreational uses? If so, describe.

The proposed project will replace the small off-leash dog park with other recreational uses. The City has indicated the small off-leash dog park is not a long-term solution. The City is in the process of locating a permanent solution.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

The proposal includes establishing an open space area at the southeastern portion of the site and the development of a series of walking trails in the northern portion of the site providing pedestrian connections from the historic chapel to Hamlin Park.

13. Historic and cultural preservation

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers? If so, specifically describe.

Yes, there is an on-site chapel that was constructed in 1944, which was designated as a local landmark in 2021. There is an area of landscape around the chapel that is also legally described within the landmark designation.

There are other buildings on the campus that are older than 45 years. Buildings are primarily used to support the Fircrest School Residential Habilitation Center's programmatic needs. These buildings are not currently listed on a national, state, or local preservation register.

b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

The DAHP Washington Information System for Architectural and Archaeological Records Data (WISAARD) did not identify any landmarks, features, or other evidence of Indian or historic use or occupation on or near the site.

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

The proposal utilized the Washington Information System for Architectural and Archaeological Records Data (WISAARD) online database to assess potential impacts to cultural and historic resources on and near the proposal.

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

No disturbance to cultural or historical resources is expected. The Washington State Department of Archaeology and Historic Preservation will be notified if any cultural or archeological objects are found during the site development work. If cultural or archaeological resources are found, then all site work will stop until Washington State Department of Archaeology and Historic Preservation provides guidance.

14. Transportation

a. Identify public streets and highways serving the site or affected geographic area **and describe proposed access to the existing street system. Show on site plans, if any.**

The site is bounded on the west by 15th Avenue NE, on the north and northeast by Hamlin Park, on the east and southeast by Shorecrest High School and South Woods Park, and on the south by NE 150th Street.

Primary vehicular access to the campus is provided from 15th Avenue NE at its signalized intersection with NE 155th Street. The site can also be accessed from two driveways on NE 150th Street. The eastern access opposite 20th Avenue NE provides access to the undeveloped off-leash dog park and connects to the support-function buildings at the

Fircrest School campus. The western access is located opposite 17th Avenue NE and provides access to the Department of Health parcel, but also connects internally to the Fircrest School campus near the southernmost PAT A residential cottage building.

With the proposed Master Development Plan, vehicular access to the site would occur from two locations—the primary main campus access would remain from the existing signalized access driveway on 15th Avenue NE opposite NE 155th Street. The new development at the southeast corner would be accessed from a new driveway on NE 150th Street located about 290 feet west of 20th Avenue NE. The eastern most driveway on NE 150th Street would be removed; the western access located opposite 17th Avenue NE and providing access to the Department of Health parcel would remain but would no longer connect internally to the Fircrest Campus. An existing gated access on 15th Avenue NE about 350 feet north of NE 155th Street is planned to be retained but remain gated with access limited to emergency and/or maintenance vehicles.

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

Yes, the site is served by King County Metro Transit Routes 330 and 348. Route 348 operates along 15th Avenue NE adjacent to the site; Route 330 operates along NE 150th Street, 25th Avenue NE, and NE 155th Street. The closest stops are located adjacent to the site on 15th Avenue NE at its intersection with NE 155th Street.

Less than a mile to the west of the Fircrest School site, Sound Transit is constructing the 148th Street Transit Station as part of the Lynnwood Link Light Rail Extension project.

c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?

The completed proposal will have a total of 812 parking spaces (an increase of 271 spaces).

d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

Frontage improvements will be constructed along the portions of campus included in the Master Development Plan and are proposed to be completed in phases with triggers based on campus improvements. No other changes to the existing off-site roadway network are proposed.

e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

The project would not use or occur in the immediate vicinity of water, rail, or air transportation.

f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?

Based on daily trip generation rates published for the range of existing and proposed used contemplated by the Master Development Plan, the campus could generate a net increase of up to 3,710 trips per day (1,855 in, 1,855 out). The peak traffic volumes would continue to occur during the commuter peak hours (between 7:00 and 9:00 a.m. and between 4:00 and 6:00 p.m.)

Truck trips are expected to continue serving the site for deliveries of food and supplies, trash and recycling pick-up, and maintenance. Based on truck trip generation rates published for the range of existing and proposed used contemplated by the Master Development Plan, the campus could generate a net increase of about 22 truck trips per day (11 in, 11 out). Overall, truck trips would likely represent about 1.5% to 2% of the total daily traffic.

g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

The proposal would not interfere with the movement of agricultural or forest products on streets in the area because no agricultural or working forest lands are located within the vicinity of the project site.

h. Proposed measures to reduce or control transportation impacts, if any:

The following measures have been incorporated into the proposal to reduce the traffic and parking impacts with the project.

1) Construction Transportation Management Plan (CTMP) – DSHS would require the selected contractor to develop a CTMP. The CTMP would address traffic and pedestrian control during each major phase of construction. It would confirm truck routes, lane closures, walkway routes and closures, and parking disruptions, as necessary. The CTMP may also include measures to keep adjacent streets clean on a daily basis at the truck exit points (such as street sweeping or on-site truck wheel cleaning) to reduce tracking dirt off site. The CTMP would identify parking locations for the construction personnel, staff, and fleet vehicles.

2) Contribute to cost of improvements (e.g., signalization or conversion to roundabout) at NE 150th Street / 25th Avenue NE – The NE 150th Street / 25th Avenue NE intersection is forecast to operate at LOS F without the project. The added AM and PM peak hour project trips are forecast to cause large increases in delay. As a result, it would also be appropriate for the project to contribute a proportionate share toward the costs of operational improvements (such as signalization or conversion to roundabout) to mitigate these impacts. Project traffic is estimated to represent between 2.7% and 3.4% of the total entering AM and PM peak hour volumes and would be reasonable contribution portions, if the improvement is not incorporated into the City's Transportation Impact Fee system.

3) Signal optimization for NE 150th and NE 155th Street intersections on 15th Avenue NE - Based on the level of delay forecast to be added and the City of Shoreline's currently-adopted LOS standards, it may be desirable to implement operational mitigation measures at the two signalized intersections on 15th Avenue NE closest to the site Signal timing optimization at the NE 150th Street and signal phasing and

channelization changes at the NE 155th Street intersection (to provide concurrent protected-permitted left-turn phasing) could reduce delays noticeably. It may be appropriate for the project to contribute a proportionate share toward the costs of signal optimization improvements to mitigate these impacts. Project traffic is estimated to represent between 9% and 17% of the total entering AM and PM peak hour volumes at these two intersections and would be reasonable contribution portions, if these improvements are not incorporated into the City's Transportation Impact Fee system.

4) Parking analysis at time of development permitting – Parking supply for each individual Master Plan element would be determined at the time of permit application, and the number of spaces needed will depend on the intended building program. It is expected that sufficient supply would be provided to meet project parking demand. If future demand is estimated to exceed the supply, then the proponent would be required to perform further studies to determine if parking mitigation (e.g., share parking or trip reduction strategies) would be needed.

15. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.

The proposed Master Development Plan is may increase need for public services. The Department of Social and Health Services (DSHS) will contract with Public Services providers to support any increase in services. The DSHS currently has agreements with Public Services providers that can easily be amended.

b. Proposed measures to reduce or control direct impacts on public services, if any.

No special measures are proposed.

16. Utilities

a. Circle utilities currently available at the site:

electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other _____

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

Electricity: Seattle City Light
Natural Gas: Puget Sound Energy
Water: North City Water District. Future water infrastructure will include new water storage tanks to provide additional fire flow volume.
Refuse Service: Recology
Telephone: CenturyLink
Sanitary Sewer: City of Shoreline Public Works

C. Signature

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: 

Name of Signee: Wayne E. Carlson, FAICP, LEED AP

Position and Agency/Organization: Principal Planner, AHBL Inc.

Date Submitted: September 16, 2022

A.2 2007 CAPITAL BUDGET

CERTIFICATION OF ENROLLMENT

ENGROSSED SUBSTITUTE HOUSE BILL 1092

Chapter 520, Laws of 2007

(partial veto)

60th Legislature
2007 Regular Session

CAPITAL BUDGET

EFFECTIVE DATE: 05/15/07 - Except section 6035, which becomes effective 07/01/07; and section 6037, which becomes effective 06/30/11.

Passed by the House April 22, 2007
Yeas 96 Nays 1

FRANK CHOPP

Speaker of the House of Representatives

Passed by the Senate April 21, 2007
Yeas 46 Nays 0

BRAD OWEN

President of the Senate

Approved May 15, 2007, 3:27 p.m., with the exception of sections 1032(2); 1068, page 42, lines 8 through 12; 3181, page 143, lines 22 through 33 and page 144, lines 1 through 22; 3204(2); 6023; 6024; 6030; and 6031 which are vetoed.

CHRISTINE GREGOIRE

Governor of the State of Washington

CERTIFICATE

I, Richard Nafziger, Chief Clerk of the House of Representatives of the State of Washington, do hereby certify that the attached is **ENGROSSED SUBSTITUTE HOUSE BILL 1092** as passed by the House of Representatives and the Senate on the dates hereon set forth.

RICHARD NAFZIGER

Chief Clerk

FILED

May 16, 2007

Secretary of State
State of Washington

ENGROSSED SUBSTITUTE HOUSE BILL 1092

AS RECOMMENDED BY THE CONFERENCE COMMITTEE

Passed Legislature - 2007 Regular Session

State of Washington 60th Legislature 2007 Regular Session

By House Committee on Capital Budget (originally sponsored by Representatives Fromhold, McDonald, Ormsby, Blake, Moeller and Wallace; by request of Governor Gregoire)

READ FIRST TIME 03/23/07.

AN ACT Relating to the capital budget; making appropriations and authorizing expenditures for capital improvements; amending RCW 43.19.125, 79.17.210, 70.105D.070, 43.43.944, and 43.155.050; amending 2005 c 488 ss 165, 347, 357, and 955 (uncodified); amending 2006 c 371 ss 106, 191, and 192 (uncodified); reenacting and amending RCW 43.135.045 and 43.155.050; adding new sections to 2006 c 371 (uncodified); creating new sections; providing effective dates; providing expiration dates; and declaring an emergency.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF WASHINGTON:

NEW SECTION. **Sec. 1.** (1) A capital budget is hereby adopted and, subject to the provisions set forth in this act, the several dollar amounts hereinafter specified, or so much thereof as shall be sufficient to accomplish the purposes designated, are hereby appropriated and authorized to be incurred for capital projects during the period beginning with the effective date of this act and ending June 30, 2009, out of the several funds specified in this act.

(2) The definitions in this subsection apply throughout this act unless the context clearly requires otherwise.

(a) "Fiscal year 2008" or "FY 2008" means the fiscal year ending June 30, 2008.

(b) "Fiscal year 2009" or "FY 2009" means the fiscal year ending June 30, 2009.

(c) "Lapse" or "revert" means the amount shall return to an unappropriated status.

(d) "Provided solely" means the specified amount may be spent only for the specified purpose.

Unless otherwise specifically authorized in this act, any portion of an amount provided solely for a specified purpose that is not expended subject to the specified conditions and limitations to fulfill the specified purpose shall lapse.

PART 1
GENERAL GOVERNMENT

NEW SECTION. **Sec. 1001. FOR THE OFFICE OF THE SECRETARY OF STATE**

Acquisition of Fredericks Collection (08-2-950)

Reappropriation:

Archives and Records Account--State $100,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $100,000

NEW SECTION. **Sec. 1002. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Rural Washington Loan Fund (88-2-002)

Reappropriation:

Rural Washington Loan Account--State $2,773,000

Prior Biennia (Expenditures) $1,122,000

Future Biennia (Projected Costs) $0

TOTAL $3,895,000

NEW SECTION. **Sec. 1003. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Cancer Research Facility Grant (01-S-005)

Reappropriation:

State Building Construction Account--State $667,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $667,000

NEW SECTION. **Sec. 1004. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Coastal Erosion Grants (01-S-019)

Reappropriation:

State Building Construction Account--State $316,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $316,000

NEW SECTION. **Sec. 1005. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Housing Assistance, Weatherization, and Affordable Housing (04-4-003)

Reappropriation:

State Taxable Building Construction Account--State . . . $156,000

Prior Biennia (Expenditures) $16,075,000
Future Biennia (Projected Costs) $0
TOTAL $16,231,000

NEW SECTION. **Sec. 1006. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Highline School District Aircraft Noise Mitigation (03-H-001)

The reappropriation in this section is subject to the following conditions and limitations:

(1) The reappropriation in this section is subject to the Highline school district, the port of Seattle, and the federal aviation administration each matching the appropriation in section 150, chapter 26, Laws of 2003, 1st sp. sess.

(2) This reappropriation does not commit the state to make future appropriations for this program.

Reappropriation:

State Building Construction Account--State $4,699,000

Prior Biennia (Expenditures) $5,300,000
Future Biennia (Projected Costs) $0
TOTAL $9,999,000

NEW SECTION. **Sec. 1007. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

City of Woodland Infrastructure Development (04-4-959)

The reappropriation in this section is subject to the following conditions and limitations:

(1) The project must comply with RCW 43.63A.125(2)(c) and other requirements for community projects administered by the department.

(2) The reappropriation is provided solely for allocation by the department to the city of Woodland for infrastructure development, including drainage improvements and a dike access road.

Reappropriation:

State Building Construction Account--State $79,000

Prior Biennia (Expenditures) $222,000
Future Biennia (Projected Costs) $0
TOTAL $301,000

NEW SECTION. **Sec. 1008. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Drinking Water Assistance Account (04-4-002)

The reappropriations in this section are subject to the following conditions and limitations:

(1) Expenditures of the appropriation shall comply with RCW 70.119A.170.

(2)(a) The state building construction account reappropriation is provided solely to provide assistance to counties, cities, and special purpose districts to identify, acquire, and rehabilitate public water systems that have water quality problems or have been allowed to deteriorate to a point where public health is an issue. Eligibility is confined to applicants that already own at least one group A public water system and that demonstrate a track record of sound drinking water utility management. Funds may be used for: Planning, design,

and other preconstruction activities; system acquisition; and capital construction costs.

(b) The state building construction account reappropriation must be jointly administered by the department of health, the public works board, and the department of community, trade, and economic development using the drinking water state revolving fund loan program as an administrative model. In order to expedite the use of these funds and minimize administration costs, this reappropriation must be administered by guidance, rather than rule. Projects must generally be prioritized using the drinking water state revolving fund loan program criteria. All financing provided through this program must be in the form of grants that must partially cover project costs. The maximum grant to any eligible entity may not exceed twenty-five percent of the funds allocated to the appropriation in section 201, chapter 277, Laws of 2004.

Reappropriation:

Drinking Water Assistance Account--State	$5,227,000
State Building Construction Account--State	$1,249,000
Drinking Water Assistance Repayment Account--State	$4,200,000
Subtotal Reappropriation	$10,676,000
Prior Biennia (Expenditures)	$6,024,000
Future Biennia (Projected Costs)	$0
TOTAL	$16,700,000

NEW SECTION. **Sec. 1009. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Drinking Water SRF - Authorization to Use Loan Repayments (04-4-010)

Reappropriation:

Drinking Water Assistance Repayment Account--State	$15,200,000
Prior Biennia (Expenditures)	$0
Future Biennia (Projected Costs)	$0
TOTAL	$15,200,000

NEW SECTION. **Sec. 1010. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Lewis & Clark Confluence Project (04-2-954)

The reappropriation in this section is subject to the following conditions and limitations: The project must comply with RCW 43.63A.125(2)(c) and other requirements for community projects administered by the department.

Reappropriation:

State Building Construction Account--State $1,017,000

Prior Biennia (Expenditures) $3,983,000

Future Biennia (Projected Costs) $0

TOTAL $5,000,000

NEW SECTION. **Sec. 1011. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Local/Community Projects (04-4-011)

The reappropriation in this section is subject to the following conditions and limitations:

(1) The projects must comply with RCW 43.63A.125(2)(c) and other requirements for community projects administered by the department, except that the Highline historical society project is land acquisition.

(2) The reappropriation is subject to the project list in section 204, chapter 277, Laws of 2004.

Reappropriation:

State Building Construction Account--State $1,936,000

Prior Biennia (Expenditures) $11,379,000

Future Biennia (Projected Costs) $0

TOTAL $13,315,000

NEW SECTION. **Sec. 1012. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Public Works Trust Funds (04-4-001)

Reappropriation:

Public Works Assistance Account--State $112,309,000

Prior Biennia (Expenditures) $249,714,000

Future Biennia (Projected Costs) $0

TOTAL $362,023,000

NEW SECTION. **Sec. 1013. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Building for the Arts (06-4-005)

The reappropriation in this section is subject to the following conditions and limitations:

(1) The reappropriation is subject to the provisions of RCW 43.63A.750.

(2) The reappropriation is subject to the project list in section 104, chapter 371, Laws of 2006.

Reappropriation:

State Building Construction Account--State $4,263,000

Prior Biennia (Expenditures) $427,000

Future Biennia (Projected Costs) $0

TOTAL $4,690,000

NEW SECTION. **Sec. 1014. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Community Services Facilities Program (06-4-006)

The reappropriation in this section is subject to the following conditions and limitations:

(1) The reappropriation is subject to the provisions of RCW 43.63A.125.

(2) The reappropriation is subject to the project list in section 123, chapter 488, Laws of 2005 and section 111, chapter 8, Laws of 2001 2nd sp. sess.

Reappropriation:

State Building Construction Account--State $952,000

Prior Biennia (Expenditures) $4,394,000

Future Biennia (Projected Costs) $0

TOTAL $5,346,000

NEW SECTION. **Sec. 1015. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Local/Community Projects (06-4-008)

The reappropriation in this section is subject to the following conditions and limitations:

(1) The projects must comply with RCW 43.63A.125(2)(c) and other requirements for community projects administered by the department.

(2) Funding for the Inland Northwest Science and Technology Center shall be held in reserve until the balance of phase I funding has been secured or committed from local government and community sources.

(3) The Washington state arts commission shall design a plaque that shall be affixed to buildings or displayed as part of a project receiving any appropriation from this section. The plaque shall provide information to the public that the building or project has been made possible by the tax dollars of Washington citizens. The commission may contact the secretary of state to obtain approval for use of the Washington seal in the design of the plaque. The final design shall be approved by the chairs and ranking members of the house of representatives capital budget committee and the senate ways and means committee.

(4) The reappropriation is subject to the project list in section 106, chapter 371, Laws of 2006.

Reappropriation:

State Building Construction Account--State $29,192,000

Prior Biennia (Expenditures) $20,608,000

Future Biennia (Projected Costs) $0

TOTAL $49,800,000

NEW SECTION. **Sec. 1016. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Youth Recreational Facilities Program (06-4-007)

The reappropriation in this section is subject to the following conditions and limitations:

(1) The reappropriation is subject to the provisions of RCW 43.63A.135.

(2) The reappropriation is subject to the project list in section 136, chapter 488, Laws of 2005.

Reappropriation:

State Building Construction Account--State $1,323,000

Prior Biennia (Expenditures) $1,977,000

Future Biennia (Projected Costs) $0

TOTAL $3,300,000

NEW SECTION. **Sec. 1017. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Community Economic Revitalization Board (CERB) (06-4-011)

The reappropriation in this section is subject to the following conditions and limitations: A maximum of twenty-five percent of the reappropriation in this section may be used for grants.

Reappropriation:

Public Facility Construction Loan Revolving Account--State $20,209,000

Prior Biennia (Expenditures) $241,000

Future Biennia (Projected Costs) $0

TOTAL $20,450,000

NEW SECTION. **Sec. 1018. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Drinking Water Assistance Program (06-4-003)

Reappropriation:

Drinking Water Assistance Account--State $8,100,000

Drinking Water Assistance Repayment Account--State . . $21,780,000

Subtotal Reappropriation $29,880,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $29,880,000

NEW SECTION. **Sec. 1019. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Housing Assistance, Weatherization, and Affordable Housing (06-4-001)

Reappropriation:

State Taxable Building Construction Account--State $43,308,000

Prior Biennia (Expenditures) $70,792,000

Future Biennia (Projected Costs) $0

TOTAL $114,100,000

NEW SECTION. **Sec. 1020. FOR THE DEPARTMENT OF COMMUNITY, TRADE,**

AND ECONOMIC DEVELOPMENT

Housing Assistance, Weatherization, and Affordable Housing (06-4-851)

The reappropriations in this section are subject to the following conditions and limitations:

(1) $7,800,000 of the reappropriation from the Washington housing trust account is provided solely for the backlog, as defined by the department, of projects determined by the department to be eligible under chapter 43.185 or 43.185A RCW.

(2) $4,500,000 of the reappropriation from the Washington housing trust account is provided solely for weatherization administered through the energy matchmakers program.

(3) $850,000 of the reappropriation from the Washington housing trust account is provided solely to promote development of safe and affordable housing units for persons eligible for services from the division of developmental disabilities within the department of social and health services.

(4) $500,000 of the reappropriation from the Washington housing trust account is provided solely for shelters, transitional housing, or other housing facilities for victims of domestic violence.

(5) $3,000,000 of the reappropriation from the Washington housing trust account is provided solely for farm worker housing projects and programs to meet the full spectrum of housing needs of Washington's farm workers and their families. The department shall work with stakeholders representing a diversity of farm worker housing interests to develop a strategic plan in implementing this provision.

(6) $200,000 of the reappropriation from the Washington housing trust account is provided solely for the implementation and management of a manufactured/mobile home landlord-tenant ombudsman conflict resolution program by the office of mobile home affairs as generally described in section 3, chapter 429, Laws of 2005. The office of mobile home affairs shall also determine the number of complaints made to the department since May of 2005 that, in the best estimate of the department, do in fact present violations of chapter 59.20 RCW and shall produce a summary of the number and types of complaints. The office of mobile home affairs shall also continue to maintain and update a database with information about all mobile home parks and manufactured housing communities. The office of mobile home affairs

shall provide a report regarding the activities and results of the program to the appropriate committees of the house of representatives and the senate by December 31, 2007.

(7) $150,000 of the appropriation from the Washington housing trust account is provided solely for a program to assist individuals and communities in the home-buying process, including, but not limited to: Homebuyer education classes, credit and budget counseling, financial literacy training, and down payment assistance programs. The department shall contract with a nonprofit organization as defined under section 501(c)(3) of the Internal Revenue Code or similar successor provision that has experience and expertise in addressing language access barriers in the home-buying process to implement this program.

(8) The reappropriation in this section must be included in the calculation of annual funds available for determining the administrative costs of the department, which shall not exceed five percent of the annual funds available for the housing assistance program and the affordable housing program as authorized under RCW 43.185.050 and 43.185A.030.

Reappropriation:

Washington Housing Trust Account--State	$16,502,000
Homeless Families Services Account--State	$4,000,000
Subtotal Reappropriation	$20,502,000
Prior Biennia (Expenditures)	$499,000
Future Biennia (Projected Costs)	$0
TOTAL	$21,001,000

NEW SECTION. **Sec. 1021. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Job/Economic Development Grants (06-4-950)

The reappropriation in this section is subject to the following conditions and limitations:

(1) The reappropriation is subject to the project list in section 107, chapter 371, Laws of 2006.

(2) $1,000,000 of the reappropriation for the Pacific Northwest national labs campus infrastructure project is provided solely for giga-pop infrastructure.

(3) $5,000,000 of the reappropriation is provided solely for military communities infrastructure projects. Military communities infrastructure projects shall include:

(a) Grants to counties and cities for the purchase of development easements and the purchase of real property in fee simple to restrict the use of accident potential zones and clear zones. The office of financial management shall establish a competitive process for selecting projects to receive the grants. Final allocation of these grants shall be at the discretion and with the approval of the director of the office of financial management.

The grants are subject to the following conditions:

(i) The county or city must be subject to and in compliance with RCW 36.70A.530;

(ii) The grants may not be used to remove encroachments into these zones allowed by county or city zoning or permitting actions;

(iii) The county or city must have an encroachment prevention plan preventing future encroachment into these zones; and

(iv) The grant provided by the state must not exceed one-third of the project cost with funds from local and federal sources providing the balance of the funds.

(b) Up to $481,000 of the reappropriation is provided solely for improvements to a military department site on Fairchild air force base.

Reappropriation:

Public Works Assistance Account--State $31,481,000

Prior Biennia (Expenditures) $18,519,000

Future Biennia (Projected Costs) $0

TOTAL $50,000,000

NEW SECTION. **Sec. 1022. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Jobs in Communities (06-4-951)

The reappropriation in this section is subject to the following conditions and limitations:

(1) The projects must comply with RCW 43.63A.125(2)(c) and other requirements for community projects administered by the department.

(2) The reappropriation is subject to the project list in section 140, chapter 488, Laws of 2005.

Reappropriation:
State Building Construction Account--State $10,965,000
Prior Biennia (Expenditures) $1,286,000
Future Biennia (Projected Costs) $0
TOTAL $12,251,000

NEW SECTION. **Sec. 1023. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Public Works Trust Fund (06-4-004)

Reappropriation:
Public Works Assistance Account--State $288,900,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $288,900,000

NEW SECTION. **Sec. 1024. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Rural Washington Loan Fund (06-4-010)

Reappropriation:
Rural Washington Loan Account--State $3,937,000
Prior Biennia (Expenditures) $191,000
Future Biennia (Projected Costs) $0
TOTAL $4,128,000

NEW SECTION. **Sec. 1025. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Water System Acquisition and Rehabilitation Program (06-4-850)

The reappropriation in this section is subject to the following conditions and limitations: The reappropriation must be jointly administered by the department of health, the public works board, and the department of community, trade, and economic development using the drinking water state revolving fund loan program as an administrative model. In order to expedite the use of these funds and minimize administration costs, this reappropriation must be administered by guidance, rather than rule. Projects must generally be prioritized using the drinking water state revolving fund loan program criteria.

All financing provided through this program must be in the form of grants that must partially cover project costs. The maximum grant to any eligible entity may not exceed twenty-five percent of the funds allocated to this appropriation.

Reappropriation:

State Building Construction Account--State $1,706,000

Prior Biennia (Expenditures) $295,000

Future Biennia (Projected Costs) $0

TOTAL $2,001,000

NEW SECTION. **Sec. 1026. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Grays Harbor Public Utility District Bioenergy Project (06-4-852)

Reappropriation:

Energy Freedom Account--State $2,100,000

Prior Biennia (Expenditures) $3,900,000

Future Biennia (Projected Costs) $0

TOTAL $6,000,000

NEW SECTION. **Sec. 1027. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Building for the Arts Grants (07-4-001)

The appropriation in this section is subject to the following conditions and limitations:

(1) The appropriation is subject to the provisions of RCW 43.63A.750.

(2) The appropriation is provided solely for the following list of projects:

Projects	**Location**	**Recommendation**
Wing Luke Asian museum	Seattle	$2,000,000
Friends of Gladish	Pullman	$48,000
Town hall association	Seattle	$750,000
Duwamish tribal services	Seattle	$275,000
Seattle art museum	Seattle	$1,750,000

Village theatre	Issaquah	$575,000
Artspace projects, Inc.	Seattle	$1,000,000
Suquamish foundation	Suquamish	$550,000
Edmonds center for the arts	Edmonds	$1,000,000
The Merc playhouse society	Twisp	$9,500
Orcas open arts	Eastsound	$70,000
Whatcom film association	Bellingham	$325,000
Whatcom museum society	Bellingham	$1,000,000
Seattle theatre group	Seattle	$750,000
Confluence gallery	Twisp	$77,000
Columbia theatre association	Longview	$750,000
San Juan community theatre	Friday Harbor	$193,000
Harlequin productions	Olympia	$75,000
Northshore performing arts center	Bothell	$350,000
Tacoma musical playhouse	Tacoma	$75,000
Wing it productions	Seattle	$20,000
826 Seattle	Seattle	$7,500
Cornish College of the Arts	Seattle	$350,000
Total		**$12,000,000**

Appropriation:
State Building Construction Account--State $12,000,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $48,000,000
TOTAL $60,000,000

NEW SECTION. **Sec. 1028. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Community Economic Revitalization Board (07-4-015)

The appropriation in this section is subject to the following conditions and limitations: A maximum of twenty-five percent of the appropriation may be used for grants.

Appropriation:
State Building Construction Account--State $12,711,000
Public Facility Construction Loan Revolving Account--State $7,289,000
Subtotal Appropriation $20,000,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $24,000,000
TOTAL $44,000,000

NEW SECTION. **Sec. 1029. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Community Services Facilities Grants (07-4-002)

The appropriation in this section is subject to the following conditions and limitations:

(1) The appropriation is subject to the provisions of RCW 43.63A.125.

(2) The appropriation is provided solely for the following list of projects:

Projects	**Location**	**Recommendation**
West Seattle food bank	Seattle	$400,000
Compass health	Lynnwood	$37,000
Neighborhood house	Seattle	$1,000,000
White Center emergency food association	White Center	$184,000
Garden-raised bounty	Olympia	$170,000
Food lifeline	Seattle	$122,000
Marysville food bank	Marysville	$187,000
Maple Valley food bank	Maple Valley	$117,000
The Arc of Whatcom county	Bellingham	$158,000
CAC of Lewis, Mason, and Thurston county	Lacey	$260,000
South county senior center	Edmonds	$200,000
Chief Seattle club	Seattle	$350,000
Senior center of West Seattle	Seattle	$500,000
YMCA of Snohomish county	Monroe	$1,000,000
The Salvation Army - Spokane	Spokane	$275,000
Asian counseling and referral services	Seattle	$1,000,000
Camas institute foundation	Usk	$650,000
Youth eastside services	Bellevue	$750,000
YMCA of Snohomish county	Everett	$275,000
Bellingham food bank	Bellingham	$400,000
N.A.T.I.V.E. project	Spokane	$375,000

Brigid Collins family support center	Bellingham	$400,000
Family resource center	Redmond	$150,000
Morningside	Olympia	$587,000
First step family support center	Port Angeles	$200,000
Olympic community action programs	Port Townsend	$400,000
Total		**$10,147,000**

Appropriation:
State Building Construction Account--State $10,147,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $40,000,000
TOTAL $50,147,000

NEW SECTION. **Sec. 1030. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Drinking Water Assistance Program (07-4-004)

Appropriation:
Drinking Water Assistance Account--State $7,200,000
Drinking Water Assistance Repayment Account--State . . $21,100,000
Subtotal Appropriation $28,300,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $155,400,000
TOTAL $183,700,000

NEW SECTION. **Sec. 1031. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Housing Assistance, Weatherization, and Affordable Housing (07-4-009)

The appropriation in this section is subject to the following conditions and limitations:

(1) $9,000,000 of the appropriation is provided solely for weatherization administered through the energy matchmakers program.

(2) $5,000,000 of the appropriation is provided solely to promote development of safe and affordable housing units for persons eligible for services from the division of developmental disabilities within the department of social and health services.

(3) $2,500,000 of the appropriation is provided solely for grants to nonprofit organizations and public housing authorities for revolving loan, self-help housing programs for low and moderate income families.

(4) $1,000,000 of the appropriation is provided solely for shelters, transitional housing, or other housing facilities for victims of domestic violence.

(5) $14,000,000 of the appropriation is provided solely for facilities housing low-income migrant, seasonal, or temporary farmworkers. The operation of the facilities built under this section shall be in compliance with 8 U.S.C. Sec. 1342. The department shall work with the farmworker housing advisory committee to prioritize funding of projects to the areas of highest need. Funding may also be provided, to the extent qualified projects are submitted, for health and safety projects. Any of this appropriation that is not obligated by June 30, 2009, shall be added to the amount appropriated for the general pool of projects.

(6) $5,000,000 of the appropriation is provided solely for the development of emergency shelters and transitional housing opportunities for homeless families with children.

(7) $4,000,000 of the appropriation is provided solely for the development of farm infrastructure improvements. Any of this appropriation that is not obligated by June 30, 2009, shall be added to the amount appropriated for the general pool of projects.

(8) $1,500,000 of the appropriation is provided solely for the development of housing for low-income or homeless Native Americans. The department shall work with Native American tribes, not-for–profit organizations with experience in serving Native American populations, and Native American housing development organizations to prioritize projects located in the areas of highest identified need.

(9) $4,000,000 of the appropriation is provided solely for loans and grants to eligible organizations to purchase manufactured/mobile home communities with the intent of preserving the communities for affordable housing.

(10) The appropriation in this section shall not be used for the administrative costs of the department. The amount of the appropriation shall be included in the calculation of annual funds available for determining the administrative costs authorized under RCW 43.185.050.

(11) Within available funding provided in this section, the department shall prepare an inventory of housing assistance programs. The inventory shall include all state funded programs, the housing finance commission programs, all programs funded by local governments and housing authorities, including a description of expenditures from fees and taxes specifically authorized by state law for housing assistance and homeless programs, all property tax and sales tax provisions that are intended to support housing assistance programs, and all federally funded housing assistance programs provided in the state. The inventory shall include a description of the program, biennial appropriation and expenditure levels since the 1999-2001 biennium through the 2007-2009 biennium, a description of eligibility criteria and the amount of benefit provided per unit or per family, and the number of units or families assisted. The department shall coordinate with the joint legislative audit and review committee to reduce duplicative efforts that may be required by legislation.

Appropriation:

State Taxable Building Construction Account--State $130,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $560,000,000

TOTAL $690,000,000

*NEW SECTION. **Sec. 1032. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Job Development Fund Grants (07-4-010)

The appropriation in this section is subject to the following conditions and limitations:

(1) Up to $429,000 of the appropriation in this section is for administration.

(2) The department shall not proceed with a competitive process for the 2009-2011 biennium.

(3) The appropriation is provided solely for the following list of projects:

Projects	Location	Recommendation
Mint farm industrial park phase 2 infrastructure improvements	City of Longview	$1,982,000
Fruitdale road/McGarigle road improvements	Skagit county	$2,277,000
Valentine road corridor improvements	City of Pacific	$4,946,000
Wenatchee waterfront revitalization project	City of Wenatchee	$10,000,000
Northeast Lacey public infrastructure and economic stimulus package	City of Lacey	$9,912,000
Soap Lake spa and wellness center	City of Soap Lake	$1,000,000
Port of Ephrata transportation center	Port of Ephrata	$471,000
Project Pier 1	Port of Anacortes	$5,610,000
Totem Lake mall and business center	City of Kirkland	$3,000,000
Burnham/Borgen interchange improvements	City of Gig Harbor	$5,000,000
Satsop development park turbine/administration building improvements	Grays Harbor public development authority	$5,053,000
Technical and scientific service incubator	City of Tacoma	$250,000
Total		**$49,501,000**

Appropriation:

Job Development Account--State $49,930,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $49,930,000

Sec. 1032 was partially vetoed. See message at end of chapter.

NEW SECTION. **Sec. 1033. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Belfair Sewer Improvements (08-4-852)

Appropriation:

Public Works Assistance Account--State $4,800,000

State Building Construction Account--State $5,500,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $10,300,000

NEW SECTION. **Sec. 1034. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Public Works Trust Fund (07-4-005)

Appropriation:

Public Works Assistance Account--State $327,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $1,400,000,000

TOTAL $1,727,000,000

NEW SECTION. **Sec. 1035. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Rural Washington Loan Fund (07-4-008)

Appropriation:

Rural Washington Loan Account--State $4,127,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $16,508,000

TOTAL $20,635,000

NEW SECTION. **Sec. 1036. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Youth Recreational Facilities Grants (07-4-003)

The appropriation in this section is subject to the following conditions and limitations:

(1) The appropriation is subject to the provisions of RCW 43.63A.135.

(2) The appropriation is provided solely for the following list of projects:

Projects	**Location**	**Recommendation**
YMCA of the inland northwest	Spokane	$800,000
Boys and girls clubs of south Puget Sound	Lakewood	$300,000
YMCA of Snohomish county	Mukilteo	$385,000
YMCA of Snohomish county	Everett	$800,000
Boys and girls club of south Puget Sound	Gig Harbor	$600,000
Toutle river ranch	Longview	$525,000

Boys and girls club of Bellevue	Bellevue	$800,000
YMCA of Tacoma-Pierce county	Gig Harbor	$800,000
Wenatchee valley YMCA	Wenatchee	$213,000
YMCA of greater Seattle	Seattle	$250,000
Maple Valley community center	Maple Valley	$100,000
Boys and girls clubs of King county	Seattle	$618,000
Filipino community of Seattle	Seattle	$146,000
Boys and girls clubs of King county	Seattle	$800,000
Ferndale boys and girls club	Ferndale	$863,000
Tacoma community center	Tacoma	$800,000
Mukilteo boys and girls club	Mukilteo	$250,000
Total		**$9,050,000**

Appropriation:

State Building Construction Account--State $9,050,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $32,000,000

TOTAL $41,050,000

NEW SECTION. **Sec. 1037. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

High Risk Forests Program (08-2-853)

The appropriation in this section is subject to the following conditions and limitations: The appropriation is provided solely for grants to an independent nonprofit land stewardship organization to purchase or lease development rights or conservation easements from willing family forest landowners facing pressure to convert their lands and who desire to keep their land as working forest. The organization shall award grants only for transfer of development rights programs approved by the local government participants.

Appropriation:

State Building Construction Account--State $3,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $3,000,000

NEW SECTION. **Sec. 1038. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Infrastructure Assistance (08-4-004)

The appropriation in this section is subject to the following conditions and limitations: The appropriation in this section is provided solely for an infrastructure grant to the city of Tieton for water system improvements.

Appropriation:

State Building Construction Account--State $2,627,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $2,627,000

NEW SECTION. **Sec. 1039. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Innovation Partnership Zones (08-2-003)

The appropriation in this section is subject to the following conditions and limitations: The state will designate unique areas of the state as innovation partnership zones, where globally competitive companies, research institutions, and advanced training are creating special competitive advantages for the state. From among the innovation partnership zones, using a competitive process based on need, estimated economic impact, geographic diversity, and local matches, five zones or projects will be selected to receive funding. The appropriation in this section is provided solely for shared telecommunications within the zone, shared infrastructure and facilities, long-term capital purchases, and up to 10 percent for zone administration through the locally-designated innovation partnership zone administrator. It is the intent of the legislature that innovation partnership zone grants should consider the commercialization of inventions and innovations.

Appropriation:

State Building Construction Account--State $5,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $5,000,000

NEW SECTION. **Sec. 1040. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Water System Acquisition Rehabilitation Program (07-4-006)

The appropriation in this section is subject to the following conditions and limitations: $1,000,000 of the appropriation is provided solely for the city of Republic to acquire the Pine Grove water system.

Appropriation:

State Building Construction Account--State $3,750,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $3,750,000

NEW SECTION. **Sec. 1041. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Local and Community Projects (08-4-001)

The appropriation in this section is subject to the following conditions and limitations:

(1) Except as directed otherwise prior to the effective date of this section, the department shall not expend the appropriations in this section unless and until the nonstate share of project costs have been either expended, or firmly committed, or both, in an amount sufficient to complete the project or a distinct phase of the project that is useable to the public for the purpose intended by the legislature.

(2) Prior to receiving funds, project recipients must demonstrate that the project site is under control for a minimum of ten years, either through ownership or a long-term lease. This requirement shall not apply to appropriations for preconstruction activities or appropriations whose sole purpose is to purchase real property that does not include a construction or renovation component.

(3) Projects funded in this section may be required to comply with Washington's high performance building standards as required by chapter 39.35D RCW.

(4) Project funds are available on a reimbursement basis only, and shall not be advanced under any circumstances.

(5) Projects funded in this section must be held by the recipient for a minimum of ten years and used for the same purpose or purposes intended by the legislature as required in RCW 43.63A.125(2)(c).

(6) Projects funded in this section, including those that are owned and operated by nonprofit organizations, are generally required to pay state prevailing wages.

(7) The appropriation provided in this section for the bridge for kids project shall not be released until the department obtains a report from the project sponsor updating the cost of the project and the current fund raising plan.

(8) Funding for preconstruction activities for the Camas and Washougal community and recreation center is contingent on voter approval of a metropolitan park district.

(9) The appropriation provided in this section for the Fox theater shall be provided only under an agreement that the theater shall retain its current name as the Fox theater.

(10) The appropriation in this section for the life support and emergency medical services infrastructure build-out project is provided solely for emergency medical services and medical care infrastructure consistent with the adopted mission, goals, and capital plan of the 501(c)(3) life support.

(11) The port of Grays Harbor project is a loan that is subject to the provisions of chapter 171, Laws of 2006.

(12) The appropriation is provided solely for the following list of projects:

Project Name	Amount
800 MhZ interoperability public safety communication	$1,000,000
Aberdeen union gospel mission	$562,000
Arts west playhouse and gallery	$150,000
Ashford cultural center and mountaineering museum	$800,000
Asian counseling/referral services	$2,000,000
Aviation high school	$275,000
Ballard corners park	$125,000
Beaver mitigation of Little Spokane river	$75,000
Benton City food bank	$200,000
Bethel community center	$1,000,000
Blueberry park improvements	$5,000
Bothell crossroads/state route 522 realignment - land	

acquisition and preconstruction activities	$7,000,000
Bowen field	$500,000
Bremerton downtown economic revitalization projects	$5,000,000
Bridge for kids	$500,000
Burbank water improvement	$1,621,000
Burien town square	$1,600,000
Camp kilworth land acquisition - Federal Way	$1,100,000
Cannon house	$750,000
Chambers creek pedestrian bridge	$1,000,000
Chehalis middle school track improvement	$350,000
Chehalis veterans wall of honor security enclosure	$25,000
Chelan county public utility district monitor domestic water system	$800,000
Children's hospital	$2,500,000
Cities of Camas and Washougal community/recreation center preconstruction activities	$500,000
City of Everett - senior center expansion and upgrade	$400,000
City of Everett minor league baseball - aquasox	$433,000
City of Kent event center	$3,000,000
City of Mount Vernon downtown and waterfront flood control	$1,000,000
City of Puyallup riverwalk trail project	$600,000
City of Tacoma minor league baseball - rainiers	$2,500,000
City of Yakima minor league baseball	$594,000
Civil war cemetery near volunteer park	$5,000
Columbia Springs environmental learning center preconstruction or construction activities	$200,000
Confluence project	$500,000
Counter balance park	$100,000
Coupeville covered play area	$113,000
Covered bridge park land acquisition (Grays river)	$90,000
Cowlitz drug treatment center	$580,000
Darrington water system improvements	$100,000
Dawson place child advocacy center land acquisition and renovation	$650,000
Daybreak star in Discovery park	$300,000
Dining car historic preservation	$50,000
Discovery park - Fort Lawton	$700,000

Duwamish education center	$2,000,000
Duwamish longhouse	$275,000
Eatonville family park	$200,000
Evergreen school district health and biosciences academy	$1,000,000
Federal Way little league field lighting	$50,000
Ferndale boys and girls club - urgent needs and preconstruction activities	$200,000
Fish lake trail	$1,000,000
Fort Dent sewer	$450,000
Foss waterway	$1,000,000
Fox theater	$2,000,000
Friends of hidden river preconstruction activities	$675,000
Goodwill of Tacoma	$1,500,000
Granite Falls museum	$30,000
High Point neighborhood center in West Seattle	$1,000,000
Highline school district noise mitigation	$3,500,000
Hill ward building removal	$550,000
Innovative services northwest	$1,900,000
Institute for community leadership	$700,000
Jewish federation of greater Seattle	$900,000
Kent alliance center	$500,000
Kirkland public safety campus land acquisition and preconstruction activities	$750,000
Kitsap SEED	$1,100,000
Klickitat law enforcement firing range	$20,000
Kruckeberg botanical garden	$150,000
Lake Stevens civic center	$800,000
Lake Stevens senior center	$200,000
Lake Waughop/department of ecology aquatic weeds	$50,000
Library connection at greenbridge	$200,000
Life support and emergency medical services infrastructure build-out	$2,700,000
Lions club renovation	$160,000
Long lake nutrient reduction	$300,000
Loon lake wood waste removal pilot study	$350,000
Lucy Lopez center land acquisition	$750,000
Maple Valley lake wilderness lodge and conference center	$1,500,000
Maple Valley legacy site planning and	

infrastructure development	$3,000,000
McCaw hall	$2,000,000
McDonald park	$150,000
Mercer slough environmental center	$1,500,000
Mill creek senior center	$150,000
Mirabeau Point children's universal park	$800,000
Mobius	$800,000
Monroe rotary field	$700,000
Morning star cultural center	$300,000
Mountains to sound - SR18/I90 interchange	$500,000
Nisei veterans committee	$250,000
NORCOM public safety communication	$750,000
Nordic heritage museum	$1,500,000
Northwest African American museum	$650,000
Northwest harvest	$3,000,000
Northwest stream center	$300,000
Oak Harbor dredging preconstruction activities	$59,000
Oak Harbor veterans memorial	$50,000
Okanogan Valley equestrian and cultural heritage center	$4,000,000
Palouse street safety improvements	$210,000
Performing arts center eastside	$2,000,000
Perry technical institute hanger	$250,000
Pike Place market	$1,070,000
Port of Benton transloader (railex)	$1,000,000
Port of Grays Harbor	$2,500,000
Port of Walla Walla wine incubator	$500,000
Poulsbo marine science center floating classroom	$100,000
Prime time repairs (terminally ill children)	$300,000
Puyallup town square	$200,000
Rainier lifelong learning center	$200,000
Richland Babe Ruth field complex	$1,000,000
Seatac World War I memorial plaza	$200,000
Seattle art museum	$1,250,000
Seattle children's play garden	$332,000
Seattle Chinese garden	$500,000
Shoreline YMCA	$800,000
Simon youth foundation resource center	$150,000
Skagit recreation and event center	$1,000,000

Snoqualmie railway history preconstruction activities	$600,000
Somerset village - Snohomish Y	$200,000
South Tacoma community center	$700,000
Spokane county minor league baseball - Indians	$2,000,000
Spokane Valley community center and foodbank	$260,000
Spokane YWCA/YMCA joint project	$2,500,000
Springwood youth center	$500,000
SR 395/court street pedestrian overpass	$400,000
Suquamish inviting house construction	$1,000,000
Tacoma narrows bridge lights	$1,500,000
Tonasket viewing platform	$100,000
Tanbara clinic - East Tacoma community	$850,000
The Northwest maritime center	$2,250,000
The Tri Cities minor league baseball	$666,000
Thurston county small business incubator	$750,000
Tokeland/North Cove water tank for fire	$10,000
Town square grid - drexler drive	$750,000
Tukwila southcenter parkway infrastructure	$4,000,000
Turning point domestic violence shelter	$700,000
University Place town square	$1,000,000
VaHalla hall	$750,000
Vancouver national historic reserve	$750,000
Vernetta Smith Chehalis timberland library	$500,000
Waitsburg flood control feasibility report	$29,000
Walla Walla county health center annex	$100,000
White Center heights park	$500,000
White Salmon water improvement	$1,500,000
Willapa harbor community center	$300,000
Wing-It productions historic theater	$20,000
Washington State University/Shoreline Community College zero energy house	$200,000
Yakima domestic violence shelter	$200,000
Yakima downtown futures initiative phase 3	$1,000,000
YMCA of Snohomish county: Ebey Island project	$2,200,000
Total	$132,619,000

Appropriation:

State Building Construction Account--State $132,619,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0
TOTAL $132,619,000

NEW SECTION. **Sec. 1042. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Community Development Fund (08-4-850)

The appropriation in this section is subject to the following conditions and limitations:

(1) The projects listed in this section must comply with RCW 43.63A.125(2)(c).

(2) The appropriation is provided solely for the following list of projects:

Project Name	Amount
CASA Latina	$1,000,000
Divine alternatives for dads services (DADS) center	$10,000
El Centro de la Raza center	$821,000
Hilltop renaissance community - Centro Latino	$1,950,000
Hilltop renaissance community - MLK development association	$4,000,000
HomeSight center	$250,000
Ilwaco community building	$2,700,000
Japanese cultural center of Washington	$1,000,000
KCR Bremerton community services center	$900,000
KDNA community center (Granger community center)	$500,000
Korean women's association center	$1,500,000
North helpline lake city court	$350,000
Salishan housing community	$2,900,000
Sea Mar family housing community	$1,500,000
Spokane east central community center	$150,000
Spokane emmanuel center	$500,000
Spokane Northeast community center	$1,000,000
Wapato Filipino American center	$135,000
Total	$21,166,000

Appropriation:
State Building Construction Account--State $21,166,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $21,166,000

NEW SECTION. **Sec. 1043. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Grays Harbor Wind Project (08-4-950)

Appropriation:

State Building Construction Account--State $5,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $5,000,000

NEW SECTION. **Sec. 1044. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Land Acquisition Revolving Loans (08-2-856)

The appropriation in this section is subject to the following conditions and limitations: The appropriation is provided solely to implement the land acquisition revolving loan program created in chapter . . . (Second Substitute House Bill No. 1401), Laws of 2007. If the bill is not enacted by June 30, 2007, the appropriation shall lapse.

Appropriation:

State Building Construction Account--State $1,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $1,000,000

NEW SECTION. **Sec. 1045. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Washington State Horse Park (08-2-004)

The appropriation in this section is subject to the following conditions and limitations: The appropriation in this section shall complete the state's capital obligation for the facility.

Appropriation:

State Building Construction Account--State $3,500,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $3,500,000

NEW SECTION. **Sec. 1046. FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT**

Small and Rural Fire Districts Facility Assessment (08-2-854)

The appropriation in this section is subject to the following conditions and limitations:

(1) The department of community, trade, and economic development, in consultation with the Washington fire commissioners association, the association of Washington fire chiefs, and the fiscal committees of the legislature, shall conduct a study of small and rural fire districts that have a limited fiscal capacity to finance fire district facilities. The study shall include but not be limited to the following:

(a) An assessment of small and rural fire districts' current and projected need for capital facilities;

(b) An assessment of the fiscal capacity of the fire districts to finance capital facilities; and

(c) The identification of potential sources of financial assistance for small and rural fire district and the ability of the districts to access such assistance.

(2) The department of community, trade, and economic development shall provide a report of the findings to the fiscal committees of the legislature by December 1, 2007.

Appropriation:

State Building Construction Account--State $30,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $30,000

NEW SECTION. **Sec. 1047. FOR THE OFFICE OF FINANCIAL MANAGEMENT**

Graving Dock Settlement (08-4-001)

The appropriation in this section is subject to the following conditions and limitations:

(1) The appropriation in this section is provided solely for the purposes of settling all identified and potential claims from the port of Port Angeles and the city of Port Angeles related to the construction of a graving dock facility on the graving dock property. In conjunction with the settlement agreement in *Lower Elwha Klallam*

Tribe et al v. State et al, Thurston county superior court, cause no. 05-2-01595-8, the city of Port Angeles, port of Port Angeles, and the state of Washington entered into an economic development agreement which settles all claims related to graving dock property and associated construction and releases the state from all claims related to the construction of the graving dock facilities. The expenditure of this appropriation is contingent on the conditions and limitation set forth in subsections (2), (3), and (4) of this section.

(2) $7,500,000 of the state building construction account--state appropriation is provided solely for the city of Port Angeles for funding capital projects intended to enhance economic development.

(3) $7,500,000 of the state building construction account--state appropriation is provided solely for the port of Port Angeles for funding capital projects intended to enhance economic development.

(4) $480,000 of the state building construction account--state appropriation is provided solely for the city of Port Angeles for archaeological work as specified in the settlement agreement.

Appropriation:

State Building Construction Account--State $15,480,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $15,480,000

NEW SECTION. **Sec. 1048. FOR THE OFFICE OF FINANCIAL MANAGEMENT**

Snohomish, Island, and Skagit County Regional Higher Education (08-2-001)

The appropriation in this section is subject to the following conditions and limitations:

(1) It is the intent of the legislature that the four-year institutions and the community and technical colleges work as cooperative partners to ensure the successful and efficient operation of the state's system of higher education. In furtherance of the state's responsibility for the expansion of baccalaureate and graduate educational programs in the central Puget Sound area, the University of Washington shall govern and operate an additional branch campus to be located in the Snohomish/Island/Skagit county area. Top priorities for the campus include expansion of upper division capacity for transfer

students and graduate students in high demand programs, with a particular focus on science, technology, and engineering. The campus may offer lower division courses linked to specific majors in fields not addressed at local community colleges. The campus may also directly admit freshmen and sophomores gradually and deliberately in accordance with a campus plan to be submitted to the higher education coordinating board. All student admissions will be carried out in accordance with coadmissions and proportionality agreements emphasizing access for transfer students codeveloped by the University of Washington and the state board for community and technical colleges.

(2) The office of financial management and the University of Washington are directed to assess options and make recommendations on the siting of the branch campus in the Snohomish/Island/Skagit county region and shall develop operational and management plans needed to establish the institution. The plans shall include but not be limited to a master business plan for design and implementation, and programs to be offered to address demographic pressures and workforce needs. Planning and analysis shall be done in coordination with the local community and existing higher education institutions. Site selection criteria shall include, but not be limited to: Meeting the objectives of the master business plan; meeting the unmet baccalaureate needs in the region, including high demand program needs; compliance with provisions of the state's growth management act; and accessibility from existing and planned transportation infrastructure.

(3) Five years from the time the first class of students enters the new institution, the higher education coordinating board will work with the new institution and a local advisory board to: (a) Review the extent to which the new institution is meeting the baccalaureate degree needs of the citizens and businesses of the region and state; (b) assess any additional steps needed to accomplish the goals set forth in subsection (1) of this section, and; (c) assess the relationship between the new institution and other higher education institutions in the region and the state.

(4) The state board for community and technical colleges and the University of Washington shall plan for transition of appropriate programs from the university center to upper division programs at the branch campus.

(5) The office of financial management and the University of Washington shall report to the governor and the appropriate committees of the senate and house of representatives by November 15, 2007, on campus siting recommendations and a preliminary design and implementation plan. The final design and implementation plan shall be delivered to the governor and the appropriate committees of the senate and house of representatives by June 1, 2008.

(6) The office of financial management may contract with outside sources to carry out the provisions of this section.

Appropriation:

State Building Construction Account--State $4,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $4,000,000

NEW SECTION. **Sec. 1049. FOR THE OFFICE OF FINANCIAL MANAGEMENT**

Higher Education Cost Escalation (08-2-854)

The appropriation in this section is subject to the following conditions and limitations: The appropriation in this section is provided solely for the office of financial management to assist public baccalaureate higher education institutions in managing unanticipated cost escalation for projects bid during the 2007-2009 biennium. Not more than $750,000 shall be made available to any single project and amounts used must be matched equally from other resources. The office of financial management shall manage the distribution of funds to ensure that the requesting institution has managed its project within the current appropriation through preparation of bid documents and that the scope of the project is no greater than originally specified in the design. Prior to approving use of a minor works appropriation as a match, and its transfer to the project with unanticipated cost escalation, the office of financial management shall require the institution to describe what it has done to identify and develop alternative resources for a match, and the specific minor works projects that would be deferred as a result of the transfer. The office of financial management shall report to the appropriate fiscal committees of the legislature on the use of these funds.

Appropriation:

State Building Construction Account--State $3,237,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $3,237,000

NEW SECTION. **Sec. 1050. FOR THE OFFICE OF FINANCIAL MANAGEMENT**
Oversight of State Facilities (08-2-855)

The appropriation in this section is subject to the following conditions and limitations: The appropriation is this section is provided solely for the office of financial management to strengthen its oversight role in state facility analysis and decision making as generally described in chapter . . . (Substitute House Bill No. 2366), Laws of 2007.

Appropriation:
State Building Construction Account--State $1,015,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $1,015,000

NEW SECTION. **Sec. 1051. FOR THE OFFICE OF FINANCIAL MANAGEMENT**
Cowlitz River Dredging (08-2-856)

The appropriation in this section is subject to the following conditions and limitations: The appropriation is provided solely for state participation in the federal maintenance dredging of the lower Cowlitz river to maintain flood protection for communities along the river and to protect the navigation channel of the Columbia river. The office of financial management may allocate funds to state agencies as needed to meet the state's obligations related to disposal of the dredged material.

Appropriation:
State Building Construction Account--State $1,000,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $1,000,000

NEW SECTION. **Sec. 1052. FOR THE DEPARTMENT OF GENERAL ADMINISTRATION**

Transportation Building Preservation (02-1-008)

Reappropriation:

Thurston County Capital Facilities Account--State . . . $2,928,000

Appropriation:

Thurston County Capital Facilities Account--State . . . $3,425,000

Prior Biennia (Expenditures) $5,252,000

Future Biennia (Projected Costs) $0

TOTAL $11,605,000

NEW SECTION. **Sec. 1053. FOR THE DEPARTMENT OF GENERAL ADMINISTRATION**

Capitol Public/Historic Facilities: Preservation Minor Works (06-1-006)

Reappropriation:

State Building Construction Account--State $327,000

Prior Biennia (Expenditures) $673,000

Future Biennia (Projected Costs) $0

TOTAL $1,000,000

NEW SECTION. **Sec. 1054. FOR THE DEPARTMENT OF GENERAL ADMINISTRATION**

Heritage Park Development (01-H-004)

Reappropriation:

State Building Construction Account--State $2,000

Prior Biennia (Expenditures) $1,676,000

Future Biennia (Projected Costs) $0

TOTAL $1,678,000

NEW SECTION. **Sec. 1055. FOR THE DEPARTMENT OF GENERAL ADMINISTRATION**

Engineering and Architectural Services (06-2-012)

Reappropriation:

Community/Technical College Capital Projects Account--State $850,000

Prior Biennia (Expenditures) $874,000
Future Biennia (Projected Costs) $0
TOTAL $1,724,000

NEW SECTION. **Sec. 1056. FOR THE DEPARTMENT OF GENERAL ADMINISTRATION**

Highway-License Building Repair and Renewal (06-1-013)

Reappropriation:
Thurston County Capital Facilities Account--State $497,000
Appropriation:
Thurston County Capital Facilities Account--State . . . $2,598,000
Prior Biennia (Expenditures) $354,000
Future Biennia (Projected Costs) $1,639,000
TOTAL $5,088,000

NEW SECTION. **Sec. 1057. FOR THE DEPARTMENT OF GENERAL ADMINISTRATION**

Natural Resources Building Repairs and Renewal (06-1-014)

Reappropriation:
Thurston County Capital Facilities Account--State $269,000
Appropriation:
State Vehicle Parking Account--State $258,000
Thurston County Capital Facilities Account--State . . . $2,223,000
Subtotal Appropriation $2,481,000
Prior Biennia (Expenditures) $233,000
Future Biennia (Projected Costs) $5,266,000
TOTAL $8,249,000

NEW SECTION. **Sec. 1058. FOR THE DEPARTMENT OF GENERAL ADMINISTRATION**

Statewide Infrastructure: Preservation Minor Works (06-1-004)

Reappropriation:
State Vehicle Parking Account--State $31,000
State Building Construction Account--State $246,000
Thurston County Capital Facilities Account--State . . . $1,824,000
Subtotal Reappropriation $2,101,000

Prior Biennia (Expenditures) $918,000
Future Biennia (Projected Costs) $0
TOTAL $3,019,000

NEW SECTION. **Sec. 1059. FOR THE DEPARTMENT OF GENERAL ADMINISTRATION**

Statewide Office Facilities: Preservation Minor Works (06-1-003)

Reappropriation:
Thurston County Capital Facilities Account--State $812,000
General Administration Service Account--State $510,000
Subtotal Reappropriation $1,322,000

Prior Biennia (Expenditures) $3,558,000
Future Biennia (Projected Costs) $0
TOTAL $4,880,000

NEW SECTION. **Sec. 1060. FOR THE DEPARTMENT OF GENERAL ADMINISTRATION**

Statewide Parking Facilities: Preservation Minor Works (06-1-007)

Reappropriation:
State Vehicle Parking Account--State $697,000

Prior Biennia (Expenditures) $183,000
Future Biennia (Projected Costs) $0
TOTAL $880,000

NEW SECTION. **Sec. 1061. FOR THE DEPARTMENT OF GENERAL ADMINISTRATION**

Capitol Campus High Voltage System Improvements (08-1-010)

Appropriation:
State Building Construction Account--State $2,204,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $2,204,000

NEW SECTION. **Sec. 1062. FOR THE DEPARTMENT OF GENERAL ADMINISTRATION**

Deferred Maintenance (08-1-018)

Appropriation:
State Building Construction Account--State $2,000,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $2,000,000

NEW SECTION. **Sec. 1063. FOR THE DEPARTMENT OF GENERAL ADMINISTRATION**

Emergency Repairs (08-1-001)

Appropriation:
State Building Construction Account--State $350,000
Thurston County Capital Facilities Account--State $900,000
General Administration Service Account--State $150,000
Subtotal Appropriation $1,400,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $6,000,000
TOTAL $7,400,000

NEW SECTION. **Sec. 1064. FOR THE DEPARTMENT OF GENERAL ADMINISTRATION**

Engineering and Architectural Services (08-2-013)

Appropriation:
Charitable, Educational, Penal, and Reformatory Institutions Account--State $380,000
State Vehicle Parking Account--State $133,000
State Building Construction Account--State $12,340,000
Thurston County Capital Facilities Account--State $461,000
General Administration Service Account--State $104,000
Subtotal Appropriation $13,418,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $42,815,000
TOTAL $56,233,000

NEW SECTION. **Sec. 1065. FOR THE DEPARTMENT OF GENERAL ADMINISTRATION**

Legislative Building Improvements (08-1-011)

The appropriation in this section is subject to the following conditions and limitations: $25,000 of the capitol building construction account appropriation is provided solely to establish a legislative gift center created in chapter . . . (Second Substitute House Bill No. 1896), Laws of 2007. If the bill is not enacted by June 30, 2007, the appropriation shall lapse.

Appropriation:

Capitol Building Construction Account--State	$701,000
State Building Construction Account--State	$550,000
Subtotal Appropriation	$1,251,000
Prior Biennia (Expenditures)	$0
Future Biennia (Projected Costs)	$2,836,000
TOTAL	$4,087,000

NEW SECTION. **Sec. 1066. FOR THE DEPARTMENT OF GENERAL ADMINISTRATION**

Minor Works - Facility Preservation (08-1-015)

Appropriation:

Capitol Building Construction Account--State	$1,715,000
State Building Construction Account--State	$1,456,000
Thurston County Capital Facilities Account--State	$3,634,000
General Administration Service Account--State	$1,386,000
Subtotal Appropriation	$8,191,000
Prior Biennia (Expenditures)	$0
Future Biennia (Projected Costs)	$20,365,000
TOTAL	$28,556,000

NEW SECTION. **Sec. 1067. FOR THE DEPARTMENT OF GENERAL ADMINISTRATION**

Minor Works - Infrastructure Preservation (08-1-004)

Appropriation:

Capitol Building Construction Account--State	$600,000
State Vehicle Parking Account--State	$22,000
State Building Construction Account--State	$3,000,000
Thurston County Capital Facilities Account--State	$1,899,000
General Administration Service Account--State	$200,000

Subtotal Appropriation $5,721,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $7,006,000
TOTAL $12,727,000

*NEW SECTION. **Sec. 1068. FOR THE DEPARTMENT OF GENERAL ADMINISTRATION**

Minor Works - Program (08-2-012)

The appropriation in this section is subject to the following conditions and limitations: The department shall post signs on eastbound and westbound 5th avenue in Olympia, Washington over Capitol Lake dam to notify cyclists that the bike lanes discontinue. The signs shall be posted in such a way to optimize visibility.

Appropriation:
State Building Construction Account--State $370,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $2,720,000
TOTAL $3,090,000

Sec. 1068 was partially vetoed. See message at end of chapter.

NEW SECTION. **Sec. 1069. FOR THE DEPARTMENT OF GENERAL ADMINISTRATION**

O'Brien Building Improvements (08-1-007)

Appropriation:
State Building Construction Account--State $2,981,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $15,501,000
TOTAL $18,482,000

NEW SECTION. **Sec. 1070. FOR THE DEPARTMENT OF GENERAL ADMINISTRATION**

Heritage Center/Executive Office Building Development (08-2-954)

The appropriation in this section is subject to the following conditions and limitations: Planning funds are provided solely for the development of a heritage center and executive office building on the west capitol campus. The project shall be procured under a general contractor construction management contract. Prior to issuing the

request for proposals for the project, the department shall report to the appropriate committees of the legislature the results of: (1) A detailed analysis of the soils of the proposed development site, including the stability of the soils and the affect on the cost of the project; and (2) cost reduction options resulting from a detailed "best study" or value engineering study. The report to the legislature shall be submitted prior to January 1, 2008. The request for proposal shall not be released prior to February 1, 2008.

Appropriation:

State Building Construction Account--State $2,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $2,000,000

NEW SECTION. **Sec. 1071. FOR THE DEPARTMENT OF GENERAL ADMINISTRATION**

Emergency Newhouse Repairs and South Campus Plan (08-2-952)

Appropriation:

State Building Construction Account--State $750,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $750,000

NEW SECTION. **Sec. 1072. FOR THE DEPARTMENT OF GENERAL ADMINISTRATION**

Capital Lake Plan Completion (08-2-953)

Appropriation:

State Building Construction Account--State $500,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $500,000

NEW SECTION. **Sec. 1073. FOR THE DEPARTMENT OF GENERAL ADMINISTRATION**

Oversight of State Facilities (08-2-853)

The appropriation in this section is subject to the following conditions and limitations: The appropriation is this section is provided solely for the department of general administration to assist the office of financial management with the development of six-year facility plans as generally described in chapter . . . (Substitute House Bill No. 2366), Laws of 2007.

Appropriation:

General Administration Services Account--State $345,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $345,000

NEW SECTION. **Sec. 1074. FOR THE DEPARTMENT OF GENERAL ADMINISTRATION**

Capital Campus Sundial Repair (08-1-853)

Appropriation:

Capitol Building Construction Account--State $5,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $5,000

NEW SECTION. **Sec. 1075. FOR THE DEPARTMENT OF INFORMATION SERVICES**

Wheeler Block Development--Department of Information Services, State Patrol, and General Office (08-2-950)

The appropriation in this section is subject to the following conditions and limitations: Planning funds are provided solely to lease/develop state office buildings and facilities for the department of information services on the "Wheeler block" of the east capitol campus. The office buildings shall be constructed and financed so that agencies' occupancy costs per gross square foot or per employee will not exceed 110 percent of comparable private market rental rates per gross square foot or per employee. The comparable general office space rate shall be calculated based on recent Thurston county leases of new space of at least 100,000 rentable square feet adjusted for known escalation clauses, expected inflation, and differences in the level of service provided by the comparable leases as determined by the

department in consultation with the department of general administration. In addition to the department of information services, state agency tenants shall include the state patrol and general office facilities for small agencies and offices. The department shall design and operate the general office facilities for small agencies and offices as a demonstration of the efficiencies gained from the integration of office space and telecommunications and computer technology. The demonstration project shall provide office space, furniture, and telecommunications and computer technology as a single package. The facility shall be designed so that small agencies and offices can move in and out of the facility without the typical moving expenses that result from individual agency ownership of furniture and technology. The facility for small agencies and offices shall also provide for staffing and space efficiencies resulting from central reception, and support services and spaces. The department of general administration shall coordinate with state agency tenants of the existing general administration building that will not be relocated to the new facilities of the "Wheeler block" for occupancy of state-owned or existing leased facilities vacated by the state patrol or the department of information services.

Appropriation:

State Building Construction Account--State $2,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $2,000,000

NEW SECTION. **Sec. 1076. FOR THE MILITARY DEPARTMENT**

Omnibus Support to Federal Preservation Projects (06-1-003)

Reappropriation:

State Building Construction Account--State $1,500,000

Prior Biennia (Expenditures) $5,993,000

Future Biennia (Projected Costs) $0

TOTAL $7,493,000

NEW SECTION. **Sec. 1077. FOR THE MILITARY DEPARTMENT**

Auditorium and Instructor Support Facility (06-2-003)

Reappropriation:

General Fund--Federal $1,240,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $1,240,000

NEW SECTION. **Sec. 1078. FOR THE MILITARY DEPARTMENT**
Omnibus Support for Federal Minor Works Projects-Statewide (06-2-001)

Reappropriation:
State Building Construction Account--State $846,000
General Fund--Federal $7,200,000
Subtotal Reappropriation $8,046,000

Prior Biennia (Expenditures) $1,154,000
Future Biennia (Projected Costs) $0
TOTAL $9,200,000

NEW SECTION. **Sec. 1079. FOR THE MILITARY DEPARTMENT**
Modular Building Reutilization (08-2-001)

Reappropriation:
State Building Construction Account--State $1,850,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $1,850,000

NEW SECTION. **Sec. 1080. FOR THE MILITARY DEPARTMENT**
Energy Conservation Project (08-2-005)

Appropriation:
General Fund--Federal $275,000
State Building Construction Account--State $275,000
Subtotal Appropriation $550,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $550,000

NEW SECTION. **Sec. 1081. FOR THE MILITARY DEPARTMENT**
Minor Works - Facility Preservation (08-1-004)

Appropriation:
General Fund--Federal $5,522,000
State Building Construction Account--State $2,301,000
Subtotal Appropriation $7,823,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $35,867,000
TOTAL $43,690,000

NEW SECTION. **Sec. 1082. FOR THE MILITARY DEPARTMENT**
Minor Works - Program (08-2-003)

Appropriation:
General Fund--Federal $4,938,000
State Building Construction Account--State $1,165,000
Subtotal Appropriation $6,103,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $36,215,000
TOTAL $42,318,000

NEW SECTION. **Sec. 1083. FOR THE MILITARY DEPARTMENT**
Washington Youth Academy Facility (08-2-850)

Appropriation:
General Fund--Federal $300,000
State Building Construction Account--State $5,000,000
Subtotal Appropriation $5,300,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $5,300,000

NEW SECTION. **Sec. 1084. FOR THE DEPARTMENT OF ARCHAEOLOGY AND HISTORIC PRESERVATION**
Historical Preservation (06-4-009)

Reappropriation:
State Building Construction Account--State $500,000
Prior Biennia (Expenditures) $4,500,000
Future Biennia (Projected Costs) $0
TOTAL $5,000,000

NEW SECTION. **Sec. 1085. FOR THE DEPARTMENT OF ARCHAEOLOGY AND HISTORIC PRESERVATION**

Historical Courthouse Rehabilitation (08-2-851)

The appropriation in this section is subject to the following conditions and limitations: The appropriation is provided solely for courthouse protection and preservation, including character defining architectural features, general repairs, system upgrades, payments for renovations completed since January 1, 2006, and improvements to access and accommodations for persons with disabilities. By July 1, 2007, the department shall revise the existing eligibility criteria and grant application process to include review of projects selected for funding by the courthouse advisory committee. Those projects chosen for funding shall undergo a review by the department of general administration's barrier free program to ensure that they meet Americans with disabilities act standards and accessibility and all other Americans with disabilities act requirements are maintained during the construction. The existing historic courthouse advisory committee shall continue to review grant applications and make funding recommendations to the state historic preservation officer. All rehabilitation work shall comply with the secretary of interior's standards for rehabilitation. Grants shall not be used for expenditures for courthouse maintenance. Only counties with historic courthouses that continue to maintain county functions are eligible for grants. Counties receiving grants shall provide an equal amount of matching funds from public or private sources. The department shall use up to two percent of the appropriation for program administration.

Appropriation:

State Building Construction Account--State $5,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $20,000,000

TOTAL $25,000,000

NEW SECTION. **Sec. 1086. FOR THE DEPARTMENT OF ARCHAEOLOGY AND HISTORIC PRESERVATION**

Historic Barn Preservation (08-4-851)

The appropriation in this section is subject to the following conditions and limitations: The appropriation is provided solely for

implementation of the historic barn preservation program created in chapter . . . (Substitute House Bill No. 2115), Laws of 2007. If the bill is not enacted by June 30, 2007, the appropriation shall lapse.

Appropriation:

State Building Construction Account--State $500,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $500,000

NEW SECTION. **Sec. 1087. FOR THE DEPARTMENT OF ARCHAEOLOGY AND HISTORIC PRESERVATION**

Inventory of Historic Theaters (08-2-950)

Appropriation:

State Building Construction Account--State $150,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $150,000

NEW SECTION. **Sec. 1088. FOR THE STATE CONVENTION AND TRADE CENTER**

Minor Works - Facility Preservation (08-1-001)

Appropriation:

State Convention and Trade Center Account--State . . . $5,990,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $5,990,000

NEW SECTION. **Sec. 1089. FOR THE STATE CONVENTION AND TRADE CENTER**

Omnibus Minor Works (06-1-001)

Reappropriation:

State Convention and Trade Center Account--State $995,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $995,000

NEW SECTION. **Sec. 1090. FOR THE STATUTE LAW COMMITTEE**

Pritchard Building Rehabilitation (08-2-017)

Appropriation:

State Building Construction Account--State	$1,100,000
Prior Biennia (Expenditures)	$0
Future Biennia (Projected Costs)	$0
TOTAL	$1,100,000

(End of part)

PART 2
HUMAN SERVICES

NEW SECTION. **Sec. 2001. FOR THE CRIMINAL JUSTICE TRAINING COMMISSION**

Mapping of K-8 Schools (08-4-003)

Appropriation:

State Building Construction Account--State $6,236,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $6,236,000

NEW SECTION. **Sec. 2002. FOR THE CRIMINAL JUSTICE TRAINING COMMISSION**

Minor Works - Preservation (08-1-002)

Appropriation:

State Building Construction Account--State $598,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $598,000

NEW SECTION. **Sec. 2003. FOR THE CRIMINAL JUSTICE TRAINING COMMISSION**

Replace Hawthorne Hall Dormitory (08-2-001)

Appropriation:

State Building Construction Account--State $1,925,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $15,764,000

TOTAL $17,689,000

NEW SECTION. **Sec. 2004. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**

Echo Glen Children's Center-Housing Units (00-1-041)

Reappropriation:

State Building Construction Account--State $5,700,000

Prior Biennia (Expenditures) $6,292,000
Future Biennia (Projected Costs) $0
TOTAL $11,992,000

NEW SECTION. **Sec. 2005. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**

Developmental Disabilities: Omnibus Programmatic Projects (06-2-465)

Reappropriation:
State Building Construction Account--State $1,000,000
Prior Biennia (Expenditures) $500,000
Future Biennia (Projected Costs) $0
TOTAL $1,500,000

NEW SECTION. **Sec. 2006. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**

Eastern State Hospital-Westlake Building: Fire Alarm Upgrades (06-1-370)

Reappropriation:
State Building Construction Account--State $1,500,000
Prior Biennia (Expenditures) $150,000
Future Biennia (Projected Costs) $0
TOTAL $1,650,000

NEW SECTION. **Sec. 2007. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**

Fircrest School - Health and Safety Improvements (06-1-852)

Reappropriation:
Charitable, Educational, Penal, and Reformatory
Institutions Account--State $400,000
Prior Biennia (Expenditures) $350,000
Future Biennia (Projected Costs) $0
TOTAL $750,000

NEW SECTION. **Sec. 2008. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**

Green Hill School: New IMU, Health Center, and Administration (06-2-202)

Reappropriation:
State Building Construction Account--State $900,000
Appropriation:
State Building Construction Account--State $13,325,000
Prior Biennia (Expenditures) $350,000
Future Biennia (Projected Costs) $0
TOTAL $14,575,000

NEW SECTION. **Sec. 2009. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**

Juvenile Rehabilitation: Omnibus Programmatic Projects (06-2-265)

Reappropriation:
Charitable, Educational, Penal, and Reformatory Institutions Account--State $850,000
Prior Biennia (Expenditures) $150,000
Future Biennia (Projected Costs) $0
TOTAL $1,000,000

NEW SECTION. **Sec. 2010. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**

Lakeland Village-Nine Cottages: Renovation, Phase 4, 5, and 6 (06-1-402)

Reappropriation:
State Building Construction Account--State $2,000,000
Appropriation:
State Building Construction Account--State $2,990,000
Prior Biennia (Expenditures) $400,000
Future Biennia (Projected Costs) $0
TOTAL $5,390,000

NEW SECTION. **Sec. 2011. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**

Mental Health Division-CLIP Facilities: Preservation (06-4-353)

The appropriations in the section are subject to the following conditions and limitations: The department shall evaluate options for maximizing federal fund contributions for capital needs of privately-owned facilities that contract with the department for children's long-term inpatient program services and report to the appropriate fiscal committees of the legislature by September 1, 2007.

Reappropriation:
State Building Construction Account--State $750,000
Appropriation:
State Building Construction Account--State $2,381,000
State and Local Improvements Revolving
Account--State $20,000
Subtotal Appropriation $2,401,000

Prior Biennia (Expenditures) $550,000
Future Biennia (Projected Costs) $0
TOTAL $3,701,000

NEW SECTION. **Sec. 2012. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**

Mental Health Division-Eastern Washington: Evaluation and Treatment (06-4-352)

Reappropriation:
State Building Construction Account--State $1,500,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $1,500,000

NEW SECTION. **Sec. 2013. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**

Mental Health: Omnibus Programmatic Projects (06-2-365)

Reappropriation:
State Building Construction Account--State $400,000

Prior Biennia (Expenditures) $600,000
Future Biennia (Projected Costs) $0
TOTAL $1,000,000

NEW SECTION. **Sec. 2014. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**

Omnibus Preservation: Facility Preservation (06-1-112)

Reappropriation:

State Building Construction Account--State $1,400,000

Prior Biennia (Expenditures) $1,600,000

Future Biennia (Projected Costs) $0

TOTAL $3,000,000

NEW SECTION. **Sec. 2015. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**

Omnibus Preservation: Health, Safety, and Code Requirements (06-1-111)

Reappropriation:

State Building Construction Account--State $3,400,000

Prior Biennia (Expenditures) $1,600,000

Future Biennia (Projected Costs) $0

TOTAL $5,000,000

NEW SECTION. **Sec. 2016. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**

Omnibus Preservation: Infrastructure Preservation (06-1-113)

Reappropriation:

State Building Construction Account--State $1,750,000

Prior Biennia (Expenditures) $1,250,000

Future Biennia (Projected Costs) $0

TOTAL $3,000,000

NEW SECTION. **Sec. 2017. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**

Rainier School: Storm and Sanitary Sewer, Phase 3 (06-1-853)

Reappropriation:

State Building Construction Account--State $75,000

Appropriation:

State Building Construction Account--State $665,000

Prior Biennia (Expenditures) $25,000

Future Biennia (Projected Costs) $0
TOTAL $765,000

NEW SECTION. **Sec. 2018. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**

Statewide: Emergency and Unanticipated Repair Projects (06-1-101)

Reappropriation:

State Building Construction Account--State $200,000

Prior Biennia (Expenditures) $600,000
Future Biennia (Projected Costs) $0
TOTAL $800,000

NEW SECTION. **Sec. 2019. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**

Statewide: Hazards Abatement and Demolition (06-1-119)

Reappropriation:

Charitable, Educational, Penal, and Reformatory Institutions Account--State $500,000

Prior Biennia (Expenditures) $800,000
Future Biennia (Projected Costs) $0
TOTAL $1,300,000

NEW SECTION. **Sec. 2020. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**

Statewide: Facilities Assessment and Cultural Resources Planning (06-1-120)

Reappropriation:

Charitable, Educational, Penal, and Reformatory Institutions Account--State $300,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $300,000

NEW SECTION. **Sec. 2021. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**

Capital Project Management (08-1-110)

Appropriation:
Charitable, Educational, Penal, and Reformatory
Institutions Account--State $2,555,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $11,870,000
TOTAL $14,425,000

NEW SECTION. **Sec. 2022. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**
Echo Glen Children's Center: Housing Units Renovation (08-1-041)
Appropriation:
State Building Construction Account--State $5,400,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $13,185,000
TOTAL $18,585,000

NEW SECTION. **Sec. 2023. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**
Emergency Repairs (08-1-101)
Appropriation:
Charitable, Educational, Penal, and Reformatory
Institutions Account--State $933,000
State Social and Health Services Construction
Account--State $67,000
Subtotal Appropriation $1,000,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $4,000,000
TOTAL $5,000,000

NEW SECTION. **Sec. 2024. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**
Hazards Abatement and Demolition (08-1-119)
Appropriation:
State Building Construction Account--State $600,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $5,200,000

TOTAL $5,800,000

NEW SECTION. **Sec. 2025. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**

Minor Works - Facility Preservation (08-1-112)

Appropriation:

State Building Construction Account--State $9,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $50,500,000

TOTAL $59,500,000

NEW SECTION. **Sec. 2026. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**

Minor Works - Health, Safety, and Code Requirements (08-1-111)

Appropriation:

State Building Construction Account--State $4,200,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $20,000,000

TOTAL $24,200,000

NEW SECTION. **Sec. 2027. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**

Minor Works - Infrastructure Preservation (08-1-113)

Appropriation:

State Building Construction Account--State $4,700,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $23,000,000

TOTAL $27,700,000

NEW SECTION. **Sec. 2028. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**

Minor Works - Program Projects (08-2-365)

The appropriation in this section is subject to the following conditions and limitations: Up to $250,000 is provided for roof repairs of historic homes on the grounds of western state hospital.

Appropriation:

State Building Construction Account--State $730,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $10,000,000
TOTAL $10,730,000

NEW SECTION. **Sec. 2029. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**

Special Commitment Center Medium Management Housing Addition (08-2-505)

The appropriation in this section is subject to the following conditions and limitations: Funding is for the evaluation of design alternatives to meet programmatic needs.

Appropriation:
State Building Construction Account--State $1,000,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $1,000,000

NEW SECTION. **Sec. 2030. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**

Upgrade Eastern State Hospital Communications Systems (08-1-306)

Appropriation:
State Building Construction Account--State $2,280,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $2,280,000

NEW SECTION. **Sec. 2031. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**

Utility Replacements at the Special Commitment Center (08-1-504)

Appropriation:
State Building Construction Account--State $3,040,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $3,040,000

NEW SECTION. **Sec. 2032. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**

Western State Hospital Laundry Upgrades (08-1-325)

Appropriation:

State Building Construction Account--State $885,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $885,000

NEW SECTION. **Sec. 2033. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**

Western State Hospital New Kitchen and Commissary Building (08-1-319)

The appropriation in this section is subject to the following conditions and limitations: The appropriation is provided solely for predesign and design of a new kitchen and commissary building at western state hospital. The office of financial management shall not allot design funding until a predesign has been submitted to the legislative fiscal committees and to the office of financial management for review and approval. The predesign must assess cook chill alternatives showing staffing and other operating efficiencies such as providing food for the special commitment center and other facilities located in Pierce county.

Appropriation:

State Building Construction Account--State $650,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $9,820,000

TOTAL $10,470,000

NEW SECTION. **Sec. 2034. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**

Rainier School Waste Treatment Plant (08-2-001)

Appropriation:

State Building Construction Account--State $4,200,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $4,200,000

NEW SECTION. **Sec. 2035. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**

JRA Camp Outlook-Basic Training Camp (08-2-205)

The appropriation in this section is subject to the following conditions and limitations: The appropriation is provided solely for a final site selection and preliminary plans for a permanent facility for camp outlook. The department shall further explore possible existing facilities that would support the privately operated program. If the preferred location remains at Connell, Washington, the department shall ensure that the planned facility shall be designed to minimize the added cost for the program, and retain its cost effectiveness when debt service costs for the new facility are included. The department shall submit a report to the appropriate committees of the legislature before September 1, 2008, with the recommended plan for the facility.

Appropriation:

State Building Construction Account--State $150,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $4,000,000

TOTAL $4,150,000

NEW SECTION. **Sec. 2036. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**

Study of Juvenile Rehabilitation Bed Use (08-2-851)

The appropriation in this section is subject to the following conditions and limitations: The department, in consultation with the office of financial management, shall submit a report to the appropriate committees of the legislature by January 1, 2008, containing the following information:

(1) Bed capacity, average occupied beds, and unused bed capacity in state and county juvenile rehabilitation facilities, by state facility and by county for the past ten years;

(2) An analysis of the distinguishing characteristics of current resident populations at the different state facilities and the

residents in county facilities, including but not limited to age, gender, criminal history, race and ethnicity, and history of serious mental illness; and

(3) The different utilization rates of intensive management beds at Green Hill, Maple Lane, and Echo Glen, by institution, age, gender, race and ethnicity, and history of serious mental illness.

This analysis shall also include the number of occupied intensive management unit beds at Green Hill, Maple Lane, and Echo Glen, the average length of stay in intensive management unit beds at each facility, and the rate of repeat use of intensive management unit beds for the same residents. The report shall also describe the department's protocol for identifying residents with mental health needs, and report the percentage of residents identified with mental health needs by age, gender, and race and ethnicity.

Appropriation:

Charitable, Educational, Penal, and Reformatory Institutions Account--State $75,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $75,000

NEW SECTION. **Sec. 2037. FOR THE DEPARTMENT OF SOCIAL AND HEALTH SERVICES**

Fircrest Campus Master Plan (08-2-850)

The appropriation in this section is subject to the following conditions and limitations:

(1) The department shall resume and complete a master plan of the portion of the Fircrest campus that is not utilized by the Fircrest school or the department of health.

(2) In drafting the master plan, the department shall consult with the following:

(a) The city of Shoreline;

(b) The department of natural resources;

(c) The department of health regarding their master planning effort;

(d) Representatives of institutions of higher education with whom the department has a partnership; and

(e) Representatives of the Shoreline community and neighboring communities.

(3) The master plan must include a plan for the future of the property, including recommendations for alternative uses such as affordable housing and smart growth options.

(4) The department must report to the appropriate committees of the legislature and the office of financial management by January 1, 2008.

Appropriation:

State Building Construction Account--State $175,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $175,000

NEW SECTION. **Sec. 2038. FOR THE DEPARTMENT OF HEALTH**

Public Health Laboratory: Chiller Plant Upgrade (02-1-004)

Reappropriation:

State Building Construction Account--State $474,000

Prior Biennia (Expenditures) $2,380,000

Future Biennia (Projected Costs) $0

TOTAL $2,854,000

NEW SECTION. **Sec. 2039. FOR THE DEPARTMENT OF HEALTH**

Public Health Laboratory: Roof Replacement (06-1-002)

Reappropriation:

State Building Construction Account--State $898,000

Prior Biennia (Expenditures) $727,000

Future Biennia (Projected Costs) $0

TOTAL $1,625,000

NEW SECTION. **Sec. 2040. FOR THE DEPARTMENT OF HEALTH**

Minor Works - Facility Preservation (08-1-001)

Appropriation:

State Building Construction Account--State $386,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $2,531,000

TOTAL $2,917,000

NEW SECTION. **Sec. 2041. FOR THE DEPARTMENT OF HEALTH**

Minor Works - Program (08-2-004)

Appropriation:

State Building Construction Account--State $135,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $1,542,000

TOTAL $1,677,000

NEW SECTION. **Sec. 2042. FOR THE DEPARTMENT OF HEALTH**

Public Health Laboratory Addition (08-2-003)

Appropriation:

State Building Construction Account--State $1,184,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $8,984,000

TOTAL $10,168,000

NEW SECTION. **Sec. 2043. FOR THE DEPARTMENT OF HEALTH**

Public Health Laboratory Heating, Ventilation, and Air Conditioning Systems Upgrades (08-1-002)

Appropriation:

State Building Construction Account--State $4,912,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $4,912,000

NEW SECTION. **Sec. 2044. FOR THE DEPARTMENT OF HEALTH**

Shoreline Campus Master Plan (08-2-005)

Appropriation:

State Building Construction Account--State $255,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $255,000

NEW SECTION. **Sec. 2045. FOR THE DEPARTMENT OF HEALTH**

Drinking Water Assistance Program (06-4-001)

Reappropriation:
Drinking Water Assistance Account--Federal $18,588,000
Appropriation:
Drinking Water Assistance Account--Federal $54,300,000
Prior Biennia (Expenditures) $7,086,000
Future Biennia (Projected Costs) $99,360,000
TOTAL $179,334,000

NEW SECTION. **Sec. 2046. FOR THE DEPARTMENT OF VETERANS AFFAIRS**
Building 10 Assisted Living Upgrades (08-2-005)

Appropriation:
Charitable, Educational, Penal, and Reformatory
Institutions Account--State $1,242,000
State Building Construction Account--State $571,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $1,813,000

NEW SECTION. **Sec. 2047. FOR THE DEPARTMENT OF VETERANS AFFAIRS**
Minor Works - Facility Preservation (08-1-003)

Appropriation:
Charitable, Educational, Penal, and Reformatory
Institutions Account--State $722,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $1,283,000
TOTAL $2,005,000

NEW SECTION. **Sec. 2048. FOR THE DEPARTMENT OF VETERANS AFFAIRS**
Minor Works - Program (08-2-002)

Appropriation:
Charitable, Educational, Penal, and Reformatory
Institutions Account--State $344,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $231,000
TOTAL $575,000

NEW SECTION. **Sec. 2049. FOR THE DEPARTMENT OF VETERANS AFFAIRS**
State Veterans Cemetery (08-2-004)

Appropriation:
General Fund--Federal $6,886,000
Charitable, Educational, Penal, and Reformatory
Institutions Account--State $939,000
Subtotal Appropriation $7,825,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $7,825,000

NEW SECTION. **Sec. 2050. FOR THE DEPARTMENT OF VETERANS AFFAIRS**
Emergency Repairs (08-1-004)

Appropriation:
Charitable, Educational, Penal, and Reformatory
Institutions Account--State $300,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $300,000

NEW SECTION. **Sec. 2051. FOR THE DEPARTMENT OF VETERANS AFFAIRS**
Minor Works - Health, Safety, and Code Requirements (08-1-002)

Appropriation:
Charitable, Educational, Penal, and Reformatory
Institutions Account--State $596,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $1,680,000
TOTAL $2,276,000

NEW SECTION. **Sec. 2052. FOR THE DEPARTMENT OF VETERANS AFFAIRS**
Minor Works - Infrastructure Preservation (08-1-001)

Appropriation:
Charitable, Educational, Penal, and Reformatory
Institutions Account--State $1,025,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $2,377,000

TOTAL $3,402,000

NEW SECTION. **Sec. 2053. FOR THE DEPARTMENT OF VETERANS AFFAIRS**

Retsil Energy Assessment and Audit (08-2-850)

The appropriation in this section is subject to the following conditions and limitations:

(1) Up to $40,000 of the appropriation is for a department of general administration assessment of the use of digester gas fuel generated by a nearby wastewater treatment facility to heat the veterans home in Retsil.

(2) Up to $60,000 of the appropriation is for a department of general administration energy audit of the veterans home in Retsil.

Appropriation:

Charitable, Educational, Penal, and Reformatory Institutions Account--State $100,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $100,000

NEW SECTION. **Sec. 2054. FOR THE DEPARTMENT OF CORRECTIONS**

Coyote Ridge Corrections Center: Design and Construct Medium Security Facility (98-2-011)

Reappropriation:

State Building Construction Account--State $155,459,000

Appropriation:

State Building Construction Account--State $13,700,000

Prior Biennia (Expenditures) $75,449,000

Future Biennia (Projected Costs) $0

TOTAL $244,608,000

NEW SECTION. **Sec. 2055. FOR THE DEPARTMENT OF CORRECTIONS**

Washington Corrections Center: Regional Infrastructure (04-2-008)

Reappropriation:

State Building Construction Account--State $13,208,000

Prior Biennia (Expenditures) $1,521,000

Future Biennia (Projected Costs) $0

TOTAL $14,729,000

NEW SECTION. **Sec. 2056. FOR THE DEPARTMENT OF CORRECTIONS**

Washington State Penitentiary: North Close Security Compound (04-2-005)

Reappropriation:

State Building Construction Account--State $10,482,000

Prior Biennia (Expenditures) $130,276,000

Future Biennia (Projected Costs) $0

TOTAL $140,758,000

NEW SECTION. **Sec. 2057. FOR THE DEPARTMENT OF CORRECTIONS**

Clallam Bay Corrections Center: Install Close Custody Slider Doors (06-2-070)

Reappropriation:

State Building Construction Account--State $660,000

Prior Biennia (Expenditures) $90,000

Future Biennia (Projected Costs) $11,581,000

TOTAL $12,331,000

NEW SECTION. **Sec. 2058. FOR THE DEPARTMENT OF CORRECTIONS**

Clallam Bay Corrections Center: Replace Support Building Roof (06-1-044)

Reappropriation:

State Building Construction Account--State $3,930,000

Prior Biennia (Expenditures) $822,000

Future Biennia (Projected Costs) $0

TOTAL $4,752,000

NEW SECTION. **Sec. 2059. FOR THE DEPARTMENT OF CORRECTIONS**

Cedar Creek Corrections Center: Add 100 Minimum Security Beds (06-2-851)

Reappropriation:

State Building Construction Account--State $6,022,000

Prior Biennia (Expenditures) $207,000

Future Biennia (Projected Costs) $0

TOTAL $6,229,000

NEW SECTION. **Sec. 2060. FOR THE DEPARTMENT OF CORRECTIONS**
Larch Corrections Center: 80 Bed Expansion (06-2-852)

Reappropriation:
State Building Construction Account--State $2,915,000
Prior Biennia (Expenditures) $157,000
Future Biennia (Projected Costs) $0
TOTAL $3,072,000

NEW SECTION. **Sec. 2061. FOR THE DEPARTMENT OF CORRECTIONS**
Monroe Corrections Complex: Improve C and D Units Security Features (06-1-046)

Reappropriation:
State Building Construction Account--State $280,000
Prior Biennia (Expenditures) $2,618,000
Future Biennia (Projected Costs) $0
TOTAL $2,898,000

NEW SECTION. **Sec. 2062. FOR THE DEPARTMENT OF CORRECTIONS**
McNeil Island Corrections Center: Replace/Stabilize Housing Unit Siding (06-1-005)

Reappropriation:
State Building Construction Account--State $445,000
Appropriation:
State Building Construction Account--State $3,000,000
Prior Biennia (Expenditures) $349,000
Future Biennia (Projected Costs) $9,024,000
TOTAL $12,818,000

NEW SECTION. **Sec. 2063. FOR THE DEPARTMENT OF CORRECTIONS**
Washington State Penitentiary: Kitchen Improvements (06-1-007)

Reappropriation:
State Building Construction Account--State $569,000
Prior Biennia (Expenditures) $61,000
Future Biennia (Projected Costs) $0

TOTAL $630,000

NEW SECTION. **Sec. 2064. FOR THE DEPARTMENT OF CORRECTIONS**
Mission Creek: Add 120 Beds (06-2-017)

Reappropriation:
State Building Construction Account--State $2,861,000
Prior Biennia (Expenditures) $564,000
Future Biennia (Projected Costs) $0
TOTAL $3,425,000

NEW SECTION. **Sec. 2065. FOR THE DEPARTMENT OF CORRECTIONS**
Omnibus Preservation: Facility Preservation (Minor Works) (06-1-035)

Reappropriation:
State Building Construction Account--State $2,268,000
Prior Biennia (Expenditures) $1,565,000
Future Biennia (Projected Costs) $0
TOTAL $3,833,000

NEW SECTION. **Sec. 2066. FOR THE DEPARTMENT OF CORRECTIONS**
Omnibus Preservation: Health, Safety, and Code (Minor Works) (06-1-027)

Reappropriation:
State Building Construction Account--State $2,039,000
Prior Biennia (Expenditures) $2,061,000
Future Biennia (Projected Costs) $0
TOTAL $4,100,000

NEW SECTION. **Sec. 2067. FOR THE DEPARTMENT OF CORRECTIONS**
Omnibus Preservation: Infrastructure Preservation (Minor Works) (06-1-025)

Reappropriation:
State Building Construction Account--State $3,183,000
Prior Biennia (Expenditures) $643,000
Future Biennia (Projected Costs) $0
TOTAL $3,826,000

NEW SECTION. **Sec. 2068. FOR THE DEPARTMENT OF CORRECTIONS**

Omnibus Program: Programmatic Projects (Minor Works) (06-2-033)

Reappropriation:

State Building Construction Account--State $1,554,000

Prior Biennia (Expenditures) $361,000

Future Biennia (Projected Costs) $0

TOTAL $1,915,000

NEW SECTION. **Sec. 2069. FOR THE DEPARTMENT OF CORRECTIONS**

Monroe Corrections Center: Health Care Facility (06-2-043)

Reappropriation:

State Building Construction Account--State $360,000

Prior Biennia (Expenditures) $340,000

Future Biennia (Projected Costs) $76,027,000

TOTAL $76,727,000

NEW SECTION. **Sec. 2070. FOR THE DEPARTMENT OF CORRECTIONS**

Washington Corrections Center: Health Care Facility (06-2-072)

Reappropriation:

State Building Construction Account--State $1,039,000

Prior Biennia (Expenditures) $161,000

Future Biennia (Projected Costs) $17,592,000

TOTAL $18,792,000

NEW SECTION. **Sec. 2071. FOR THE DEPARTMENT OF CORRECTIONS**

Stafford Creek Corrections Center: Correct Security Deficiencies (06-1-013)

Reappropriation:

State Building Construction Account--State $1,000,000

Prior Biennia (Expenditures) $593,000

Future Biennia (Projected Costs) $0

TOTAL $1,593,000

NEW SECTION. **Sec. 2072. FOR THE DEPARTMENT OF CORRECTIONS**

Statewide: Add Minimum Security Beds (06-2-950)

Reappropriation:
State Building Construction Account--State $5,361,000
Prior Biennia (Expenditures) $2,082,000
Future Biennia (Projected Costs) $0
TOTAL $7,443,000

NEW SECTION. **Sec. 2073. FOR THE DEPARTMENT OF CORRECTIONS**
Washington Corrections Center for Women Healthcare Center (06-2-066)

Reappropriation:
State Building Construction Account--State $758,000
Appropriation:
State Building Construction Account--State $17,858,000
Prior Biennia (Expenditures) $442,000
Future Biennia (Projected Costs) $0
TOTAL $19,058,000

NEW SECTION. **Sec. 2074. FOR THE DEPARTMENT OF CORRECTIONS**
Washington Corrections Center for Women: Replace Steamlines (06-1-018)

Reappropriation:
State Building Construction Account--State $641,000
Appropriation:
State Building Construction Account--State $5,179,000
Prior Biennia (Expenditures) $375,000
Future Biennia (Projected Costs) $0
TOTAL $6,195,000

NEW SECTION. **Sec. 2075. FOR THE DEPARTMENT OF CORRECTIONS**
Washington State Penitentiary: Replace Correctional Industry Roof (06-1-023)

Reappropriation:
Charitable, Educational, Penal, and Reformatory Institutions Account--State $1,619,000
State Building Construction Account--State $1,338,000
Subtotal Reappropriation $2,957,000

Prior Biennia (Expenditures) $494,000
Future Biennia (Projected Costs) $0
TOTAL $3,451,000

NEW SECTION. **Sec. 2076. FOR THE DEPARTMENT OF CORRECTIONS**
Washington State Penitentiary: South Close Security Complex (06-2-021)

Reappropriation:
State Building Construction Account--State $2,983,000
Appropriation:
State Building Construction Account--State $61,294,000

Prior Biennia (Expenditures) $1,017,000
Future Biennia (Projected Costs) $69,193,000
TOTAL $134,487,000

NEW SECTION. **Sec. 2077. FOR THE DEPARTMENT OF CORRECTIONS**
100 Bed Expansion at Mission Creek Corrections Center for Women (08-2-020)

Appropriation:
State Building Construction Account--State $6,627,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $6,627,000

NEW SECTION. **Sec. 2078. FOR THE DEPARTMENT OF CORRECTIONS**
Airway Heights Heating and Cooling Loop Replacement (08-1-001)

Appropriation:
State Building Construction Account--State $2,925,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $2,925,000

NEW SECTION. **Sec. 2079. FOR THE DEPARTMENT OF CORRECTIONS**
Close Sewer Lagoon at Monroe Correctional Complex (08-2-022)

Appropriation:
State Building Construction Account--State $229,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $6,736,000
TOTAL $6,965,000

NEW SECTION. **Sec. 2080. FOR THE DEPARTMENT OF CORRECTIONS**
Emergency Repairs (08-1-035)

Appropriation:
State Building Construction Account--State $2,500,000
Charitable, Educational, Penal, and Reformatory
Institutions Account--State $500,000
Subtotal Appropriation $3,000,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $10,000,000
TOTAL $13,000,000

NEW SECTION. **Sec. 2081. FOR THE DEPARTMENT OF CORRECTIONS**
Expand Reception Center at Washington Corrections Center (08-2-016)

Appropriation:
State Building Construction Account--State $470,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $45,353,000
TOTAL $45,823,000

NEW SECTION. **Sec. 2082. FOR THE DEPARTMENT OF CORRECTIONS**
Laundry Improvements at Washington State Penitentiary (08-1-033)

Appropriation:
State Building Construction Account--State $4,051,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $4,051,000

NEW SECTION. **Sec. 2083. FOR THE DEPARTMENT OF CORRECTIONS**
Minor Works - Facility Preservation (08-1-024)

Appropriation:
Charitable, Educational, Penal, and Reformatory
Institutions Account--State $3,000,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $12,000,000
TOTAL $15,000,000

NEW SECTION. **Sec. 2084. FOR THE DEPARTMENT OF CORRECTIONS**
Minor Works - Health, Safety, and Code Requirements (08-1-031)

Appropriation:
Charitable, Educational, Penal, and Reformatory
Institutions Account--State $3,000,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $12,000,000
TOTAL $15,000,000

NEW SECTION. **Sec. 2085. FOR THE DEPARTMENT OF CORRECTIONS**
Minor Works - Infrastructure Preservation (08-1-018)

Appropriation:
State Building Construction Account--State $1,000,000
Charitable, Educational, Penal, and Reformatory
Institutions Account--State $1,000,000
Subtotal Appropriation $2,000,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $8,000,000
TOTAL $10,000,000

NEW SECTION. **Sec. 2086. FOR THE DEPARTMENT OF CORRECTIONS**
Replace Barge Slip Pilings at McNeil Island Corrections Center (08-1-002)

Appropriation:
State Building Construction Account--State $3,900,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $3,900,000

NEW SECTION. **Sec. 2087. FOR THE DEPARTMENT OF CORRECTIONS**
Replace Cell Door and Electronics at Washington State Reformatory (08-1-010)

Appropriation:
State Building Construction Account--State $1,545,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $1,545,000

NEW SECTION. **Sec. 2088. FOR THE DEPARTMENT OF CORRECTIONS**
Replace Electrical Distribution Building at Special Offenders Unit (08-1-009)

Appropriation:
State Building Construction Account--State $1,222,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $1,222,000

NEW SECTION. **Sec. 2089. FOR THE DEPARTMENT OF CORRECTIONS**
Replace Fire Alarm System at Washington Corrections Center (08-1-008)

Appropriation:
State Building Construction Account--State $1,524,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $1,524,000

NEW SECTION. **Sec. 2090. FOR THE DEPARTMENT OF CORRECTIONS**
Replace G Building Roof at Washington Corrections Center (08-1-004)

Appropriation:
State Building Construction Account--State $4,431,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $4,431,000

NEW SECTION. **Sec. 2091. FOR THE DEPARTMENT OF CORRECTIONS**
Replace Kitchen Roofs at Monroe Correctional Complex (08-1-003)

Appropriation:

State Building Construction Account--State $2,062,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $2,062,000

NEW SECTION. **Sec. 2092. FOR THE DEPARTMENT OF CORRECTIONS**
Replace Roofs at Washington Corrections Center (08-1-005)

Appropriation:
State Building Construction Account--State $6,666,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $6,666,000

NEW SECTION. **Sec. 2093. FOR THE DEPARTMENT OF CORRECTIONS**
Replace Roofs at Washington State Penitentiary (08-1-007)

Appropriation:
State Building Construction Account--State $1,789,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $1,789,000

NEW SECTION. **Sec. 2094. FOR THE DEPARTMENT OF CORRECTIONS**
Replace Telecommunications Infrastructure at Clallam Bay (08-1-013)

Appropriation:
State Building Construction Account--State $1,850,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $13,691,000
TOTAL $15,541,000

NEW SECTION. **Sec. 2095. FOR THE DEPARTMENT OF CORRECTIONS**
Sex Offender Treatment Program Building at Airway Heights (08-2-028)

Appropriation:
State Building Construction Account--State $4,947,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0
TOTAL $4,947,000

NEW SECTION. **Sec. 2096. FOR THE DEPARTMENT OF CORRECTIONS**

300 Minimum Security Bed Expansion - Predesign - Three Locations (08-2-850)

Appropriation:
State Building Construction Account--State $477,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $477,000

NEW SECTION. **Sec. 2097. FOR THE DEPARTMENT OF CORRECTIONS**

Washington State Penitentiary: Add 300 Minimum Security Beds (08-2-026)

The appropriation in this section is subject to the following conditions and limitations: The appropriation in this section is provided solely for predesign and design of 300 minimum security beds. As part of the predesign to be completed for this project, the department shall provide programmatic recommendations and cost estimates for high priority needs that the existing minimum security building can provide.

Appropriation:
State Building Construction Account--State $1,418,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $30,000,000
TOTAL $31,418,000

NEW SECTION. **Sec. 2098. FOR THE EMPLOYMENT SECURITY DEPARTMENT**

Employment Resource Center (05-2-001)

The reappropriation in this section is subject to the following conditions and limitations: The reappropriation in this section is provided solely for services and activities including the purchase and installation of state of the art equipment for a 40,000 square foot facility supporting work force development programs using funds

available to the state in section 903(d) of the Social Security Act (Reed act).

Reappropriation:

Unemployment Compensation Administration

Account--Federal $3,354,000

Prior Biennia (Expenditures) $2,646,000

Future Biennia (Projected Costs) $0

TOTAL $6,000,000

NEW SECTION. **Sec. 2099. FOR THE EMPLOYMENT SECURITY DEPARTMENT**

Employment Security Headquarters Building Assessment (08-1-002)

The appropriation in this section is subject to the following conditions and limitations: This appropriation is provided solely for the assessment of the employment security headquarters building using funds available to the state in section 903(d) of the Social Security Act (Reed act).

Appropriation:

Unemployment Compensation Administration

Account--Federal $300,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $300,000

NEW SECTION. **Sec. 2100. FOR THE EMPLOYMENT SECURITY DEPARTMENT**

Walla Walla WorkSource Expansion Project (06-2-001)

The appropriations in this section are subject to the following conditions and limitations: The appropriations are provided solely for the construction of a training and meeting room at the Walla Walla WorkSource building using funds available to the state in section 903(d) of the Social Security Act (Reed act).

Reappropriation:

Unemployment Compensation Administration

Account--Federal $250,000

Appropriation:

Unemployment Compensation Administration

Account--Federal $484,000

Prior Biennia (Expenditures)	$0
Future Biennia (Projected Costs)	$0
TOTAL	$734,000

(End of part)

PART 3
NATURAL RESOURCES

NEW SECTION. **Sec. 3001. FOR THE DEPARTMENT OF ECOLOGY**
Water Supply Facilities (74-2-006)

Reappropriation:
State and Local Improvements Revolving Account
(Water Supply Facilities)--State $2,756,000
Prior Biennia (Expenditures) $13,543,000
Future Biennia (Projected Costs) $0
TOTAL $16,299,000

NEW SECTION. **Sec. 3002. FOR THE DEPARTMENT OF ECOLOGY**
Centennial Clean Water Fund (86-2-007)

Reappropriation:
Water Quality Capital Account--State $678,000
Prior Biennia (Expenditures) $351,000
Future Biennia (Projected Costs) $0
TOTAL $1,029,000

NEW SECTION. **Sec. 3003. FOR THE DEPARTMENT OF ECOLOGY**
Local Toxics Grants for Cleanup and Prevention (88-2-008)

Reappropriation:
Local Toxics Control Account--State $400,000
Prior Biennia (Expenditures) $3,191,000
Future Biennia (Projected Costs) $0
TOTAL $3,591,000

NEW SECTION. **Sec. 3004. FOR THE DEPARTMENT OF ECOLOGY**
Water Pollution Control Revolving Account (90-2-002)

Reappropriation:
Water Pollution Control Revolving Account--
Federal $400,000
Prior Biennia (Expenditures) $13,306,000
Future Biennia (Projected Costs) $0

TOTAL $13,706,000

NEW SECTION. **Sec. 3005. FOR THE DEPARTMENT OF ECOLOGY**

Low-Level Nuclear Waste Disposal Trench Closure (97-2-012)

Reappropriation:

Site Closure Account--State $4,800,000

Prior Biennia (Expenditures) $7,045,000

Future Biennia (Projected Costs) $0

TOTAL $11,845,000

NEW SECTION. **Sec. 3006. FOR THE DEPARTMENT OF ECOLOGY**

Water Irrigation Efficiencies (01-H-010)

Reappropriation:

State and Local Improvements Revolving Account

(Water Supply Facilities)--State $1,318,000

Water Quality Capital Account--State $310,000

Subtotal Reappropriation $1,628,000

Prior Biennia (Expenditures) $8,449,000

Future Biennia (Projected Costs) $0

TOTAL $10,077,000

NEW SECTION. **Sec. 3007. FOR THE DEPARTMENT OF ECOLOGY**

Water Measuring Devices (01-H-009)

The reappropriation in this section is subject to the following conditions and limitations: The reappropriation is provided solely for water measuring devices and gauges. The department shall prioritize the distribution of water measuring devices and gauges to locations participating in the department of fish and wildlife's fish screens and cooperative compliance programs.

Reappropriation:

State Building Construction Account--State $1,201,000

Prior Biennia (Expenditures) $1,943,000

Future Biennia (Projected Costs) $0

TOTAL $3,144,000

NEW SECTION. **Sec. 3008. FOR THE DEPARTMENT OF ECOLOGY**

Centennial Clean Water Fund (02-4-007)

The reappropriation in this section is subject to the following conditions and limitations: The reappropriation is subject to the conditions and limitations of section 315, chapter 8, Laws of 2001 2nd sp. sess.

Reappropriation:

Water Quality Capital Account--State	$1,625,000
Prior Biennia (Expenditures)	$1,974,000
Future Biennia (Projected Costs)	$0
TOTAL	$3,599,000

NEW SECTION. **Sec. 3009. FOR THE DEPARTMENT OF ECOLOGY**

Water Pollution Control Revolving Account (02-4-002)

Reappropriation:

Water Pollution Control Revolving Account--State	$7,000,000
Water Pollution Control Revolving Account--Federal	$79,000
Subtotal Reappropriation	$7,079,000
Prior Biennia (Expenditures)	$37,134,000
Future Biennia (Projected Costs)	$0
TOTAL	$44,213,000

NEW SECTION. **Sec. 3010. FOR THE DEPARTMENT OF ECOLOGY**

Water Supply Facilities (02-4-006)

Reappropriation:

State and Local Improvements Revolving Account (Water Supply Facilities)--State	$2,110,000
Prior Biennia (Expenditures)	$3,889,000
Future Biennia (Projected Costs)	$0
TOTAL	$5,999,000

NEW SECTION. **Sec. 3011. FOR THE DEPARTMENT OF ECOLOGY**

Centennial Clean Water Fund (04-4-007)

Reappropriation:

State Building Construction Account--State $4,650,000
Water Quality Capital Account--State $1,400,000
Subtotal Reappropriation $6,050,000
Prior Biennia (Expenditures) $8,702,000
Future Biennia (Projected Costs) $0
TOTAL $14,752,000

NEW SECTION. **Sec. 3012. FOR THE DEPARTMENT OF ECOLOGY**
Local Toxics Grants for Cleanup and Prevention (04-4-008)

Reappropriation:
Local Toxics Control Account--State $1,100,000
Prior Biennia (Expenditures) $10,296,000
Future Biennia (Projected Costs) $0
TOTAL $11,396,000

NEW SECTION. **Sec. 3013. FOR THE DEPARTMENT OF ECOLOGY**
Site Closure - Nuclear Waste Trench Site Investigation (04-4-010)

Reappropriation:
Site Closure Account--State $1,120,000
Prior Biennia (Expenditures) $1,146,000
Future Biennia (Projected Costs) $0
TOTAL $2,266,000

NEW SECTION. **Sec. 3014. FOR THE DEPARTMENT OF ECOLOGY**
Twin Lake Aquifer Recharge Project (04-2-951)

The reappropriation in this section is subject to the following conditions and limitations: The reappropriation is provided solely to recover the department of ecology's cost in evaluating and issuing decisions on water applications and restoration of the Twin Lakes in the Methow Valley.

Reappropriation:
State Building Construction Account--State $643,000
Prior Biennia (Expenditures) $106,000
Future Biennia (Projected Costs) $0
TOTAL $749,000

NEW SECTION. **Sec. 3015. FOR THE DEPARTMENT OF ECOLOGY**

Water Pollution Control Revolving Account (04-4-002)

Reappropriation:

Water Pollution Control Revolving Account--
State $13,000,000

Water Pollution Control Revolving Account--
Federal $6,200,000

Subtotal Reappropriation $19,200,000

Prior Biennia (Expenditures) $65,228,000

Future Biennia (Projected Costs) $0

TOTAL $84,428,000

NEW SECTION. **Sec. 3016. FOR THE DEPARTMENT OF ECOLOGY**

Water Rights Purchase/Lease (04-1-005)

Reappropriation:

State Drought Preparedness--State $804,000

Prior Biennia (Expenditures) $696,000

Future Biennia (Projected Costs) $0

TOTAL $1,500,000

NEW SECTION. **Sec. 3017. FOR THE DEPARTMENT OF ECOLOGY**

Water Supply Facilities (04-4-006)

Reappropriation:

State Building Construction Account--State $3,389,000

State and Local Improvements Revolving Account
(Water Supply Facilities)--State $1,438,000

Subtotal Reappropriation $4,827,000

Prior Biennia (Expenditures) $8,799,000

Future Biennia (Projected Costs) $0

TOTAL $13,626,000

NEW SECTION. **Sec. 3018. FOR THE DEPARTMENT OF ECOLOGY**

Quad Cities Water Right Mitigation (05-2-852)

Reappropriation:

State Building Construction Account--State $2,047,000

Prior Biennia (Expenditures) $153,000

Future Biennia (Projected Costs) $0
TOTAL $2,200,000

NEW SECTION. **Sec. 3019. FOR THE DEPARTMENT OF ECOLOGY**
State Drought Preparedness (05-4-009)

Reappropriation:
State Drought Preparedness--State $1,464,000
Prior Biennia (Expenditures) $5,865,000
Future Biennia (Projected Costs) $0
TOTAL $7,329,000

NEW SECTION. **Sec. 3020. FOR THE DEPARTMENT OF ECOLOGY**
Sunnyside Valley Irrigation District Water Conservation (05-2-851)

Reappropriation:
State Building Construction Account--State $3,187,000
Appropriation:
State Building Construction Account--State $2,544,000
Prior Biennia (Expenditures) $1,133,000
Future Biennia (Projected Costs) $2,132,000
TOTAL $8,996,000

NEW SECTION. **Sec. 3021. FOR THE DEPARTMENT OF ECOLOGY**
Water Conveyance Infrastructure Projects (05-2-850)

Reappropriation:
State Building Construction Account--State $3,168,000
State and Local Improvements Revolving Account
(Water Supply Facilities)--State $1,415,000
Water Quality Capital Account--State $293,000
Subtotal Reappropriation $4,876,000
Prior Biennia (Expenditures) $954,000
Future Biennia (Projected Costs) $0
TOTAL $5,830,000

NEW SECTION. **Sec. 3022. FOR THE DEPARTMENT OF ECOLOGY**
Centennial Clean Water Program (06-4-007)

Reappropriation:

State Building Construction Account--State $5,900,000
Water Quality Capital Account--State $8,500,000
State Toxics Control Account--State $10,000,000
Subtotal Reappropriation $24,400,000

Prior Biennia (Expenditures) $32,024,000
Future Biennia (Projected Costs) $0
TOTAL $56,424,000

NEW SECTION. **Sec. 3023. FOR THE DEPARTMENT OF ECOLOGY**
Cleanup Toxic Sites - Puget Sound (06-4-001)

The reappropriation in this section is subject to the following conditions and limitations: Funding is provided solely for the clean up of contaminated sites that lie adjacent to and are within one-half mile of Puget Sound. Clean ups must include orphaned and abandoned sites that pose a threat to Puget Sound with the highest priority sites being cleaned up first.

Reappropriation:
State Toxics Control Account--State $2,750,000

Prior Biennia (Expenditures) $1,233,000
Future Biennia (Projected Costs) $0
TOTAL $3,983,000

NEW SECTION. **Sec. 3024. FOR THE DEPARTMENT OF ECOLOGY**
Columbia River Basin Water Supply Development Program (06-2-950)

Reappropriation:
Columbia River Basin Water Supply Development
Account--State $10,000,000
Appropriation:
Columbia River Basin Water Supply Development
Account--State $34,500,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $155,500,000
TOTAL $200,000,000

NEW SECTION. **Sec. 3025. FOR THE DEPARTMENT OF ECOLOGY**
Columbia River Program (06-2-010)

Reappropriation:

State Building Construction Account--State $11,542,000

Prior Biennia (Expenditures) $4,458,000

Future Biennia (Projected Costs) $0

TOTAL $16,000,000

NEW SECTION. **Sec. 3026. FOR THE DEPARTMENT OF ECOLOGY**

Local Toxics Grants for Cleanup and Prevention (06-4-008)

Reappropriation:

Local Toxics Control Account--State $56,470,000

Prior Biennia (Expenditures) $42,430,000

Future Biennia (Projected Costs) $0

TOTAL $98,900,000

NEW SECTION. **Sec. 3027. FOR THE DEPARTMENT OF ECOLOGY**

Low Impact Development for Storm Water Management (06-2-006)

The reappropriation in this section is subject to the following conditions and limitations: The reappropriation is provided solely for grants to local governments in Puget Sound to fund innovative, low-impact development storm water management projects to meet critical storm water management needs and protect or restore water quality. Projects may include use of bioretention, rainwater harvest, permeable pavement, vegetated roofs, and other low-impact development techniques. Projects funded in Puget Sound must meet the design guidelines contained in the low-impact development technical guidance manual for Puget Sound, unless the municipality can demonstrate that site conditions warrant a deviation from the design guidelines and the deviations in design provides similar performance. All projects must include performance monitoring.

Reappropriation:

State Toxics Control Account--State $2,500,000

Prior Biennia (Expenditures) $2,500,000

Future Biennia (Projected Costs) $0

TOTAL $5,000,000

NEW SECTION. **Sec. 3028. FOR THE DEPARTMENT OF ECOLOGY**

Minor Works (06-1-004)

Reappropriation:

State Building Construction Account--State $30,000

Appropriation:

State Building Construction Account--State $270,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $300,000

NEW SECTION. **Sec. 3029. FOR THE DEPARTMENT OF ECOLOGY**

Motor Vehicle Mercury Removal Program (06-2-850)

Reappropriation:

State Toxics Control Account--State $900,000

Prior Biennia (Expenditures) $100,000

Future Biennia (Projected Costs) $0

TOTAL $1,000,000

NEW SECTION. **Sec. 3030. FOR THE DEPARTMENT OF ECOLOGY**

Puget Sound Aquatic Cleanup and Restoration (06-1-005)

Reappropriation:

State Toxics Control Account--State $3,129,000

Prior Biennia (Expenditures) $1,871,000

Future Biennia (Projected Costs) $0

TOTAL $5,000,000

NEW SECTION. **Sec. 3031. FOR THE DEPARTMENT OF ECOLOGY**

Safe Soil Remediation and Awareness Projects (06-2-001)

Reappropriation:

State Toxics Control Account--State $1,059,000

Prior Biennia (Expenditures) $1,909,000

Future Biennia (Projected Costs) $0

TOTAL $2,968,000

NEW SECTION. **Sec. 3032. FOR THE DEPARTMENT OF ECOLOGY**

Waste Tire Piles (06-1-002)

Reappropriation:

Waste Tire Removal Account--State $3,500,000

Prior Biennia (Expenditures) $4,000,000

Future Biennia (Projected Costs) $0

TOTAL $7,500,000

NEW SECTION. **Sec. 3033. FOR THE DEPARTMENT OF ECOLOGY**

Water Irrigation Efficiencies (06-2-009)

Reappropriation:

State Building Construction Account--State $3,435,000

Prior Biennia (Expenditures) $64,000

Future Biennia (Projected Costs) $0

TOTAL $3,499,000

NEW SECTION. **Sec. 3034. FOR THE DEPARTMENT OF ECOLOGY**

Water Pollution Control Revolving Account (06-4-002)

The reappropriations in this section are subject to the following conditions and limitations:

(1) The department shall give priority loan funding consideration to on-site septic system rehabilitation and replacement programs in Mason, Kitsap, and Jefferson counties for up to $1,000,000 from the water pollution control revolving account--state in the second year of the funding cycle.

(2) Up to $5,000,000 of the water pollution control revolving account--state reappropriation is for loans for on-site sewage replacement. This reappropriation may be used to: (a) Establish new or expand existing on-site sewage repair and replacement loan programs by county governments or tribes; or (b) develop a pilot program to administer an on-site sewage repair and replacement loan program through a qualified private or nonprofit lending institution. This appropriation must be used in conjunction with water quality capital account--state appropriation in section 3022 of this act provided for this purpose. The department must work with the department of health, the Puget Sound water quality action team, local governments, and the lending industry in developing and piloting this program. The

department shall provide a status report on the loan program to the governor and the appropriate legislative fiscal committees by June 30, 2008, including any recommendations for improving the program.

Reappropriation:
Water Pollution Control Revolving Account--
State $124,000,000
Water Pollution Control Revolving Account--
Federal $65,000,000
Subtotal Reappropriation $189,000,000

Prior Biennia (Expenditures) $50,617,000
Future Biennia (Projected Costs) $0
TOTAL $239,617,000

NEW SECTION. **Sec. 3035. FOR THE DEPARTMENT OF ECOLOGY**
Watershed Plan Implementation and Flow Achievement (06-2-003)

Reappropriation:
State Building Construction Account--State $10,849,000
Water Quality Capital Account--State $386,000
Subtotal Reappropriation $11,235,000

Prior Biennia (Expenditures) $1,563,000
Future Biennia (Projected Costs) $0
TOTAL $12,798,000

NEW SECTION. **Sec. 3036. FOR THE DEPARTMENT OF ECOLOGY**
Centennial Clean Water Program (08-4-010)

The appropriations in this section are subject to the following conditions and limitations:

(1) Up to $10,000,000 of the state building construction account--state appropriation is for the extended grant payment to Spokane for the Spokane-Rathdrum Prairie aquifer.

(2) $5,000,000 of the state building construction account--state appropriation is provided solely for water quality grants for hardship communities with a population of less than 5,000. The department shall give priority consideration to: (a) Communities subject to a regulatory order from the department of ecology for noncompliance with water quality rules; (b) projects for which design work has been

completed; and (c) projects with a local match from reasonable water quality rates and charges.

(3) $2,000,000 of the state building construction account--state appropriation is provided solely for the Adams and Lincoln counties ground water mapping project. The project shall submit a report to the appropriate committees of the legislature describing the dynamic relationship between groundwater and surface water in the region. The report shall be submitted by January 1, 2009.

(4) $2,100,000 of the state toxics control account appropriation is provided solely for wastewater and clean water improvement projects at Illahee state park, Fort Flagler state park, and Larrabee state park.

(5)(a) $18,505,000 of the state building construction account--state appropriation is provided solely for the following projects:

Project	Amount
City of Carnation waste water treatment system	$3,000,000
Mansfield waste water treatment upgrade	$960,000
Rock Island waste water treatment system	$870,000
Enumclaw waste water treatment system	$750,000
Snohomish waste water treatment system	$4,925,000
Freeland sewer district	$1,000,000
Clark county regional sewer cooperative	$4,000,000
Town of Warden waste water	$3,000,000

(b) The appropriation for entities that are listed in (a) of this subsection shall not affect the entities' eligibility for centennial fund hardship assistance and shall be excluded from any financial hardship calculation that would have the effect of reducing other moneys for which the entity is currently contracted and eligible under WAC 173-95A-030(8), as it existed on the effective date of this section.

(c) The appropriation to the city of Carnation is for payment to King county for the county connection charge and other eligible costs.

Appropriation:

State Building Construction Account--State $49,225,000
Water Quality Capital Account--State $7,550,000
State Toxics Control Account--State $2,100,000
Subtotal Appropriation $58,875,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $178,400,000
TOTAL $237,275,000

NEW SECTION. **Sec. 3037. FOR THE DEPARTMENT OF ECOLOGY**
Cleanup Toxic Sites in Puget Sound (08-4-005)

The appropriation in this section is subject to the following conditions and limitations: Funding is provided solely for the clean up of contaminated sites that lie adjacent to and are within one-half mile of Puget Sound. Clean ups shall include orphan and abandoned sites that pose a threat to Puget Sound with the highest priority sites being cleaned up first. The department shall provide the Puget Sound partnership, as created by chapter . . . (Engrossed Substitute Senate Bill No. 5372), Laws of 2007, the opportunity to review and provide comment on proposed projects and activities recommended for funding. This review shall be consistent with the funding schedule for the program.

Appropriation:
State Toxics Control Account--State $4,000,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $18,820,000
TOTAL $22,820,000

NEW SECTION. **Sec. 3038. FOR THE DEPARTMENT OF ECOLOGY**
Coordinated Prevention Grants (08-4-015)

The appropriation in this section is subject to the following conditions and limitations:

(1) $4,000,000 of the appropriation is provided solely for grants to local governments for local waste and pollution prevention projects. Grants shall fund new organics composting and conversion, green building, and moderate risk waste initiatives described in the state "beyond waste" plan.

(2) Up to $2,000,000 of the appropriation may be used for grants to local governments to provide alternatives to backyard burning of organic materials. Priority for these grants shall be given to: (a) Urban growth areas of less than 5,000 people affected by the January 1, 2007, ban on outdoor burning; (b) projects that develop infrastructure for an on-going program; and (c) projects that coordinate regionally.

(3) Up to $75,000 of the appropriation shall be used by the department to convene a work group with representatives of affected stakeholders to assess opportunities, other than burning, to manage vegetative solid waste and recommend best management practices, consistent with good solid waste management practices, that work for smaller communities. The department shall provide the recommendations to affected cities and to the appropriate standing committees of the legislature. The work group recommendations must be completed by December 31, 2007.

Appropriation:

Local Toxics Control Account--State $25,500,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $114,000,000

TOTAL $139,500,000

NEW SECTION. **Sec. 3039. FOR THE DEPARTMENT OF ECOLOGY**

On-Site Septic Replacement Program (08-4-012)

The appropriation in this section is subject to the following conditions and limitations: The appropriation is for a contract with an entity that is familiar with on-site sewage repair and replacement in Hood Canal to coordinate improvements to sewage systems. As part of a pilot project, the entity may provide funds to a qualified private or nonprofit lending institution to provide financial assistance to local governments and private landowners for the repair, replacement, or upgrade of on-site sewage systems.

Appropriation:

Water Quality Capital Account--State $3,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $3,000,000

NEW SECTION. **Sec. 3040. FOR THE DEPARTMENT OF ECOLOGY**

Puget Sound Aquatic Cleanup and Restoration (08-4-004)

The appropriation in this section is subject to the following conditions and limitations: The department shall provide the Puget Sound partnership, as created by chapter . . . (Engrossed Substitute

Senate Bill No. 5372), Laws of 2007, the opportunity to review and provide comment on proposed projects and activities recommended for funding. This review shall be consistent with the funding schedule for the program.

Appropriation:

State Toxics Control Account--State $5,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $23,620,000

TOTAL $28,620,000

NEW SECTION. **Sec. 3041. FOR THE DEPARTMENT OF ECOLOGY**

Puget Sound Storm Water Projects (08-2-002)

The appropriations in this section are subject to the following conditions and limitations: The appropriations are provided solely for grants to local governments within Puget Sound for municipal storm water projects, including but not limited to, retrofit of existing storm water projects in urban areas where storm water is a significant source of contamination, identification and removal of nonstorm water discharges into municipal storm sewer systems, and local innovative storm water projects that implement low-impact development. The department shall provide the Puget Sound partnership, as created by chapter . . . (Engrossed Substitute Senate Bill No. 5372), Laws of 2007, the opportunity to review and provide comment on proposed projects and activities recommended for funding. This review shall be consistent with the funding schedule for the program.

Appropriation:

State Building Construction Account--State $12,920,000

Local Toxics Control Account--State $5,000,000

Subtotal Appropriation $17,920,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $56,680,000

TOTAL $74,600,000

NEW SECTION. **Sec. 3042. FOR THE DEPARTMENT OF ECOLOGY**

Storm Water Projects (08-2-003)

Appropriation:

State Toxics Control Account--State $3,000,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $3,000,000

NEW SECTION. **Sec. 3043. FOR THE DEPARTMENT OF ECOLOGY**
Rebuild East Wall of Ecology Headquarters (08-1-002)

Appropriation:
State Building Construction Account--State $100,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $100,000

NEW SECTION. **Sec. 3044. FOR THE DEPARTMENT OF ECOLOGY**
Reclaimed Water (08-4-002)

The appropriation in this section is subject to the following conditions and limitations: The appropriation in this section is provided solely for grants to local governments in Puget Sound to complete reclaimed water projects. Priority shall be given to projects in water short areas where reclaimed water can be used to replace other water sources and where reclaimed water can be used to restore important ecosystem functions in Puget Sound.

Appropriation:
State Building Construction Account--State $5,455,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $24,320,000
TOTAL $29,775,000

NEW SECTION. **Sec. 3045. FOR THE DEPARTMENT OF ECOLOGY**
Reduce Health Risks from Toxic Diesel Pollution (08-4-024)

The appropriation in this section is subject to the following conditions and limitations:

(1) $4,840,000 of the appropriation is provided solely for school bus diesel retrofits for local school districts.

(2) $2,330,000 of the appropriation is provided solely for emission

reduction projects for local governments to retrofit public sector diesel engines to allow public sector fleets to reduce their emissions.

Appropriation:

Local Toxics Control Account--State $7,170,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $7,170,000

NEW SECTION. **Sec. 3046. FOR THE DEPARTMENT OF ECOLOGY**

Remedial Action Grants (08-4-008)

Appropriation:

Local Toxics Control Account--State $84,475,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $180,000,000

TOTAL $264,475,000

NEW SECTION. **Sec. 3047. FOR THE DEPARTMENT OF ECOLOGY**

Repair Exterior Surfaces and Expand Emergency Power Supply (08-1-003)

Appropriation:

State Building Construction Account--State $475,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $475,000

NEW SECTION. **Sec. 3048. FOR THE DEPARTMENT OF ECOLOGY**

Safe Soils Remediation Grants (08-4-009)

Appropriation:

State Toxics Control Account--State $2,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $4,000,000

TOTAL $6,000,000

NEW SECTION. **Sec. 3049. FOR THE DEPARTMENT OF ECOLOGY**

Reduce Public Health Risks from Wood Stove Pollution (08-4-019)

Appropriation:
Wood Stove Education Account--State $500,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $2,000,000
TOTAL $2,500,000

NEW SECTION. **Sec. 3050. FOR THE DEPARTMENT OF ECOLOGY**
Skykomish Cleanup (08-4-020)

Appropriation:
State Toxics Control Account--State $7,000,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $7,000,000

NEW SECTION. **Sec. 3051. FOR THE DEPARTMENT OF ECOLOGY**
Waste Tire Pile Cleanup (08-4-022)

Appropriation:
Waste Tire Removal Account--State $5,000,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $5,000,000
TOTAL $10,000,000

NEW SECTION. **Sec. 3052. FOR THE DEPARTMENT OF ECOLOGY**
Water Irrigation Efficiencies (08-4-028)

The appropriation in this section is subject to the following conditions and limitations: $250,000 of the appropriation is provided solely for emergency repairs for the South Naches irrigation district.

Appropriation:
State Building Construction Account--State $3,000,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $12,000,000
TOTAL $15,000,000

NEW SECTION. **Sec. 3053. FOR THE DEPARTMENT OF ECOLOGY**
Water Pollution Control Loan Program (08-4-011)

Appropriation:

Water Pollution Control Revolving Account--State	$90,000,000
Water Pollution Control Revolving Account--Federal	$50,000,000
Subtotal Appropriation	$140,000,000
Prior Biennia (Expenditures)	$0
Future Biennia (Projected Costs)	$500,000,000
TOTAL	$640,000,000

NEW SECTION. **Sec. 3054. FOR THE DEPARTMENT OF ECOLOGY**

Watershed Plan Implementation and Flow Achievement (08-4-029)

The appropriation in this section is subject to the following conditions and limitations: The appropriation is provided solely for grants for projects that improve water supplies and help achieve instream flows by implementing watershed plans, as follows:

(1) Surface or ground water storage projects, where such projects are consistent with the recommendations of the water storage task force. The department shall consult the departments of agriculture and fish and wildlife before issuing water storage grants.

(2) Infrastructure or water management projects that resolve conflicts among water needs for municipal, agricultural, rural, and fish restoration purposes. The stream flow improvements and other public benefits secured from these projects must be commensurate with the investment of state funds.

(3) Agricultural water supply projects that improve water conservation and water use efficiency.

(4) Purchase and installation of water measuring devices in salmon critical basins and areas participating in the department of fish and wildlife fish screening and cooperative compliance program, and basins where watershed plans call for additional water use measurement.

(5) Acquisition of water to achieve instream flows or to establish water banks. The department shall give priority to acquisitions in salmon critical basins. The department shall place acquired water into the state's trust water rights program (chapters 90.38 and 90.42 RCW).

(6) Up to $200,000 of the appropriation is provided for a portion of the costs of the Ahtanum creek watershed restoration program, including construction of the Pine Hollow reservoir, provided there is

agreement among the Yakama nation, Ahtanum irrigation district, and other jurisdictional federal, state, and local agencies and entities to proceed with the environmental impact statement.

(7) $560,000 is provided solely for the Chehalis watershed.

(8) $300,000 is provided solely for a grant to the Nisqually river foundation to support the watershed conservation plan, low-impact development program, and Nisqually river education program.

(9) Up to $1,200,000 of the appropriation is provided for grants to lead local government entities for planning unit administrative support to watershed planning units. Such grants shall only be provided to those entities that have completed, approved plans that are actively being implemented. Grant amounts will range from $30,000 to $60,000, based on criteria to be developed by the department. Criteria should consider factors including complexity of water issues, geographical size, population growth pressure, rate of plan implementation, and others issues to be determined by the department.

Appropriation:

State Building Construction Account--State $14,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $64,000,000

TOTAL $78,000,000

NEW SECTION. **Sec. 3055. FOR THE DEPARTMENT OF ECOLOGY**

Yakima River Basin Water Storage Feasibility Study (08-4-026)

The appropriation in this section is subject to the following conditions and limitations: The appropriation is provided solely for completion of the United States bureau of reclamation's Yakima Basin storage feasibility study, including the associated joint national environmental policy act, the state environmental policy act, and environmental impact statement. The appropriated funds shall be used by the bureau of reclamation and the department of ecology to evaluate potential in-basin storage facilities such as the proposed Black Rock and Wymer reservoirs and other reasonable alternatives that will enhance water supply in the Yakima Basin.

Appropriation:

State Building Construction Account--State $3,250,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0
TOTAL $3,250,000

NEW SECTION. **Sec. 3056. FOR THE DEPARTMENT OF ECOLOGY**

Transfer of Water Rights for Cabin Owners (08-1-951)

The appropriation in this section is subject to the following conditions and limitations: The appropriation is provided solely for the purchase of water for domestic water users in the Yakima Basin (WRIAs 37, 38, and 39) that have a surface water right with a priority date later than May 10, 1905, as well as for all out-of-priority surface water users in the Yakima Basin. A portion of the appropriation may be used for administrative and other costs associated with acquiring and transferring the water rights. The department shall recover all costs from participating domestic water users for their prorated portion of the cost of securing a water right or rights for this purpose and associated annual operational costs owed to the United States bureau of reclamation. Funds recovered in this manner shall be placed in the drought preparedness account.

Appropriation:
State Building Construction Account--State $450,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $450,000

NEW SECTION. **Sec. 3057. FOR THE STATE PARKS AND RECREATION COMMISSION**

Spokane Centennial Trail - Unanticipated Receipt (03-2-001)

Reappropriation:
General Fund--Private/Local $34,000

Prior Biennia (Expenditures) $5,000
Future Biennia (Projected Costs) $0
TOTAL $39,000

NEW SECTION. **Sec. 3058. FOR THE STATE PARKS AND RECREATION COMMISSION**

Cowan Barn and House (06-2-851)

Reappropriation:
State Building Construction Account--State $250,000
Prior Biennia (Expenditures) $51,000
Future Biennia (Projected Costs) $0
TOTAL $301,000

NEW SECTION. **Sec. 3059. FOR THE STATE PARKS AND RECREATION COMMISSION**
Deception Pass - Renewed Traditions (06-2-013)
Reappropriation:
State Building Construction Account--State $770,000
Prior Biennia (Expenditures) $100,000
Future Biennia (Projected Costs) $0
TOTAL $870,000

NEW SECTION. **Sec. 3060. FOR THE STATE PARKS AND RECREATION COMMISSION**
Facility Preservation - Facilities (06-1-004)
Reappropriation:
State Building Construction Account--State $6,000,000
Prior Biennia (Expenditures) $4,419,000
Future Biennia (Projected Costs) $0
TOTAL $10,419,000

NEW SECTION. **Sec. 3061. FOR THE STATE PARKS AND RECREATION COMMISSION**
Fort Worden - Facilities (06-1-003)
Reappropriation:
State Building Construction Account--State $432,000
Prior Biennia (Expenditures) $838,000
Future Biennia (Projected Costs) $0
TOTAL $1,270,000

NEW SECTION. **Sec. 3062. FOR THE STATE PARKS AND RECREATION COMMISSION**
Historic Stewardship - Stewardship (06-1-002)

Reappropriation:
State Building Construction Account--State $1,485,000
Prior Biennia (Expenditures) $117,000
Future Biennia (Projected Costs) $0
TOTAL $1,602,000

NEW SECTION. **Sec. 3063. FOR THE STATE PARKS AND RECREATION COMMISSION**
Ice Age Floods - Cherished Resources (06-2-014)
Reappropriation:
State Building Construction Account--State $2,150,000
Prior Biennia (Expenditures) $78,000
Future Biennia (Projected Costs) $0
TOTAL $2,228,000

NEW SECTION. **Sec. 3064. FOR THE STATE PARKS AND RECREATION COMMISSION**
Natural Resources - Stewardship (06-1-001)
Reappropriation:
State Building Construction Account--State $600,000
Prior Biennia (Expenditures) $89,000
Future Biennia (Projected Costs) $0
TOTAL $689,000

NEW SECTION. **Sec. 3065. FOR THE STATE PARKS AND RECREATION COMMISSION**
Park Development (06-1-950)
Reappropriation:
State Building Construction Account--State $300,000
Prior Biennia (Expenditures) $415,000
Future Biennia (Projected Costs) $0
TOTAL $715,000

NEW SECTION. **Sec. 3066. FOR THE STATE PARKS AND RECREATION COMMISSION**
Revenue Creation - Financial Strategy (06-2-010)

Reappropriation:
State Building Construction Account--State $1,100,000
Prior Biennia (Expenditures) $250,000
Future Biennia (Projected Costs) $0
TOTAL $1,350,000

NEW SECTION. **Sec. 3067. FOR THE STATE PARKS AND RECREATION COMMISSION**

Rocky Reach - Chelan County Public Utility District (06-1-023)

The reappropriation in this section is subject to the following conditions and limitations: The reappropriation in this section is provided to construct and surface the northern mile of Rocky Reach trail, and partially fund installation of signs, interpretive panels, and bridges related to the 5.1 mile project.

Reappropriation:
Parks Renewal and Stewardship Account--
Private/Local $500,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $500,000

NEW SECTION. **Sec. 3068. FOR THE STATE PARKS AND RECREATION COMMISSION**

Southeast Washington Parks (06-2-852)

Reappropriation:
State Building Construction Account--State $217,000
Prior Biennia (Expenditures) $2,000
Future Biennia (Projected Costs) $0
TOTAL $219,000

NEW SECTION. **Sec. 3069. FOR THE STATE PARKS AND RECREATION COMMISSION**

Statewide Boat Pumpout - Federal Clean Vessel Act (06-4-018)

Reappropriation:
General Fund--Federal $696,000

Prior Biennia (Expenditures) $40,000
Future Biennia (Projected Costs) $0
TOTAL $736,000

NEW SECTION. **Sec. 3070. FOR THE STATE PARKS AND RECREATION COMMISSION**

Trails (06-2-017)

Reappropriation:

State Building Construction Account--State $441,000

Prior Biennia (Expenditures) $208,000
Future Biennia (Projected Costs) $0
TOTAL $649,000

NEW SECTION. **Sec. 3071. FOR THE STATE PARKS AND RECREATION COMMISSION**

Hood Canal Wastewater (06-1-850)

Reappropriation:

Hood Canal Aquatic Rehabilitation Bond Account--State $5,100,000

Prior Biennia (Expenditures) $702,000
Future Biennia (Projected Costs) $0
TOTAL $5,802,000

NEW SECTION. **Sec. 3072. FOR THE STATE PARKS AND RECREATION COMMISSION**

Puget Sound Wastewater (06-1-851)

Reappropriation:

State Building Construction Account--State $6,100,000

Prior Biennia (Expenditures) $1,095,000
Future Biennia (Projected Costs) $0
TOTAL $7,195,000

NEW SECTION. **Sec. 3073. FOR THE STATE PARKS AND RECREATION COMMISSION**

Sustainable Development and Restoration (06-1-011)

Reappropriation:

State Toxics Control Account--State $80,000

Prior Biennia (Expenditures) $412,000
Future Biennia (Projected Costs) $0
TOTAL $492,000

NEW SECTION. **Sec. 3074. FOR THE STATE PARKS AND RECREATION COMMISSION**

Cama Beach - New Destinations (06-2-011)

Reappropriation:
State Building Construction Account--State $4,015,000
Appropriation:
State Building Construction Account--State $1,800,000

Prior Biennia (Expenditures) $305,000
Future Biennia (Projected Costs) $0
TOTAL $6,120,000

NEW SECTION. **Sec. 3075. FOR THE STATE PARKS AND RECREATION COMMISSION**

Bay View Park Wide Wastewater Treatment System (08-2-041)

Appropriation:
State Building Construction Account--State $2,187,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $2,187,000

NEW SECTION. **Sec. 3076. FOR THE STATE PARKS AND RECREATION COMMISSION**

Beacon Rock-Pierce Trust Grant (08-4-034)

Appropriation:
Parks Renewal and Stewardship Account--
Private/Local $25,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $100,000
TOTAL $125,000

NEW SECTION. **Sec. 3077. FOR THE STATE PARKS AND RECREATION COMMISSION**

Belfair Major Park Upgrade (08-1-018)

Appropriation:

State Building Construction Account--State $400,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $2,500,000

TOTAL $2,900,000

NEW SECTION. **Sec. 3078. FOR THE STATE PARKS AND RECREATION COMMISSION**

Cape Disappointment Major Park Upgrade (08-1-012)

Appropriation:

State Building Construction Account--State $500,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $4,219,000

TOTAL $4,719,000

NEW SECTION. **Sec. 3079. FOR THE STATE PARKS AND RECREATION COMMISSION**

Clean Vessel Boating Pumpout Grants (08-4-035)

The appropriation in this section is subject to the following conditions and limitations: The commission shall coordinate with the department of natural resources to develop a plan to transition the boat pumpout grant program to the department of natural resources. The legislature intends to accelerate the use of the federal money for boat pumpouts and integrate the grant program with the aquatic lands leasing program of the department of natural resources. The transition plan shall be submitted to the office of financial management and the appropriate committees of the legislature by September 1, 2007.

Appropriation:

General Fund--Federal $1,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $2,000,000

TOTAL $3,000,000

NEW SECTION. **Sec. 3080. FOR THE STATE PARKS AND RECREATION COMMISSION**

Deferred Maintenance (08-1-025)

The appropriation in this section is subject to the following conditions and limitations: The department shall develop a plan of action, agreed upon between the office of financial management and the appropriate fiscal committees of the legislature by September 1, 2007. Up to $200,000 of the appropriation may be used for systems necessary to implement the plan. The plan shall address the conclusions and key findings in the 2006 study of the department's capital development, execution, and monitoring process, including but not limited to:

(1) The capital budget submittal and approval process;

(2) Emergent needs and unforeseen cost overruns;

(3) Adherence to project budgets and schedules;

(4) Project completion rate;

(5) Agency expenditure of capital budget appropriations;

(6) Permitting delays;

(7) The number of projects with complete close-out;

(8) Project funding sources by project, phase, and/or activity;

(9) Movement of project funding sources from original appropriation;

(10) Satisfaction levels of operations staff and end users; and

(11) Instances of noncompliance with environmental regulations.

Appropriation:

State Building Construction Account--State $3,500,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $14,000,000

TOTAL $17,500,000

NEW SECTION. **Sec. 3081. FOR THE STATE PARKS AND RECREATION COMMISSION**

Visible Park Improvements (08-1-951)

Appropriation:

State Building Construction Account--State $10,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $10,000,000

NEW SECTION. **Sec. 3082. FOR THE STATE PARKS AND RECREATION COMMISSION**

Emergency Repairs (08-1-024)

Appropriation:

State Building Construction Account--State $600,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $1,200,000

TOTAL $1,800,000

NEW SECTION. **Sec. 3083. FOR THE STATE PARKS AND RECREATION COMMISSION**

Federal Grant Authority (08-4-032)

Appropriation:

General Fund--Federal $500,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $2,000,000

TOTAL $2,500,000

NEW SECTION. **Sec. 3084. FOR THE STATE PARKS AND RECREATION COMMISSION**

Historic Preservation (08-1-002)

The appropriation in this section is subject to the following conditions and limitations:

(1) $500,000 of the appropriation is provided solely for the design, permits, and drawings for the seminary building at St. Edward State Park.

(2) $500,000 of the appropriation is provided solely for improvements to prevent further degradation of the seminary building.

Appropriation:

State Building Construction Account--State $7,101,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $14,500,000

TOTAL $21,601,000

NEW SECTION. **Sec. 3085. FOR THE STATE PARKS AND RECREATION**

COMMISSION

Ice Age Flood (08-2-037)

The appropriation in this section is subject to the following conditions and limitations:

(1) $3,000,000 of the appropriation is provided solely for a grant for the Hanford Reach national monument heritage and visitor center. The funds may be used for preconstruction activities.

(2) $100,000 is provided solely for the department to prepare interpretive materials describing the ice age floods.

Appropriation:

State Building Construction Account--State $3,100,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $3,100,000

NEW SECTION. **Sec. 3086. FOR THE STATE PARKS AND RECREATION COMMISSION**

Local Grant Authority (08-4-033)

Appropriation:

Parks Renewal and Stewardship Account--Private/Local . . $500,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $2,000,000

TOTAL $2,500,000

NEW SECTION. **Sec. 3087. FOR THE STATE PARKS AND RECREATION COMMISSION**

Minor Works - Facility Preservation (08-1-001)

Appropriation:

State Building Construction Account--State $9,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $40,000,000

TOTAL $49,000,000

NEW SECTION. **Sec. 3088. FOR THE STATE PARKS AND RECREATION COMMISSION**

Parkland Acquisition (08-2-031)

The appropriation in this section is subject to the following conditions and limitations: The state parks and recreation commission shall provide lists of potential purchases and sales to the office of financial management and the appropriate policy and fiscal committees of the legislature prior to committing the state parks and recreation commission to any sale or purchase of land or buildings and prior to any allotments made for those purchases. The list shall include any potential operating or capital cost impacts known to the state parks and recreation commission.

Appropriation:

Parkland Acquisition Account--State $4,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $16,000,000

TOTAL $20,000,000

NEW SECTION. **Sec. 3089. FOR THE STATE PARKS AND RECREATION COMMISSION**

Pearrygin Lake Major Park Upgrade (08-2-016)

Appropriation:

State Building Construction Account--State $1,367,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $3,633,000

TOTAL $5,000,000

NEW SECTION. **Sec. 3090. FOR THE STATE PARKS AND RECREATION COMMISSION**

Road Preservation (08-1-036)

Appropriation:

State Building Construction Account--State $3,700,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $3,700,000

NEW SECTION. **Sec. 3091. FOR THE STATE PARKS AND RECREATION COMMISSION**

Storm Water Improvements (08-1-027)

Appropriation:

State Building Construction Account--State $571,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $3,000,000

TOTAL $3,571,000

NEW SECTION. **Sec. 3092. FOR THE STATE PARKS AND RECREATION COMMISSION**

Trail Development (08-1-008)

The appropriation in this section is subject to the following conditions and limitations:

(1) $500,000 of the appropriation is provided solely to construct the ecological trail from Baker Bay to the Pacific ocean at Cape Disappointment state park, as identified in the commission's master capital plan.

(2) $350,000 of the appropriation is provided solely for upgrades to the Squak mountain trail.

Appropriation:

State Building Construction Account--State $4,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $4,000,000

NEW SECTION. **Sec. 3093. FOR THE STATE PARKS AND RECREATION COMMISSION**

Statewide Boat Pumpout (04-4-014)

The appropriation in this section is subject to the following conditions and limitations: The commission shall coordinate with the department of natural resources to develop a plan to transition the boat pumpout grant program to the department of natural resources. The legislature intends to accelerate the use of the federal money for boat pumpouts and integrate the grant program with the aquatic lands leasing program of the department of natural resources. The transition plan shall be submitted to the office of financial management and the appropriate committees of the legislature by September 1, 2007.

Reappropriation:

General Fund--Federal $497,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $497,000

NEW SECTION. **Sec. 3094. FOR THE STATE PARKS AND RECREATION COMMISSION**

Cama Beach Donation (06-2-853)

Reappropriation:

General Fund--Private/Local $1,716,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $1,716,000

NEW SECTION. **Sec. 3095. FOR THE STATE PARKS AND RECREATION COMMISSION**

Lake Sammamish Major Park Upgrade (08-1-014)

Appropriation:

State Building Construction Account--State $1,033,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $1,033,000

NEW SECTION. **Sec. 3096. FOR THE STATE PARKS AND RECREATION COMMISSION**

City to Mountains Regional Gap Fund (08-1-950)

Appropriation:

State Building Construction Account--State $3,600,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $3,600,000

NEW SECTION. **Sec. 3097. FOR THE STATE PARKS AND RECREATION COMMISSION**

Nisqually Mashel State Park (08-1-953)

Appropriation:

State Building Construction Account--State $500,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $500,000

NEW SECTION. **Sec. 3098. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Boating Facilities Projects (98-2-001)

Reappropriation:
Recreation Resources Account--State $1,369,000

Prior Biennia (Expenditures) $18,187,000
Future Biennia (Projected Costs) $0
TOTAL $19,556,000

NEW SECTION. **Sec. 3099. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Firearms and Archery Range Program (98-2-004)

Reappropriation:
Firearms Range Account--State $25,000

Prior Biennia (Expenditures) $549,000
Future Biennia (Projected Costs) $0
TOTAL $574,000

NEW SECTION. **Sec. 3100. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Nonhighway Off-Road Vehicle Program (NOVA) (98-2-002)

Reappropriation:
Nonhighway and Off-Road Vehicle Activities
Program Account--State $249,000

Prior Biennia (Expenditures) $10,847,000
Future Biennia (Projected Costs) $0
TOTAL $11,096,000

NEW SECTION. **Sec. 3101. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Washington Wildlife and Recreation Program (98-2-003)

Reappropriation:
Outdoor Recreation Account--State $1,767,000
Habitat Conservation Account--State $2,252,000
Subtotal Reappropriation $4,019,000
Prior Biennia (Expenditures) $73,582,000
Future Biennia (Projected Costs) $0
TOTAL $77,601,000

NEW SECTION. **Sec. 3102. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Salmon Recovery Funding Board Programs (00-2-001)

Reappropriation:
General Fund--Federal $166,000
Salmon Recovery Account--State $1,175,000
Subtotal Reappropriation $1,341,000
Prior Biennia (Expenditures) $100,284,000
Future Biennia (Projected Costs) $0
TOTAL $101,625,000

NEW SECTION. **Sec. 3103. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Boating Facilities Program (02-4-001)

Reappropriation:
Recreation Resources Account--State $766,000
Prior Biennia (Expenditures) $6,167,000
Future Biennia (Projected Costs) $0
TOTAL $6,933,000

NEW SECTION. **Sec. 3104. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Boating Infrastructure Grant (02-4-010)

Reappropriation:
Recreation Resources Account--Federal $529,000
Prior Biennia (Expenditures) $1,471,000
Future Biennia (Projected Costs) $0
TOTAL $2,000,000

NEW SECTION. **Sec. 3105. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Firearms and Archery Range Program (02-0-001)

Reappropriation:

Firearms Range Account--State $43,000

Prior Biennia (Expenditures) $357,000

Future Biennia (Projected Costs) $0

TOTAL $400,000

NEW SECTION. **Sec. 3106. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Hatchery Management Program (02-4-009)

Reappropriation:

General Fund--Federal $1,482,000

Prior Biennia (Expenditures) $9,719,000

Future Biennia (Projected Costs) $0

TOTAL $11,201,000

NEW SECTION. **Sec. 3107. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Land and Water Conservation Fund (02-4-005)

Reappropriation:

Recreation Resources Account--Federal $1,350,000

Prior Biennia (Expenditures) $6,150,000

Future Biennia (Projected Costs) $0

TOTAL $7,500,000

NEW SECTION. **Sec. 3108. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Nonhighway Off-Road Vehicle Program (NOVA) (02-4-002)

The reappropriation in this section is subject to the following conditions and limitations:

(1) The reappropriation for the nonhighway and off road vehicle program under RCW 46.09.170(2)(d)(i) is subject to the following conditions and limitations: A portion of the reappropriation may be used for grants to projects to research, develop, publish, and

distribute informational guides and maps of nonhighway and off road vehicle trails and associated facilities meeting the requirements, guidelines, spirit, and intent of the federal Americans with disabilities act.

(2) The reappropriation for the nonhighway and off road vehicle program under RCW 46.09.170(2)(d)(ii) is subject to the following conditions and limitations: The portion of the reappropriation that applies to grants for capital facilities may be used for grants to projects that meet the requirements, guidelines, spirit, and intent of the federal Americans with disabilities act and do not compromise or impair sensitive natural resources. The portion of the reappropriation that applies to grants for management, maintenance, and operation of existing off road vehicle recreation facilities may be used to bring the facilities into compliance with the requirements, guidelines, spirit, and intent of the federal Americans with disabilities act.

(3) The reappropriation for the nonhighway and off road vehicle program under RCW 46.09.170(2)(d)(iii) is subject to the following conditions and limitations: Funds may be expended for nonhighway road recreation facilities which may include recreational trails that are accessed by nonhighway roads and are intended solely for nonmotorized recreational uses.

Reappropriation:
Nonhighway and Off-Road Vehicle Activities
Program Account--State $69,000

Prior Biennia (Expenditures) $5,459,000
Future Biennia (Projected Costs) $0
TOTAL $5,528,000

NEW SECTION. **Sec. 3109. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Salmon Recovery Funding Board Programs (02-4-007)

Reappropriation:
General Fund--Federal $8,470,000
State Building Construction Account--State $2,786,000
Subtotal Reappropriation $11,256,000

Prior Biennia (Expenditures) $63,737,000
Future Biennia (Projected Costs) $0

TOTAL $74,993,000

NEW SECTION. **Sec. 3110. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Washington Wildlife and Recreation Program (02-4-003)

The reappropriations in this section are subject to the following conditions and limitations: Any amount of the reappropriations that is not obligated to a specific project may be used to fund projects in the following order: (1) The department of natural resources Cypress Island project; and (2) alternate projects approved by the legislature from the same account in biennia succeeding that in which the funds were originally appropriated.

Reappropriation:

Outdoor Recreation Account--State $299,000

Habitat Conservation Account--State $1,164,000

Subtotal Reappropriation $1,463,000

Prior Biennia (Expenditures) $43,537,000

Future Biennia (Projected Costs) $0

TOTAL $45,000,000

NEW SECTION. **Sec. 3111. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Aquatic Lands Enhancement (04-4-018)

Reappropriation:

Aquatic Lands Enhancement Account--State $1,395,000

Prior Biennia (Expenditures) $3,962,000

Future Biennia (Projected Costs) $0

TOTAL $5,357,000

NEW SECTION. **Sec. 3112. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Boating Facilities Program (04-4-003)

Reappropriation:

Recreation Resources Account--State $1,501,000

Prior Biennia (Expenditures) $6,006,000

Future Biennia (Projected Costs) $0

TOTAL $7,507,000

NEW SECTION. **Sec. 3113. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Boating Infrastructure Grant (04-4-009)

Reappropriation:

General Fund--Federal $720,000

Prior Biennia (Expenditures) $1,280,000

Future Biennia (Projected Costs) $0

TOTAL $2,000,000

NEW SECTION. **Sec. 3114. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Family Forest Fish Blockages Program (04-4-011)

Reappropriation:

State Building Construction Account--State $188,000

Prior Biennia (Expenditures) $1,812,000

Future Biennia (Projected Costs) $0

TOTAL $2,000,000

NEW SECTION. **Sec. 3115. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Firearms and Archery Range Program (04-4-006)

Reappropriation:

Firearms Range Account--State $82,000

Prior Biennia (Expenditures) $169,000

Future Biennia (Projected Costs) $0

TOTAL $251,000

NEW SECTION. **Sec. 3116. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Hatchery Management Program (04-4-010)

Reappropriation:

General Fund--Federal $3,002,000

Prior Biennia (Expenditures) $6,997,000

Future Biennia (Projected Costs) $0

TOTAL $9,999,000

NEW SECTION. **Sec. 3117. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Land and Water Conservation Fund (04-4-007)

Reappropriation:

General Fund--Federal $1,133,000

Prior Biennia (Expenditures) $4,602,000

Future Biennia (Projected Costs) $0

TOTAL $5,735,000

NEW SECTION. **Sec. 3118. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

National Recreation Trails Program (04-4-008)

Reappropriation:

General Fund--Federal $226,000

Prior Biennia (Expenditures) $2,034,000

Future Biennia (Projected Costs) $0

TOTAL $2,260,000

NEW SECTION. **Sec. 3119. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Nonhighway and Off-Road Vehicle Activities Program (NOVA) (04-4-004)

Reappropriation:

Nonhighway and Off-Road Vehicle Activities Program Account--State $2,665,000

Prior Biennia (Expenditures) $4,262,000

Future Biennia (Projected Costs) $0

TOTAL $6,927,000

NEW SECTION. **Sec. 3120. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Salmon Recovery Fund Board Programs (04-4-001)

Reappropriation:

General Fund--Federal $15,132,000

State Building Construction Account--State $5,682,000
Subtotal Reappropriation $20,814,000

Prior Biennia (Expenditures) $25,561,000
Future Biennia (Projected Costs) $0
TOTAL $46,375,000

NEW SECTION. **Sec. 3121. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Washington Wildlife and Recreation Program (04-4-002)

The reappropriations in this section are subject to the following conditions and limitations: Any amount of the reappropriations that is not obligated to a specific project may be used to fund alternate projects approved by the legislature from the same account in biennia succeeding that in which the moneys were originally appropriated.

Reappropriation:
Outdoor Recreation Account--State $4,394,000
Habitat Conservation Account--State $10,267,000
Subtotal Reappropriation $14,661,000

Prior Biennia (Expenditures) $30,339,000
Future Biennia (Projected Costs) $0
TOTAL $45,000,000

NEW SECTION. **Sec. 3122. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Hood Canal Aquatic Rehabilitation Program (06-4-850)

Reappropriation:
Hood Canal Aquatic Rehabilitation Bond
Account--State $996,000

Prior Biennia (Expenditures) $4,000
Future Biennia (Projected Costs) $0
TOTAL $1,000,000

NEW SECTION. **Sec. 3123. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Aquatic Lands Enhancement Account (06-4-018)

Reappropriation:

Aquatic Lands Enhancement Account--State $2,010,000

Prior Biennia (Expenditures) $3,015,000
Future Biennia (Projected Costs) $0
TOTAL $5,025,000

NEW SECTION. **Sec. 3124. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Boating Facilities Program (06-4-003)

Reappropriation:

Recreation Resources Account--State $3,340,000

Prior Biennia (Expenditures) $3,931,000
Future Biennia (Projected Costs) $0
TOTAL $7,271,000

NEW SECTION. **Sec. 3125. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Boating Infrastructure Grant (06-4-009)

Reappropriation:

General Fund--Federal $80,000

Prior Biennia (Expenditures) $120,000
Future Biennia (Projected Costs) $0
TOTAL $200,000

NEW SECTION. **Sec. 3126. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Family Forest Fish Passage Program (06-4-011)

The reappropriations in this section are subject to the following conditions and limitations:

(1) The reappropriation is provided solely for the salmon recovery funding board in consultation with the small forest landowner office of the department of natural resources and the department of fish and wildlife to provide grants to correct fish passage blockages on nonindustrial forest lands. Selection of projects must be coordinated with the other salmon recovery grant programs provided in section 3132 of this act.

(2) In addition to the annual project progress reporting requirement of RCW 43.88.160(3), the committee shall file quarterly project progress reports with the office of financial management.

Reappropriation:
General Fund--Federal $35,000
State Building Construction Account--State $2,502,000
Subtotal Reappropriation $2,537,000
Prior Biennia (Expenditures) $1,830,000
Future Biennia (Projected Costs) $0
TOTAL $4,367,000

NEW SECTION. **Sec. 3127. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Firearm and Archery Range Program (06-4-006)

Reappropriation:
Firearms Range Account--State $113,000
Prior Biennia (Expenditures) $109,000
Future Biennia (Projected Costs) $0
TOTAL $222,000

NEW SECTION. **Sec. 3128. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Improve Hatchery Management (06-4-010)

Reappropriation:
General Fund--Federal $2,400,000
Prior Biennia (Expenditures) $3,600,000
Future Biennia (Projected Costs) $0
TOTAL $6,000,000

NEW SECTION. **Sec. 3129. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Land and Water Conservation Fund (06-4-007)

Reappropriation:
General Fund--Federal $3,150,000
Prior Biennia (Expenditures) $1,350,000
Future Biennia (Projected Costs) $0

TOTAL $4,500,000

NEW SECTION. **Sec. 3130. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

National Recreation Trails Program (06-4-008)

Reappropriation:

General Fund--Federal $1,830,000

Prior Biennia (Expenditures) $970,000

Future Biennia (Projected Costs) $0

TOTAL $2,800,000

NEW SECTION. **Sec. 3131. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Nonhighway and Off-Road Vehicle Program (NOVA) (06-4-004)

The reappropriation in this section is subject to the following conditions and limitations: Up to $100,000 of the reappropriation is for the following studies:

(1) The committee shall prepare cost estimates for creating a database of motorized and nonmotorized off-road trails and facilities in Washington state. The cost estimate shall consider the possibility of a database that allows the downloading of maps formatted for the most widely used GPS devices, including the feasibility and cost to make GPS maps readily available for all users of Washington recreational lands and facilities. For this purpose, available GPS maps shall include GPS maps developed by state agencies, by federal agencies, and proprietary maps offered by private companies.

(2) The committee shall recommend a program for enhanced education and enforcement regarding excessive noise from off-road vehicles. The study shall include a review of relevant existing laws and regulations. The recommendations shall address the appropriate equipment needed for enforcement, model ordinances, enhanced educational strategies, and a proposed grant program to assist local governments to more effectively reduce the impact of excessive ORV noise in rural residential neighborhoods and nonresidential areas, including consideration of grant programs for planning departments, code enforcement departments, health departments, or other entities of local government.

Reappropriation:

Nonhighway and Off-Road Vehicle Activities
Program Account--State $5,157,000
Prior Biennia (Expenditures) $2,422,000
Future Biennia (Projected Costs) $0
TOTAL $7,579,000

NEW SECTION. **Sec. 3132. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Salmon Recovery Fund Board Programs (06-4-001)

The reappropriations in this section are subject to the following conditions and limitations: The reappropriations are provided solely for grants for salmon recovery efforts. These grants may include a grant to any regional recovery board and/or may include grants for additional restoration projects, monitoring activities, or other salmon recovery actions.

Reappropriation:
General Fund--Federal $25,739,000
State Building Construction Account--State $13,412,000
Subtotal Reappropriation $39,151,000
Prior Biennia (Expenditures) $22,849,000
Future Biennia (Projected Costs) $0
TOTAL $62,000,000

NEW SECTION. **Sec. 3133. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Washington Wildlife and Recreation Program (06-4-002)

The reappropriations in this section are subject to the following conditions and limitations:

(1) The reappropriation is provided for the approved list of projects in LEAP capital document No. 2005-14 as developed on April 9, 2005.

(2) Funds reappropriated for distribution according to RCW 79A.15.050 shall fulfill the uses and restrictions of each category whether the funds are distributed according to the statutory allotment, the unallocated distribution, or a reassignment of reappropriations. If the cumulative total for acquisition projects is less than the

statutory requirement, the difference may be allocated to the remaining development projects.

(3) Funds reappropriated for distribution according to the provisions of RCW 79A.15.040(1)(c) shall be allocated forty percent to local government projects and sixty percent to state agency projects. If the cumulative total of local government projects is less than forty percent of the total distribution to this category, the difference may be allocated to state agency projects.

Reappropriation:

Outdoor Recreation Account--State	$13,363,000
Habitat Conservation Account--State	$17,062,000
Subtotal Reappropriation	$30,425,000
Prior Biennia (Expenditures)	$19,575,000
Future Biennia (Projected Costs)	$0
TOTAL	$50,000,000

NEW SECTION. **Sec. 3134. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Youth Athletic Fields (06-2-952)

The reappropriation in this section is subject to the following conditions and limitations: The reappropriation is provided solely for competitive grants for acquisition, development, and renovation of youth athletic fields. The committee shall follow the applicable rules of the youth athletic facilities program, except that grants for maintenance are not eligible and the amount of a grant need not be in proportion to the population of the city or county where the community outdoor athletic facility is located.

Reappropriation:

State Building Construction Account--State	$2,500,000
Prior Biennia (Expenditures)	$0
Future Biennia (Projected Costs)	$0
TOTAL	$2,500,000

NEW SECTION. **Sec. 3135. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Aquatic Lands Enhancement Account (08-4-005)

The appropriation in this section is subject to the following conditions and limitations:

(1) The appropriation in this section is provided solely for the list of projects in LEAP capital document No. 2007-1, developed March 17, 2007.

(2) The committee shall submit a list of recommended projects to be funded from the aquatic lands enhancement account in the 2009-2011 capital budget to the office of financial management and the appropriate legislative committees. The list shall result from a competitive grants program developed by the committee based upon, at a minimum: (a) Uniform criteria for selecting projects and awarding grants for up to fifty percent of the total projects cost; (b) local community support for the projects; and (c) environmental benefits to be derived from projects.

Appropriation:

Aquatic Lands Enhancement Account--State $5,025,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $20,100,000

TOTAL $25,125,000

NEW SECTION. **Sec. 3136. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Boating Facilities Program (08-4-001)

Appropriation:

Recreation Resources Account--State $8,021,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $35,688,000

TOTAL $43,709,000

NEW SECTION. **Sec. 3137. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Boating Improvement Grants (08-4-002)

Appropriation:

General Fund--Federal $200,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $800,000

TOTAL $1,000,000

NEW SECTION. **Sec. 3138. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Family Forest and Fish Passage Program (08-2-001)

The appropriation in this section is subject to the following conditions and limitations:

(1) The appropriation in this section is provided solely for the salmon recovery funding board in consultation with the small forest landowner office of the department of natural resources and the department of fish and wildlife to provide grants to correct fish passage blockages on nonindustrial forest lands. Selection of projects must be coordinated with the other salmon recovery grant programs provided in section 3140 of this act.

(2) In addition to the annual project progress reporting requirement of RCW 43.88.160(3), the committee shall file quarterly project progress reports with the office of financial management.

Appropriation:

State Building Construction Account--State $6,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $24,000,000

TOTAL $30,000,000

NEW SECTION. **Sec. 3139. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Firearms and Archery Range Recreation (08-4-003)

Appropriation:

Firearms Range Account--State $472,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $1,007,000

TOTAL $1,479,000

NEW SECTION. **Sec. 3140. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Salmon Recovery Funding Board Programs (SRFB) (08-4-851)

The appropriations in this section are subject to the following conditions and limitations:

(1) The appropriations in this section are provided solely for grants for salmon recovery efforts. These grants may include grants to any regional recovery board and/or may include grants for additional restoration projects, monitoring activities, or other salmon recovery actions.

(2) The administrative funding currently provided by the salmon recovery funding board for the regional salmon recovery organization in Puget Sound shall be redirected to the Puget Sound partnership created in chapter . . . ([House][Senate] Bill No. ....), Laws of 2007 (Z-0369, Puget Sound partnership).

(3) Prior to awarding project grants for projects in Puget Sound, the salmon recovery funding board shall submit the list of proposed projects to the Puget Sound partnership for their review. The Puget Sound partnership shall provide their comments back to the salmon recovery funding board within forty-five days of receiving the proposed list of projects.

Appropriation:

General Fund--Federal	$42,000,000
State Building Construction Account--State	$18,000,000
Subtotal Appropriation	$60,000,000
Prior Biennia (Expenditures)	$0
Future Biennia (Projected Costs)	$240,000,000
TOTAL	$300,000,000

NEW SECTION. **Sec. 3141. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Hatchery Reform Program (08-4-006)

Appropriation:

General Fund--Federal	$6,000,000
Prior Biennia (Expenditures)	$0
Future Biennia (Projected Costs)	$32,000,000
TOTAL	$38,000,000

NEW SECTION. **Sec. 3142. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR**

RECREATION

Land and Water Conservation (08-4-007)

Appropriation:

General Fund--Federal $1,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $4,000,000

TOTAL $5,000,000

NEW SECTION. **Sec. 3143. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

National Recreational Trails Program (08-4-009)

Appropriation:

General Fund--Federal $3,500,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $14,000,000

TOTAL $17,500,000

NEW SECTION. **Sec. 3144. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Nonhighway Off-Road Vehicle Activities (08-4-008)

The appropriation in this section is subject to the following conditions and limitations: $450,000 of the appropriation is provided solely for grants to local law enforcement and noise enforcement agencies for the enforcement of existing state noise laws and regulations. Grants may be used to acquire noise monitoring equipment and to compensate law enforcement agencies for staff overtime and administrative expenses.

Appropriation:

Nonhighway Off-Road Vehicle Activities Program

Account--State $9,036,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $42,945,000

TOTAL $51,981,000

NEW SECTION. **Sec. 3145. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR**

RECREATION

Puget Sound Restoration and Acquisition (08-4-004)

The appropriation in this section is subject to the following conditions and limitations:

(1) Prior to awarding project grants, the salmon recovery funding board shall provide the Puget Sound partnership, as created by chapter . . . (Engrossed Substitute Senate Bill No. 5372), Laws of 2007, the opportunity to review and provide comment on proposed projects and activities recommended for funding. This review shall be consistent with the funding schedule for the program.

(2) All estuary projects shall be submitted for review and coordination with the executive committee of the Puget Sound nearshore partnership between the department of fish and wildlife and the United States army corps of engineers.

Appropriation:

State Building Construction Account--State $40,750,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $160,000,000

TOTAL $200,750,000

NEW SECTION. **Sec. 3146. FOR THE INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION**

Washington Wildlife Recreation Grants (08-4-011)

The appropriations in this section are subject to the following conditions and limitations:

(1) The appropriations are provided solely for the approved list of projects in LEAP capital document No. 2007-3 as developed on March 17, 2007.

(2) If additional funds are available after funding the farmlands preservation account projects approved in subsection (1) of this section, the committee may:

(a) Provide one-time grants of up to $25,000 each to counties requesting assistance in developing farmlands preservation strategies for the purpose of seeking grants from the farmlands preservation account in future grant cycles.

(b) Conduct a second grant cycle in the 2007-2009 biennium for farmlands preservation projects. A ranked list of farmlands

preservation projects may be submitted to the governor by November 1, 2007, for approval in the 2008 supplemental capital budget. The governor may remove projects from the list recommended by the committee and shall submit this amended list in the supplemental capital budget request to the legislature.

(3) Funds appropriated for distribution according to the provisions of RCW 79A.15.040(1)(c) shall be allocated forty percent to local government projects and sixty percent to state agency projects. If the cumulative total of local government projects is less than forty percent of the total distribution to this category, the difference may be allocated to state agency projects.

(4) $627,299 of the appropriation from the riparian protection account is provided solely for the Chehalis river surge plain natural area preserve. This amount shall not be expended for the project until the department of natural resources has completed a management plan for the preserve that maintains recreational access and that management plan is presented to the house of representatives capital budget and senate ways and means committees.

Appropriation:

Outdoor Recreation Account--State	$36,000,000
Farmlands Preservation Account--State	$9,000,000
Riparian Protection Account--State	$19,000,000
Habitat Conservation Account--State	$36,000,000
Subtotal Appropriation	$100,000,000
Prior Biennia (Expenditures)	$0
Future Biennia (Projected Costs)	$280,000,000
TOTAL	$380,000,000

NEW SECTION. **Sec. 3147. FOR THE STATE CONSERVATION COMMISSION**

Conservation Reserve Enhancement Program (06-4-001)

The reappropriation in this section is subject to the following conditions and limitations: The total cumulative dollar value of state conservation reserve enhancement program grant obligations incurred by the conservation commission and conservation districts shall not exceed $20,000,000, as provided in the conservation reserve enhancement program agreement between the United States department of agriculture,

commodity credit corporation, and the state of Washington executed on October 19, 1998, and subsequent amendments.

Reappropriation:

State Building Construction Account--State $1,936,000

Prior Biennia (Expenditures) $64,000

Future Biennia (Projected Costs) $0

TOTAL $2,000,000

NEW SECTION. **Sec. 3148. FOR THE STATE CONSERVATION COMMISSION**

Livestock Water Quality - Landowner Cost Share (06-4-006)

Reappropriation:

Water Quality Capital Account--State $10,000

Prior Biennia (Expenditures) $2,490,000

Future Biennia (Projected Costs) $0

TOTAL $2,500,000

NEW SECTION. **Sec. 3149. FOR THE STATE CONSERVATION COMMISSION**

Puget Sound District Grants (06-4-003)

Reappropriation:

Water Quality Capital Account--State $100,000

Prior Biennia (Expenditures) $1,605,000

Future Biennia (Projected Costs) $0

TOTAL $1,705,000

NEW SECTION. **Sec. 3150. FOR THE STATE CONSERVATION COMMISSION**

Water Quality Grants Program (06-4-007)

Reappropriation:

Water Quality Capital Account--State $300,000

Prior Biennia (Expenditures) $6,450,000

Future Biennia (Projected Costs) $0

TOTAL $6,750,000

NEW SECTION. **Sec. 3151. FOR THE STATE CONSERVATION COMMISSION**

Skokomish Anaerobic Digester (06-4-009)

Reappropriation:

State Building Construction Account--State $500,000

Prior Biennia (Expenditures) $60,000
Future Biennia (Projected Costs) $0
TOTAL $560,000

NEW SECTION. **Sec. 3152. FOR THE STATE CONSERVATION COMMISSION**
Land Restoration (07-1-001)

Reappropriation:
State Building Construction Account--State $587,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $587,000

NEW SECTION. **Sec. 3153. FOR THE STATE CONSERVATION COMMISSION**
Conservation Reserve Enhancement Program Cost Share (08-4-005)

Appropriation:
State Building Construction Account--State $1,170,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $1,170,000

NEW SECTION. **Sec. 3154. FOR THE STATE CONSERVATION COMMISSION**
Conservation Reserve Enhancement Program Water Quality (08-4-002)

Appropriation:
State Building Construction Account--State $709,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $709,000

NEW SECTION. **Sec. 3155. FOR THE STATE CONSERVATION COMMISSION**
Practice Incentive Payment Loan Program (08-4-004)

Appropriation:
Conservation Assistance Revolving Account--State . . . $1,000,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $3,000,000

TOTAL $4,000,000

NEW SECTION. **Sec. 3156. FOR THE DEPARTMENT OF FISH AND WILDLIFE**

Deschutes Watershed Center (06-2-008)

The reappropriation in this section is subject to the following conditions and limitations: The appropriation is provided solely for the design of the Deschutes Watershed center.

Reappropriation:
State Building Construction Account--State $582,000
Appropriation:
State Building Construction Account--State $2,345,000
Prior Biennia (Expenditures) $268,000
Future Biennia (Projected Costs) $21,500,000
TOTAL $24,695,000

NEW SECTION. **Sec. 3157. FOR THE DEPARTMENT OF FISH AND WILDLIFE**

Department of Natural Resources Land Exchange - Shrub Steppe (06-2-851)

The reappropriation in this section is subject to the following conditions and limitations: Funding is provided solely to appraise the value of lands for exchange with the department of natural resources. Forest lands transferred to the department of natural resources under this section shall be actively managed by the department under a cooperative agreement with surrounding public and private landowners to implement landscape scale restoration and other management objectives.

Reappropriation:
State Building Construction Account--State $250,000
Prior Biennia (Expenditures) $250,000
Future Biennia (Projected Costs) $0
TOTAL $500,000

NEW SECTION. **Sec. 3158. FOR THE DEPARTMENT OF FISH AND WILDLIFE**

Facility, Infrastructure, Lands, and Access Condition Improvements (06-1-002)

The reappropriation in this section is subject to the following

conditions and limitations: Up to $5,000 of the reappropriation in this section is for bank stabilization of the south Toledo access road.

Reappropriation:

State Building Construction Account--State $1,937,000

Prior Biennia (Expenditures) $4,520,000

Future Biennia (Projected Costs) $0

TOTAL $6,457,000

NEW SECTION. **Sec. 3159. FOR THE DEPARTMENT OF FISH AND WILDLIFE**

Fish and Wildlife Opportunity Improvements (06-2-004)

Reappropriation:

State Building Construction Account--State $155,000

Wildlife Account--State $1,235,000

Subtotal Reappropriation $1,390,000

Prior Biennia (Expenditures) $610,000

Future Biennia (Projected Costs) $0

TOTAL $2,000,000

NEW SECTION. **Sec. 3160. FOR THE DEPARTMENT OF FISH AND WILDLIFE**

Hatchery Reform, Retrofits, and Condition Improvements (06-1-001)

Reappropriation:

State Building Construction Account--State $2,195,000

Prior Biennia (Expenditures) $4,076,000

Future Biennia (Projected Costs) $0

TOTAL $6,271,000

NEW SECTION. **Sec. 3161. FOR THE DEPARTMENT OF FISH AND WILDLIFE**

Fish and Wildlife Population and Habitat Protection (06-1-003)

Reappropriation:

Wildlife Account--State $288,750

Prior Biennia (Expenditures) $311,250

Future Biennia (Projected Costs) $0

TOTAL $600,000

NEW SECTION. **Sec. 3162. FOR THE DEPARTMENT OF FISH AND WILDLIFE**

Sinlahekin Creek Dams - Flood Damage Repair (07-1-004)

Reappropriation:
State Building Construction Account--State $70,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $70,000

NEW SECTION. **Sec. 3163. FOR THE DEPARTMENT OF FISH AND WILDLIFE**
Region 1 Office - Complete Phase 1 (07-2-009)

Reappropriation:
State Building Construction Account--State $588,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $588,000

NEW SECTION. **Sec. 3164. FOR THE DEPARTMENT OF FISH AND WILDLIFE**
2006 Flood Damage (08-1-006)

Appropriation:
State Building Construction Account--State $630,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $630,000

NEW SECTION. **Sec. 3165. FOR THE DEPARTMENT OF FISH AND WILDLIFE**
Aquatic Lands Enhancement Account (08-2-017)

Appropriation:
Aquatic Lands Enhancement Account--State $350,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $350,000

NEW SECTION. **Sec. 3166. FOR THE DEPARTMENT OF FISH AND WILDLIFE**
Chambers Creek Adult Trap - Phase 2 (08-1-004)

Appropriation:
State Building Construction Account--State $252,000
Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0
TOTAL $252,000

NEW SECTION. **Sec. 3167. FOR THE DEPARTMENT OF FISH AND WILDLIFE**
Migratory Waterfowl Habitat (08-2-045)

Appropriation:
Wildlife Account--State $700,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $700,000

NEW SECTION. **Sec. 3168. FOR THE DEPARTMENT OF FISH AND WILDLIFE**
Dole Bee Be Property (06-1-950)

Reappropriation:
State Building Construction Account--State $380,000

Prior Biennia (Expenditures) $570,000
Future Biennia (Projected Costs) $0
TOTAL $950,000

NEW SECTION. **Sec. 3169. FOR THE DEPARTMENT OF FISH AND WILDLIFE**
Emergency Projects (08-1-019)

Appropriation:
State Building Construction Account--State $500,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $2,000,000
TOTAL $2,500,000

NEW SECTION. **Sec. 3170. FOR THE DEPARTMENT OF FISH AND WILDLIFE**
Methow Culverts Replacement (08-1-027)

Appropriation:
State Building Construction Account--State $754,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $994,000
TOTAL $1,748,000

NEW SECTION. **Sec. 3171. FOR THE DEPARTMENT OF FISH AND WILDLIFE**

Minor Works - Facility Preservation (08-1-013)

The appropriation in this section is subject to the following conditions and limitations: The department shall develop a plan of action, agreed upon between the office of financial management and the appropriate fiscal committees of the legislature by September 1, 2007. Up to $200,000 of the appropriation may be used for systems necessary to implement the plan. The plan shall address the conclusions and key findings in the 2006 study of the department's capital development, execution, and monitoring process, including but not limited to:

(1) The commitment and role of senior management to improve and change the department's capital budget practices;

(2) The clarification of the commission's role and responsibility for the capital budget process;

(3) The development of capital program performance measures;

(4) The alignment of the capital budget process with the department's strategic plan and priorities;

(5) The implementation of a project scoping process;

(6) The prioritization of capital projects, including both maintenance and other capital activities;

(7) The review of business lines; and

(8) The review of construction project delivery and organization.

Appropriation:

State Building Construction Account--State $3,525,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $3,525,000

NEW SECTION. **Sec. 3172. FOR THE DEPARTMENT OF FISH AND WILDLIFE**

Minor Works - Health Safety and Code Requirements (08-1-001)

Appropriation:

State Building Construction Account--State $2,100,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $2,100,000

NEW SECTION. **Sec. 3173. FOR THE DEPARTMENT OF FISH AND WILDLIFE**
Minor Works - Infrastructure Preservation (08-1-014)

Appropriation:
State Building Construction Account--State $6,000,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $6,000,000

NEW SECTION. **Sec. 3174. FOR THE DEPARTMENT OF FISH AND WILDLIFE**
Mitigation Projects and Dedicated Funding (08-2-048)

The appropriations in this section are subject to the following conditions and limitations: $2,300,000 of the appropriation is provided solely for capital projects and engineering to pay the total cost of labor and materials provided by the department of fish and wildlife.

Appropriation:
General Fund--Federal $22,800,000
General Fund--Private/Local $3,700,000
Game Special Wildlife Account--Federal $1,000,000
Game Special Wildlife Account--Private/Local $625,000
Subtotal Appropriation $28,125,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $106,800,000
TOTAL $134,925,000

NEW SECTION. **Sec. 3175. FOR THE DEPARTMENT OF FISH AND WILDLIFE**
Puget Sound Initiative - Nearshore Salmon Restoration (06-2-001)

The appropriations in this section are subject to the following conditions and limitations:

(1) The appropriations in this section are provided solely for efforts to restore nearshore habitat and estuaries in Puget Sound. The department shall focus on restoring natural nearshore processes, including protection and restoration of beach sediments and removal of existing bulkheads.

(2) The department shall provide the Puget Sound partnership, as created by chapter . . . (Engrossed Substitute Senate Bill No. 5372),

Laws of 2007 the opportunity to review and provide comment on proposed projects and activities recommended for funding. This review shall be consistent with the funding schedule for the program.

(3) Funded projects require a nonstate match or in-kind contributions. The department shall seek to maximize the amount of nonstate match from local, state, tribal, and federal partners. Individual projects require a minimum 33 percent cash or in-kind match.

(4) Eligible projects must be within Puget Sound and identified by a salmon recovery lead entity or marine resource committee and identified in a current salmon recovery, watershed, or nearshore habitat restoration and protection plan.

(5) Project evaluation criteria shall be developed by the Puget Sound nearshore steering committee. The criteria shall be consistent with the technical guidance developed by the Puget Sound nearshore science team and shall be coordinated with the salmon recovery funding board to ensure that project funding and matching requirements are maximized to the greatest extent possible.

(6) The department shall not utilize any amount of this appropriation to support administration or overhead. Funding to support the administration of the funds and the implementation of selected projects shall be obtained from the department's operating budget.

(7) In recognition of the urgent need to complete the Puget Sound nearshore ecosystem restoration project general investigation, up to $723,000 of this appropriation may be used to match federal funds implementing the cost-share agreement between the department and the United States army corps of engineers.

(8) $3,746,875 of the appropriation is provided solely for the following projects:

Project	Amount
Carpenter creek estuary phase 1 (South Kingston road)	$637,000
Duwamish Garden estuary restoration	$1,400,000
Seahurst Park bulkhead phase II	$1,100,000
Lower Dosewallips floodplain	$609,875

Reappropriation:

State Building Construction Account--State $2,300,000

Appropriation:

State Building Construction Account--State $12,000,000

General Fund--Federal $1,000,000
Subtotal Appropriation $13,000,000
Prior Biennia (Expenditures) $200,000
Future Biennia (Projected Costs) $28,000,000
TOTAL $43,500,000

NEW SECTION. **Sec. 3176. FOR THE DEPARTMENT OF FISH AND WILDLIFE**
Ranch Lands Irrigation Efficiencies (06-2-952)

The reappropriation in this section is subject to the following conditions and limitations: The appropriation is provided solely for irrigation efficiency projects on ranch lands owned by the department.

Reappropriation:
State Building Construction Account--State $400,000
Prior Biennia (Expenditures) $200,000
Future Biennia (Projected Costs) $0
TOTAL $600,000

NEW SECTION. **Sec. 3177. FOR THE DEPARTMENT OF FISH AND WILDLIFE**
Skookumchuck Hatchery Renovation - Phase 2 (08-2-015)

Appropriation:
State Building Construction Account--State $528,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $3,389,000
TOTAL $3,917,000

NEW SECTION. **Sec. 3178. FOR THE DEPARTMENT OF FISH AND WILDLIFE**
Spokane Region One Office - Phase 2 (08-2-008)

As of the effective date of this section, the department of fish and wildlife's Spokane region one building shall be known as the "Fred Shiosaki" building.

Appropriation:
State Building Construction Account--State $1,830,000
Prior Biennia (Expenditures) $4,400,000
Future Biennia (Projected Costs) $0
TOTAL $6,230,000

NEW SECTION. **Sec. 3179. FOR THE DEPARTMENT OF FISH AND WILDLIFE**
Statewide Fencing Renovation and Replacement (08-1-009)

The appropriation is this section is subject to the following conditions and limitations: $1,000,000 of the appropriation is provided solely for the replacement of elk fencing lost in the 2005 school fire in the Wooten wildlife area. The department shall contract with another state agency to construct the fence.

Appropriation:
State Building Construction Account--State $2,100,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $2,100,000

NEW SECTION. **Sec. 3180. FOR THE DEPARTMENT OF FISH AND WILDLIFE**
Sustainability and Energy Savings (06-1-009)

Reappropriation:
State Building Construction Account--State $118,000

Prior Biennia (Expenditures) $382,000
Future Biennia (Projected Costs) $0
TOTAL $500,000

*NEW SECTION. **Sec. 3181. FOR THE DEPARTMENT OF FISH AND WILDLIFE**
Wiley Slough Restoration (08-1-028)

The appropriation in this section is subject to the following conditions and limitations: The department shall not expend any amounts of the appropriations in this section prior to July 1, 2008. The department shall submit a report to the appropriate committees of the legislature by January 1, 2008, to mitigate the loss of upland habitat, including waterfowl management capabilities, and the loss of outdoor recreation opportunities within the proposed Wiley Slough intertidal restoration area. The report shall contain:

(1) Options to mitigate the proposed loss of upland habitat, which may include but are not limited to: Retention of a portion of the currently proposed intertidal restoration area as upland habitat; identification and acquisition of nearby property for new or enhanced

upland habitat; and other approaches that will mitigate the loss of upland habitat that will be incurred as a result of the completed intertidal restoration;

(2) A plan to retain and enhance recreation opportunities that will be lost as a result of the completed intertidal restoration; and

(3) A proposed budget to implement options to mitigate the loss of upland habitat and retain and enhance recreation opportunities. The proposed budget shall identify local, state, federal, and private grant opportunities that might support the proposed budget.

The report shall be developed with the immediate involvement of the user groups affected by the proposed loss of upland habitat and recreation opportunities. The legislature finds that progress in restoring the estuary at Wiley Slough is dependent on a community-supported plan that balances the goals of estuary restoration and improved salmon habitat with current uses of the proposed restoration area. Community investment and support for this restoration project is essential and the department must take a new approach to productively engage the community affected by the loss of upland habitat and recreation opportunities. It is the intent of the legislature that this project shall not move forward until the affected community is involved in the development of a revised Wiley Slough restoration plan and addresses these concerns and has wide community support.

Appropriation:

General Fund--Federal $2,500,000

State Building Construction Account--State $295,000

Subtotal Appropriation $2,795,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $2,795,000

Sec. 3181 was partially vetoed. See message at end of chapter.

NEW SECTION. **Sec. 3182. FOR THE DEPARTMENT OF FISH AND WILDLIFE**

Tokul Creek Hatchery (08-1-005)

Appropriation:

State Building Construction Account--State $435,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $4,857,000

TOTAL $5,292,000

NEW SECTION. **Sec. 3183. FOR THE DEPARTMENT OF FISH AND WILDLIFE**
Grazing Monitoring on Fish and Wildlife Lands (08-2-001)

Appropriation:
State Building Construction Account--State $200,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $200,000

NEW SECTION. **Sec. 3184. FOR THE DEPARTMENT OF FISH AND WILDLIFE**
Voights Creek Hatchery - Phase 1 (08-1-003)

Appropriation:
State Building Construction Account--State $505,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $6,402,000
TOTAL $6,907,000

NEW SECTION. **Sec. 3185. FOR THE DEPARTMENT OF FISH AND WILDLIFE**
Issaquah Hatchery Gravity Intake (08-1-850)

Appropriation:
State Building Construction Account--State $562,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $562,000

NEW SECTION. **Sec. 3186. FOR THE DEPARTMENT OF FISH AND WILDLIFE**
Bee Be Property (08-1-029)

Appropriation:
State Building Construction Account--State $502,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $502,000

NEW SECTION. **Sec. 3187. FOR THE DEPARTMENT OF FISH AND WILDLIFE**
Combined State Agency Aviation Facility (08-1-950)

The appropriation in this section is subject to the following conditions and limitations: Funding is provided solely for predesign of a single, consolidated aviation facility at the Olympia airport to house the fixed wing operations of the Washington state patrol, the department of natural resources, and the department of fish and wildlife, and the rotary operations of the department of natural resources.

Appropriation:

State Building Construction Account--State $11,000

Wildlife Account--State $12,000

Subtotal Appropriation $23,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $1,608,000

TOTAL $1,631,000

NEW SECTION. **Sec. 3188. FOR THE DEPARTMENT OF NATURAL RESOURCES**

Community and Technical College Trust Land Acquisitions (08-2-004)

Appropriation:

Community and Technical College Forest Reserve

Account--State $200,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $950,000

TOTAL $1,150,000

NEW SECTION. **Sec. 3189. FOR THE DEPARTMENT OF NATURAL RESOURCES**

Creosote Removal in Puget Sound (08-2-017)

The appropriation in this section is subject to the following conditions and limitations: The department shall provide the Puget Sound partnership, as created by chapter . . . (Engrossed Substitute Senate Bill No. 5372), Laws of 2007, the opportunity to review and provide comment on proposed projects and activities recommended for funding. This review shall be consistent with the funding schedule for the program.

Appropriation:

State Toxics Control Account--State $4,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $4,000,000
TOTAL $8,000,000

NEW SECTION. **Sec. 3190. FOR THE DEPARTMENT OF NATURAL RESOURCES**
Forest Legacy (04-2-015)

Reappropriation:
General Fund--Federal $8,186,000
Appropriation:
General Fund--Federal $8,500,000

Prior Biennia (Expenditures) $7,520,000
Future Biennia (Projected Costs) $39,000,000
TOTAL $63,206,000

NEW SECTION. **Sec. 3191. FOR THE DEPARTMENT OF NATURAL RESOURCES**
Storm Damage (07-1-850)

Reappropriation:
State Building Construction Account--State $282,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $282,000

NEW SECTION. **Sec. 3192. FOR THE DEPARTMENT OF NATURAL RESOURCES**
Forest Riparian Easement Program (08-2-022)

Appropriation:
State Building Construction Account--State $10,500,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $32,000,000
TOTAL $42,500,000

NEW SECTION. **Sec. 3193. FOR THE DEPARTMENT OF NATURAL RESOURCES**
Land Acquisition Grants (05-2-021)

Reappropriation:
General Fund--Federal $3,247,000
Appropriation:
General Fund--Federal $26,000,000

Prior Biennia (Expenditures) $43,271,000

Future Biennia (Projected Costs) $113,363,000
TOTAL $185,881,000

NEW SECTION. **Sec. 3194. FOR THE DEPARTMENT OF NATURAL RESOURCES**
Marine Station Public Access (04-2-019)

Reappropriation:
Aquatic Lands Enhancement Account--State $72,000
Prior Biennia (Expenditures) $236,000
Future Biennia (Projected Costs) $2,145,000
TOTAL $2,453,000

NEW SECTION. **Sec. 3195. FOR THE DEPARTMENT OF NATURAL RESOURCES**
Minor Works - Preservation (08-1-007)

Appropriation:
Forest Development Account--State $413,000
Resources Management Cost Account--State $430,000
State Building Construction Account--State $607,000
Subtotal Appropriation $1,450,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $4,154,000
TOTAL $5,604,000

NEW SECTION. **Sec. 3196. FOR THE DEPARTMENT OF NATURAL RESOURCES**
Minor Works - Programmatic (08-2-016)

Appropriation:
Forest Development Account--State $534,000
Resources Management Cost Account--State $556,000
State Building Construction Account--State $85,000
Subtotal Appropriation $1,175,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $2,515,000
TOTAL $3,690,000

NEW SECTION. **Sec. 3197. FOR THE DEPARTMENT OF NATURAL RESOURCES**
Natural Areas Facilities Preservation and Access (08-1-014)

Appropriation:

State Building Construction Account--State $942,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $9,958,000
TOTAL $10,900,000

NEW SECTION. **Sec. 3198. FOR THE DEPARTMENT OF NATURAL RESOURCES**
Recreation Capital Renovations (08-2-006)

The appropriation in this section is subject to the following conditions and limitations: $200,000 of the appropriation is provided solely for trail system signage.

Appropriation:
State Building Construction Account--State $1,065,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $15,278,000
TOTAL $16,343,000

NEW SECTION. **Sec. 3199. FOR THE DEPARTMENT OF NATURAL RESOURCES**
Right-of-Way Acquisition (08-2-020)

Appropriation:
Forest Development Account--State $250,000
Resources Management Cost Account--State $750,000
Subtotal Appropriation $1,000,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $4,000,000
TOTAL $5,000,000

NEW SECTION. **Sec. 3200. FOR THE DEPARTMENT OF NATURAL RESOURCES**
Riparian Open Space Program (08-2-001)

Appropriation:
State Building Construction Account--State $1,500,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $11,000,000
TOTAL $12,500,000

NEW SECTION. **Sec. 3201. FOR THE DEPARTMENT OF NATURAL RESOURCES**
Statewide Aquatic Restoration Projects (06-2-008)

Reappropriation:
State Toxics Control Account--State $937,000
State Building Construction Account--State $150,000
Subtotal Reappropriation $1,087,000
Appropriation:
Aquatic Lands Enhancement Account--State $300,000
Prior Biennia (Expenditures) $1,563,000
Future Biennia (Projected Costs) $1,200,000
TOTAL $4,150,000

NEW SECTION. **Sec. 3202. FOR THE DEPARTMENT OF NATURAL RESOURCES**
Road Maintenance and Abandonment Projects (06-2-003)

Reappropriation:
State Building Construction Account--State $87,000
Appropriation:
State Building Construction Account--State $700,000
Prior Biennia (Expenditures) $700,000
Future Biennia (Projected Costs) $500,000
TOTAL $1,987,000

NEW SECTION. **Sec. 3203. FOR THE DEPARTMENT OF NATURAL RESOURCES**
State Lands Maintenance (08-1-019)

Appropriation:
Forest Development Account--State $250,000
Resources Management Cost Account--State $2,350,000
Subtotal Appropriation $2,600,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $10,400,000
TOTAL $13,000,000

*NEW SECTION. **Sec. 3204. FOR THE DEPARTMENT OF NATURAL RESOURCES**
Trust Land Transfer (08-2-005)

The appropriations in this section are subject to the following conditions and limitations:

(1) The total appropriation is provided to the department solely to transfer from trust status, or enter into fifty year leases for,

certain trust lands of statewide significance deemed appropriate for state park, fish and wildlife habitat, natural area preserve, natural resources conservation area, open space, housing and essential government services, or recreation purposes. The approved list of projects is identified in the LEAP capital document 2007-5, developed March 20, 2007.

(2) Property transferred under this section shall be appraised and transferred at fair market value. The value of the timber transferred shall be deposited by the department to the common school construction account in the same manner as timber revenues from other common school trust lands. No deduction shall be made for the resource management cost account under RCW 79.64.040. The value of the land transferred shall be deposited in the natural resources real property replacement account. These funds shall be expended by the department for the exclusive purpose of acquiring forest lands of equal value to be managed as common school trust land.

(3) Property subject to lease agreements under this section shall be appraised at fair market value. Lease terms shall be fifty years with options to renew for an additional fifty years. Lease payments shall be lump sum payments for the entire term of the lease at the beginning of the lease. The department shall calculate such lump sum payments using professional appraisal standards. These lease payments may not exceed the fee simple purchase price based on current fair market value and shall be deposited by the department to the common school construction account in the same manner as lease revenues from other common school trust lands. No deduction shall be made for the resource management cost account under RCW 79.64.040.

(4) All reasonable costs incurred by the department to implement this section are authorized to be paid out of the appropriations. Authorized costs include the actual cost of appraisals, staff time, environmental reviews, surveys, and other similar costs.

(5) Intergrant exchanges between common school and other trust lands of equal value may occur if the exchange is in the interest of each trust, as determined by the board of natural resources.

(6) Prior to or concurrent with conveyance of these properties, the department, with full cooperation of the receiving agencies, shall execute and record a real property instrument that dedicates the transferred properties to the purposes identified in subsection (1) of

this section. Transfer and lease agreements for properties identified in subsection (1) of this section must include terms that restrict the use of the property to the intended purpose. Transfer and lease agreements may include provisions for receiving agencies to request alternative uses of the property, provided the alternative uses are compatible with the original intended public purpose and the department and legislature approves such uses.

(7) The department and receiving agencies shall work in good faith to carry out the intent of this section. However, the department or receiving agencies may remove a property from the transfer list based on new, substantive information, if it is determined that transfer of the property is not in the statewide interest of either the common school trust or the receiving agency.

(8) The department shall execute trust land transfers that, after the deduction of reasonable costs as provided in subsection (4) of this section, eighty percent of the total value of transferred property is timber value and is deposited in the common school construction account. To achieve the eighty percent requirement, the department may choose to lease properties originally intended as transfers.

(9) On June 30, 2009, the state treasurer shall transfer all remaining uncommitted funds from this appropriation to the common school construction account and the appropriations in this section shall be reduced by an equivalent amount.

Appropriation:

State Building Construction Account--State $98,985,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $287,000,000

TOTAL $385,985,000

Sec. 3204 was partially vetoed. See message at end of chapter.

NEW SECTION. **Sec. 3205. FOR THE DEPARTMENT OF NATURAL RESOURCES**

Federal Habitat Conservation Program Land Acquisition Grants (06-2-950)

Reappropriation:

General Fund--Federal $705,000

Prior Biennia (Expenditures) $6,015,000

Future Biennia (Projected Costs) $0

TOTAL $6,720,000

NEW SECTION. **Sec. 3206. FOR THE DEPARTMENT OF NATURAL RESOURCES**
Loomis Natural Resources Conservation Area Restoration (07-1-004)

Reappropriation:
State Building Construction Account--State $271,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $271,000

NEW SECTION. **Sec. 3207. FOR THE DEPARTMENT OF NATURAL RESOURCES**
Deep Water Geoduck/Sea Cucumber Population Surveys (06-2-850)

Reappropriation:
State Building Construction Account--State $491,000
Prior Biennia (Expenditures) $159,000
Future Biennia (Projected Costs) $0
TOTAL $650,000

NEW SECTION. **Sec. 3208. FOR THE DEPARTMENT OF NATURAL RESOURCES**
Riparian Open Space Program (06-2-018)

Reappropriation:
State Building Construction Account--State $700,000
Prior Biennia (Expenditures) $800,000
Future Biennia (Projected Costs) $0
TOTAL $1,500,000

NEW SECTION. **Sec. 3209. FOR THE DEPARTMENT OF NATURAL RESOURCES**
Port Angeles Armory (08-1-851)

Appropriation:
Forest Development Account--State $135,000
Resource Management Cost Account--State $151,000
State Building Construction Account--State $157,000
Subtotal Appropriation $443,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $443,000

NEW SECTION. **Sec. 3210. FOR THE DEPARTMENT OF NATURAL RESOURCES**
Colville Armory (08-2-851)

Appropriation:
Forest Development Account--State $313,000
Resource Management Cost Account--State $330,000
State Building Construction Account--State $299,000
Subtotal Appropriation $942,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $942,000

NEW SECTION. **Sec. 3211. FOR THE DEPARTMENT OF NATURAL RESOURCES**
Combined State Agency Aviation Facility (08-1-952)

The appropriation in this section is subject to the following conditions and limitations: Funding is provided solely for predesign of a single, consolidated aviation facility at the Olympia airport to house the fixed wing operations of the Washington state patrol, the department of natural resources, and the department of fish and wildlife, and the rotary operations of the department of natural resources.

Appropriation:
Forest Development Account--State $15,000
Resource Management Cost Account--State $16,000
State Building Construction Account--State $23,000
Subtotal Appropriation $54,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $3,783,000
TOTAL $3,837,000

NEW SECTION. **Sec. 3212. FOR THE DEPARTMENT OF NATURAL RESOURCES**
Blanchard Mountain (08-1-951)

The appropriation in this section is subject to the following conditions and limitations: The appropriation is provided solely for acquisition of working forest lands as an initial purchase in support of an approved plan to preserve the core of Blanchard mountain in Skagit county. The department shall consult with the University of

Washington college of forestry resources' northwest environmental forum and with other interest groups prior to the purchase. The department shall coordinate purchases funded under this section with purchases funded under section 3214 of this act to block up and preserve working forest lands at risk of conversion in Skagit county.

Appropriation:

State Building Construction Account--State $4,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $4,000,000

NEW SECTION. **Sec. 3213. FOR THE DEPARTMENT OF NATURAL RESOURCES**

Marine Station (08-1-015)

Appropriation:

Resource Management Cost Account--State $750,000

State Building Construction Account--State $750,000

Subtotal Appropriation $1,500,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $1,500,000

NEW SECTION. **Sec. 3214. FOR THE DEPARTMENT OF NATURAL RESOURCES**

Conversion Land Acquisition (08-1-950)

The appropriations in this section are subject to the following conditions and limitations: The appropriations are provided solely for acquisition of working forest lands at risk of conversion to nonforest uses. The legislature finds that the chronic loss of working forest lands threatens the long-term prospects of the timber products industry, which in turn threatens the long-term economic return for the beneficiaries of state trust lands. Acquisition of these conversion lands is intended to help stabilize the primary source of revenue to trust land beneficiaries. The department shall submit a report to the appropriate committees of the legislature by October 1, 2008, indicating the lands purchased under this section, showing the locations, acres, purchase price, and within that purchase price, the value of the property attributed to the future value of timber harvests given an expected rate of return for timber lands, and the value of the

property attributed to future development of the property. It is the intention of the legislature to lease the development rights of these conversion lands and retain them as long-term working forest lands under the sustainable harvest plan. Working forest lands acquired under this section shall be managed at a level equal to or greater than seventy-five percent of the expected harvest under the sustainable harvest plan. The appropriation provided in this section shall lapse unless chapter . . . (House Bill No. 2395 (An act relating to leasing state lands and development rights on state lands to public agencies), Laws of 2007, or similar provisions contained in other legislation, is enacted prior to June 30, 2007. No amounts appropriated in this section shall be expended on the central cascade land exchange unless one of the two following conditions are met: (1) The four Stemilt parcels in T21R20E are excluded from the exchange; or (2) the four Stemilt parcels in T21R20E are included in the exchange and the department and Chelan county, as chair of the Stemilt partnership, agree on a plan for eventual ownership, disposition, and management of the four Stemilt parcels. The department shall manage cash balances in the natural resources real property replacement account such that cash balances are sufficient for the treasurer transfers required in section 6030 of this act. The department may also transfer funds from the land bank subaccount of the resource management cost account to the natural resources real property replacement account to ensure sufficient cash balances.

Appropriation:

Resource Management Cost Account--State	$40,000,000
Natural Resources Real Property Replacement Account--State	$30,000,000
Subtotal Appropriation	$70,000,000
Prior Biennia (Expenditures)	$0
Future Biennia (Projected Costs)	$0
TOTAL	$70,000,000

NEW SECTION. **Sec. 3215. FOR THE DEPARTMENT OF AGRICULTURE**

Fair Improvements (06-4-850)

The appropriation in this section is subject to the following

conditions and limitations: $1,000,000 is provided solely for renovations and repairs to the historic pavilion at the Walla Walla fairgrounds.

Appropriation:

State Building Construction Account--State $1,400,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $1,400,000

NEW SECTION. **Sec. 3216. FOR THE DEPARTMENT OF AGRICULTURE**

Hops Initiative (08-2-850)

Appropriation:

State Building Construction Account--State $1,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $1,000,000

NEW SECTION. **Sec. 3217. FOR THE DEPARTMENT OF AGRICULTURE**

Asparagus Automation and Mechanization (08-2-851)

The appropriation in this section is subject to the following conditions and limitations: The appropriation is provided solely to extend and expand the department's asparagus automation and mechanization program, subject to appropriate agreements with growers.

Appropriation:

State Building Construction Account--State $840,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $840,000

NEW SECTION. **Sec. 3218. FOR THE DEPARTMENT OF AGRICULTURE**

Energy Freedom Program (06-2-851)

The reappropriation in this section is subject to the following conditions and limitations: If legislation is enacted by June 30, 2009, that moves the energy freedom program to the department of community, trade, and economic development, then the amounts in this

section are appropriated to the department of community, trade, and economic development.

Reappropriation:

Energy Freedom Account--State $8,529,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $8,529,000

NEW SECTION. **Sec. 3219. FOR THE DEPARTMENT OF AGRICULTURE**

Energy Freedom Program (E3SHB No. 2939) (06-2-850)

The reappropriation in this section is subject to the following conditions and limitations: If legislation is enacted by June 30, 2009, that moves the energy freedom program to the department of community, trade, and economic development, then the amounts in this section are appropriated to the department of community, trade, and economic development.

Reappropriation:

Energy Freedom Account--State $5,971,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $5,971,000

(End of part)

PART 4
TRANSPORTATION

NEW SECTION. **Sec. 4001. FOR THE WASHINGTON STATE PATROL**
Fire Training Academy Sanitary System (08-2-002)

Appropriation:
Fire Service Training Account--State $3,500,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $3,500,000

NEW SECTION. **Sec. 4002. FOR THE WASHINGTON STATE PATROL**
Minor Works - Preservation (08-1-001)

Appropriation:
State Building Construction Account--State $480,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $2,000,000
TOTAL $2,480,000

NEW SECTION. **Sec. 4003. FOR THE WASHINGTON STATE PATROL**
Replace Existing Dormitory (08-2-003)

The appropriation in this section is subject to the following conditions and limitations: The state building construction account appropriation is provided solely for one-half of the construction cost for replacement of the student dormitory at the fire training academy and is contingent upon the remaining construction cost being funded with a certificate of participation that is repaid with revenues from fees charged by the fire training academy. Any expenditures from this appropriation must be matched by an equal expenditure from the certificate of participation.

Appropriation:
State Building Construction Account--State $1,360,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $1,360,000

NEW SECTION. **Sec. 4004. FOR THE WASHINGTON STATE PATROL**

Combined State Agency Aviation Facility (08-2-951)

The appropriation in this section is subject to the following conditions and limitations: Funding is provided solely for predesign of a single, consolidated aviation facility at the Olympia airport to house the fixed wing operations of the Washington state patrol, the department of natural resources, and the department of fish and wildlife, and the rotary operations of the department of natural resources.

Appropriation:

State Building Construction Account--State $12,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $813,000

TOTAL $825,000

NEW SECTION. **Sec. 4005. FOR THE DEPARTMENT OF TRANSPORTATION**

Columbia River Dredging (03-H-001)

The reappropriation in this section is subject to the following conditions and limitations: The reappropriation in this section is provided solely to fund the second phase of a multiphase cooperative project with the state of Oregon to dredge the Columbia river. The amount in this section lapses unless the state of Oregon appropriates a dollar-for-dollar match to fund its share of the project.

Reappropriation:

State Building Construction Account--State $2,980,000

Prior Biennia (Expenditures) $14,720,000

Future Biennia (Projected Costs) $0

TOTAL $17,700,000

(End of part)

PART 5
EDUCATION

NEW SECTION. **Sec. 5001. FOR THE SUPERINTENDENT OF PUBLIC INSTRUCTION**

2001-2003 School Construction Assistance Grant Program (02-4-001)

Reappropriation:

Common School Construction Account--State $3,850,000

Prior Biennia (Expenditures) $8,150,000

Future Biennia (Projected Costs) $0

TOTAL $12,000,000

NEW SECTION. **Sec. 5002. FOR THE SUPERINTENDENT OF PUBLIC INSTRUCTION**

2003-2005 School Construction Assistance Grant Program (04-4-001)

Reappropriation:

State Building Construction Account--State $11,961,000

Common School Construction Account--State $10,682,000

Subtotal Reappropriation $22,643,000

Prior Biennia (Expenditures) $171,568,000

Future Biennia (Projected Costs) $0

TOTAL $194,211,000

NEW SECTION. **Sec. 5003. FOR THE SUPERINTENDENT OF PUBLIC INSTRUCTION**

2005-2007 Apple Achievement Awards (06-4-850)

The reappropriation in this section is subject to the following conditions and limitations: The reappropriation is subject to the provisions of section 196, chapter 371, Laws of 2006.

Reappropriation:

Education Construction Account--State $302,000

Prior Biennia (Expenditures) $198,000

Future Biennia (Projected Costs) $0

TOTAL $500,000

NEW SECTION. **Sec. 5004. FOR THE SUPERINTENDENT OF PUBLIC INSTRUCTION**

2005-2007 High Performance School Building Grants (06-4-852)

The reappropriation in this section is subject to the following conditions and limitations: Additional funding will be provided to school districts constructing public schools to recognized standards for high performance public buildings for a transition period of three years. The districts building high performance public schools will be granted funding per school project for capital-related costs associated with the design and construction of public K-12 schools that meet or exceed comprehensive design, construction, and operating standards for high performance and sustainable school buildings. No more than $250,000 will be allotted for each elementary school built to high performance standards, no more than $350,000 will be allotted for each middle school built to high performance standards, and no more than $500,000 will be allotted to each high school built to high performance standards. These levels may be modified, in a limited manner, if specific project conditions warrant and as determined by the office of the superintendent of public instruction.

Reappropriation:

State Building Construction Account--State $6,078,000

Prior Biennia (Expenditures) $25,000

Future Biennia (Projected Costs) $0

TOTAL $6,103,000

NEW SECTION. **Sec. 5005. FOR THE SUPERINTENDENT OF PUBLIC INSTRUCTION**

2005-2007 School Construction Assistance Grant Program (06-4-100)

Reappropriation:

State Building Construction Account--State $117,539,000

Common School Construction Account--State $218,896,000

Subtotal Reappropriation $336,435,000

Prior Biennia (Expenditures) $305,331,000

Future Biennia (Projected Costs) $0

TOTAL $641,766,000

NEW SECTION. **Sec. 5006. FOR THE SUPERINTENDENT OF PUBLIC INSTRUCTION**

Environmental Learning Centers (06-2-951)

The reappropriation in this section is subject to the following conditions and limitations: The reappropriation in this section is provided solely for capital projects at the Chewelah peak learning center.

Reappropriation:

State Building Construction Account--State $518,000

Prior Biennia (Expenditures) $1,832,000

Future Biennia (Projected Costs) $0

TOTAL $2,350,000

NEW SECTION. **Sec. 5007. FOR THE SUPERINTENDENT OF PUBLIC INSTRUCTION**

Capital Project Administration (08-4-100)

Appropriation:

Common School Construction Account--State $2,828,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $12,049,000

TOTAL $14,877,000

NEW SECTION. **Sec. 5008. FOR THE SUPERINTENDENT OF PUBLIC INSTRUCTION**

School Construction Assistance Grants (08-4-200)

The appropriations in this section are subject to the following conditions and limitations:

(1) For state assistance grants for purposes of calculating square foot eligibility, kindergarten student headcount shall not be reduced by fifty percent.

(2) The legislature has made a commitment to phase in all-day kindergarten programs beginning with the 2007-08 school year. However, the legislature finds that one potential barrier to successful expansion of all-day kindergarten programs may be a lack of facilities that meet the requirements of an all-day kindergarten program. The office of the superintendent of public instruction, in consultation

with the school facilities citizen advisory panel, shall examine alternatives for addressing school facilities needs for all-day kindergarten programs, including adapting existing unused space, creating innovative public-private partnerships and partnerships with early learning providers, shifting the location of current programs within a district or a school, and temporary, limited use of portables. The office of the superintendent of public instruction shall submit a report to the capital budget committee of the house of representatives and the ways and means committee of the senate by September 1, 2007, with recommendations on preferred alternatives and an analysis of the feasibility and cost of implementing the alternatives.

Appropriation:

State Building Construction Account--State	$109,521,000
Common School Construction Account--State	$770,658,000
Common School Reimbursable Construction Account--State	$180,000
Subtotal Appropriation	$880,359,000
Prior Biennia (Expenditures)	$0
Future Biennia (Projected Costs)	$3,500,725,000
TOTAL	$4,381,084,000

NEW SECTION. **Sec. 5009. FOR THE SUPERINTENDENT OF PUBLIC INSTRUCTION**

Small Repair Grants (08-4-402)

The appropriation in this section is subject to the following conditions and limitations: The appropriation in this section is provided solely for nonrecurring costs associates with urgent health and safety school facility repairs and renovations. The office of superintendent of public instruction, after consulting with maintenance and operations administrators of school districts, shall develop criteria for providing funding for specific projects that stay within the appropriation level provided in this section. The criteria shall include, but is not limited to, the following: (1) Limiting recipient district applications to one hundred thousand dollars per three-year period; (2) limiting districts eligible to receive the grant only once in any three-year period; and (3) any district receiving funding

provided in this section demonstrating a consistent commitment to addressing school facilities needs.

Appropriation:

State Building Construction Account--State $4,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $12,000,000

TOTAL $16,000,000

NEW SECTION. **Sec. 5010. FOR THE SUPERINTENDENT OF PUBLIC INSTRUCTION**

Vocational Skills Centers (08-4-300)

The appropriation in this section is subject to the following conditions and limitations:

(1) $9,362,000 from this appropriation is provided solely for minor capital projects at all of the state's skills centers ranked with a "severity score" of 40 points or more.

(2) $24,400,000 from this appropriation is provided solely for the design and construction of the Skagit Valley vocational skills center.

(3) $16,366,000 from this appropriation is provided solely for the design and construction of the Yakima Valley technical skills center.

(4) $23,161,000 from this appropriation is provided solely for the design and construction of the Sno-Isle skills center.

(5) $1,118,000 from this appropriation is provided solely for the design and construction of the Clark county skills center.

(6) $300,000 from this appropriation is provided solely for the completion of the new market skills center project and to address storm water issues.

Appropriation:

State Building Construction Account--State $74,707,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $83,984,000

TOTAL $158,691,000

NEW SECTION. **Sec. 5011. FOR THE SUPERINTENDENT OF PUBLIC INSTRUCTION**

Vader School Campus (08-2-852)

The appropriation in this section is subject to the following conditions and limitations: The appropriation is provided solely for the costs associated with demolition of the Vader school campus.

Appropriation:
State Building Construction Account--State $200,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $200,000

NEW SECTION. **Sec. 5012. FOR THE SUPERINTENDENT OF PUBLIC INSTRUCTION**

Island Wood Environmental Learning Center (08-4-406)

Appropriation:
State Building Construction Account--State $1,000,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $1,000,000

NEW SECTION. **Sec. 5013. FOR THE SUPERINTENDENT OF PUBLIC INSTRUCTION**

Chewelah Peak Environmental Learning Center (08-4-401)

Appropriation:
State Building Construction Account--State $1,000,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $1,000,000

NEW SECTION. **Sec. 5014. FOR THE SUPERINTENDENT OF PUBLIC INSTRUCTION**

K-12 Inventory Pilot Project (08-2-851)

The appropriation in this section is subject to the following conditions and limitations: Funding is provided solely for the office of the superintendent of public instruction to define and develop a pilot information management system for public school facilities, building on the experience of the community and technical college facilities information management system. Participating school

districts must represent a cross-section of large and small districts, urban and rural districts, and districts with facilities of varying age and condition. The system must allow for the efficient transfer of information between the office of the superintendent of public instruction and participating school districts. The inventory system must include, but not be limited to, facility and site information necessary for appropriate facility stewardship. Data elements may include facility location, condition, type, current use, size, date and cost of original construction, the cost of any major remodeling or renovation, and energy information. By December 1, 2007, the office of the superintendent of public instruction shall provide a report to the appropriate legislative fiscal committees on the inventory system's scope, potential school district participants, and an implementation plan for the pilot group of school districts.

Appropriation:

Education Construction Account--State $900,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $900,000

NEW SECTION. **Sec. 5015. FOR THE STATE SCHOOL FOR THE BLIND**

Campus Preservation (06-1-003)

Reappropriation:

State Building Construction Account--State $400,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $400,000

NEW SECTION. **Sec. 5016. FOR THE STATE SCHOOL FOR THE BLIND**

Minor Works - Facility Preservation (08-1-005)

Appropriation:

State Building Construction Account--State $770,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $2,500,000

TOTAL $3,270,000

NEW SECTION. **Sec. 5017. FOR THE STATE SCHOOL FOR THE BLIND**

New Physical Education Center (08-2-001)

Appropriation:

State Building Construction Account--State $9,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $9,000,000

NEW SECTION. **Sec. 5018. FOR THE STATE SCHOOL FOR THE DEAF**

Minor Works - Facility Preservation (08-1-001)

Appropriation:

State Building Construction Account--State $1,325,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $1,000,000

TOTAL $2,325,000

NEW SECTION. **Sec. 5019. FOR THE STATE SCHOOL FOR THE DEAF**

Vocational Education, Cafeteria, and Maintenance Support Building (08-2-002)

Appropriation:

State Building Construction Account--State $10,900,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $10,900,000

NEW SECTION. **Sec. 5020. FOR THE HIGHER EDUCATION COORDINATING BOARD**

Higher Education Preservation Information (08-2-850)

The appropriation in this section is subject to the following conditions and limitations: The appropriation in this section is provided solely to refresh preservation information that resides in the state's comparable framework for higher education buildings (report 06-5) including any necessary revisions or adjustments that will enable more direct translation of information, updates for last renewal or replacement of major systems, and quality assurance field sampling. In executing this continued capital study, the higher education

coordinating board shall consult the office of financial management and the legislative fiscal committees about its workplan to ensure timely delivery of assembled facilities information and related capital models in an easy to understand format. As a general condition, upon appropriations provided to higher education agencies in this act, the state board for community and technical colleges and each state baccalaureate institution shall provide requested facilities information in a timely manner to enable the higher education coordinating board to complete the tasks and oversight assigned in this section.

Appropriation:

Education Construction Account--State $300,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $300,000

NEW SECTION. **Sec. 5021. FOR THE UNIVERSITY OF WASHINGTON**

UW Bothell/Cascadia Community College - State Route 522 Off Ramp (02-2-014)

Reappropriation:

Gardner-Evans Higher Education Construction Account--State $255,000

Prior Biennia (Expenditures) $1,495,000

Future Biennia (Projected Costs) $0

TOTAL $1,750,000

NEW SECTION. **Sec. 5022. FOR THE UNIVERSITY OF WASHINGTON**

UW Tacoma Land Acquisition/Soils Remediation (01-2-029)

Reappropriation:

Education Construction Account--State $50,000

Prior Biennia (Expenditures) $5,900,000

Future Biennia (Projected Costs) $20,000,000

TOTAL $25,950,000

NEW SECTION. **Sec. 5023. FOR THE UNIVERSITY OF WASHINGTON**

Facility Preservation Backlog Reduction (04-1-951)

Reappropriation:
State Building Construction Account--State $4,100,000
Prior Biennia (Expenditures) $21,214,000
Future Biennia (Projected Costs) $0
TOTAL $25,314,000

NEW SECTION. **Sec. 5024. FOR THE UNIVERSITY OF WASHINGTON**
UW Emergency Power Expansion - Phase II (04-1-024)

Reappropriation:
University of Washington Building Account--State . . . $1,500,000
Prior Biennia (Expenditures) $5,148,000
Future Biennia (Projected Costs) $0
TOTAL $6,648,000

NEW SECTION. **Sec. 5025. FOR THE UNIVERSITY OF WASHINGTON**
Classroom Improvements (05-1-850)

Reappropriation:
Gardner-Evans Higher Education Construction
Account--State $150,000
Prior Biennia (Expenditures) $3,850,000
Future Biennia (Projected Costs) $0
TOTAL $4,000,000

NEW SECTION. **Sec. 5026. FOR THE UNIVERSITY OF WASHINGTON**
Infectious Disease Laboratory Facilities (05-2-850)

Reappropriation:
Gardner-Evans Higher Education Construction
Account--State $4,000,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $4,000,000

NEW SECTION. **Sec. 5027. FOR THE UNIVERSITY OF WASHINGTON**
Playhouse Theater (05-1-004)

Appropriation:

State Building Construction Account--State $6,578,000
Prior Biennia (Expenditures) $1,000,000
Future Biennia (Projected Costs) $0
TOTAL $7,578,000

NEW SECTION. **Sec. 5028. FOR THE UNIVERSITY OF WASHINGTON**
Architecture Hall Renovation (06-1-008)

Reappropriation:
State Building Construction Account--State $3,000,000
Prior Biennia (Expenditures) $20,324,000
Future Biennia (Projected Costs) $0
TOTAL $23,324,000

NEW SECTION. **Sec. 5029. FOR THE UNIVERSITY OF WASHINGTON**
Clark Hall Renovation (06-1-007)

Reappropriation:
State Building Construction Account--State $1,200,000
Appropriation:
State Building Construction Account--State $554,000
Education Construction Account--State $15,000,000
Subtotal Appropriation $15,554,000
Prior Biennia (Expenditures) $1,300,000
Future Biennia (Projected Costs) $0
TOTAL $18,054,000

NEW SECTION. **Sec. 5030. FOR THE UNIVERSITY OF WASHINGTON**
Cleanup More Hall and Other Toxics (06-1-950)

Reappropriation:
State Toxics Control Account--State $1,125,000
Prior Biennia (Expenditures) $3,375,000
Future Biennia (Projected Costs) $0
TOTAL $4,500,000

NEW SECTION. **Sec. 5031. FOR THE UNIVERSITY OF WASHINGTON**
Guggenheim Hall Renovation (06-1-006)

Reappropriation:

State Building Construction Account--State $3,000,000
Education Construction Account--State $4,000,000
Subtotal Reappropriation $7,000,000

Prior Biennia (Expenditures) $19,312,000
Future Biennia (Projected Costs) $0
TOTAL $26,312,000

NEW SECTION. **Sec. 5032. FOR THE UNIVERSITY OF WASHINGTON**
Health Sciences - H Wing (06-1-001)

Reappropriation:
State Building Construction Account--State $5,000,000
Appropriation:
State Building Construction Account--State $7,000,000
University of Washington Building Account--State . . . $3,000,000
Subtotal Appropriation $10,000,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $15,000,000

NEW SECTION. **Sec. 5033. FOR THE UNIVERSITY OF WASHINGTON**
Minor Works - Facility Preservation (06-1-002)

Reappropriation:
University of Washington Building Account--State . . . $9,000,000

Prior Biennia (Expenditures) $12,200,000
Future Biennia (Projected Costs) $0
TOTAL $21,200,000

NEW SECTION. **Sec. 5034. FOR THE UNIVERSITY OF WASHINGTON**
Minor Works - Health, Safety, and Code Requirements (06-1-003)

Reappropriation:
University of Washington Building Account--State . . . $5,000,000

Prior Biennia (Expenditures) $6,000,000
Future Biennia (Projected Costs) $0
TOTAL $11,000,000

NEW SECTION. **Sec. 5035. FOR THE UNIVERSITY OF WASHINGTON**

Minor Works - Infrastructure Preservation (06-1-004)

Reappropriation:

University of Washington Building Account--State . . . $2,500,000

Prior Biennia (Expenditures) $2,500,000

Future Biennia (Projected Costs) $0

TOTAL $5,000,000

NEW SECTION. **Sec. 5036. FOR THE UNIVERSITY OF WASHINGTON**

Minor Works - Program (06-2-009)

Reappropriation:

University of Washington Building Account--State . . . $3,000,000

Prior Biennia (Expenditures) $1,700,000

Future Biennia (Projected Costs) $0

TOTAL $4,700,000

NEW SECTION. **Sec. 5037. FOR THE UNIVERSITY OF WASHINGTON**

Savery Hall Renovation (06-1-005)

Reappropriation:

State Building Construction Account--State $3,000,000

Appropriation:

Gardner-Evans Higher Education Construction

Account--State $54,910,000

Prior Biennia (Expenditures) $3,600,000

Future Biennia (Projected Costs) $0

TOTAL $61,510,000

NEW SECTION. **Sec. 5038. FOR THE UNIVERSITY OF WASHINGTON**

UW Tacoma - Assembly Hall (06-2-007)

Reappropriation:

State Building Construction Account--State $7,000,000

Prior Biennia (Expenditures) $500,000

Future Biennia (Projected Costs) $0

TOTAL $7,500,000

NEW SECTION. **Sec. 5039. FOR THE UNIVERSITY OF WASHINGTON**

UW Tacoma Land Acquisition (06-2-852)

Reappropriation:

Gardner-Evans Higher Education Construction Account--State $750,000

Prior Biennia (Expenditures) $3,250,000

Future Biennia (Projected Costs) $0

TOTAL $4,000,000

NEW SECTION. **Sec. 5040. FOR THE UNIVERSITY OF WASHINGTON**

Balmer Hall Reconstruction (08-1-004)

The appropriation in this section is subject to the following conditions and limitations: The appropriation is provided solely for predesign and design of the reconstruction/replacement of Balmer hall. The office of financial management shall not allot funding for the design until after sine die adjournment of the 2008 regular legislative session and only if the predesign has been submitted to the legislative fiscal committees and to the office of financial management for review and approval under RCW 43.88.110(6) prior to the start of the 2008 regular legislative session.

Appropriation:

State Building Construction Account--State $4,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $42,800,000

TOTAL $46,800,000

NEW SECTION. **Sec. 5041. FOR THE UNIVERSITY OF WASHINGTON**

Denny Hall Renovation (08-1-002)

The appropriation in this section is subject to the following conditions and limitations: The appropriation is provided solely for predesign and design of the renovation of Denny hall. The office of financial management shall not allot funding for the design until after sine die adjournment of the 2008 regular legislative session and only if the predesign has been submitted to the legislative fiscal committees and to the office of financial management for review and

approval under RCW 43.88.110(6) prior to the start of the 2008 regular legislative session.

Appropriation:

State Building Construction Account--State $4,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $52,915,000

TOTAL $56,915,000

NEW SECTION. **Sec. 5042. FOR THE UNIVERSITY OF WASHINGTON**

Interdisciplinary Academic Building (08-2-003)

The appropriation in this section is subject to the following conditions and limitations: The appropriation is provided solely for predesign and design of the interdisciplinary academic building. The office of financial management shall not allot funding for the design until after sine die adjournment of the 2008 regular legislative session and only if the predesign has been submitted to the legislative fiscal committees and to the office of financial management for review and approval under RCW 43.88.110(6) prior to the start of the 2008 regular legislative session.

Appropriation:

State Building Construction Account--State $5,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $57,500,000

TOTAL $62,500,000

NEW SECTION. **Sec. 5043. FOR THE UNIVERSITY OF WASHINGTON**

Intermediate Student Service and Classroom Improvements (08-1-005)

Appropriation:

Education Construction Account--State $13,281,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $13,281,000

NEW SECTION. **Sec. 5044. FOR THE UNIVERSITY OF WASHINGTON**

Lewis Hall Renovation (08-1-003)

The appropriation in this section is subject to the following conditions and limitations: The appropriation is provided solely for predesign and design of the renovation of Lewis hall. The office of financial management shall not allot funding for the design until after sine die adjournment of the 2008 regular legislative session and only if the predesign has been submitted to the legislative fiscal committees and to the office of financial management for review and approval under RCW 43.88.110(6) prior to the start of the 2008 regular legislative session.

Appropriation:

State Building Construction Account--State $2,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $16,501,000

TOTAL $18,501,000

NEW SECTION. **Sec. 5045. FOR THE UNIVERSITY OF WASHINGTON**

Minor Works - Facility Preservation (08-1-001)

Appropriation:

University of Washington Building Account--State . . . $23,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $140,000,000

TOTAL $163,000,000

NEW SECTION. **Sec. 5046. FOR THE UNIVERSITY OF WASHINGTON**

Minor Works - Program (08-2-001)

Appropriation:

University of Washington Building Account--State . . . $5,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $32,610,000

TOTAL $37,610,000

NEW SECTION. **Sec. 5047. FOR THE UNIVERSITY OF WASHINGTON**

Infrastructure Savings (08-1-151)

The appropriations in this section are subject to the following conditions and limitations: Projects that are completed in accordance

with section 6004 of this act may have their remaining funds transferred to this appropriation for other preservation projects approved by the office of financial management.

Appropriation:

State Building Construction Account--State	$1
Gardner-Evans Higher Education Construction Account--State	$1
Subtotal Appropriation	$2
Prior Biennia (Expenditures)	$0
Future Biennia (Projected Costs)	$0
TOTAL	$2

NEW SECTION. **Sec. 5048. FOR THE UNIVERSITY OF WASHINGTON**

Preventive Facility Maintenance and Building System Repairs (08-1-150)

The appropriation in this section is subject to the following conditions and limitations:

(1) Pursuant to definitions and provisions in section 925, chapter 26, Laws of 2003 1st sp. sess., the appropriation is provided solely to maintain facilities housing educational and general programs and to maintain its major building systems and campus infrastructure. Building maintenance, mechanical adjustments, repairs, and minor works for the facility or its major building systems and campus infrastructure must extend the remaining useful life of the facility or keep it safe and functioning normally.

(2) With this appropriation, the intent is to improve the average condition of state facilities as compared to the baseline conditions documented in report 03-1 of the joint legislative audit and review committee. Preventive facility maintenance project funds must be allocated at local discretion to achieve the performance goal stated in this subsection (2), with particular attention given to buildings currently rated in superior to adequate condition so as to maximize useful life given both the passage of time and intensity with which the space is used.

(3) Section 6004 of this act does not apply to this appropriation.

(4) There is no intent to reappropriate amounts not expended by June 30, 2009.

Appropriation:
Education Construction Account--State $25,825,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $25,825,000

NEW SECTION. **Sec. 5049. FOR THE UNIVERSITY OF WASHINGTON**
UW Bothell Phase 3 - Predesign (08-2-006)

Appropriation:
State Building Construction Account--State $150,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $62,850,000
TOTAL $63,000,000

NEW SECTION. **Sec. 5050. FOR THE UNIVERSITY OF WASHINGTON**
UW Tacoma Phase 3 (08-2-005)

The appropriation in this section is subject to the following conditions and limitations: The appropriation is provided solely for predesign and design of UW Tacoma phase 3. The office of financial management shall not allot funding for the design until after sine die adjournment of the 2008 regular legislative session and only if the predesign has been submitted to the legislative fiscal committees and to the office of financial management for review and approval under RCW 43.88.110(6) prior to the start of the 2008 regular legislative session.

Appropriation:
State Building Construction Account--State $6,150,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $54,000,000
TOTAL $60,150,000

NEW SECTION. **Sec. 5051. FOR THE UNIVERSITY OF WASHINGTON**
Computing and Communications Upgrades and Data Center (08-2-004)

Appropriation:
State Building Construction Account--State $25,000,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $22,000,000
TOTAL $47,000,000

NEW SECTION. **Sec. 5052. FOR WASHINGTON STATE UNIVERSITY**
WSU Spokane Riverpoint - Academic Center Building (00-2-906)

Reappropriation:
Gardner-Evans Higher Education Construction
Account--State $1,750,000
Prior Biennia (Expenditures) $32,100,000
Future Biennia (Projected Costs) $0
TOTAL $33,850,000

NEW SECTION. **Sec. 5053. FOR WASHINGTON STATE UNIVERSITY**
WSU Vancouver - Student Services Center (00-2-905)

Reappropriation:
State Building Construction Account--State $1,500,000
Prior Biennia (Expenditures) $13,126,000
Future Biennia (Projected Costs) $0
TOTAL $14,626,000

NEW SECTION. **Sec. 5054. FOR WASHINGTON STATE UNIVERSITY**
WSU Pullman - Biotechnology/Life Sciences 2 (04-2-085)

Reappropriation:
Gardner-Evans Higher Education Construction
Account--State $2,600,000
Appropriation:
State Building Construction Account--State $9,022,000
Gardner-Evans Higher Education Construction
Account--State $48,978,000
Subtotal Appropriation $58,000,000
Prior Biennia (Expenditures) $12,050,000
Future Biennia (Projected Costs) $0
TOTAL $72,650,000

NEW SECTION. **Sec. 5055. FOR WASHINGTON STATE UNIVERSITY**

WSU Spokane - Nursing Building at Riverpoint (04-2-941)

The reappropriation in this section is subject to the following conditions and limitations: Upon completion of construction of this facility at the Riverpoint campus in Spokane, the existing land and facilities housing the intercollegiate nursing center adjacent to Spokane Falls Community College shall be transferred to the state board for community and technical colleges for the use of community college district 17, community colleges of Spokane.

Reappropriation:

State Building Construction Account--State $20,000,000

Prior Biennia (Expenditures) $14,600,000

Future Biennia (Projected Costs) $0

TOTAL $34,600,000

NEW SECTION. **Sec. 5056. FOR WASHINGTON STATE UNIVERSITY**

WSU Tri-Cities - Bioproducts Facility (04-2-940)

Reappropriation:

State Taxable Building Construction Account--State . . $1,500,000

Prior Biennia (Expenditures) $23,250,000

Future Biennia (Projected Costs) $0

TOTAL $24,750,000

NEW SECTION. **Sec. 5057. FOR WASHINGTON STATE UNIVERSITY**

Campus Infrastructure (06-1-073)

Reappropriation:

State Building Construction Account--State $1,000,000

Prior Biennia (Expenditures) $6,000,000

Future Biennia (Projected Costs) $0

TOTAL $7,000,000

NEW SECTION. **Sec. 5058. FOR WASHINGTON STATE UNIVERSITY**

Minor Capital Improvements (06-2-002)

Reappropriation:

Washington State University Building Account--State . . $1,100,000

Prior Biennia (Expenditures) $4,900,000
Future Biennia (Projected Costs) $0
TOTAL $6,000,000

NEW SECTION. **Sec. 5059. FOR WASHINGTON STATE UNIVERSITY**
Minor Works - Facility Preservation (06-1-001)

Reappropriation:
State Building Construction Account--State $3,500,000
Washington State University Building Account--State . . . $500,000
Subtotal Reappropriation $4,000,000

Prior Biennia (Expenditures) $26,500,000
Future Biennia (Projected Costs) $0
TOTAL $30,500,000

NEW SECTION. **Sec. 5060. FOR WASHINGTON STATE UNIVERSITY**
Minor Works - Health, Safety, and Code (06-1-002)

Reappropriation:
Washington State University Building Account--State . . . $500,000

Prior Biennia (Expenditures) $1,500,000
Future Biennia (Projected Costs) $0
TOTAL $2,000,000

NEW SECTION. **Sec. 5061. FOR WASHINGTON STATE UNIVERSITY**
Center for Precision Agriculture (06-2-850)

Reappropriation:
State Building Construction Account--State $800,000

Prior Biennia (Expenditures) $2,000,000
Future Biennia (Projected Costs) $0
TOTAL $2,800,000

NEW SECTION. **Sec. 5062. FOR WASHINGTON STATE UNIVERSITY**
WSU Vancouver - Undergraduate Classroom Building (06-2-951)

Reappropriation:
State Building Construction Account--State $1,200,000
Appropriation:
State Building Construction Account--State $24,350,000

Prior Biennia (Expenditures) $2,450,000
Future Biennia (Projected Costs) $0
TOTAL $28,000,000

NEW SECTION. **Sec. 5063. FOR WASHINGTON STATE UNIVERSITY**
Intermediate Preservation Projects (08-1-702)

Appropriation:
State Building Construction Account--State $3,119,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $31,240,000
TOTAL $34,359,000

NEW SECTION. **Sec. 5064. FOR WASHINGTON STATE UNIVERSITY**
Library Road Infrastructure (08-1-703)

Appropriation:
State Building Construction Account--State $12,000,000
Washington State University Building Account--State . . $3,000,000
Subtotal Appropriation $15,000,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $15,000,000

NEW SECTION. **Sec. 5065. FOR WASHINGTON STATE UNIVERSITY**
Minor Works - Facility Preservation (08-1-001)

Appropriation:
State Building Construction Account--State $18,900,000
Washington State University Building
Account--State $20,000,000
Subtotal Appropriation $38,900,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $155,900,000
TOTAL $194,800,000

NEW SECTION. **Sec. 5066. FOR WASHINGTON STATE UNIVERSITY**
Infrastructure Savings (08-1-151)

The appropriations in this section are subject to the following conditions and limitations: Projects that are completed in accordance with section 6004 of this act may have their remaining funds transferred to this appropriation for other preservation projects approved by the office of financial management.

Appropriation:

State Building Construction Account--State	$1
Gardner-Evans Higher Education Construction Account--State	$1
Subtotal Appropriation	$2
Prior Biennia (Expenditures)	$0
Future Biennia (Projected Costs)	$0
TOTAL	$2

NEW SECTION. **Sec. 5067. FOR WASHINGTON STATE UNIVERSITY**

Minor Works - Program (08-2-002)

Appropriation:

Washington State University Building Account--State	$17,000,000
Prior Biennia (Expenditures)	$0
Future Biennia (Projected Costs)	$73,000,000
TOTAL	$90,000,000

NEW SECTION. **Sec. 5068. FOR WASHINGTON STATE UNIVERSITY**

Preventive Facility Maintenance and Building System Repairs (08-1-150)

The appropriation in this section is subject to the following conditions and limitations:

(1) Pursuant to definitions and provisions in section 925, chapter 26, Laws of 2003 1st sp. sess., the appropriation is provided solely to maintain facilities housing educational and general programs and to maintain its major building systems and campus infrastructure. Building maintenance, mechanical adjustments, repairs, and minor works for the facility or its major building systems and campus infrastructure must extend the remaining useful life of the facility or keep it safe and functioning normally.

(2) With this appropriation, the intent is to improve the average condition of state facilities as compared to the baseline conditions documented in report 03-1 of the joint legislative audit and review committee. Preventive facility maintenance project funds must be allocated at local discretion to achieve the performance goal stated in this subsection (2), with particular attention given to buildings currently rated in superior to adequate condition so as to maximize useful life given both the passage of time and intensity with which the space is used.

(3) Section 6004 of this act does not apply to this appropriation.

(4) There is no intent to reappropriate amounts not expended by June 30, 2009.

Appropriation:

Education Construction Account--State $10,115,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $10,115,000

NEW SECTION. **Sec. 5069. FOR WASHINGTON STATE UNIVERSITY**

University Wide Infrastructure (08-1-701)

Appropriation:

State Building Construction Account--State $8,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $72,500,000

TOTAL $80,500,000

NEW SECTION. **Sec. 5070. FOR WASHINGTON STATE UNIVERSITY**

Utilities Extension (08-1-100)

Appropriation:

Washington State University Building Account--State . $11,536,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $11,536,000

NEW SECTION. **Sec. 5071. FOR WASHINGTON STATE UNIVERSITY**

WSU Vancouver: Applied Technology and Classroom Building (06-2-950)

Appropriation:
State Building Construction Account--State $4,770,000
Prior Biennia (Expenditures) $150,000
Future Biennia (Projected Costs) $35,300,000
TOTAL $40,220,000

NEW SECTION. **Sec. 5072. FOR EASTERN WASHINGTON UNIVERSITY**
Patterson Hall Remodel (06-2-002)

Reappropriation:
Gardner-Evans Higher Education Construction
Account--State $40,000

Appropriation:
State Building Construction Account--State $2,000,000
Prior Biennia (Expenditures) $160,000
Future Biennia (Projected Costs) $28,000,000
TOTAL $30,200,000

NEW SECTION. **Sec. 5073. FOR EASTERN WASHINGTON UNIVERSITY**
Infrastructure Savings (06-1-751)

Reappropriation:
Gardner-Evans Higher Education Construction
Account--State $800,000
Prior Biennia (Expenditures) $377,000
Future Biennia (Projected Costs) $0
TOTAL $1,177,000

NEW SECTION. **Sec. 5074. FOR EASTERN WASHINGTON UNIVERSITY**
Hargreaves Hall Renovation (06-1-701)

Reappropriation:
State Building Construction Account--State $500,000
Appropriation:
State Building Construction Account--State $10,821,000
Prior Biennia (Expenditures) $914,000

Future Biennia (Projected Costs) $0
TOTAL $12,235,000

NEW SECTION. **Sec. 5075. FOR EASTERN WASHINGTON UNIVERSITY**
Martin Williamson Hall Renovation (06-1-706)

Reappropriation:
Gardner-Evans Higher Education Construction
Account--State $40,000
Prior Biennia (Expenditures) $160,000
Future Biennia (Projected Costs) $26,000,000
TOTAL $26,200,000

NEW SECTION. **Sec. 5076. FOR EASTERN WASHINGTON UNIVERSITY**
Minor Works - Facility Preservation (06-1-710)

Reappropriation:
State Building Construction Account--State $3,000,000
Prior Biennia (Expenditures) $5,000,000
Future Biennia (Projected Costs) $0
TOTAL $8,000,000

NEW SECTION. **Sec. 5077. FOR EASTERN WASHINGTON UNIVERSITY**
Minor Works - Health Safety and Code Compliance (06-1-711)

Reappropriation:
State Building Construction Account--State $2,500,000
Prior Biennia (Expenditures) $3,200,000
Future Biennia (Projected Costs) $0
TOTAL $5,700,000

NEW SECTION. **Sec. 5078. FOR EASTERN WASHINGTON UNIVERSITY**
Minor Works - Infrastructure Preservation (06-1-712)

Reappropriation:
State Building Construction Account--State $2,500,000
Prior Biennia (Expenditures) $1,500,000
Future Biennia (Projected Costs) $0
TOTAL $4,000,000

NEW SECTION. **Sec. 5079. FOR EASTERN WASHINGTON UNIVERSITY**
Minor Works Program (06-2-006)

Reappropriation:
State Building Construction Account--State $3,500,000
Eastern Washington University Capital Projects
Account--State $3,500,000
Subtotal Reappropriation $7,000,000

Prior Biennia (Expenditures) $8,600,000
Future Biennia (Projected Costs) $0
TOTAL $15,600,000

NEW SECTION. **Sec. 5080. FOR EASTERN WASHINGTON UNIVERSITY**
Minor Works - Facility Preservation (08-1-001)

Appropriation:
Eastern Washington University Capital Projects
Account--State $3,500,000
State Building Construction Account--State $500,000
Subtotal Appropriation $4,000,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $24,000,000
TOTAL $28,000,000

NEW SECTION. **Sec. 5081. FOR EASTERN WASHINGTON UNIVERSITY**
Minor Works - Health, Safety, and Code Requirements (08-1-002)

Appropriation:
Education Construction Account--State $4,000,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $24,000,000
TOTAL $28,000,000

NEW SECTION. **Sec. 5082. FOR EASTERN WASHINGTON UNIVERSITY**
Minor Works - Infrastructure Preservation (08-1-003)

Appropriation:
State Building Construction Account--State $4,000,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $22,000,000

TOTAL $26,000,000

NEW SECTION. **Sec. 5083. FOR EASTERN WASHINGTON UNIVERSITY**

Minor Works - Program (08-2-001)

Appropriation:

State Building Construction Account--State $4,000,000

Eastern Washington University Capital Projects Account--State $7,000,000

Subtotal Appropriation $11,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $62,400,000

TOTAL $73,400,000

NEW SECTION. **Sec. 5084. FOR EASTERN WASHINGTON UNIVERSITY**

Infrastructure Savings (08-1-151)

The appropriations in this section are subject to the following conditions and limitations: Projects that are completed in accordance with section 6004 of this act may have their remaining funds transferred to this appropriation for other preservation projects approved by the office of financial management.

Appropriation:

State Building Construction Account--State $1

Gardner-Evans Higher Education Construction Account--State $1

Subtotal Appropriation $2

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $2

NEW SECTION. **Sec. 5085. FOR EASTERN WASHINGTON UNIVERSITY**

Preventive Facility Maintenance and Building System Repairs (08-1-150)

The appropriation in this section is subject to the following conditions and limitations:

(1) Pursuant to definitions and provisions in section 925, chapter 26, Laws of 2003 1st sp. sess., the appropriation is provided solely to

maintain facilities housing educational and general programs and to maintain its major building systems and campus infrastructure. Building maintenance, mechanical adjustments, repairs, and minor works for the facility or its major building systems and campus infrastructure must extend the remaining useful life of the facility or keep it safe and functioning normally.

(2) With this appropriation, the intent is to improve the average condition of state facilities as compared to the baseline conditions documented in report 03-1 of the joint legislative audit and review committee. Preventive facility maintenance project funds must be allocated at local discretion to achieve the performance goal stated in this subsection (2), with particular attention given to buildings currently rated in superior to adequate condition so as to maximize useful life given both the passage of time and intensity with which the space is used.

(3) Section 6004 of this act does not apply to this appropriation.

(4) There is no intent to reappropriate amounts not expended by June 30, 2009.

Appropriation:

Education Construction Account--State $2,217,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $2,217,000

NEW SECTION. **Sec. 5086. FOR CENTRAL WASHINGTON UNIVERSITY**

Dean Hall Renovation (06-1-004)

Reappropriation:

State Building Construction Account--State $924,000

Appropriation:

State Building Construction Account--State $23,200,000

Prior Biennia (Expenditures) $1,276,000

Future Biennia (Projected Costs) $0

TOTAL $25,400,000

NEW SECTION. **Sec. 5087. FOR CENTRAL WASHINGTON UNIVERSITY**

Minor Works - Facility Preservation (06-1-003)

Reappropriation:

Central Washington University Capital Projects
Account--State $250,000

Prior Biennia (Expenditures) $1,808,000
Future Biennia (Projected Costs) $0
TOTAL $2,058,000

NEW SECTION. **Sec. 5088. FOR CENTRAL WASHINGTON UNIVERSITY**
Minor Works - Infrastructure Preservation (06-1-002)

Reappropriation:
Central Washington University Capital Projects
Account--State $27,000

Prior Biennia (Expenditures) $1,073,000
Future Biennia (Projected Costs) $0
TOTAL $1,100,000

NEW SECTION. **Sec. 5089. FOR CENTRAL WASHINGTON UNIVERSITY**
Minor Works Program (06-2-005)

Reappropriation:
Central Washington University Capital Projects
Account--State $669,000

Prior Biennia (Expenditures) $3,721,000
Future Biennia (Projected Costs) $0
TOTAL $4,390,000

NEW SECTION. **Sec. 5090. FOR CENTRAL WASHINGTON UNIVERSITY**
Nicholson Pavilion Indoor Air/Asbestos (06-1-008)

Reappropriation:
State Building Construction Account--State $375,000

Prior Biennia (Expenditures) $3,725,000
Future Biennia (Projected Costs) $0
TOTAL $4,100,000

NEW SECTION. **Sec. 5091. FOR CENTRAL WASHINGTON UNIVERSITY**
Combined Utilities (08-1-011)

Appropriation:
State Building Construction Account--State $6,800,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $15,000,000
TOTAL $21,800,000

NEW SECTION. **Sec. 5092. FOR CENTRAL WASHINGTON UNIVERSITY**
Hogue Hall Renovation and Addition (08-2-003)

Appropriation:
Gardner-Evans Higher Education Construction
Account--State $3,000,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $35,000,000
TOTAL $38,000,000

NEW SECTION. **Sec. 5093. FOR CENTRAL WASHINGTON UNIVERSITY**
Minor Works - Facility Preservation (08-1-001)

Appropriation:
State Building Construction Account--State $3,175,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $12,700,000
TOTAL $15,875,000

NEW SECTION. **Sec. 5094. FOR CENTRAL WASHINGTON UNIVERSITY**
Minor Works - Health, Safety, and Code Requirements (08-1-009)

Appropriation:
State Building Construction Account--State $660,000
Central Washington University Capital Projects
Account--State $2,675,000
Subtotal Appropriation $3,335,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $13,340,000
TOTAL $16,675,000

NEW SECTION. **Sec. 5095. FOR CENTRAL WASHINGTON UNIVERSITY**
Minor Works - Infrastructure Preservation (08-1-010)

Appropriation:
State Building Construction Account--State $2,165,000

Central Washington University Capital Projects
Account--State $1,125,000
Subtotal Appropriation $3,290,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $13,160,000
TOTAL $16,450,000

NEW SECTION. **Sec. 5096. FOR CENTRAL WASHINGTON UNIVERSITY**
Minor Works - Program (08-2-002)

Appropriation:
State Building Construction Account--State $4,000,000
Central Washington University Capital Projects
Account--State $3,800,000
Subtotal Appropriation $7,800,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $17,500,000
TOTAL $25,300,000

NEW SECTION. **Sec. 5097. FOR CENTRAL WASHINGTON UNIVERSITY**
Infrastructure Savings (08-1-151)

The appropriations in this section are subject to the following conditions and limitations: Projects that are completed in accordance with section 6004 of this act may have their remaining funds transferred to this appropriation for other preservation projects approved by the office of financial management.

Appropriation:
State Building Construction Account--State $1
Gardner-Evans Higher Education Construction
Account--State $1
Subtotal Appropriation $2

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $2

NEW SECTION. **Sec. 5098. FOR CENTRAL WASHINGTON UNIVERSITY**

Preventive Facility Maintenance and Building System Repairs (08-1-150)

The appropriation in this section is subject to the following conditions and limitations:

(1) Pursuant to definitions and provisions in section 925, chapter 26, Laws of 2003 1st sp. sess., the appropriation is provided solely to maintain facilities housing educational and general programs and to maintain its major building systems and campus infrastructure. Building maintenance, mechanical adjustments, repairs, and minor works for the facility or its major building systems and campus infrastructure must extend the remaining useful life of the facility or keep it safe and functioning normally.

(2) With this appropriation, the intent is to improve the average condition of state facilities as compared to the baseline conditions documented in report 03-1 of the joint legislative audit and review committee. Preventive facility maintenance project funds must be allocated at local discretion to achieve the performance goal stated in this subsection (2), with particular attention given to buildings currently rated in superior to adequate condition so as to maximize useful life given both the passage of time and intensity with which the space is used.

(3) Section 6004 of this act does not apply to this appropriation.

(4) There is no intent to reappropriate amounts not expended by June 30, 2009.

Appropriation:

Education Construction Account--State $2,422,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $2,422,000

NEW SECTION. **Sec. 5099. FOR THE EVERGREEN STATE COLLEGE**

Seminar Building Phase II - Construction (02-2-004)

Reappropriation:

The Evergreen State College Capital Projects Account--State $150,000

Prior Biennia (Expenditures) $47,350,000

Future Biennia (Projected Costs) $0

TOTAL $47,500,000

NEW SECTION. **Sec. 5100. FOR THE EVERGREEN STATE COLLEGE**
Daniel J. Evans Building - Modernization (04-2-006)

Reappropriation:
Gardner-Evans Higher Education Construction
Account--State $20,250,000
Prior Biennia (Expenditures) $24,500,000
Future Biennia (Projected Costs) $0
TOTAL $44,750,000

NEW SECTION. **Sec. 5101. FOR THE EVERGREEN STATE COLLEGE**
Health, Safety, and Code Requirements (06-1-002)

Reappropriation:
The Evergreen State College Capital Projects
Account--State $300,000
Prior Biennia (Expenditures) $1,700,000
Future Biennia (Projected Costs) $0
TOTAL $2,000,000

NEW SECTION. **Sec. 5102. FOR THE EVERGREEN STATE COLLEGE**
Infrastructure Preservation (06-1-004)

Reappropriation:
The Evergreen State College Capital Projects
Account--State $175,000
Prior Biennia (Expenditures) $825,000
Future Biennia (Projected Costs) $0
TOTAL $1,000,000

NEW SECTION. **Sec. 5103. FOR THE EVERGREEN STATE COLLEGE**
Lab I First Floor Class/Laboratory Renovation (06-2-001)

Reappropriation:
State Building Construction Account--State $1,950,000
Prior Biennia (Expenditures) $1,150,000
Future Biennia (Projected Costs) $0
TOTAL $3,100,000

NEW SECTION. **Sec. 5104. FOR THE EVERGREEN STATE COLLEGE**
Minor Works - Facility Preservation (06-1-003)

Reappropriation:
The Evergreen State College Capital Projects
Account--State $1,100,000
Prior Biennia (Expenditures) $2,900,000
Future Biennia (Projected Costs) $0
TOTAL $4,000,000

NEW SECTION. **Sec. 5105. FOR THE EVERGREEN STATE COLLEGE**
Minor Works Program (06-2-005)

Reappropriation:
The Evergreen State College Capital Projects
Account--State $75,000
Prior Biennia (Expenditures) $425,000
Future Biennia (Projected Costs) $0
TOTAL $500,000

NEW SECTION. **Sec. 5106. FOR THE EVERGREEN STATE COLLEGE**
College Activities Building Renovation (08-2-009)

Appropriation:
State Building Construction Account--State $4,900,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $4,900,000

NEW SECTION. **Sec. 5107. FOR THE EVERGREEN STATE COLLEGE**
Longhouse Expansion (08-2-007)

Appropriation:
State Building Construction Account--State $1,700,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $1,700,000

NEW SECTION. **Sec. 5108. FOR THE EVERGREEN STATE COLLEGE**
Minor Works - Infrastructure Preservation (08-1-004)

Appropriation:
State Building Construction Account--State $700,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $700,000

NEW SECTION. **Sec. 5109. FOR THE EVERGREEN STATE COLLEGE**
Minor Works - Health, Safety, and Code Requirements (08-1-002)

Appropriation:
State Building Construction Account--State $3,000,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $3,000,000

NEW SECTION. **Sec. 5110. FOR THE EVERGREEN STATE COLLEGE**
Minor Works - Preservation (08-1-001)

Appropriation:
The Evergreen State College Capital Projects
Account--State $5,300,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $5,300,000

NEW SECTION. **Sec. 5111. FOR THE EVERGREEN STATE COLLEGE**
Infrastructure Savings (08-1-151)

The appropriations in this section are subject to the following conditions and limitations: Projects that are completed in accordance with section 6004 of this act may have their remaining funds transferred to this appropriation for other preservation projects approved by the office of financial management.

Appropriation:
State Building Construction Account--State $1
Gardner-Evans Higher Education Construction
Account--State $1
Subtotal Appropriation $2

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $2

NEW SECTION. **Sec. 5112. FOR THE EVERGREEN STATE COLLEGE**
Minor Works - Program (08-2-003)

Appropriation:
State Building Construction Account--State $930,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $930,000

NEW SECTION. **Sec. 5113. FOR THE EVERGREEN STATE COLLEGE**
Preventive Facility Maintenance and Building System Repairs (08-1-150)

The appropriation in this section is subject to the following conditions and limitations:

(1) Pursuant to definitions and provisions in section 925, chapter 26, Laws of 2003 1st sp. sess., the appropriation is provided solely to maintain facilities housing educational and general programs and to maintain its major building systems and campus infrastructure. Building maintenance, mechanical adjustments, repairs, and minor works for the facility or its major building systems and campus infrastructure must extend the remaining useful life of the facility or keep it safe and functioning normally.

(2) With this appropriation, the intent is to improve the average condition of state facilities as compared to the baseline conditions documented in report 03-1 of the joint legislative audit and review committee. Preventive facility maintenance project funds must be allocated at local discretion to achieve the performance goal stated in this subsection (2), with particular attention given to buildings currently rated in superior to adequate condition so as to maximize useful life given both the passage of time and intensity with which the space is used.

(3) Section 6004 of this act does not apply to this appropriation.

(4) There is no intent to reappropriate amounts not expended by June 30, 2009.

Appropriation:
Education Construction Account--State $760,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $760,000

NEW SECTION. **Sec. 5114. FOR WESTERN WASHINGTON UNIVERSITY**
Academic Instructional Center (02-2-026)

Reappropriation:
Gardner-Evans Higher Education Construction
Account--State $48,000,000
Appropriation:
State Building Construction Account--State $5,895,000
Western Washington University Capital Projects Account--
State $1,178,000
Subtotal Appropriation $7,073,000
Prior Biennia (Expenditures) $9,171,000
Future Biennia (Projected Costs) $0
TOTAL $64,244,000

NEW SECTION. **Sec. 5115. FOR WESTERN WASHINGTON UNIVERSITY**
Miller Hall Renovation (04-1-953)

Appropriation:
State Building Construction Account--State $5,523,000
Prior Biennia (Expenditures) $250,000
Future Biennia (Projected Costs) $52,227,000
TOTAL $58,000,000

NEW SECTION. **Sec. 5116. FOR WESTERN WASHINGTON UNIVERSITY**
Minor Works - Facility Preservation (06-1-083)

Reappropriation:
State Building Construction Account--State $1,850,000
Prior Biennia (Expenditures) $2,440,000
Future Biennia (Projected Costs) $0
TOTAL $4,290,000

NEW SECTION. **Sec. 5117. FOR WESTERN WASHINGTON UNIVERSITY**
Minor Works - Health, Safety, and Code (06-1-082)

Reappropriation:
State Building Construction Account--State $850,000
Prior Biennia (Expenditures) $1,240,000
Future Biennia (Projected Costs) $0
TOTAL $2,090,000

NEW SECTION. **Sec. 5118. FOR WESTERN WASHINGTON UNIVERSITY**
Minor Works - Infrastructure Preservation (06-1-084)

Reappropriation:
State Building Construction Account--State $850,000
Prior Biennia (Expenditures) $1,375,000
Future Biennia (Projected Costs) $0
TOTAL $2,225,000

NEW SECTION. **Sec. 5119. FOR WESTERN WASHINGTON UNIVERSITY**
Minor Works - Program (06-2-085)

Reappropriation:
Western Washington University Capital Projects
Account--State $2,200,000
Prior Biennia (Expenditures) $5,522,000
Future Biennia (Projected Costs) $0
TOTAL $7,722,000

NEW SECTION. **Sec. 5120. FOR WESTERN WASHINGTON UNIVERSITY**
Academic Facilities Modernization Projects (08-2-099)

Appropriation:
State Building Construction Account--State $11,000,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $11,000,000

NEW SECTION. **Sec. 5121. FOR WESTERN WASHINGTON UNIVERSITY**
Carver Academic Renovation (08-1-060)

Appropriation:
State Building Construction Account--State $400,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $51,587,000
TOTAL $51,987,000

NEW SECTION. **Sec. 5122. FOR WESTERN WASHINGTON UNIVERSITY**
Minor Works - Facility Preservation (08-1-091)

Appropriation:
State Building Construction Account--State $5,051,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $18,000,000
TOTAL $23,051,000

NEW SECTION. **Sec. 5123. FOR WESTERN WASHINGTON UNIVERSITY**
Minor Works - Health, Safety, and Code Requirements (08-1-090)

Appropriation:
State Building Construction Account--State $2,933,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $12,000,000
TOTAL $14,933,000

NEW SECTION. **Sec. 5124. FOR WESTERN WASHINGTON UNIVERSITY**
Minor Works - Infrastructure Preservation (08-1-092)

Appropriation:
State Building Construction Account--State $2,016,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $8,000,000
TOTAL $10,016,000

NEW SECTION. **Sec. 5125. FOR WESTERN WASHINGTON UNIVERSITY**
Infrastructure Savings (08-1-151)

The appropriations in this section are subject to the following conditions and limitations: Projects that are completed in accordance with section 6004 of this act may have their remaining funds

transferred to this appropriation for other preservation projects approved by the office of financial management.

Appropriation:

State Building Construction Account--State	$1
Gardner-Evans Higher Education Construction Account--State	$1
Subtotal Appropriation	$2
Prior Biennia (Expenditures)	$0
Future Biennia (Projected Costs)	$0
TOTAL	$2

NEW SECTION. **Sec. 5126. FOR WESTERN WASHINGTON UNIVERSITY**

Minor Works - Program (08-2-093)

Appropriation:

State Building Construction Account--State	$3,000,000
Western Washington University Capital Projects Account--State	$7,000,000
Subtotal Appropriation	$10,000,000
Prior Biennia (Expenditures)	$0
Future Biennia (Projected Costs)	$40,000,000
TOTAL	$50,000,000

NEW SECTION. **Sec. 5127. FOR WESTERN WASHINGTON UNIVERSITY**

Preventive Facility Maintenance and Building System Repairs (08-1-150)

The appropriation in this section is subject to the following conditions and limitations:

(1) Pursuant to definitions and provisions in section 925, chapter 26, Laws of 2003 1st sp. sess., the appropriation is provided solely to maintain facilities housing educational and general programs and to maintain its major building systems and campus infrastructure. Building maintenance, mechanical adjustments, repairs, and minor works for the facility or its major building systems and campus infrastructure must extend the remaining useful life of the facility or keep it safe and functioning normally.

(2) With this appropriation, the intent is to improve the average condition of state facilities as compared to the baseline conditions

documented in report 03-1 of the joint legislative audit and review committee. Preventive facility maintenance project funds must be allocated at local discretion to achieve the performance goal stated in this subsection (2), with particular attention given to buildings currently rated in superior to adequate condition so as to maximize useful life given both the passage of time and intensity with which the space is used.

(3) Section 6004 of this act does not apply to this appropriation.

(4) There is no intent to reappropriate amounts not expended by June 30, 2009.

Appropriation:

Education Construction Account--State $3,614,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $3,614,000

NEW SECTION. **Sec. 5128. FOR THE WASHINGTON STATE HISTORICAL SOCIETY**

Pacific - Lewis and Clark Station Camp Park Project (02-S-001)

Reappropriation:

State Building Construction Account--State $666,000

Prior Biennia (Expenditures) $1,885,000

Future Biennia (Projected Costs) $0

TOTAL $2,551,000

NEW SECTION. **Sec. 5129. FOR THE WASHINGTON STATE HISTORICAL SOCIETY**

Lewis and Clark Trail Interpretive Infrastructure Grant (02-4-001)

Reappropriation:

State Building Construction Account--State $1,081,000

Prior Biennia (Expenditures) $646,000

Future Biennia (Projected Costs) $0

TOTAL $1,727,000

NEW SECTION. **Sec. 5130. FOR THE WASHINGTON STATE HISTORICAL**

SOCIETY

Washington Heritage Projects (04-4-004)

Reappropriation:

State Building Construction Account--State $1,947,000

Prior Biennia (Expenditures) $2,053,000

Future Biennia (Projected Costs) $0

TOTAL $4,000,000

NEW SECTION. **Sec. 5131. FOR THE WASHINGTON STATE HISTORICAL SOCIETY**

Olympia - State Capital Museum: Building Preservation (06-1-003)

Reappropriation:

State Building Construction Account--State $17,000

Prior Biennia (Expenditures) $314,000

Future Biennia (Projected Costs) $0

TOTAL $331,000

NEW SECTION. **Sec. 5132. FOR THE WASHINGTON STATE HISTORICAL SOCIETY**

Statewide - Washington Heritage Project Grants (06-4-004)

The reappropriation in this section is subject to the following conditions and limitations: The reappropriation is subject to the project list in section 733, chapter 488, Laws of 2005.

Reappropriation:

State Building Construction Account--State $3,821,000

Prior Biennia (Expenditures) $843,000

Future Biennia (Projected Costs) $0

TOTAL $4,664,000

NEW SECTION. **Sec. 5133. FOR THE WASHINGTON STATE HISTORICAL SOCIETY**

Tacoma - State History Museum: Building Preservation (06-1-001)

Reappropriation:

State Building Construction Account--State $100,000

Prior Biennia (Expenditures) $381,000

Future Biennia (Projected Costs) $0
TOTAL $481,000

NEW SECTION. **Sec. 5134. FOR THE WASHINGTON STATE HISTORICAL SOCIETY**

Tacoma - Research Center: Building Preservation (06-1-002)

Reappropriation:

State Building Construction Account--State $100,000

Prior Biennia (Expenditures) $82,000
Future Biennia (Projected Costs) $0
TOTAL $182,000

NEW SECTION. **Sec. 5135. FOR THE WASHINGTON STATE HISTORICAL SOCIETY**

Tacoma Research Center Building Preservation (07-1-002)

Appropriation:

State Building Construction Account--State $200,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $537,000
TOTAL $737,000

NEW SECTION. **Sec. 5136. FOR THE WASHINGTON STATE HISTORICAL SOCIETY**

Tacoma State History Museum Building Preservation (07-1-001)

Appropriation:

State Building Construction Account--State $500,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $1,000,000
TOTAL $1,500,000

NEW SECTION. **Sec. 5137. FOR THE WASHINGTON STATE HISTORICAL SOCIETY**

Washington Heritage Grants (07-4-004)

The appropriation in this section is subject to the following conditions and limitations:

(1) The appropriation is subject to the provisions of RCW 27.34.330.

(2) The appropriation is provided solely for the following list of projects:

Project	**Recommended**
Cascade land conservancy	$202,000
Suquamish museum and arts center	$1,000,000
Moses Lake museum and arts center	$1,000,000
White River Valley museum	$245,000
The Tulalip tribe	$1,000,000
City of Mukilteo	$490,000
Lewis county historical museum	$43,000
Pacific county historical society	$186,000
City of Gig Harbor	$1,000,000
Bainbridge Island metro parks and recreation	$70,000
Polson museum	$171,000
Washington trust for historic preservation	$83,000
Historic Seattle PDA	$500,000
City of Tacoma	$77,000
City of Des Moines	$1,000,000
Fort Walla Walla museum	$859,000
Foss waterway seaport	$300,000
LaConner quilt museum	$125,000
Cowlitz River Valley historical society	$158,000
Western forest industries museum	$158,000
San Juan historical society	$25,000
Central Washington fair association	$48,000
Urban league of metro Seattle	$650,000
The center for wooden boats	$235,000
Jefferson county historical society	$200,000
Mansfield museum	$10,000
Martin Luther King Ballet	$50,000
The northwest railway museum	$75,000
Northpoint cooperative preschool	$40,000
Total	$10,000,000

Appropriation:

State Building Construction Account--State $10,000,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $40,000,000
TOTAL $50,000,000

NEW SECTION. **Sec. 5138. FOR THE WASHINGTON STATE HISTORICAL SOCIETY**

Women's History Preservation Grants (07-4-950)

The appropriation in this section is subject to the following conditions and limitations: The appropriation is provided solely for the preservation of documents that are important in revealing the role of women in the history of the region and the role Washington women played in the nation's history.

Appropriation:
State Building Construction Account--State $200,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $200,000

NEW SECTION. **Sec. 5139. FOR THE EASTERN WASHINGTON STATE HISTORICAL SOCIETY**

Building Management System (08-1-003)

Appropriation:
State Building Construction Account--State $196,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $196,000

NEW SECTION. **Sec. 5140. FOR THE EASTERN WASHINGTON STATE HISTORICAL SOCIETY**

Campbell House Long-Term Preservation (08-1-002)

The appropriation in this section is subject to the following conditions and limitations: The appropriation is provided solely to repair the foundation, sandstone, mortar, brick, chimney, and roof of state-owned National Register property "Campbell house" and its carriage house.

Appropriation:
State Building Construction Account--State $402,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $293,000
TOTAL $695,000

NEW SECTION. **Sec. 5141. FOR THE EASTERN WASHINGTON STATE HISTORICAL SOCIETY**
Computer Catalog System (08-2-010)

Appropriation:
State Building Construction Account--State $63,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $63,000

NEW SECTION. **Sec. 5142. FOR THE EASTERN WASHINGTON STATE HISTORICAL SOCIETY**
Museum Preservation (08-1-001)

Appropriation:
State Building Construction Account--State $150,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $1,154,000
TOTAL $1,304,000

NEW SECTION. **Sec. 5143. FOR THE EASTERN WASHINGTON STATE HISTORICAL SOCIETY**
Security System and Technology Infrastructure (08-1-005)

Appropriation:
State Building Construction Account--State $408,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $408,000

NEW SECTION. **Sec. 5144. FOR THE EASTERN WASHINGTON STATE HISTORICAL SOCIETY**
Storage and Exhibit Equipment for Collections (08-2-012)

Appropriation:
State Building Construction Account--State $42,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $114,000
TOTAL $156,000

NEW SECTION. **Sec. 5145. FOR THE EASTERN WASHINGTON STATE HISTORICAL SOCIETY**

Museum System Repair and Upgrades/Preservation (08-1-013)

The appropriation in this section is subject to the following conditions and limitations: The appropriation is provided solely for preservation projects and to repair and upgrade museum systems to enhance delivery of K-12 education and American Indian programs.

Appropriation:
State Building Construction Account--State $1,000,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $1,000,000

NEW SECTION. **Sec. 5146. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Clark College: Clark Center at WSU Vancouver (00-2-680)

Reappropriation:
Gardner-Evans Higher Education Construction
Account--State $150,000
Prior Biennia (Expenditures) $19,624,000
Future Biennia (Projected Costs) $0
TOTAL $19,774,000

NEW SECTION. **Sec. 5147. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Pierce College Puyallup: Phase III Expansion (00-2-676)

Reappropriation:
Gardner-Evans Higher Education Construction
Account--State $1,000,000

Prior Biennia (Expenditures) $24,335,000
Future Biennia (Projected Costs) $0
TOTAL $25,335,000

NEW SECTION. **Sec. 5148. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Green River Community College: Science Building (01-2-688)

Reappropriation:
State Building Construction Account--State $4,000,000
Prior Biennia (Expenditures) $25,804,000
Future Biennia (Projected Costs) $0
TOTAL $29,804,000

NEW SECTION. **Sec. 5149. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Tacoma Community College: Science Building (01-2-687)

Reappropriation:
State Building Construction Account--State $10,500,000
Prior Biennia (Expenditures) $21,496,000
Future Biennia (Projected Costs) $0
TOTAL $31,996,000

NEW SECTION. **Sec. 5150. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Bates Technical College: Learning Resource Center/Vocational (02-2-684)

Reappropriation:
State Building Construction Account--State $1,300,000
Prior Biennia (Expenditures) $15,760,000
Future Biennia (Projected Costs) $0
TOTAL $17,060,000

NEW SECTION. **Sec. 5151. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Cascadia Community College/UW Bothell: Phase 2B Off Ramp (02-2-999)

Reappropriation:
Gardner-Evans Higher Education Construction
Account--State $320,000
Prior Biennia (Expenditures) $1,430,000
Future Biennia (Projected Costs) $0
TOTAL $1,750,000

NEW SECTION. **Sec. 5152. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Edmonds Community College: Instructional Lab Building - Construction (02-2-685)

Reappropriation:
State Building Construction Account--State $8,000,000
Prior Biennia (Expenditures) $9,488,000
Future Biennia (Projected Costs) $0
TOTAL $17,488,000

NEW SECTION. **Sec. 5153. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Tacoma Community College: Information Technology Vocational Center (02-2-683)

Reappropriation:
State Building Construction Account--State $450,000
Prior Biennia (Expenditures) $15,280,000
Future Biennia (Projected Costs) $0
TOTAL $15,730,000

NEW SECTION. **Sec. 5154. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Walla Walla Community College: Basic Skills/Computer Lab (02-2-686)

Reappropriation:
Gardner-Evans Higher Education Construction
Account--State $3,000,000
Prior Biennia (Expenditures) $4,178,000
Future Biennia (Projected Costs) $0

TOTAL $7,178,000

NEW SECTION. **Sec. 5155. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Bellevue Community College: Science and Technology (04-2-690)

Reappropriation:

State Building Construction Account--State $1,400,000

Appropriation:

State Building Construction Account--State $31,332,000

Prior Biennia (Expenditures) $1,066,000

Future Biennia (Projected Costs) $0

TOTAL $33,798,000

NEW SECTION. **Sec. 5156. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Bellingham Technical College: Welding/Auto Collision Replacement (04-1-213)

Reappropriation:

State Building Construction Account--State $600,000

Gardner-Evans Higher Education Construction

Account--State $2,600,000

Subtotal Reappropriation $3,200,000

Prior Biennia (Expenditures) $13,638,000

Future Biennia (Projected Costs) $0

TOTAL $16,838,000

NEW SECTION. **Sec. 5157. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Cascadia Community College: Center for Arts, Technology, and Communications (04-2-693)

Reappropriation:

Gardner-Evans Higher Education Construction

Account--State $2,100,000

Appropriation:

Gardner-Evans Higher Education Construction

Account--State $32,636,000

Prior Biennia (Expenditures) $1,091,000
Future Biennia (Projected Costs) $0
TOTAL $35,827,000

NEW SECTION. **Sec. 5158. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Centralia Community College: Science Building (04-2-850)

Reappropriation:
State Building Construction Account--State $1,700,000
Appropriation:
Gardner-Evans Higher Education Construction
Account--State $28,716,000
Prior Biennia (Expenditures) $1,697,000
Future Biennia (Projected Costs) $0
TOTAL $32,113,000

NEW SECTION. **Sec. 5159. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Clark College: East County Satellite (04-1-689)

Reappropriation:
Gardner-Evans Higher Education Construction
Account--State $2,000,000
Appropriation:
Gardner-Evans Higher Education Construction
Account--State $27,184,000
Prior Biennia (Expenditures) $693,000
Future Biennia (Projected Costs) $0
TOTAL $29,877,000

NEW SECTION. **Sec. 5160. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Edmonds Community College: Renovation - Mountlake Terrace Hall (04-1-311)

Reappropriation:
State Building Construction Account--State $230,000
Prior Biennia (Expenditures) $8,596,000

Future Biennia (Projected Costs) $0
TOTAL $8,826,000

NEW SECTION. **Sec. 5161. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Everett Community College: Pilchuck/Glacier (04-1-205)

Reappropriation:
State Building Construction Account--State $130,000
Prior Biennia (Expenditures) $18,815,000
Future Biennia (Projected Costs) $0
TOTAL $18,945,000

NEW SECTION. **Sec. 5162. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Everett Community College: Replacement - Monte Cristo Hall (04-1-305)

Reappropriation:
State Building Construction Account--State $45,000
Prior Biennia (Expenditures) $7,307,000
Future Biennia (Projected Costs) $0
TOTAL $7,352,000

NEW SECTION. **Sec. 5163. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Everett Community College: University Center - North Puget Sound (04-2-692)

Reappropriation:
State Building Construction Account--State $1,900,000
Gardner-Evans Higher Education Construction
Account--State $3,844,000
Subtotal Reappropriation $5,744,000

Appropriation:
State Building Construction Account--State $40,604,000
Prior Biennia (Expenditures) $5,590,000
Future Biennia (Projected Costs) $0
TOTAL $51,938,000

NEW SECTION. **Sec. 5164. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Facility Preservation Backlog Reduction (04-1-951)

The reappropriation in this section is subject to the following conditions and limitations:

(1) Pursuant to definitions and provisions in section 925, chapter 26, Laws of 2003 1st sp. sess., the reappropriation is provided solely to accomplish preservation work that improves existing state facilities in the worst relative condition for housed programs and current building occupants.

(2) With this reappropriation, the intent is to improve the average condition of state facilities as compared to the baseline conditions documented in report 03-1 of the joint legislative audit and review committee. Preservation backlog reduction project funds shall be prioritized at local discretion to achieve the above stated goal, with particular attention given to buildings currently rated in adequate to marginal condition.

(3) This section is subject to the same allotment procedures as a minor works category.

(4) Section 6004 of this act does not apply to this reappropriation.

Reappropriation:

State Building Construction Account--State $12,000,000

Prior Biennia (Expenditures) $52,298,000

Future Biennia (Projected Costs) $0

TOTAL $64,298,000

NEW SECTION. **Sec. 5165. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Grays Harbor College: Replacement - Instructional Building (04-1-204)

Reappropriation:

Gardner-Evans Higher Education Construction Account--State $420,000

Prior Biennia (Expenditures) $20,314,000

Future Biennia (Projected Costs) $0

TOTAL $20,734,000

NEW SECTION. **Sec. 5166. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Grays Harbor College: Riverview Education Center (07-1-850)

Reappropriation:

State Building Construction Account--State $498,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $498,000

NEW SECTION. **Sec. 5167. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Green River Community College: Computer Technology Center (04-2-682)

Reappropriation:

State Building Construction Account--State $580,000

Prior Biennia (Expenditures) $11,419,000

Future Biennia (Projected Costs) $0

TOTAL $11,999,000

NEW SECTION. **Sec. 5168. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Lake Washington Technical College: Redmond Land Acquisition (04-2-403)

The reappropriation in this section is subject to the following conditions and limitations:

(1) The purpose of the reappropriation is to purchase property for expansion, storm water retention, and parking requirements.

(2) State funds must be matched with nonstate resources of at least $500,000.

(3) Allotment of funds shall be in accordance with RCW 43.88.150.

Reappropriation:

Community/Technical College Capital Projects Account--State $500,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $500,000

NEW SECTION. **Sec. 5169. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Lake Washington Technical College: Renovation - East/West Buildings (04-1-312)

Reappropriation:

State Building Construction Account--State $150,000

Prior Biennia (Expenditures) $4,271,000

Future Biennia (Projected Costs) $0

TOTAL $4,421,000

NEW SECTION. **Sec. 5170. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Lower Columbia College: Instructional Fine Arts Building (04-1-214)

Reappropriation:

State Building Construction Account--State $300,000

Gardner-Evans Higher Education Construction Account--State $13,500,000

Subtotal Reappropriation $13,800,000

Prior Biennia (Expenditures) $10,861,000

Future Biennia (Projected Costs) $0

TOTAL $24,661,000

NEW SECTION. **Sec. 5171. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Minor Works - Program (Minor Improvements) (04-2-130)

Reappropriation:

State Building Construction Account--State $730,000

Community/Technical College Capital Projects Account--State $1,400,000

Subtotal Reappropriation $2,130,000

Prior Biennia (Expenditures) $12,850,000

Future Biennia (Projected Costs) $0

TOTAL $14,980,000

NEW SECTION. **Sec. 5172. FOR THE COMMUNITY AND TECHNICAL COLLEGE**

SYSTEM

Olympic College: Science and Technology Building Replacement (04-1-202)

Reappropriation:

State Building Construction Account--State $2,000,000

Prior Biennia (Expenditures) $11,998,000

Future Biennia (Projected Costs) $0

TOTAL $13,998,000

NEW SECTION. **Sec. 5173. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Peninsula College: Replacement Science and Technology Building (04-1-208)

Reappropriation:

Gardner-Evans Higher Education Construction Account--State $3,000,000

Prior Biennia (Expenditures) $20,640,000

Future Biennia (Projected Costs) $0

TOTAL $23,640,000

NEW SECTION. **Sec. 5174. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Pierce College - Fort Steilacoom: Science and Technology (04-2-694)

Reappropriation:

State Building Construction Account--State $850,000

Appropriation:

State Building Construction Account--State $30,407,000

Prior Biennia (Expenditures) $1,327,000

Future Biennia (Projected Costs) $0

TOTAL $32,584,000

NEW SECTION. **Sec. 5175. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Pierce College Fort Steilacoom: Childcare Center (04-2-401)

Reappropriation:

Community/Technical College Capital Projects
Account--State $40,000
Prior Biennia (Expenditures) $460,000
Future Biennia (Projected Costs) $0
TOTAL $500,000

NEW SECTION. **Sec. 5176. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Pierce College Puyallup: Communication Arts/Health Building (04-2-691)

Reappropriation:
Gardner-Evans Higher Education Construction
Account--State $900,000
Appropriation:
Gardner-Evans Higher Education Construction
Account--State $25,303,000
Prior Biennia (Expenditures) $1,196,000
Future Biennia (Projected Costs) $0
TOTAL $27,399,000

NEW SECTION. **Sec. 5177. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Renton Technical College: Portable Replacement (04-1-215)

Reappropriation:
State Building Construction Account--State $1,000,000
Prior Biennia (Expenditures) $2,396,000
Future Biennia (Projected Costs) $0
TOTAL $3,396,000

NEW SECTION. **Sec. 5178. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Roof Repairs "A" (04-1-010)

Reappropriation:
State Building Construction Account--State $640,000
Prior Biennia (Expenditures) $6,626,000
Future Biennia (Projected Costs) $0

TOTAL $7,266,000

NEW SECTION. **Sec. 5179. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Site Repairs "A" (04-1-090)

Reappropriation:

State Building Construction Account--State $300,000

Prior Biennia (Expenditures) $5,006,000

Future Biennia (Projected Costs) $0

TOTAL $5,306,000

NEW SECTION. **Sec. 5180. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Skagit Valley College: Science Building Replacement (04-1-209)

Reappropriation:

State Building Construction Account--State $1,500,000

Gardner-Evans Higher Education Construction Account--State $325,000

Subtotal Reappropriation $1,825,000

Appropriation:

State Building Construction Account--State $28,068,000

Prior Biennia (Expenditures) $1,217,000

Future Biennia (Projected Costs) $0

TOTAL $31,110,000

NEW SECTION. **Sec. 5181. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

South Puget Sound Community College: Science Complex (04-2-695)

Reappropriation:

Gardner-Evans Higher Education Construction Account--State $2,000,000

Appropriation:

State Building Construction Account--State $25,867,000

Prior Biennia (Expenditures) $1,253,000

Future Biennia (Projected Costs) $0

TOTAL $29,120,000

NEW SECTION. **Sec. 5182. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

South Seattle Community College: Instructional Technology Center (04-2-681)

Reappropriation:

State Building Construction Account--State $150,000

Prior Biennia (Expenditures) $18,711,000

Future Biennia (Projected Costs) $0

TOTAL $18,861,000

NEW SECTION. **Sec. 5183. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Spokane Community College: Science Building Replacement (04-1-212)

Reappropriation:

State Building Construction Account--State $1,200,000

Prior Biennia (Expenditures) $14,521,000

Future Biennia (Projected Costs) $0

TOTAL $15,721,000

NEW SECTION. **Sec. 5184. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Tacoma Community College: Replacement - Portable Buildings (04-1-206)

Reappropriation:

State Building Construction Account--State $175,000

Prior Biennia (Expenditures) $2,447,000

Future Biennia (Projected Costs) $0

TOTAL $2,622,000

NEW SECTION. **Sec. 5185. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Tacoma Community College: Renovation - Building 7 (04-1-313)

Reappropriation:

State Building Construction Account--State $2,000,000

Prior Biennia (Expenditures) $2,988,000

Future Biennia (Projected Costs) $0

TOTAL $4,988,000

NEW SECTION. **Sec. 5186. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Walla Walla Community College: Health Science Facility (04-1-211)

Reappropriation:

Community/Technical College Capital Projects Account--State $500,000

Prior Biennia (Expenditures) $6,762,000

Future Biennia (Projected Costs) $0

TOTAL $7,262,000

NEW SECTION. **Sec. 5187. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Yakima Valley Community College: Glenn/Anthon Hall - Replacement (04-1-207)

Reappropriation:

Gardner-Evans Higher Education Construction Account--State $8,000,000

Prior Biennia (Expenditures) $20,645,000

Future Biennia (Projected Costs) $0

TOTAL $28,645,000

NEW SECTION. **Sec. 5188. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Columbia Basin College: Health Sciences Center (05-2-851)

Reappropriation:

State Building Construction Account--State $50,000

Prior Biennia (Expenditures) $7,950,000

Future Biennia (Projected Costs) $0

TOTAL $8,000,000

NEW SECTION. **Sec. 5189. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

South Seattle Community College: Training Facility (05-1-854)

Reappropriation:

Gardner-Evans Higher Education Construction
Account--State $8,000,000
Prior Biennia (Expenditures) $1,752,000
Future Biennia (Projected Costs) $0
TOTAL $9,752,000

NEW SECTION. **Sec. 5190. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Spokane Falls: Business and Social Science Building (05-1-853)

Reappropriation:
Gardner-Evans Higher Education Construction
Account--State $8,000,000
Prior Biennia (Expenditures) $12,312,000
Future Biennia (Projected Costs) $0
TOTAL $20,312,000

NEW SECTION. **Sec. 5191. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Wenatchee Valley College: Anderson Hall and Portable Replacement (05-1-852)

Reappropriation:
Gardner-Evans Higher Education Construction
Account--State $7,000,000
Prior Biennia (Expenditures) $17,660,000
Future Biennia (Projected Costs) $0
TOTAL $24,660,000

NEW SECTION. **Sec. 5192. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Big Bend Community College: Performing Arts and Fine Arts (06-1-309)

Reappropriation:
State Building Construction Account--State $3,300,000
Prior Biennia (Expenditures) $398,000
Future Biennia (Projected Costs) $0
TOTAL $3,698,000

NEW SECTION. **Sec. 5193. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Clark College: Gaiser Hall Renovation (06-1-302)

Reappropriation:

State Building Construction Account--State $3,000,000

Prior Biennia (Expenditures) $5,374,000

Future Biennia (Projected Costs) $0

TOTAL $8,374,000

NEW SECTION. **Sec. 5194. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Clark College: O'Connell Sports Center Improvements (06-2-403)

Reappropriation:

State Building Construction Account--State $480,000

Prior Biennia (Expenditures) $170,000

Future Biennia (Projected Costs) $0

TOTAL $650,000

NEW SECTION. **Sec. 5195. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Clover Park Technical College: Allied Health Care Facility (06-2-699)

Reappropriation:

State Building Construction Account--State $20,000

Appropriation:

State Building Construction Account--State $2,285,000

Prior Biennia (Expenditures) $115,000

Future Biennia (Projected Costs) $24,340,000

TOTAL $26,760,000

NEW SECTION. **Sec. 5196. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Clover Park Technical College: Personal Care Services Facility (06-1-310)

Reappropriation:

State Building Construction Account--State $5,900,000

Prior Biennia (Expenditures) $599,000
Future Biennia (Projected Costs) $0
TOTAL $6,499,000

NEW SECTION. **Sec. 5197. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Edmonds Community College: Brier Hall Renovation (06-1-307)

Reappropriation:

State Building Construction Account--State $4,700,000

Prior Biennia (Expenditures) $433,000
Future Biennia (Projected Costs) $0
TOTAL $5,133,000

NEW SECTION. **Sec. 5198. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Everett Community College: Paine Field Technical Center (06-2-408)

Reappropriation:

State Building Construction Account--State $980,000

Prior Biennia (Expenditures) $20,000
Future Biennia (Projected Costs) $0
TOTAL $1,000,000

NEW SECTION. **Sec. 5199. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Facility Repairs (06-1-050)

Reappropriation:

Community/Technical College Capital Projects Account--State $12,400,000

Prior Biennia (Expenditures) $9,927,000
Future Biennia (Projected Costs) $0
TOTAL $22,327,000

NEW SECTION. **Sec. 5200. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Grays Harbor College: Vocational Education Renovation (06-1-303)

Reappropriation:

State Building Construction Account--State $4,710,000

Prior Biennia (Expenditures) $661,000
Future Biennia (Projected Costs) $0
TOTAL $5,371,000

NEW SECTION. **Sec. 5201. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Green River Community College: Humanities and Classroom Building (06-1-205)

Reappropriation:
State Building Construction Account--State $40,000
Appropriation:
State Building Construction Account--State $2,744,000

Prior Biennia (Expenditures) $97,000
Future Biennia (Projected Costs) $25,427,000
TOTAL $28,308,000

NEW SECTION. **Sec. 5202. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Green River Community College: Physical Education Renovation (06-1-313)

Reappropriation:
State Building Construction Account--State $477,000
Appropriation:
State Building Construction Account--State $3,818,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $4,295,000

NEW SECTION. **Sec. 5203. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Green River Community College: Water System Replacement (06-1-501)

Reappropriation:
Gardner-Evans Higher Education Construction
Account--State $1,951,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0
TOTAL $1,951,000

NEW SECTION. **Sec. 5204. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Green River Community College: Skills Support Center Addition (06-2-405)

Reappropriation:
State Building Construction Account--State $640,000
Prior Biennia (Expenditures) $160,000
Future Biennia (Projected Costs) $0
TOTAL $800,000

NEW SECTION. **Sec. 5205. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Highline Community College: Marine Science and Technology (06-2-406)

Reappropriation:
State Building Construction Account--State $490,000
Prior Biennia (Expenditures) $10,000
Future Biennia (Projected Costs) $0
TOTAL $500,000

NEW SECTION. **Sec. 5206. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Infrastructure Savings (06-1-751)

Reappropriation:
Gardner-Evans Higher Education Construction
Account--State $2,600,000
Prior Biennia (Expenditures) $116,000
Future Biennia (Projected Costs) $0
TOTAL $2,716,000

NEW SECTION. **Sec. 5207. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Lake Washington Technical College: Allied Health Building (06-2-697)

Appropriation:

State Building Construction Account--State $1,732,000

Prior Biennia (Expenditures) $197,000

Future Biennia (Projected Costs) $26,085,000

TOTAL $28,014,000

NEW SECTION. **Sec. 5208. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Lake Washington Technical College: Science Lab Renovation (06-1-308)

Reappropriation:

State Building Construction Account--State $290,000

Prior Biennia (Expenditures) $1,469,000

Future Biennia (Projected Costs) $0

TOTAL $1,759,000

NEW SECTION. **Sec. 5209. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Minor Works Preservation (RMI) (06-1-001)

Reappropriation:

Community/Technical College Capital Projects Account--State $6,300,000

Prior Biennia (Expenditures) $7,700,000

Future Biennia (Projected Costs) $0

TOTAL $14,000,000

NEW SECTION. **Sec. 5210. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Minor Works: Program (06-2-130)

Reappropriation:

State Building Construction Account--State $11,900,000

Prior Biennia (Expenditures) $8,363,000

Future Biennia (Projected Costs) $0

TOTAL $20,263,000

NEW SECTION. **Sec. 5211. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

North Seattle Community College: Employment Resource Center (06-2-851)

The appropriation in this section is subject to the following conditions and limitations: The department of social and health services and the employment security department shall not execute new leases or lease extensions for facilities identified in the August 25, 2006, predesign beyond the timeframe for completion of this project.

Reappropriation:
State Building Construction Account--State $325,000
Appropriation:
State Building Construction Account--State $1,970,000
Prior Biennia (Expenditures) $195,000
Future Biennia (Projected Costs) $0
TOTAL $2,490,000

NEW SECTION. **Sec. 5212. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

North Seattle Community College: Wellness Center Repairs (06-1-330)

Reappropriation:
State Building Construction Account--State $970,000
Prior Biennia (Expenditures) $2,030,000
Future Biennia (Projected Costs) $0
TOTAL $3,000,000

NEW SECTION. **Sec. 5213. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Olympic College: Humanities and Student Services (06-1-204)

Reappropriation:
State Building Construction Account--State $2,500,000
Appropriation:
State Building Construction Account--State $37,889,000
Prior Biennia (Expenditures) $999,000
Future Biennia (Projected Costs) $0

TOTAL $41,388,000

NEW SECTION. **Sec. 5214. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Olympic College: Bremer Student Center (06-2-411)

Reappropriation:

State Building Construction Account--State $30,000

Prior Biennia (Expenditures) $570,000

Future Biennia (Projected Costs) $0

TOTAL $600,000

NEW SECTION. **Sec. 5215. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Peninsula College: Library Renovation (06-1-305)

Reappropriation:

State Building Construction Account--State $11,000,000

Prior Biennia (Expenditures) $3,000,000

Future Biennia (Projected Costs) $0

TOTAL $14,000,000

NEW SECTION. **Sec. 5216. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Peninsula College: Phase II Cultural and Arts Center (06-2-412)

Reappropriation:

State Building Construction Account--State $250,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $250,000

NEW SECTION. **Sec. 5217. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Pierce College Fort Steilacoom: Cascade Core Phase I (06-1-326)

Reappropriation:

State Building Construction Account--State $1,000,000

Appropriation:

State Building Construction Account--State $14,602,000

Prior Biennia (Expenditures) $2,350,000
Future Biennia (Projected Costs) $0
TOTAL $17,952,000

NEW SECTION. **Sec. 5218. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Roof Repairs (06-1-010)

Reappropriation:
Community/Technical College Capital Projects
Account--State $3,900,000
Prior Biennia (Expenditures) $4,940,000
Future Biennia (Projected Costs) $0
TOTAL $8,840,000

NEW SECTION. **Sec. 5219. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Seattle Central Community College: Maritime Academy Repairs (06-1-502)

Reappropriation:
Gardner-Evans Higher Education Construction
Account--State $268,000
Appropriation:
Gardner-Evans Higher Education Construction
Account--State $1,688,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $1,956,000

NEW SECTION. **Sec. 5220. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Seattle Central Community College: Greenhouse/Educational Center (06-2-410)

Reappropriation:
State Building Construction Account--State $240,000
Prior Biennia (Expenditures) $10,000
Future Biennia (Projected Costs) $0

TOTAL $250,000

NEW SECTION. **Sec. 5221. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Seattle Central Community College: Information Technology and Visual Communications (06-1-304)

Reappropriation:

State Building Construction Account--State $7,400,000

Prior Biennia (Expenditures) $696,000

Future Biennia (Projected Costs) $0

TOTAL $8,096,000

NEW SECTION. **Sec. 5222. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Shoreline Community College: Annex Renovation (06-1-312)

Reappropriation:

State Building Construction Account--State $840,000

Prior Biennia (Expenditures) $1,899,000

Future Biennia (Projected Costs) $0

TOTAL $2,739,000

NEW SECTION. **Sec. 5223. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Shoreline Community College: Automotive Building (Phase I) (06-2-951)

Reappropriation:

State Building Construction Account--State $1,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $1,000,000

NEW SECTION. **Sec. 5224. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Site Repairs (06-1-090)

Reappropriation:

Community/Technical College Capital Projects

Account--State $2,300,000

Prior Biennia (Expenditures) $1,537,000
Future Biennia (Projected Costs) $0
TOTAL $3,837,000

NEW SECTION. **Sec. 5225. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Skagit Valley College: Campus Fire Loop Replacement (06-1-504)

Reappropriation:
Gardner-Evans Higher Education Construction
Account--State $230,000

Prior Biennia (Expenditures) $1,404,000
Future Biennia (Projected Costs) $0
TOTAL $1,634,000

NEW SECTION. **Sec. 5226. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

South Puget Sound Community College: Learning Resource Center (06-2-698)

Appropriation:
State Building Construction Account--State $3,268,000

Prior Biennia (Expenditures) $197,000
Future Biennia (Projected Costs) $35,382,000
TOTAL $38,847,000

NEW SECTION. **Sec. 5227. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

South Seattle Community College: Automotive Collision Technology (06-1-306)

Reappropriation:
State Building Construction Account--State $1,700,000

Prior Biennia (Expenditures) $272,000
Future Biennia (Projected Costs) $0
TOTAL $1,972,000

NEW SECTION. **Sec. 5228. FOR THE COMMUNITY AND TECHNICAL COLLEGE**

SYSTEM

South Seattle Community College: Horticulture/SCGS Classrooms (06-2-404)

Reappropriation:

State Building Construction Account--State $490,000

Prior Biennia (Expenditures) $67,000

Future Biennia (Projected Costs) $0

TOTAL $557,000

NEW SECTION. **Sec. 5229. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Spokane Falls Community College: Campus Classrooms (06-2-696)

Appropriation:

State Building Construction Account--State $1,802,000

Prior Biennia (Expenditures) $82,000

Future Biennia (Projected Costs) $18,686,000

TOTAL $20,570,000

NEW SECTION. **Sec. 5230. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Walla Walla Community College: Center for Water and Environmental Studies (06-2-853)

Reappropriation:

State Building Construction Account--State $940,000

Prior Biennia (Expenditures) $1,060,000

Future Biennia (Projected Costs) $0

TOTAL $2,000,000

NEW SECTION. **Sec. 5231. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Walla Walla Community College: Clarkston Health Science Facility (06-2-402)

Reappropriation:

State Building Construction Account--State $490,000

Prior Biennia (Expenditures) $510,000

Future Biennia (Projected Costs) $0

TOTAL $1,000,000

NEW SECTION. **Sec. 5232. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Wenatchee Valley College: Brown Library Renovation (06-1-311)

Reappropriation:

State Building Construction Account--State $760,000

Prior Biennia (Expenditures) $1,644,000

Future Biennia (Projected Costs) $0

TOTAL $2,404,000

NEW SECTION. **Sec. 5233. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Yakima Valley Community College: Center for Workforce Education (06-2-407)

Reappropriation:

State Building Construction Account--State $690,000

Prior Biennia (Expenditures) $310,000

Future Biennia (Projected Costs) $0

TOTAL $1,000,000

NEW SECTION. **Sec. 5234. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Yakima Valley Community College: Raymond Hall Renovation (06-1-325)

Reappropriation:

State Building Construction Account--State $3,800,000

Prior Biennia (Expenditures) $369,000

Future Biennia (Projected Costs) $0

TOTAL $4,169,000

NEW SECTION. **Sec. 5235. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Bates Technical College: Mohler Communications Technology Center (08-2-703)

Appropriation:

State Building Construction Account--State $173,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $22,567,000
TOTAL $22,740,000

NEW SECTION. **Sec. 5236. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Bellevue Community College: Health Science Building (08-2-702)

Appropriation:

State Building Construction Account--State $144,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $38,893,000
TOTAL $39,037,000

NEW SECTION. **Sec. 5237. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Bellingham Technical College: Instructional Resource Center (08-1-223)

Appropriation:

State Building Construction Account--State $1,824,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $28,065,000
TOTAL $29,889,000

NEW SECTION. **Sec. 5238. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Centralia College: Health and Wellness Education Center (08-2-414)

Appropriation:

State Building Construction Account--State $1,000,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $1,000,000

NEW SECTION. **Sec. 5239. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Clark College: Child and Family Studies Center (08-2-417)

Appropriation:
State Building Construction Account--State $1,000,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $1,000,000

NEW SECTION. **Sec. 5240. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Clark College: Health and Advanced Technologies Building (08-2-705)

Appropriation:
State Building Construction Account--State $250,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $32,982,000
TOTAL $33,232,000

NEW SECTION. **Sec. 5241. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Columbia Basin College: Business Education Building (08-1-315)

Appropriation:
State Building Construction Account--State $5,020,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $5,020,000

NEW SECTION. **Sec. 5242. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Columbia Basin College: Social Science Center (08-2-704)

Appropriation:
State Building Construction Account--State $111,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $12,299,000
TOTAL $12,410,000

NEW SECTION. **Sec. 5243. FOR THE COMMUNITY AND TECHNICAL COLLEGE**

SYSTEM

Columbia Basin College: Vocational Building (08-1-217)

Appropriation:

State Building Construction Account--State $1,802,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $20,498,000

TOTAL $22,300,000

NEW SECTION. **Sec. 5244. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Edmonds Community College: Primary Electrical Replacement (08-1-508)

Appropriation:

State Building Construction Account--State $2,466,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $2,466,000

NEW SECTION. **Sec. 5245. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Edmonds Community College: Meadowdale Hall Renovation (08-1-318)

Appropriation:

State Building Construction Account--State $9,256,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $9,256,000

NEW SECTION. **Sec. 5246. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Everett Community College: Index Hall Replacement (08-1-221)

Appropriation:

State Building Construction Account--State $2,800,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $41,005,000

TOTAL $43,805,000

NEW SECTION. **Sec. 5247. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Grays Harbor College: Child Care Facility (08-2-416)

Appropriation:

State Building Construction Account--State $1,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $1,000,000

NEW SECTION. **Sec. 5248. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Grays Harbor College: Science and Math Building (08-1-226)

Appropriation:

State Building Construction Account--State $276,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $40,026,000

TOTAL $40,302,000

NEW SECTION. **Sec. 5249. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Green River Community College: Primary Electrical Replacement (08-1-506)

Appropriation:

State Building Construction Account--State $1,870,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $1,870,000

NEW SECTION. **Sec. 5250. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Green River Community College: Trades and Industry Building (08-1-222)

Appropriation:

State Building Construction Account--State $138,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $29,833,000

TOTAL $29,971,000

NEW SECTION. **Sec. 5251. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Lower Columbia College: Health and Science Building (08-1-225)

Appropriation:

State Building Construction Account--State $2,500,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $39,915,000

TOTAL $42,415,000

NEW SECTION. **Sec. 5252. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Minor Works - Facility Preservation (08-1-050)

Appropriation:

Community/Technical College Capital Projects Account--State $21,243,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $80,000,000

TOTAL $101,243,000

NEW SECTION. **Sec. 5253. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Minor Works - Facility Preservation - Roof Repairs (08-1-010)

Appropriation:

State Building Construction Account--State $2,719,000

Education Construction Account--State $3,957,000

Subtotal Appropriation $6,767,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $24,000,000

TOTAL $30,676,000

NEW SECTION. **Sec. 5254. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Minor Works - Infrastructure Preservation (08-1-090)

Appropriation:

Community/Technical College Capital Projects
Account--State $2,082,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $16,000,000
TOTAL $18,082,000

NEW SECTION. **Sec. 5255. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Minor Works - Preservation - Repairs and Minor Improvements (08-1-001)

Appropriation:
Community/Technical College Capital Projects
Account--State $16,000,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $70,000,000
TOTAL $86,000,000

NEW SECTION. **Sec. 5256. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Minor Works - Program (08-2-130)

Appropriation:
Community/Technical College Capital Projects
Account--State $20,000,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $80,000,000
TOTAL $100,000,000

NEW SECTION. **Sec. 5257. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Peninsula College: Business and Humanities Center (08-1-218)

Appropriation:
State Building Construction Account--State $2,300,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $33,938,000
TOTAL $36,238,000

NEW SECTION. **Sec. 5258. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Pierce College Fort Steilacoom: Cascade Core Phase II (08-1-321)

Appropriation:

State Building Construction Account--State $2,242,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $22,353,000

TOTAL $24,595,000

NEW SECTION. **Sec. 5259. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Infrastructure Savings (08-1-151)

The appropriations in this section are subject to the following conditions and limitations: Projects that are completed in accordance with section 6004 of this act may have their remaining funds transferred to this appropriation for other preservation projects approved by the office of financial management.

Appropriation:

State Building Construction Account--State $1

Gardner-Evans Higher Education Construction Account--State $1

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $2

NEW SECTION. **Sec. 5260. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Preventive Facility Maintenance and Building System Repairs (08-1-150)

The appropriation in this section is subject to the following conditions and limitations:

(1) Pursuant to definitions and provisions in section 925, chapter 26, Laws of 2003 1st sp. sess., the appropriation is provided solely to maintain facilities housing educational and general programs and to maintain its major building systems and campus infrastructure. Building maintenance, mechanical adjustments, repairs, and minor works

for the facility or its major building systems and campus infrastructure must extend the remaining useful life of the facility or keep it safe and functioning normally.

(2) With this appropriation, the intent is to improve the average condition of state facilities as compared to the baseline conditions documented in report 03-1 of the joint legislative audit and review committee. Preventive facility maintenance project funds must be allocated at the state board's discretion to achieve the performance goal stated in this subsection (2), with particular attention given to buildings currently rated in superior to adequate condition so as to maximize useful life given both the passage of time and intensity with which the space is used.

(3) Section 6004 of this act does not apply to this appropriation.

(4) There is no intent to reappropriate amounts not expended by June 30, 2009.

Appropriation:

Education Construction Account--State $22,802,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $22,802,000

NEW SECTION. **Sec. 5261. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Seattle Central Community College: Edison North Renovation (08-1-314)

Appropriation:

State Building Construction Account--State $18,284,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $18,284,000

NEW SECTION. **Sec. 5262. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Seattle Central Community College: Wood Construction Center (08-1-216)

Appropriation:

State Building Construction Account--State $2,549,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $23,734,000
TOTAL $26,283,000

NEW SECTION. **Sec. 5263. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Shoreline Community College: Automotive Training Center (08-2-413)

Appropriation:
State Building Construction Account--State $1,000,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $1,000,000

NEW SECTION. **Sec. 5264. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Skagit Valley College: Academic and Student Services Building (08-1-224)

Appropriation:
State Building Construction Account--State $136,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $26,763,000
TOTAL $26,899,000

NEW SECTION. **Sec. 5265. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

South Puget Sound Community College: Building 22 Renovation (08-1-316)

Appropriation:
State Building Construction Account--State $10,359,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $10,001,000
TOTAL $20,360,000

NEW SECTION. **Sec. 5266. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Spokane Community College: Building 7 Renovation (08-1-319)

Appropriation:
State Building Construction Account--State $1,009,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $9,331,000
TOTAL $10,340,000

NEW SECTION. **Sec. 5267. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Spokane Community College: Technical Education Building (08-1-220)

Appropriation:
State Building Construction Account--State $2,393,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $30,391,000
TOTAL $32,784,000

NEW SECTION. **Sec. 5268. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Spokane Falls Community College: Chemistry and Life Science Building (08-1-219)

Appropriation:
State Building Construction Account--State $2,520,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $27,044,000
TOTAL $29,564,000

NEW SECTION. **Sec. 5269. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Spokane Falls Community College: Magnuson Building Remodel (08-2-415)

Appropriation:
State Building Construction Account--State $941,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $941,000

NEW SECTION. **Sec. 5270. FOR THE COMMUNITY AND TECHNICAL COLLEGE**

SYSTEM

Spokane Falls Community College: Music Building 15 Renovation (08-1-320)

Appropriation:

State Building Construction Account--State $1,142,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $13,094,000

TOTAL $14,236,000

NEW SECTION. **Sec. 5271. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Tacoma Community College: Early Childhood Education/Childcare Center (08-2-418)

Appropriation:

State Building Construction Account--State $1,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $1,000,000

NEW SECTION. **Sec. 5272. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Tacoma Community College: Health Careers Center (08-2-701)

Appropriation:

State Building Construction Account--State $255,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $36,514,000

TOTAL $36,769,000

NEW SECTION. **Sec. 5273. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Walla Walla Community College: Culinary Arts/Student Development Center (08-2-419)

Appropriation:

State Building Construction Account--State $1,000,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $1,000,000

NEW SECTION. **Sec. 5274. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Yakima Valley Community College: Brown Dental Hygiene Building (08-1-317)

Appropriation:

State Building Construction Account--State $5,675,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $5,675,000

NEW SECTION. **Sec. 5275. FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM**

Higher Education Cost Escalation (08-2-850)

The appropriation in this section is subject to the following conditions and limitations: The appropriation is provided solely for the state board for community and technical colleges to assist public community and technical colleges in managing unanticipated cost escalation for projects bid during the 2007-2009 biennium. Not more than $750,000 shall be made available to any single project and amounts provided for this purpose must be matched equally from other resources. The board shall manage the distribution of funds to ensure that the requesting college has managed its project within the current appropriation through preparation of bid documents and that the scope of the project is no greater than was originally specified in the design. Prior to the office of financial management approving use of a minor works appropriation as a match, and its transfer to the project with unanticipated cost escalation, the board shall require the college to describe what it has done to identify and develop alternative resources for a match, and the specific minor works projects that would be deferred as a result of the transfer. The board will report to the office of financial management and the appropriate fiscal committees of the legislature on the use of these funds.

Appropriation:

State Building Construction Account--State $3,238,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs)	$0
TOTAL	$3,238,000

(End of part)

PART 6
MISCELLANEOUS AND SUPPLEMENTAL PROVISIONS

NEW SECTION. **Sec. 6001.** (1) Allotments for appropriations in this act shall be provided in accordance with the capital project review requirements adopted by the office of financial management. The office of financial management shall notify the house of representatives capital budget committee and the senate ways and means committee of allotment releases based on review by the office of financial management. No expenditure may be incurred or obligation entered into for appropriations in this act until the office of financial management has given final approval to the allotment of the funds to be expended or encumbered. For allotments under this act, the allotment process includes, in addition to the statement of proposed expenditures for the current biennium, a category or categories for any reserve amounts and amounts expected to be expended in future biennia. Projects that will be employing alternative public works construction procedures under chapter 39.10 RCW are subject to the allotment procedures defined in this section and RCW 43.88.110. Contracts shall not be executed that call for expenditures in excess of the approved allotment, and the total amount shown in such contracts for the cost of future work that has not been appropriated shall not exceed the amount identified for such work in the level of funding approved by the office of financial management at the completion of predesign.

(2) The legislature intends that each project be defined as proposed to the legislature in the governor's budget document, unless it clearly appears from the legislative history that the legislature intended to define the scope of a project in a different way.

NEW SECTION. **Sec. 6002.** To ensure that major construction projects are carried out in accordance with legislative and executive intent, appropriations in this act in excess of $5,000,000 shall not be expended or encumbered until the office of financial management has reviewed and approved the agency's predesign. The predesign document shall include but not be limited to program, site, and cost analysis in accordance with the predesign manual adopted by the office of financial management. To improve monitoring of major construction projects,

progress reports shall be submitted by the agency administering the project to the office of financial management and to the fiscal committees of the house of representatives and senate. Reports will be submitted on July 1st and December 31st each year in a format to be developed by the office of financial management.

NEW SECTION. **Sec. 6003.** (1) To ensure minor works appropriations are carried out in accordance with legislative intent, funds appropriated in this act shall not be allotted until project lists are on file at the office of financial management, the house of representatives capital budget committee, and the senate ways and means committee. All projects must meet the criteria included in subsection (2)(a) of this section. Revisions to the lists must be filed with the office of financial management, the house of representatives capital budget committee, and the senate ways and means committee and include an explanation of variances from the prior lists before funds may be expended on the revisions.

(2)(a) Minor works projects are single line appropriations that include multiple projects of a similar nature and that are valued between $25,000 and $1,000,000 each, with the exception of higher education minor works projects that may be valued up to $2,000,000. These projects can generally be completed within two years of the appropriation with the funding provided. Agencies are prohibited from including projects on their minor works lists that are a phase of a larger project, and that if combined over a continuous period of time, would exceed $1,000,000, or $2,000,000 for higher education minor works projects. Improvements for accessibility in compliance with the Americans with disabilities act may be included in any of the above minor works categories.

(b) Minor works appropriations shall not be used for, among other things: Studies, except for technical or engineering reviews or designs that lead directly to and support a project on the same minor works list; planning; design outside the scope of work on a minor works list; moveable, temporary, and traditionally funded operating equipment not in compliance with the equipment criteria established by the office of financial management; software not dedicated to control of a specialized system; moving expenses; land or facility acquisition; or to supplement funding for projects with funding shortfalls unless

expressly authorized elsewhere in this act. The office of financial management may make an exception to the limitations described in this subsection (2)(b) for exigent circumstances after notifying the legislative fiscal committees and waiting ten days for comments by the legislature regarding the proposed exception.

(3) It is generally not the intent of the legislature to make future appropriations for capital expenditures or for maintenance and operating expenses for an acquisition project or a significant expansion project that is initiated through the minor works process and therefore does not receive a policy and fiscal analysis by the legislature. Minor works projects are intended to be one-time expenditures that do not require future state resources to complete.

NEW SECTION. **Sec. 6004.** (1) The office of financial management may authorize a transfer of appropriation authority provided for a capital project that is in excess of the amount required for the completion of such project to another capital project for which the appropriation is insufficient. No such transfer may be used to expand the capacity of any facility beyond that intended by the legislature in making the appropriation. Such transfers may be effected only between capital appropriations to a specific department, commission, agency, or institution of higher education and only between capital projects that are funded from the same fund or account. No transfers may occur between projects to local government agencies except where the grants are provided within a single omnibus appropriation and where such transfers are specifically authorized by the implementing statutes that govern the grants.

(2) The office of financial management may find that an amount is in excess of the amount required for the completion of a project only if: (a) The project as defined in the notes to the budget document is substantially complete and there are funds remaining; or (b) bids have been let on a project and it appears to a substantial certainty that the project as defined in the notes to the budget document can be completed within the biennium for less than the amount appropriated in this act.

(3) For the purposes of this section, the intent is that each project be defined as proposed to the legislature in the governor's

budget document, unless it clearly appears from the legislative history that the legislature intended to define the scope of a project in a different way.

(4) Transfers of funds to an agency's infrastructure savings appropriation are subject to review and approval by the office of financial management. Expenditures from an infrastructure savings appropriation are limited to projects that have a primary purpose to correct infrastructure deficiencies or conditions that: (a) Adversely affect the ability to utilize the infrastructure for its current programmatic use; (b) reduce the life expectancy of the infrastructure; or (c) increase the operating costs of the infrastructure for its current programmatic use. Eligible infrastructure projects may include structures and surface improvements, site amenities, utility systems outside building footprints and natural environmental changes or requirements as part of an environmental regulation, a declaration of emergency for an infrastructure issue in conformance with RCW 43.88.250, or infrastructure planning as part of a facility master plan.

(5) A report of any transfer effected under this section, except emergency projects or any transfer under $250,000, shall be filed with the legislative fiscal committees of the senate and house of representatives by the office of financial management at least thirty days before the date the transfer is effected. The office of financial management shall report all emergency or smaller transfers within thirty days from the date of transfer.

NEW SECTION. **Sec. 6005.** (1) It is expected that projects be ready to proceed in a timely manner depending on the type or phase of the project or program that is the subject of the appropriation in this act. Except for major projects that customarily may take more than two biennia to complete from predesign to the end of construction, or large infrastructure grant or loan programs supporting projects that often take more than two biennia to complete, the legislature generally does not intend to reappropriate funds more than once, particularly for smaller grant programs, local/community projects, and minor works.

(2) Agencies shall expedite the expenditure of reappropriations and appropriations in this act in order to: (a) Rehabilitate infrastructure resources; (b) accelerate environmental rehabilitation

and restoration projects for the improvement of the state's natural environment; (c) reduce additional costs associated with acquisition and construction inflationary pressures; and (d) provide additional employment opportunities associated with capital expenditures.

(3) To the extent feasible, agencies are directed to accelerate expenditure rates at their current level of permanent employees and shall use contracted design and construction services wherever necessary to meet the goals of this section.

NEW SECTION. **Sec. 6006.** The legislature finds that the state's public four-year institutions and the higher education coordinating board have made substantial progress in developing a process to create a single prioritized list of capital project requests as required under RCW 28B.76.220. The legislature also recognizes that continuing work by the institutions and the board is needed to refine the methodology for determining the ranking of project requests, and that this work will benefit from additional legislative guidance. Therefore, the higher education coordinating board and the public four-year institutions, in developing and submitting the single prioritized project list of capital project requests under RCW 28B.76.220, shall use the following guidelines:

(1) Representatives of the board shall participate in the process of scoring projects using the criteria in the board's biennial budget guidelines. Representatives of the board shall also review the preliminary project list to verify the scoring and ranking of projects. As required under RCW 28B.76.210, institutions must submit the preliminary project list to the board by August 1st of each even-numbered year to enable this review. Any disagreements over project scorings or rankings shall be resolved as provided under RCW 28B.76.220(4).

(2) The higher education coordinating board's biennial budget guidelines and the prioritization process shall place greater emphasis on:

(a) Early critical review of project proposals at the predesign phase, rather than deferring critical review and prioritization to the design or construction phases of a project; and

(b) The capital budget bow wave for a six-year period, beginning with the 2009-2011 biennium through the 2013-2015 biennium.

(3) When projects are aggregated into single line-item requests, each project must meet the definition of minor works according to section 6003(2)(a) of this act. All major projects must be listed and ranked as individual line-item requests.

(4) The scoring and ranking of projects shall not be based on assigning an equal number of overall points to each public four-year institution, but shall reflect an assignment of points to individual projects based on the priorities and criteria in this section and in the board's biennial budget guidelines.

(5) Projects shall not be ranked on the basis of a project funding source.

(6) In consultation with the appropriate fiscal and policy committees of the legislature, the board shall identify statewide priorities for higher education capital investments and incorporate those priorities into its biennial budget guidelines. The statewide priorities shall address the need for higher education capital projects to:

(a) Implement a specific legislatively authorized program or planning priority;

(b) Reduce the backlog of deferred building or system preservation, renewal, or replacement;

(c) Provide additional capacity or adaptation of space for high demand instructional or research programs;

(d) Provide additional instructional program capacity for under-served geographic regions or populations; and

(e) Reflect institutional planning priorities and areas of emphasis.

(7) The higher education coordinating board's biennial budget guidelines shall include a quantitative method for scoring projects on the identified priorities. The quantitative method shall include use of the facility condition index developed by the joint legislative audit and review committee for assessing building or system condition, and use of the board's space utilization and allocation standards for assessing the need for additional capacity.

(8) The council of presidents, in consultation with the board, shall report by September 1, 2007, to the appropriate legislative fiscal committees on the use of a proportionality factor in the scoring and ranking of projects. The report shall include:

(a) A definition of proportionality as it has been used in the scoring and ranking of projects for funding in the 2007-2009 biennium and may be used for subsequent biennia;

(b) A method for measuring proportionality in a valid and consistent manner; and

(c) An explanation of how proportionality relates to the statewide priorities established in subsection (6) of this section, including an assessment of the extent to which it promotes the achievement of these statewide priorities.

NEW SECTION. **Sec. 6007.** The Washington state auditor shall perform an audit of the Seattle public library and the secretary of state with regard to expenditures related to the facility located at 2021 9th Avenue, Seattle, Washington that houses the Washington talking book and braille library and city of Seattle functions. The audit shall be completed and results available to the legislature by September 1, 2007.

NEW SECTION. **Sec. 6008.** Eastern Washington University is authorized to sell its Spokane center. Proceeds from the sale must be deposited into the higher education construction account. Proceeds may be used to acquire or design a facility on or adjacent to the Riverpoint higher education campus for the university's Spokane-based program offerings. Eastern Washington University must report to the office of financial management and the appropriate fiscal committees of the legislature upon the sale of the center and with regard to expenditure of the proceeds.

NEW SECTION. **Sec. 6009.** The office of financial management, in consultation with the department of general administration, shall identify capital projects that may benefit from an energy analysis to determine whether there are alternate, more economical, and energy efficient means of completing the work. The office of financial management shall hold appropriations in allotment reserve on the following types of capital projects until this analysis can be completed: Heating, ventilation, and air conditioning modifications, chiller plants, steam plants, boilers, chilled water or steam lines, building control systems, lighting improvements, or other major energy

using systems that may warrant additional analysis. Agencies receiving appropriations for such projects are encouraged to utilize energy performance contracts or alternative financing for equipment in lieu of state appropriated funds. The office of financial management may transfer funds remaining in allotment reserve to infrastructure savings projects within the agency that has realized savings from energy efficiency alternatives.

NEW SECTION. **Sec. 6010.** State agencies, including institutions of higher education, shall allot and report full-time equivalent staff for capital projects in a manner comparable to staff reporting for operating expenditures.

NEW SECTION. **Sec. 6011.** Due to the intended replacement of the building adjoining Capital Way and 11th avenue, the department of general administration shall not charge the facility depreciation component of lease charges for nonprofit tenants in that facility during the 2007-2009 biennium.

NEW SECTION. **Sec. 6012.** Executive Order No. 05-05, archaeological and cultural resources, was issued effective November 10, 2005. Agencies and higher education institutions shall comply with the requirements set forth in this executive order.

NEW SECTION. **Sec. 6013.** ACQUISITION OF PROPERTIES AND FACILITIES THROUGH FINANCIAL CONTRACTS. The following agencies may enter into financial contracts, paid from any funds of an agency, appropriated or nonappropriated, for the purposes indicated and in not more than the principal amounts indicated, plus financing expenses and required reserves pursuant to chapter 39.94 RCW. When securing properties under this section, agencies shall use the most economical financial contract option available, including long-term leases, lease-purchase agreements, lease-development with option to purchase agreements or financial contracts using certificates of participation. Expenditures made by an agency for one of the indicated purposes before the issue date of the authorized financial contract and any certificates of participation therein are intended to be reimbursed from proceeds of

the financial contract and any certificates of participation therein to the extent provided in the agency's financing plan approved by the state finance committee.

State agencies may enter into agreements with the department of general administration and the state treasurer's office to develop requests to the legislature for acquisition of properties and facilities through financial contracts. The agreements may include charges for services rendered.

Those noninstructional facilities of higher education institutions authorized in this section to enter into financial contracts are not eligible for state funded maintenance and operations. Instructional space that is available for regularly scheduled classes for academic transfer, basic skills, and workforce training programs may be eligible for state funded maintenance and operations.

(1) Washington state patrol: Enter into a financing contract for up to $1,360,000 plus financing expenses and required reserves pursuant to chapter 39.94 RCW to replace the dormitory facility at the Washington state patrol fire training academy in North Bend, Washington.

(2) Department of general administration: Enter into a financing contract for up to $685,000 plus financing expenses and required reserves pursuant to chapter 39.94 RCW for the preservation of the transportation building.

(3) Department of corrections: Enter into a financing contract for up to $17,000,000 plus financing expenses and required reserves pursuant to chapter 39.94 RCW to provide additional work release beds.

(4) Parks and recreation commission: Enter into a financing contract in an amount not to exceed $2,000,000 plus financing expenses and required reserves pursuant to chapter 39.94 RCW to develop Cama Beach state park.

(5) Community and technical colleges:

(a) Enter into a financing contract on behalf of Green River Community College for up to $20,000,000 plus financing expenses and required reserves pursuant to chapter 39.94 RCW to purchase Kent Station phase 2.

(b) Enter into a financing contract on behalf of Tacoma Community College for up to $3,600,000 plus financing expenses and required

reserves pursuant to chapter 39.94 RCW to construct an early childhood education and learning center.

(c) Enter into a financing contract on behalf of Walla Walla Community College for up to $1,000,000 plus financing expenses and required reserves pursuant to chapter 39.94 RCW to purchase up to 40 acres of land.

(d) Enter into a financing contract on behalf of Columbia Basin College for up to $300,000 plus financing expenses and required reserves pursuant to chapter 39.94 RCW to develop an academic support and achievement center.

(6) Evergreen State College: Enter into a financing contract for up to $16,000,000 plus financing expenses and required reserves pursuant to chapter 39.94 RCW for the college activities building renovation.

(7) Washington state convention and trade center: Enter into a financing contract for up to $58,000,000 plus financing expenses and required reserves pursuant to chapter 39.94 RCW to purchase and renovate the museum condominium unit located adjacent to the state convention center. The purchase price shall not exceed fair market value. A purchase agreement with the owner of the unit on the effective date of this section shall include the following requirements: (a) Upon completion of the purchase of the property, the seller shall retain $5,750,000 of the sale proceeds in a restricted investment account, reserving such funds for capital costs associated with development of its principal heritage center to be located within the city of Seattle. Principal and accrued earnings in such an account shall be available for expenditure by the seller when the seller or the city of Seattle has executed a construction contract for either a new facility or improvements to an existing structure to serve as the principal heritage center to be operated by the seller within the city; and (b) in the event that the conditions of (a) of this subsection are not met by June 30, 2017, the entire amount in the restricted account shall be transferred to the state general fund and shall represent a recovery of the state's contribution towards the development of the museum. In the event of such a transfer, the rightful ownership of the property by the Washington state convention and trade center shall not be impaired.

(8) Department of information services: Enter into a financing contract for an amount approved by the office of financial management for costs and financing expenses and required reserves pursuant to chapter 39.94 RCW to lease develop or lease purchase a state general office building and facilities for the department of information services on the state-owned property called "the Wheeler block" in Olympia. The office buildings shall be constructed and financed so that agencies occupancy costs per gross square foot or per employee will not exceed 110 percent of comparable private market rental rates per gross square foot or per employee. The comparable general office space rate shall be calculated based on recent Thurston county leases of new space of at least 100,000 rentable square feet adjusted for known escalation clauses, expected inflation, and differences in the level of service provided by the comparable leases as determined by the department in consultation with the department of general administration. In addition to the department of information services, state agency tenants shall include the consolidation of state patrol offices and general office facilities for small agencies and offices. The department of information services shall design and operate the general office facilities for small agencies and offices as a demonstration of the efficiencies gained from the integration of office space and telecommunications and computer technology. The demonstration project shall provide office space, furniture, telecommunications, and computer technology as a single package. The facility shall be designed so that small agencies and offices can move in and out of the facility without the typical moving expenses that result from individual agency ownership of furniture and technology. The facility for small agencies and offices shall also provide for staffing and space efficiencies resulting from central reception, support services, and spaces. The office of financial management shall certify to the state treasurer: (a) The project description and dollar amount; and (b) that all requirements of this subsection (8) have been met. Should the department of information services choose to use a financing contract that does not provide for the issuance of certificates of participation, the financing contract shall be subject to approval by the state finance committee as required by RCW 39.94.010. In approving a financing contract not providing for the use of certificates of participation, the state finance committee should be

reasonably certain that the contract is excluded from the computation of indebtedness, particularly that the contract is not backed by the full faith and credit of the state and the legislature is expressly not obligated to appropriate funds to make payments. For purposes of this section, "financing contract" includes but is not limited to a certificate of participation and tax exempt financing similar to that authorized in RCW 47.79.140.

(9) Office of the secretary of state: Enter into a financing contract for up to $112,942,000 plus financing expenses and required reserves pursuant to chapter 39.94 RCW to construct the heritage center. The heritage center is one part of a combined facility of the heritage center and executive office building, authorized in subsection (10) of this section. The authorization for financing under this subsection (9) shall lapse unless chapter ... (Substitute Senate Bill No. 5882, providing funding for the heritage building project), Laws of 2007 is enacted by June 30, 2007.

(10) Department of general administration: Enter into a financing contract for up to $75,863,000 plus financing expenses and required reserves pursuant to chapter 39.94 RCW to construct the executive office building. The executive office building is one part of a combined facility of the executive office building and the heritage center authorized in subsection (9) of this section. The authorization for financing under this subsection (10) shall lapse unless chapter ... (Substitute Senate Bill No. 5882, providing funding for the heritage building project), Laws of 2007 is enacted by June 30, 2007.

Sec. 6014. RCW 43.19.125 and 1965 c 8 s 43.19.125 are each amended to read as follows:

(1) The director of general administration, through the division of capitol buildings, shall have custody and control of the capitol buildings and grounds, supervise and direct proper care, heating, lighting and repairing thereof, and designate rooms in the capitol buildings to be occupied by various state officials.

(2) During the 2007-2009 biennium, responsibility for development of the "Wheeler block" on the capitol campus as authorized in section 6013 of this act shall be transferred from the department of general administration to the department of information services. The department of general administration and the department of information

services shall develop a joint operating agreement for the new facilities on the "Wheeler block" and provide copies of that agreement to the appropriate committees of the legislature by December 30, 2008.

(3) During the 2007-2009 biennium, responsibility for development of the Pritchard building rehabilitation on the capitol campus as authorized in section 1090 of this act shall be transferred from the department of general administration to the statute law committee.

NEW SECTION. **Sec. 6015.** FOR THE ARTS COMMISSION--ART WORK ALLOWANCE POOLING. (1) One-half of one percent of moneys appropriated in this act for original construction of school plant facilities is provided solely for the purposes of RCW 28A.335.210. The Washington state arts commission may combine the proceeds from individual projects in order to fund larger works of art or mobile art displays in consultation with the superintendent of public instruction and representatives of school district boards.

(2) One-half of one percent of moneys appropriated in this act for original construction or any major renovation or remodel work exceeding two hundred thousand dollars by colleges or universities is provided solely for the purposes of RCW 28B.10.027. The Washington state arts commission may combine the proceeds from individual projects in order to fund larger works of art or mobile art displays in consultation with the board of regents or trustees.

(3) One-half of one percent of moneys appropriated in this act for original construction of any public building by a state agency as defined in RCW 43.17.020 is provided solely for the purposes of RCW 43.17.200. The Washington state arts commission may combine the proceeds from individual projects in order to fund larger works of art or mobile art displays in consultation with the state agency.

(4) At least eighty-five percent of the moneys spent by the Washington state arts commission during the 2007-2009 biennium for the purposes of RCW 28A.335.210, 28B.10.027, and 43.17.200 must be expended solely for direct acquisition of works of art. The commission may use up to $100,000 of this amount to conserve or maintain existing pieces in the state art collection pursuant to chapter 36, Laws of 2005.

NEW SECTION. **Sec. 6016.** (1) A joint legislative task force on school construction funding is established to review the following:

(a) The statutory provisions regarding the funding of school construction projects;

(b) Eligibility requirements and distribution formulas for the state's school construction assistance grant program;

(c) Flexibility needed in the system to address diverse district and geographic needs including, but not limited to, the construction needs unique to high growth areas, as well as the needs of school districts that have experienced consecutive school levy failures; and

(d) Potential revenue sources and alternative funding mechanisms for school construction including, but not limited to, funding mechanisms that may: (i) Phase out and replace revenue collected under RCW 82.02.050 through 82.02.100 for school facilities; and (ii) encourage cooperative partnerships with early learning providers, skill centers, community and technical colleges, or public baccalaureate institutions through the use of a supermatch concept.

(2) The office of the superintendent of public instruction shall provide progress updates to the task force on the development of the pilot inventory of school district facility information and the design of a process for developing a ten-year projection of the facility needs of school districts as provided for in section 5014 of this act for review and comment by the task force.

(3)(a) The joint legislative task force on school construction funding shall consist of eight members, two members each, one from each major caucus, from the house of representatives committees on capital budget and education, appointed by the speaker of the house of representatives, and two members each, one from each major caucus, from the senate committees on ways and means and early learning and K-12 education, appointed by the president of the senate.

(b) The president of the senate and the speaker of the house of representatives jointly shall appoint two members representing school districts.

(c) The office of the superintendent of public instruction and the office of financial management shall cooperate with the task force and maintain liaison representatives.

(d) The task force shall coordinate with the appropriate standing committees of the legislature and may consult with other interested parties, as may be appropriate, for technical advice and assistance.

(e) The task force shall select a chair from among its legislative membership.

(4) Staff support for the task force must be provided by the house of representatives office of program research and the senate committee services.

(5) Legislative members of the task force must be reimbursed for travel expenses in accordance with RCW 44.04.120. Nonlegislative members, except those representing an employer or organization, are entitled to be reimbursed for travel expenses in accordance with RCW 43.03.050 and 43.03.060.

(6) The expenses of the task force must be paid jointly by the senate and the house of representatives. Task force expenditures are subject to approval by the senate facilities and operations committee and the house of representatives executive rules committee, or their successor committees.

(7) The task force must report its findings and recommendations to the appropriate committees of the legislature by December 1, 2007.

NEW SECTION. **Sec. 6017.** The amounts shown under the headings "Prior Biennia," "Future Biennia," and "Total" in this act are for informational purposes only and do not constitute legislative approval of these amounts. "Prior biennia" typically refers to the immediate prior biennium for reappropriations, but may refer to multiple biennia in the case of specific projects. A "future biennia" amount is an estimate of what may be appropriated for the project or program in the 2009-2011 biennium and the following three biennia; an amount of zero does not necessarily constitute legislative intent to not provide funding for the project or program in the future.

NEW SECTION. **Sec. 6018.** (1) "Reappropriations" in this act are appropriations and, unless the context clearly provides otherwise, are subject to the relevant conditions and limitations applicable to appropriations. Reappropriations shall be limited to the unexpended balances remaining on June 30, 2007, from the 2005-2007 biennial appropriations for each project.

(2) "Reappropriations" from the water quality capital account in this act shall be limited to the unexpended balance remaining as of the

end of fiscal year 2007 from the water quality account in the 2005-2007 biennial appropriations for each project in this act.

(3) "Reappropriations" in sections 5001, 5002, 5003, and 5005 of this act shall be reduced in this act to the unexpended balances remaining as of the end of fiscal year 2007 for the 2005-2007 biennial appropriation in sections 602, 604, and 607, chapter 488, Laws of 2005, and section 194, chapter 371, Laws of 2006.

NEW SECTION. **Sec. 6019.** The water quality capital account is created in the state treasury pursuant to chapter . . . (House Bill No. 1137), Laws of 2007. In this act, appropriations from the water quality capital account are defined as appropriations from that account. If chapter . . . (House Bill No. 1137), Laws of 2007 is not enacted by June 30, 2007, appropriations in this act either from that account or into that account shall lapse.

NEW SECTION. **Sec. 6020.** To carry out the provisions of this act, the governor may assign responsibility for predesign, design, construction, and other related activities to any appropriate agency.

NEW SECTION. **Sec. 6021.** If any federal moneys appropriated by this act for capital projects are not received by the state, the department or agency to which the moneys were appropriated may replace the federal moneys with funds available from private or local sources. No replacement may occur under this section without the prior approval of the director of financial management in consultation with the senate ways and means committee and the house of representatives capital budget committee.

NEW SECTION. **Sec. 6022.** (1) Unless otherwise stated, for all appropriations under this act that require a match of nonstate money or in-kind contributions, the following requirement, consistent with RCW 43.88.150, shall apply: Expenditures of state money shall be timed so that the state share of project expenditures never exceeds the intended state share of total project costs.

(2) Provision of the full amount of required matching funds is not required to permit the expenditure of capital budget appropriations for

phased projects if a proportional amount of the required matching funds is provided for each distinct, identifiable phase of the project.

***NEW SECTION.** Sec. 6023. Any capital improvements or capital projects involving construction or major expansion of a state office facility, including, but not limited to, district headquarters, detachment offices, and off-campus faculty offices, must be reviewed by the department of general administration for possible consolidation, colocation, and compliance with state office standards before allotment of funds. The intent of the requirement imposed by this section is to eliminate duplication and reduce total office space requirements where feasible, while ensuring proper service to the public.*

Sec. 6023 is vetoed. See message at end of chapter.

***NEW SECTION.** Sec. 6024. The department of general administration shall not sell or otherwise dispose of the Tacoma Rhodes center until after June 30, 2009, except that the department of general administration may sell the building to another state agency, a state institution, or political subdivision of the state, including a municipal corporation before June 30, 2009. The department shall use its statutory authority to maximize state occupancy of the facility by directing agencies to move into the Tacoma Rhodes center when leases of nonstate-owned facilities expire and when the Tacoma Rhodes center space can reasonably accommodate those agencies.*

Sec. 6024 is vetoed. See message at end of chapter.

NEW SECTION. **Sec. 6025.** NONTAXABLE AND TAXABLE BOND PROCEEDS. Portions of the appropriation authority granted by this act from the state building construction account, or any other account receiving bond proceeds, may be transferred to the state taxable building construction account as deemed necessary by the state finance committee to comply with the federal internal revenue service rules and regulations pertaining to the use of nontaxable bond proceeds. Portions of the general obligation bond proceeds authorized by chapter . . . (Substitute House Bill No. 1138), Laws of 2007 for deposit into the state taxable building construction account that are in excess of amounts required to comply with the federal internal revenue service rules and regulations shall be deposited into the state building construction account. The state treasurer shall submit written notification to the director of financial management if it is

determined that a shift of appropriation authority between the state building construction account, or any other account receiving bond proceeds, and the state taxable building construction account is necessary.

NEW SECTION. **Sec. 6026.** (1) A study committee on public infrastructure programs and funding structures is established. The study committee shall consist of ten members, as follows:

(a) Two members from each of the two largest caucuses of the house of representatives, appointed by the speaker of the house of representatives;

(b) Two members from each of the two largest caucuses of the senate, appointed by the president of the senate;

(c) One member from the office of financial management, appointed by the governor; and

(d) One member from the department of community, trade, and economic development, appointed by the director of the department of community, trade, and economic development.

(2) The study committee members shall, by an affirmative vote of at least five members, select a chair from among its membership.

(3) The study committee may seek assistance from members of the senate and the house of representatives and other interested parties to provide advice and technical assistance, and may request the participation of such persons in subcommittees, advisory committees, or work groups that report to the study committee.

(4) The study committee shall make recommendations regarding a comprehensive funding structure and systematic approach to support the integration, consolidation, and standardization of processes and procedures, for community and economic development-related infrastructure programs. In order to make recommendations, the study committee shall:

(a) Review state public community and economic development-related infrastructure programs, funds, and the purposes each serve using the November 29, 2006, inventory of state infrastructure programs compiled by the joint legislative audit and review committee.

(b) Review community and economic development infrastructure-related program, fund implementation, or subscription rates; and

(c) Identify overlaps or gaps in types of public community and economic development-related infrastructure projects supported through state programs or funds.

(5) The study committee shall use staff from the house of representatives office of program research and senate committee services, in consultation with the department of community, trade, and economic development and the office of financial management.

(6) Legislative members of the study committee must be reimbursed for travel expenses in accordance with RCW 44.04.120. Nonlegislative members, except those representing an employer or organization, are entitled to be reimbursed for travel expenses in accordance with RCW 43.03.050 and 43.03.060.

(7) The expenses of the study committee must be paid jointly by the senate and the house of representatives. Study committee expenditures are subject to approval by the senate facilities and operations committee and the house of representatives executive rules committee, or their successor committees.

(8) The study committee shall report its findings and recommendations to the appropriate committees of the house of representatives and the senate by January 1, 2008.

(9) The study committee expires January 1, 2008.

NEW SECTION. **Sec. 6027.** The Washington state historical society shall review its competitive process to solicit proposals for heritage capital projects for potential funding in the state capital budget. The Washington state historical society shall submit a report to the office of financial management with recommendations on how to reduce its reappropriations by June 30, 2008.

NEW SECTION. **Sec. 6028.** The interagency committee for outdoor recreation shall review its competitive process to solicit proposals for the wildlife and recreation grant program for potential funding in the state capital budget. The interagency committee for outdoor recreation shall submit a report to the office of financial management with recommendations on how to reduce its reappropriations by June 30, 2008.

NEW SECTION. **Sec. 6029.** The office of financial management may authorize a value engineering study of a project's predesign report prior to beginning the design phase for the project. The allotment of the design phase may be delayed to accommodate the study.

NEW SECTION. Sec. 6030. FOR THE STATE TREASURER--TRANSFERS. The transfer in this section is subject to the following conditions and limitations: The amount transferred shall be added to the irreducible principal of the common school permanent fund. The state treasurer shall transfer half of the amount on July 1, 2008, or as close to that date as practical, and the balance of the amount on December 30, 2008, or as close to that date as practical.

Natural Resources Real Property Replacement
Account: For transfer to the Common School
Permanent Fund $20,000,000

**Sec. 6030 is vetoed. See message at end of chapter.*

****Sec. 6031. RCW 79.17.210 and 2003 c 334 s 118 are each amended to read as follows:***

(1) The legislature finds that the department has a need to maintain the real property asset base it manages and needs an accounting mechanism to complete transactions without reducing the real property asset base.

(2) The natural resources real property replacement account is created in the state treasury. This account shall consist of funds transferred or paid for the disposal or transfer of real property by the department under RCW 79.17.200. The funds in this account shall be used solely for the acquisition of replacement real property and may be spent only when, and as, authorized by legislative appropriation. During the 2007-2009 biennium, balances in the account may be transferred to the appropriate permanent funds as directed in the capital budget appropriations act.

**Sec. 6031 is vetoed. See message at end of chapter.*

NEW SECTION. **Sec. 6032. FOR THE STATE TREASURER--TRANSFERS**
Education Construction Account: For transfer to
the Common School Construction, an amount
not to exceed $138,200,000

Education Savings Account: For transfer to the
Common School Construction Account, an

amount not to exceed $43,400,000

Sec. 6033. RCW 70.105D.070 and 2005 c 488 s 926 are each amended to read as follows:

(1) The state toxics control account and the local toxics control account are hereby created in the state treasury.

(2) The following moneys shall be deposited into the state toxics control account: (a) Those revenues which are raised by the tax imposed under RCW 82.21.030 and which are attributable to that portion of the rate equal to thirty-three one-hundredths of one percent; (b) the costs of remedial actions recovered under this chapter or chapter 70.105A RCW; (c) penalties collected or recovered under this chapter; and (d) any other money appropriated or transferred to the account by the legislature. Moneys in the account may be used only to carry out the purposes of this chapter, including but not limited to the following activities:

(i) The state's responsibility for hazardous waste planning, management, regulation, enforcement, technical assistance, and public education required under chapter 70.105 RCW;

(ii) The state's responsibility for solid waste planning, management, regulation, enforcement, technical assistance, and public education required under chapter 70.95 RCW;

(iii) The hazardous waste cleanup program required under this chapter;

(iv) State matching funds required under the federal cleanup law;

(v) Financial assistance for local programs in accordance with chapters 70.95, 70.95C, 70.95I, and 70.105 RCW;

(vi) State government programs for the safe reduction, recycling, or disposal of hazardous wastes from households, small businesses, and agriculture;

(vii) Hazardous materials emergency response training;

(viii) Water and environmental health protection and monitoring programs;

(ix) Programs authorized under chapter 70.146 RCW;

(x) A public participation program, including regional citizen advisory committees;

(xi) Public funding to assist potentially liable persons to pay for the costs of remedial action in compliance with cleanup standards under

RCW 70.105D.030(2)(e) but only when the amount and terms of such funding are established under a settlement agreement under RCW 70.105D.040(4) and when the director has found that the funding will achieve both (A) a substantially more expeditious or enhanced cleanup than would otherwise occur, and (B) the prevention or mitigation of unfair economic hardship; and

(xii) Development and demonstration of alternative management technologies designed to carry out the top two hazardous waste management priorities of RCW 70.105.150.

(3) The following moneys shall be deposited into the local toxics control account: Those revenues which are raised by the tax imposed under RCW 82.21.030 and which are attributable to that portion of the rate equal to thirty-seven one-hundredths of one percent.

(a) Moneys deposited in the local toxics control account shall be used by the department for grants or loans to local governments for the following purposes in descending order of priority: (i) Remedial actions; (ii) hazardous waste plans and programs under chapter 70.105 RCW; (iii) solid waste plans and programs under chapters 70.95, 70.95C, 70.95I, and 70.105 RCW; (iv) funds for a program to assist in the assessment and cleanup of sites of methamphetamine production, but not to be used for the initial containment of such sites, consistent with the responsibilities and intent of RCW 69.50.511; and (v) cleanup and disposal of hazardous substances from abandoned or derelict vessels that pose a threat to human health or the environment. For purposes of this subsection (3)(a)(v), "abandoned or derelict vessels" means vessels that have little or no value and either have no identified owner or have an identified owner lacking financial resources to clean up and dispose of the vessel. Funds for plans and programs shall be allocated consistent with the priorities and matching requirements established in chapters 70.105, 70.95C, 70.95I, and 70.95 RCW. During the 1999-2001 fiscal biennium, moneys in the account may also be used for the following activities: Conducting a study of whether dioxins occur in fertilizers, soil amendments, and soils; reviewing applications for registration of fertilizers; and conducting a study of plant uptake of metals. During the 2005-2007 fiscal biennium, the legislature may transfer from the local toxics control account to the state toxics control account such amounts as specified in the omnibus capital budget bill. During the ((~~2005-2007~~)) 2007-2009 fiscal

biennium, moneys in the account may also be used for grants to local governments to retrofit public sector diesel equipment and for storm water planning and implementation activities.

(b) Funds may also be appropriated to the department of health to implement programs to reduce testing requirements under the federal safe drinking water act for public water systems. The department of health shall reimburse the account from fees assessed under RCW 70.119A.115 by June 30, 1995.

(4) Except for unanticipated receipts under RCW 43.79.260 through 43.79.282, moneys in the state and local toxics control accounts may be spent only after appropriation by statute.

(5) One percent of the moneys deposited into the state and local toxics control accounts shall be allocated only for public participation grants to persons who may be adversely affected by a release or threatened release of a hazardous substance and to not-for-profit public interest organizations. The primary purpose of these grants is to facilitate the participation by persons and organizations in the investigation and remedying of releases or threatened releases of hazardous substances and to implement the state's solid and hazardous waste management priorities. However, during the 1999-2001 fiscal biennium, funding may not be granted to entities engaged in lobbying activities, and applicants may not be awarded grants if their cumulative grant awards under this section exceed two hundred thousand dollars. No grant may exceed sixty thousand dollars. Grants may be renewed annually. Moneys appropriated for public participation from either account which are not expended at the close of any biennium shall revert to the state toxics control account.

(6) No moneys deposited into either the state or local toxics control account may be used for solid waste incinerator feasibility studies, construction, maintenance, or operation.

(7) The department shall adopt rules for grant or loan issuance and performance.

((~~(8) During the 2005-2007 fiscal biennium, the legislature may transfer from the state toxics control account to the water quality account such amounts as reflect the excess fund balance of the fund.~~))

Sec. 6034. RCW 43.43.944 and 2005 c 518 s 929 are each amended to read as follows:

(1) The fire service training account is hereby established in the state treasury. The fund shall consist of:

(a) All fees received by the Washington state patrol for fire service training;

(b) All grants and bequests accepted by the Washington state patrol under RCW 43.43.940; and

(c) Twenty percent of all moneys received by the state on fire insurance premiums.

(2) Moneys in the account may be appropriated only for fire service training. ((~~During the 2005-2007 fiscal biennium, the legislature may appropriate funds from this account for school fire prevention activities within the Washington state patrol.~~)) During the 2007-2009 fiscal biennium, the legislature may appropriate funds from this account for school fire prevention activities within the Washington state patrol and additional sanitary wastewater treatment capacity at the state fire service training center.

Sec. 6035. RCW 43.135.045 and 2005 c 518 s 931, 2005 c 314 s 401, and 2005 c 72 s 6 are each reenacted and amended to read as follows:

(1) The emergency reserve fund is established in the state treasury. During each fiscal year, the state treasurer shall transfer an amount from the state general fund to the emergency reserve fund. The amount transferred shall equal the amount by which total state revenue for the general fund and related funds exceeds the state expenditure limit, multiplied by the percentage that general fund expenditures are of total expenditures from the general fund and related funds. Transfers shall be made at the end of each fiscal quarter based on projections of state revenues, expenditures, and the state expenditure limit. The treasurer shall make transfers between these accounts as necessary to reconcile actual annual revenues and the expenditure limit for fiscal year 2000 and thereafter.

(2) The legislature may appropriate moneys from the emergency reserve fund only with approval of at least two-thirds of the members of each house of the legislature, and then only if the appropriation does not cause total expenditures to exceed the state expenditure limit under this chapter.

(3) The emergency reserve fund balance shall not exceed five percent of annual general fund--state revenues as projected by the

official state revenue forecast. Any balance in excess of five percent shall be transferred on a quarterly basis by the state treasurer as follows: Seventy-five percent to the student achievement fund hereby created in the state treasury and twenty-five percent to the general fund balance. The treasurer shall make transfers between these accounts as necessary to reconcile actual annual revenues for fiscal year 2000 and thereafter. When per-student state funding for the maintenance and operation of K-12 education meets a level of no less than ninety percent of the national average of total funding from all sources per student as determined by the most recent published data from the national center for education statistics of the United States department of education, as calculated by the office of financial management, further deposits to the student achievement fund shall be required only to the extent necessary to maintain the ninety-percent level. Remaining funds are part of the general fund balance and these funds are subject to the expenditure limits of this chapter.

(4) The education construction fund is hereby created in the state treasury.

(a) Funds may be appropriated from the education construction fund exclusively for common school construction or higher education construction. <u>During the 2007-2009 fiscal biennium, funds may also be used for higher education facilities preservation and maintenance.</u>

(b) Funds may be appropriated for any other purpose only if approved by a two-thirds vote of each house of the legislature and if approved by a vote of the people at the next general election. An appropriation approved by the people under this subsection shall result in an adjustment to the state expenditure limit only for the fiscal period for which the appropriation is made and shall not affect any subsequent fiscal period.

(5) Funds from the student achievement fund shall be appropriated to the superintendent of public instruction strictly for distribution to school districts to meet the provisions set out in the student achievement act. Allocations shall be made on an equal per full-time equivalent student basis to each school district.

Sec. 6036. RCW 43.155.050 and 2005 c 488 s 925 and 2005 c 425 s 4 are each reenacted and amended to read as follows:

(1) The public works assistance account is hereby established in

the state treasury. Money may be placed in the public works assistance account from the proceeds of bonds when authorized by the legislature or from any other lawful source. Money in the public works assistance account shall be used to make loans and to give financial guarantees to local governments for public works projects. Moneys in the account may also be appropriated to provide for state match requirements under federal law for projects and activities conducted and financed by the board under the drinking water assistance account. Not more than fifteen percent of the biennial capital budget appropriation to the public works board from this account may be expended or obligated for preconstruction loans, emergency loans, or loans for capital facility planning under this chapter; of this amount, not more than ten percent of the biennial capital budget appropriation may be expended for emergency loans and not more than one percent of the biennial capital budget appropriation may be expended for capital facility planning loans. For the ((~~2005-2007~~)) 2007-2009 biennium, moneys in the account may be used for grants for projects identified in section 138, chapter 488, Laws of 2005.

(2) The job development fund is hereby established in the state treasury. Up to fifty million dollars each biennium from the public works assistance account may be transferred into the job development fund. Money in the job development fund may be used solely for job development fund program grants, administrative expenses related to the administration of the job development fund program created in RCW 43.160.230, and for the report prepared by the joint legislative audit and review committee pursuant to RCW 44.28.801(2). Moneys in the job development fund may be spent only after appropriation. The board shall prepare a prioritized list of proposed projects of up to fifty million dollars as part of the department's 2007-09 biennial budget request. The board may provide an additional alternate job development fund project list of up to ten million dollars. The legislature may remove projects from the list recommended by the board. The legislature may not change the prioritization of projects recommended for funding by the board, but may add projects from the alternate list in order of priority, as long as the total funding does not exceed fifty million dollars.

Sec. 6037. RCW 43.155.050 and 2005 c 488 s 925 are each amended to read as follows:

The public works assistance account is hereby established in the state treasury. Money may be placed in the public works assistance account from the proceeds of bonds when authorized by the legislature or from any other lawful source. Money in the public works assistance account shall be used to make loans and to give financial guarantees to local governments for public works projects. Moneys in the account may also be appropriated to provide for state match requirements under federal law for projects and activities conducted and financed by the board under the drinking water assistance account. Not more than fifteen percent of the biennial capital budget appropriation to the public works board from this account may be expended or obligated for preconstruction loans, emergency loans, or loans for capital facility planning under this chapter; of this amount, not more than ten percent of the biennial capital budget appropriation may be expended for emergency loans and not more than one percent of the biennial capital budget appropriation may be expended for capital facility planning loans. For the ((~~2005-2007~~)) 2007-2009 biennium, moneys in the account may be used for grants for projects identified in section 138, chapter 488, Laws of 2005 and section 1033 of this act.

NEW SECTION. **Sec. 6038.** For appropriations under this act that contribute to Puget Sound protection and recovery, the department of ecology, the department of fish and wildlife, the department of natural resources, the state conservation commission, the state parks and recreation commission, the department of health, and the interagency committee for outdoor recreation shall sign performance agreements with the Puget Sound partnership as described in chapter . . ., (Engrossed Substitute Senate Bill No. 5372, Puget Sound partnership), Laws of 2007.

NEW SECTION. **Sec. 6039.** Section 6036 of this act expires June 30, 2011.

Sec. 6040. 2005 c 488 s 955 (uncodified) is amended to read as follows:

((~~Sections~~)) (1) Section 920 ((~~and 921~~)) of this act expires June 30, 2007.

(2) Section 921 of this act expires June 30, 2009.

NEW SECTION. **Sec. 6041.** A new section is added to 2006 c 371 (uncodified) to read as follows:

FOR THE OFFICE OF THE SECRETARY OF STATE

Acquisition of Fredericks Collection (08-2-950)

The appropriation in this section is subject to the following conditions and limitations: The appropriation in this section is provided solely for the acquisition of the Fredericks collection.

Appropriation:

Archives and Records Account--State $100,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $100,000

Sec. 6042. 2006 c 371 s 106 (uncodified) is amended to read as follows:

FOR THE DEPARTMENT OF COMMUNITY, TRADE, AND ECONOMIC DEVELOPMENT

Local/Community Projects (06-4-008)

The appropriation in this section is subject to the following conditions and limitations:

(1) The projects must comply with RCW 43.63A.125(2)(c) and other requirements for community projects administered by the department.

(2) Funding for the Inland Northwest Science and Technology Center shall be held in reserve until the balance of phase I funding has been secured or committed from local government and community sources.

(3) The Washington state arts commission shall design a plaque that shall be affixed to buildings or displayed as part of a project receiving any appropriation from this section. The plaque shall provide information to the public that the building or project has been made possible by the tax dollars of Washington citizens. The commission may contact the secretary of state to obtain approval for use of the Washington seal in the design of the plaque. The final design shall be approved by the chairs and ranking members of the house

of representatives capital budget committee and the senate ways and means committee.

(4) The appropriation is provided solely for the following list of projects:

Projects	Recommendation
7th street theatre	$600,000
Alder creek pioneer association carousel museum	$450,000
Asian counseling and referral service	$2,000,000
Auburn veterans' memorial park improvements	$50,000
Bailey Gatzert children's play area	$75,000
Bridge for kids	$850,000
Brookside school ADA playground equipment	$25,000
Buena library	$50,000
Camp prime time repairs--families with terminally ill children	$100,000
Cannon house	$250,000
Central area motivation program (CAMP)	$250,000
Cesar Chavez park	$150,000
Chambers creek footbridge	$177,000
Childhaven	$150,000
Clark Lake park and retreat center	$500,000
Colman school preconstruction activities	$1,200,000
Colored women's association meeting house preconstruction activities	$60,000
Columbia breaks fire interpretive center	$150,000
Community center at Greenbridge	$400,000
Covington aquatics center ((~~phase 1~~)) HVAC systems	$350,000
Crossroads community center and park	$250,000
Cutter theater	$71,000
Deming library preconstruction activities	$85,000
Des Moines beach park historic buildings	$300,000
Discovery park	$1,000,000
East Whatcom regional resource center	$1,750,000
Eatonville family park	$50,000
El Centro de la Raza	$900,000
Filipino community center	$200,000

Financial assistance to the town of Hamilton	$150,000
Food bank refrigeration projects	$365,000
Foster creek	$150,000
Fox theater	$2,398,000
Garfield county agricultural museum	$150,000
GC health clinic	$12,000
Grand Army of the Republic cemetery	$5,000
Granite Falls museum expansion	$50,000
Greenbridge plaza in White Center	$200,000
Habitat park south hill	$400,000
((~~Hanford reach interpretive center~~	~~$2,000,000~~))
Hidden river environmental education center	$50,000
ICL education center	$200,000
Japanese cultural and community center	$200,000
Joel Pritchard park	$2,500,000
Joe's creek project	$856,000
Juanita creek channel and riparian restoration	$500,000
Juanita highlands	$275,000
Julia Butler Hansen home restoration	$10,000
Kettle falls park	$100,000
Kirkland nonmotorized facilities	$200,000
LeRoi smelter smokestack monument	$3,000
Lewis and Clark confluence project	$2,000,000
McCaw hall	$2,000,000
Meridian habitat park	$400,000
Miners' memorial	$36,500
Miracle league handicapped baseball	$57,000
MOBIUS/Inland Northwest science and technology center	$1,500,000
Mt. Baker theater	$200,000
Mt. Vernon Jasper Gates statue	$12,000
Multicultural center of Kitsap county	$250,000
Nathaniel Orr home site museum interpretive center	$29,000
Neighborhood house rainier vista	$200,000
New Lakewood clinic	$350,000
Northeast community center expansion	$250,000
Northshore performing arts center	$1,000,000

Northwest communities education center	$1,000,000
Oak Harbor multi-purpose community and sports facility	$50,000
Omak grandstand	$250,000
Orting fire station	$250,000
Pacific Northwest salmon center	$1,000,000
Pacific science center	$900,000
Performing arts center (PACE)	$500,000
Pike Place Market health center emergency repairs	$1,000,000
Port of Quincy	$400,000
Puget Sound freight building warehouse--Thea Foss waterway	$2,000,000
Puyallup river walking trail	$200,000
Rainier historical heating system	$75,000
Red mountain	$200,000
Relocation of Sieke Japanese gardens	$250,000
River walk and Sammamish river restoration	$200,000
Roslyn city hall	$150,000
Ruth Dykeman children's center	$27,000
Sandman historical tug restoration	$10,000
Seattle Aquarium	$2,000,000
Seattle community center (1115 E. Pike street)	$13,000
Seattle mental health emerald house	$28,000
Seward park environmental and audubon center	$400,000
Snohomish senior center	$150,000
Sno-Valley senior activity center kitchen	$50,000
Sound way property preservation	$500,000
Spokane river whitewater course	$400,000
Sumas ballpark	$250,000
Synthetic sportsfield partnership at Robinswood park	$400,000
Tall ships moorage	$300,000
Tukwila kayak and canoe launching facility	$20,000
Undeveloped woodlands linked to interurban nature trail	$150,000
Vancouver museum	$125,000
Vancouver national historical reserve west barracks	$1,000,000
Veterans memorial museum	$100,000

Wapato Lake renovations and water quality	$250,000
West Seattle community resource center	$500,000
West central community center	$500,000
West Hylebos wetlands boardwalk	$100,000
Wilson playfield land acquisition	$200,000
Wing Luke Asian art museum	$2,000,000
Youth housing/drop-in center	$400,000
Total	((~~**$49,949,500**~~)) **$47,799,500**

Appropriation:
State Building Construction Account--State . . . . ((~~$49,949,500~~)) $47,799,500
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL . . . . . ((~~$49,949,500~~)) $47,799,500

Sec. 6043. 2005 c 488 s 165 (uncodified) is amended to read as follows:

FOR THE MILITARY DEPARTMENT

Construct Spokane Readiness Center (04-2-003)

Reappropriation:
General Fund--Federal $7,800,000
State Building Construction Account--State . . . . ((~~$3,300,000~~)) $2,250,000
Subtotal Reappropriation . . . . . ((~~$11,100,000~~)) $10,050,000
Prior Biennia (Expenditures) $2,468,000
Future Biennia (Projected Costs) $0
TOTAL . . . . . ((~~$13,568,000~~)) $12,518,000

NEW SECTION. **Sec. 6044.** A new section is added to 2006 c 371 (uncodified) to read as follows:

FOR THE MILITARY DEPARTMENT

Modular Building Reutilization (08-2-001)

Appropriation:
State Building Construction Account--State $1,850,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $1,850,000

Sec. 6045. 2005 c 488 s 347 (uncodified) is amended to read as follows:

FOR THE STATE PARKS AND RECREATION COMMISSION

Cama Beach - New Destinations (06-2-011)

Appropriation:
State Building Construction Account--State . . . . ((~~$2,820,000~~)) $4,320,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $1,700,000
TOTAL . . . . . ((~~$4,520,000~~)) $6,020,000

Sec. 6046. 2005 c 488 s 357 (uncodified) is amended to read as follows:

FOR THE STATE PARKS AND RECREATION COMMISSION

Ice Age Floods - Cherished Resources (06-2-014)

The appropriation in this section is subject to the following conditions and limitations: $2,000,000 of the appropriation is provided solely for a grant for the Hanford Reach national monument heritage and visitor center. The funds may be used for preconstruction activities.

Appropriation:
State Building Construction Account--State . . . . . ((~~$300,000~~)) $2,300,000
Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $1,000,000
TOTAL . . . . . ((~~$1,300,000~~)) $3,300,000

NEW SECTION. **Sec. 6047.** A new section is added to 2006 c 371 (uncodified) to read as follows:

FOR THE STATE CONSERVATION COMMISSION

Land Restoration (07-1-001)

Appropriation:

State Building Construction Account--State $587,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $587,000

NEW SECTION. **Sec. 6048.** A new section is added to 2006 c 371 (uncodified) to read as follows:

FOR THE DEPARTMENT OF FISH AND WILDLIFE

Sinlahekin Creek Dams - Floods Damage Repair (2007-1-004)

Appropriation:

State Building Construction Account--State $70,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $70,000

NEW SECTION. **Sec. 6049.** A new section is added to 2006 c 371 (uncodified) to read as follows:

FOR THE DEPARTMENT OF FISH AND WILDLIFE

Region 1 Office - Complete Phase 1 (2007-2-009)

Appropriation:

State Building Construction Account--State $588,000

Prior Biennia (Expenditures) $0

Future Biennia (Projected Costs) $0

TOTAL $588,000

NEW SECTION. **Sec. 6050.** A new section is added to 2006 c 371 (uncodified) to read as follows:

FOR THE DEPARTMENT OF NATURAL RESOURCES

Loomis Natural Resources Conservation Area Restoration (2007-1-004)

Appropriation:

State Building Construction Account--State $271,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $271,000

NEW SECTION. **Sec. 6051.** A new section is added to 2006 c 371 (uncodified) to read as follows:

FOR THE DEPARTMENT OF NATURAL RESOURCES

Storm Damage (07-1-850)

Appropriation:

State Building Construction Account--State $282,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $282,000

NEW SECTION. **Sec. 6052.** A new section is added to 2006 c 371 (uncodified) to read as follows:

FOR THE COMMUNITY AND TECHNICAL COLLEGE SYSTEM

Grays Harbor College: Riverview Education Center (07-1-850)

Appropriation:

State Building Construction Account--State $498,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL $498,000

Sec. 6053. 2006 c 371 s 192 (uncodified) is amended to read as follows:

FOR THE DEPARTMENT OF AGRICULTURE

Energy Freedom Program (06-2-851)

The appropriation in this section is subject to the following conditions and limitations:

(1)(a) The appropriation is provided solely for low-interest loans to political subdivisions for renewable energy projects including the development of biofuel oilseed crushers, supporting infrastructure, and facilities. The political subdivision may negotiate an appropriate agreement with the bioenergy industry for the use of the oilseed crushers, supporting infrastructure, and facilities.

(b) For purposes of this section, political subdivision means any port district, county, city, town, special purpose district, and any other municipal corporations or quasi-municipal corporations in the state.

(2) The appropriation is provided solely for the following list of projects:

Project	**Recommendation**
Spokane Conservation district	((~~$2,000,000~~))
	$1,779,000
Port of Warden	$2,500,000
Odessa public development authority	((~~$2,500,000~~))
	$3,500,000
((~~Port of Columbia county~~	~~$2,500,000~~))
	$0
Port of Sunnyside	$750,000
A political subdivision working with the DeRuyter Farms anaerobic digester project	$1,973,000
Total	((~~$10,250,000~~))
	$10,502,000

(3) All agreements negotiated between the political subdivision and the bioenergy industry for use of the oilseed crushers, supporting infrastructure, or facilities funded in this section must provide for at least a fifty percent match by the industry partner. The industry match may include, but is not limited to, investments in rail, buildings, refining capacity, or seed stock.

(4) All other project funds must be disbursed prior to energy freedom loans, except where required on a matching basis by other federal or state programs.

(5) The department shall disburse loans to the political subdivision on a reimbursement basis only.

(6) The department may defer loan repayment for up to twenty-four months or until the projects start to receive revenue from operations, whichever is sooner.

(7) Upon written notice to the political subdivision, the department may suspend or cancel its loans if any of the following occur:

(a) The political subdivision fails to make satisfactory and reasonable progress to complete the project, or the department concludes the political subdivision will be unable to complete the project or any portion of it; or

(b) The political subdivision or bioenergy industry partners have made misrepresentations in any information furnished to the department or the legislature in connection with the project.

(8) In the event that any portion of the loan has been paid to the political subdivision under this section at the time of breach, or failure of the political subdivision to satisfactorily perform, the department may require that the full amount of the loan, or a portion thereof, be repaid within a period specified by the department.

(9) Future loan repayments shall be deposited into the energy freedom account created in section 6, chapter . . . (Engrossed Third Substitute House Bill No. 2939), Laws of 2006.

(10) It is the intent of the legislature to provide loans for the development of a Washington state biodiesel industry based on Washington grown oilseed. The legislature is aware that in the development of this industry, the start-up process may necessitate the use of other oilseeds until Washington state growers plant sufficient crops to support this industry. The legislature also understands the realities of weather and market conditions in this process. The conversion to maximum Washington grown oilseed must be accomplished as quickly as possible. The political subdivision shall: (a) Develop a plan for outreach to local growers and an estimate of when maximum Washington state oilseed-based production will be reached; (b) develop a goal for the political subdivision to return a portion of the biofuel to local oilseed producers; and (c) report this information to the department of agriculture by December 1, 2006. The department shall report on the implementation of this section by January 1, 2007, to the appropriate committees of the legislature.

(11) If legislation is enacted by June 30, 2009, that moves the energy freedom program to the department of community, trade, and economic development, then the amounts in this section are appropriated to the department of community, trade, and economic development.

Appropriation:

Energy Freedom Account--State . . . . . ((~~$10,250,000~~)) $10,502,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL . . . . . ((~~$10,250,000~~))
$10,502,000

Sec. 6054. 2006 c 371 s 191 (uncodified) is amended to read as follows:

FOR THE DEPARTMENT OF AGRICULTURE

Energy Freedom Program (E3SHB No. 2939) (06-2-850)

The appropriation in this section is subject to the following conditions and limitations:

(1) The appropriation is provided solely to implement the energy freedom program created in chapter . . . (Engrossed Third Substitute House Bill No. 2939), Laws of 2006. If the bill is not enacted by June 30, 2006, the appropriation shall lapse.

(2) The department shall not expend more than $202,000 of the appropriation on administrative costs.

(3) If legislation is enacted by June 30, 2009, that moves the energy freedom program to the department of community, trade, and economic development, then the amounts in this section are appropriated to the department of community, trade, and economic development.

Appropriation:

Energy Freedom Account--State . . . . . ((~~$6,750,000~~))
$3,998,000

Prior Biennia (Expenditures) $0
Future Biennia (Projected Costs) $0
TOTAL . . . . . ((~~$6,750,000~~))
$3,998,000

NEW SECTION. **Sec. 6055.** Part headings in this act are not any part of the law.

NEW SECTION. **Sec. 6056.** If any provision of this act or its application to any person or circumstance is held invalid, the remainder of the act or the application of the provision to other persons or circumstances is not affected.

NEW SECTION. **Sec. 6057.** This act is necessary for the immediate preservation of the public peace, health, or safety, or support of the state government and its existing public institutions, and takes effect immediately, except for section 6035 of this act which takes effect July 1, 2007, and section 6037 of this act which takes effect June 30, 2011.

(End of Part)

Passed by the House April 22, 2007.
Passed by the Senate April 21, 2007.

Approved by the Governor May 15, 2007, with the exception of certain items that were vetoed.
Filed in Office of Secretary of State May 16, 2007.

Note: Governor's explanation of partial veto is as follows:

"I am returning, without my approval as to Sections 1032(2); 1068, page 42, lines 8 through 12; 3181, page 143, lines 22 through 33 and page 144, lines 1 through 22; and (1), (2), and (3); 3204(2); 6023; 6024; 6030; and 6031 of Engrossed Substitute House Bill 1092 entitled:

"AN ACT Relating to the capital budget."

Section 1032(2), page 19, Department of Community, Trade and Economic Development, Job Development Fund Grants
This proviso prohibits the Department of Community, Trade and Economic Development from proceeding with a competitive process for the 2009-2011 Biennium. I believe a competitive grant selection process is appropriate for these projects. Therefore, I am vetoing Section 1032(2).

Because I am concerned that the current process does not put enough emphasis on the creation of family wage jobs, I am directing my staff to work with the Department and the Community Economic Revitalization Board to establish weighted criteria for the next group of projects and to develop legislation to make creation of jobs the top priority for the grant selection process.

Section 1068, page 42, lines 8 through 12, Department of General Administration, Signage Near Capitol Lake
This proviso directs the Department of General Administration to post signs on 5th Avenue at Capitol Lake dam in the City of Olympia concerning bicycle lanes. I am vetoing this proviso because it directs a state agency to install traffic control signs on a city street, even though the city's existing signage already complies with standards in the Manual on Uniform Traffic Control Devices. I am directing the Department of General Administration to work with the City of Olympia to look at how to provide additional appropriate warnings that would enhance the safety of bicyclists crossing Capitol Lake dam.

Section 3181, page 143, lines 22 through 33 and page 144, lines 1 through 22, Department of Fish and Wildlife, Wiley Slough Restoration
This proviso prohibits the Department of Fish and Wildlife from spending funds until July 1, 2008, so that a report can be developed regarding the loss of recreation opportunities in upland habitat areas. The Wiley Slough Restoration project already has broad support from many in the community and should move ahead so that critical juvenile Chinook salmon habitat in the Skagit River basin can be restored. Rather than delay the project further, I expect the Department of Fish and Wildlife to work in good faith with legislators, waterfowl hunters and other community members to develop off-site hunting and recreation opportunities. For this reason, I have vetoed the specific restrictions in Section 3181, page 143, lines 22 through 33 and page 144, lines 1 through 22.

Section 3204 (2), page 151, Department of Natural Resources, Trust Land Transfer
This section requires that the funds from transferred properties be used exclusively for the acquisition of forest lands. Existing statute for the Natural Resource Real Property Replacement Account allows purchases of commercial property, agriculture property and forest lands. I am vetoing Section 3204(2), because placing limits

on the type of land that can be purchased should be more fully considered as a policy issue with separate legislation.

Section 6023, page 264, Department of General Administration, Consolidation Review

This section restates the Department of General Administration's statutory authority to review any capital improvement or capital project for possible consolidation, co-location, and compliance with state standards before allotment of funds. In addition, the passage of SHB 2366 creates new, broad authority for the Office of Financial Management to oversee facility issues of this type. Because existing statutes for General Administration and the new authority for the Office of Financial Management already require these actions, I am vetoing Section 6023.

Section 6024, page 264, Department of General Administration, Tacoma Rhodes

This section prevents the Department of General Administration from selling the Tacoma Rhodes building until after June 30, 2009, except to another state agency, state institution, or political subdivision of the state. I am vetoing this proviso because decisions regarding Tacoma Rhodes are within the authority and responsibilities of the Department of General Administration as an executive agency responsible for housing state government, and acquiring and disposing of property. This existing authority includes managing and making appropriate decisions on the future of facilities, based on sound business principles. Current law allows public agencies and local governments the first right of refusal on purchasing surplus property such as the Tacoma Rhodes building. I expect General Administration to follow this process.

Section 6030, page 267, For the State Treasurer—-Transfers

This section requires a transfer of $20 million from the Natural Resources Real Property Replacement Account to the Common School Permanent Fund. The amount transferred is to be added to the irreducible principal of the common school permanent fund and invested by the State Investment Board rather than to purchase replacement timber land. I believe this is a policy issue that is better addressed in substantive legislation. Therefore, I am vetoing Section 6030.

Section 6031, page 267, Natural Resources Real Property Replacement Account

This section amends RCW 79.17.210 so that during the 2007-2009 Biennium balances in the Natural Resources Real Property Replacement Account may be transferred to the appropriate permanent funds as directed in the capital budget appropriations act. I believe this is a policy issue that is better addressed in substantive legislation. Therefore, I am vetoing Section 6031.

For these reasons, I have vetoed Sections 1032(2); 1068, page 42, lines 8 through 12; 3181, page 143, lines 22 through 33 and page 144, lines 1 through 22; 3204(2); 6023; 6024; 6030; and 6031 of Engrossed Substitute House Bill 1092.

With the exception of Sections 1032(2); 1068, page 42, lines 8 through 12; 3181, page 143, lines 22 through 33 and page 144, lines 1 through 22; 3204(2); 6023; 6024; 6030; and 6031, Engrossed Substitute House Bill 1092 is approved."

A.3 NURSING FACILITY PRE-DESIGN

OCTOBER 26, 2018

PREDESIGN STUDY

NURSIN FACILITY NEW CAPACITY at FIRCREST SCHOOL, SHORELINE

PREPARED FOR:

DEPARTMENT OF SOCIAL AND HEALTH SERVICES (DSHS)

WASHIN TON STATE OFFICE OF FINANCIAL MANA EMENT (OFM)

PREPARED BY:

SA E ARCHITECTURAL ALLIANCE

PROJECT # 2018-477

Washington State Department of Social & Health Services

Transforming lives

FIRCREST SCHOOL, SHORELINE
NURSING FACILITY NEW CAPACITY

DES PR JECT N . FIRCREST SCH L: 2018-477
AGENCY: Department of Social and Health Services (DSHS)
PREPARED BY: SAGE Architectural Alliance

Fircrest School

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DSHS Project Manager

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ACKNOWLEDGEMENTS

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Washington State ffice of Financial Management (OFM)
Friends of Fircrest

Photographer Credits

Unsplash Creative Commons	Nathan Anderson, Alexander Klarmann, Remi Walle, Ren Ren, Pandu Ior, Annie Spratt

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4 Detailed Analysis – Preferred Alternative

5 Project B dget – Preferred Alternative

6 Appendices

1 EXECU IVE SUMMARY

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EXECUTIVE SUMMARY

Summarize the problem, opportunity, or program requirements; alternatives considered; a preferred alternative; and why it was chosen. Include basic project cost information.

THE PR BLEM

There are currently 297 DD (Developmentally Disabled) Certified Nursing Facility beds in Washington State located in 3 of the 4 state-operated Residential Habilitation Centers, RHC's. This includes 92 beds at the Fircrest School in Shoreline, WA, 93 beds at Lakeland Village in Medical Lake near Spokane, WA and 112 beds at Yakima alley School. Rainier School has no Nursing Facility beds. Fircrest is now in the process of opening additional beds and will soon have 120 certified beds. This will bring the state total to 325 certified beds.

The DD Nursing Facilities provide highly specialized-high-acuity care expertise that is not in-line with the expertise generally available in community-based Medicaid-funded skilled nursing. (1)

As you can see in Table 1, the number of DD clients needing Nursing Facility care currently exceeds the DD Certified Nursing Facility beds.

The need for DD client nursing facility care is expected increase state-wide and at Fircrest from several factors:

- 0.6% of DD clients reside in Nursing Facilities and the number of DD clients is growing with state population growth. (2)
- Nursing Facility beds are increasingly needed for respite care as parents and care-takers are aging.
- As parents or care-takers die, Nursing Facility beds also serve as crisis support until new options can be arranged.
- Behavioral health clients have been increasing in effort to relocate clients out of hospitals.

Table – August 20 8

Residential Habilitation Center	Certified NF Beds	# of Clients *
Rainier School	0	60
Fircrest School	92	87
Yakima Valley School	73**	68
Lakeland Village	93	67
TOTAL COUNT	258	282

* Clients with documented needs. ** 2 beds partially closed. 57 long- term clients. Not accepting new long- term clients & will eventually close. Short-term beds: 6 short-term respite & crisis placements. 57+ 6=73.

This table displays statewide population projection requirements. It is not specific to any region of RHC. The intent of this table is to illustrate there is a greater need for DD nursing services long term than addressed in this project. These services may also be provided in community-based settings.

Fircrest Nursing Facility Needs Replacement

Replacement of the six nursing facility buildings is needed for several reasons:

- Buildings are in serious disrepair and in need of upgrades in every aspect; structural, HVAC, plumbing and energy efficiency.
- Facilities are operationally very inefficient. The separate buildings, set at different elevations

along the hillside, make connections between buildings very operationally challenging.

- Living accommodations do not meet CMS (Center for Medicare and Medicaid) nursing facility program standards per CRF (Center of Federal Register) Title 43.. Residents in the facilities, have minimal privacy. They don't sleep in bedrooms, but instead have curtained alcoves along the narrow circulation corridor.
- Physical therapy space and equipment are remotely located requiring clients to be transported by van to therapy due to the grade and distance. This amount of effort is a barrier to receiving quality care.
- Food service is also impaired by operational inefficiencies.
- The lack of physical connection between the Y-Buildings increases the difficulties of nursing staff communication.

ALTERNATES C NSIDERED

No ction Iternative

The effects if no action is taken.

Iternative 1 - Bldg 66 Site

Renovate Building 66 with a new addition – 90 bed option.

Iternative 2 - TP Site

New construction North East of site (ATP) - 100 nursing bed option.

Iternative 2B - TP Site

New construction North East of site (ATP) - 160 nursing bed option.

Iternative 3 Madrona Site

New construction North West of site (Madrona) along 15th Ave.- 100 nursing bed option.

Iternative 3B Madrona Site

New construction NW Campus (Madrona) along 15th Ave.- 160 nursing bed options.

Iternative 3C Madrona Site

New construction NW Campus (Madrona) along 15th Ave.- 120 nursing bed options.

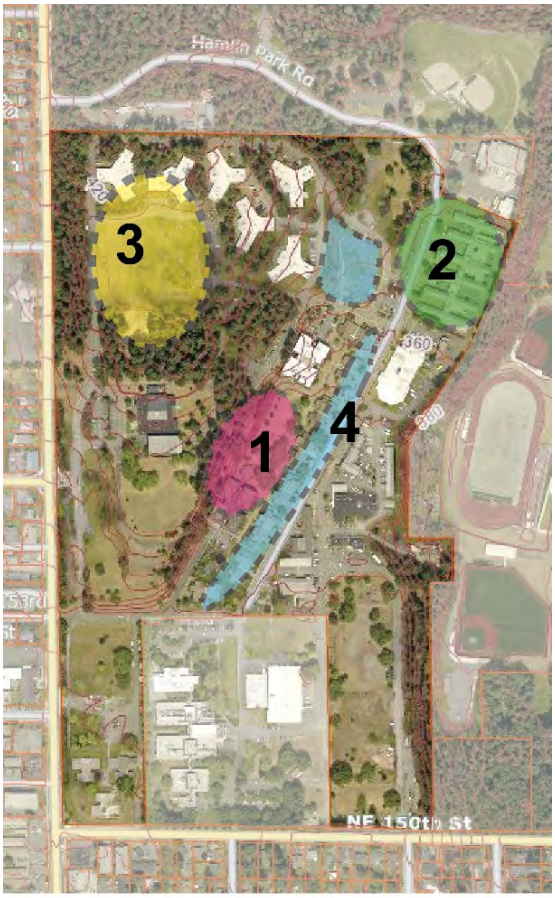
For all action items, LEED Silver was compared with LEED Silver Netzero.

Iternative 4

Renovate 10 wood frame cottages connected with a new interior covered walkway – 84 nursing beds.

Off-Site in King CountyV

Investigation of 5 Nursing Homes in King County that have closed in the last 24 months for potential repurposing to serve the Fircrest Nursing Home population.



PREFERRED ALTERNATIVE

Alternative 3 is the preferred Alternative. Alternative 3 was unanimously preferred to Alternative1, and has several advantages to Alternative 2:

- Less constricted site accommodates preferred 1-story connected residential cottages plus expansion capability.
- Less demolition and no program relocation are required.
- MACC and Life Cycle costs are lower. (3)
- Public visibility along 15th Avenue is likely to produce more volunteerism.
- Potential connection to the existing Activity Building
- Less water main improvements.

All participants agreed that the preferred Alternative is a 1-story contiguous facility that would connect 20-bed cottages to create a 100 to 160 bed facility. 1-story is strongly preferred because Nursing Facility standards require the clients to have ready access to the outdoors. Use of elevators with the typical large reclining wheelchair is a barrier to access.

The proposed Alternate is 120 beds to match maximum capacity of the existing six Nursing Facilities and is also able to be constructed without demolition of existing Y-Buildings needed to operate at full capacity.

LAUNDRY REPLACEMENT

The Fircrest School Central Laundry Building was lost to fire.

Replacement Iternatives Considered

Laundry replacement options studied include:

- Alt L1- Handling Laundry at Rainier
- Alt L2- Outsourcing
- Alt L3- New Laundry Facility at Fircrest

Table 2- LAUNDRY COSTtOPTIONS		
	PROJECT COST	OPERATION COST PER YR
ALT L		$56 ,047
ALT L2		$4,089,060
ALT L3	$8,705,785	$467,353

The operational cost premium for transporting laundry to Rainier is $93,694 per year. This is small compared to the large cost of a new facility.

Laundry MACC is $6,064,109

Laundry Project Cost is $8,705,785

The Preferred Alternative is to continue handling Fircrest laundry at Rainier School.

C ST SUMMARY

The estimated construction cost for Preferred Alternative 3: 120 beds, LEED Silver plus Netzero, including new Central Laundry, in 2018 dollars, is as follows. Maximum Allowable Construction Cost (MACC) is estimated at $67,481,076. The estimated total project cost is $93,175,096.

Preferred Alternate 3C – 120-bed Madrona Site

C NCLUSI N

The recommended solution to the state-wide need for increased Nursing Facility capacity and poor condition of the existing Fircrest Nursing Facility buildings is to build the Phase 1 - New 120-bed facility at the Madrona site. The construction is budgeted for LEED Silver and Netzero Energy utilization.

Table 3 – Fircrest Alt 3 Implemented

Year	Projected NF Need	Certified Beds incl Alt 3 – 20 beds
20 8	282	258
20 9	283	258
2020	287	258
2023	297	286*
2030	323	2 3**
2040	352	253***

*Fircrest opens 120-beds and closes Y-Bldgs.
**Assumes Yakima alley School is closed.
***Assumes Fircrest has 160-beds.

Table 3 of Need vs State Capacity shows the increased capacity when the Y-Buildings are closed and the Fircrest 120 beds are opened in 2023 will not meet state capacity unless one Y-Building remains in operation during Phase 2, the build-out to 160 beds. If Yakima alley School's 73 beds are closed by 2030, the available beds will drop to 213, even with the 120-beds added at Fircrest in 2023. This represents a 110 -bed deficit. The potential Fircrest Nursing Facility build-out to 160-beds won't offset the need. By 2040, assuming Yakima alley has closed and assuming Fircrest has added 40 beds to reach 160 beds, approximately 100 additional beds will be needed at other campuses, without accounting for respite or crisis care. The projection is based on state population growth, assumed to be 2.8%.

Any solution should consider relocation trauma. Transitioning clients to an off-site nursing facility is not recommended due to the dangers associated with relocation stress. Potential relocation trauma should also be considered for any frail DD clients that are transferred to Fircrest from other RHC programs.

(1)See Section 2-The Problem and Appendix G.

(2) Per DDA budget for 2018-2019, population growth of 2.8 assumed. Also see (1).

(3) MACC is Maximum Allowable Construction Costs.

2 THE P OBLEM

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INTRODUCTION

In June of 2018, The Department of Social and Health Services (DSHS) engaged a team lead by SAGE Architectural Alliance to perform a predesign study for new nursing capacity at Fircrest School and Rainier School. The SAGE team developed predesigns at both campuses in parallel.

Stakeholders from DSHS, DDA, Fircrest School and Friends of Fircrest participated in a series of predesign workshops to help frame needs for a new nursing facility. This predesign report is an outcome of that work.

BACKGROUND

Fircrest School is one of four state-operated Residential Habilitation Centers, RHC's, for adults with developmental and intellectual disabilities in Washington State. As the majority of developmentally disabled, DD clients were transitioned to community settings per the state policies of the last 20 years, the RHC setting has remained the safest setting for a limited DD population.

The Fircrest School was built in 1942 as a military hospital. Fircrest School is set in a large, 90-acre wooded campus with a tranquil park-like setting, situated within the urban residential neighborhood of Shoreline. Fircrest School is home to 223 Developmental Disabled residents, with 90 living in the nursing facilities and 133 living in the Intermediate Care Facilities (ICF). The Nursing Facilities consist of six separate 16-bed buildings.

There has not been any significant remodeling or new construction on the Fircrest Campus since the Main Cafeteria Building was constructed in the 1980's. While other states were in the process of shutting down RHC (Residential Habilitation Centers), in 2003 and 2009 studies considered closure of the Fircrest Campus. Families of clients and Shoreline community residents pushed back against the closure.

This was a time of uncertainty for the future of Fircrest School and other RHC's. Maintenance dollars were channeled away from the RHC's, creating a backlog of deferred maintenance.

PROBLEM STATEMENT

Identify the problem, opportunity or program requirement that the project addresses and how it will be accomplished.

Pr blem Summarized

The six nursing facility buildings at Fircrest are in serious disrepair and in need of upgrades in every aspect; structural, HVAC, plumbing and energy efficiency. Five of the facilities are occupied and the sixth facility is used as a spare

when systems break down and require relocating nursing residents.

The nursing buildings at Fircrest include six 13,135 square foot (including basement) buildings constructed in 1962 and 1963. They are referred to as the "Y-Buildings" due to their unique physical design. The buildings are the core area for caring for Fircrest nursing facility clients who have significant intellectual and physical disabilities. These buildings have far outlived their useful life and are increasingly unable to effectively support the programmatic needs of the nursing program.

For example, current failing building systems include:

- Toilet and bathing areas do not meet current requirements for client accessibility.
- Water and sewer piping routinely fail creating weekly maintenance work orders for immediate corrective action.
- Indoor air quality is difficult to maintain and correct due to antiquated design and installation practices, making infection control very difficult for a very medically compromised clientele.
- Exterior walls do not meet current seismic codes.
- Exterior walls and ceilings are not insulated, making temperature control difficult to maintain.
- Electrical systems are inadequate to serve today's needs.

In addition to life-safety and maintenance issues, the facilities are operationally very inefficient. The separate buildings, set at different elevations along the hillside, make connections between buildings very operationally challenging.

The living accommodations do not meet current nursing facility program standards. Residents in the facilities, don't have their own rooms, but have curtained alcoves along the narrow circulation corridors.

The buildings have exceeded their useful life. The nursing program has managed to receive 4 and 5-star ratings from the CMS (Center for Medicare and Medicaid Services) rating program. The ratings are a reflection of the great commitment of the staff.

Nursing Facility Pr gram Requirements

The Fircrest School Nursing Facility provides nursing, medical and dental care, physical, occupational and speech therapy, and general skill development for clients with intellectual and physical disabilities. This group of clients can no longer participate in "Active Training" as required in an Intermediate Care Facility nor function independently within a community-based setting.

While it is the mission of the Developmental Disabilities Administration (DDA) to help clients develop skills and independence to be able to thrive in their community, for Fircrest's nursing clients, this is their community and often the only one they have ever known. Clients have made Fircrest their home as reflected in the average length of stay of 33 years.

In addition, Developmentally Disabled in the broader community are aging and their caregivers are aging. The Fircrest School programs are increasingly needed for respite and crisis care to support the community care-givers.

As parent care-takers die, the campus serves as a crisis support until new options can be arranged.

Another demand has come from behavioral health clients relocated out of hospitals who can be served at Fircrest due to available options for high staff ratios to even 1 to 1 care. Current state policy is to create more community-based behavioral health sites that could help take this need in the future.

The project solution is to replace the "Y" Buildings with new construction that meets current building codes, provides an optimal programmatic configuration for effective staffing and operating efficiencies, and addresses the state policy requirements for energy efficiency and construction trends as defined by LEED standards and Net-Zero environmental impacts. To arrive at the solution, the study has considered many alternatives, both on-campus and off-campus.

OPPORTUNITIES

Care-giver Res urces

Care-giver shortage is one of the largest national concerns for hospitals and for facilities across the country that care for the elderly. Fircrest currently employs 525 staff, many of whom have formed long-term emotional bonds with DD clients. These valuable relationships and the specialized expertise of these staff should figure into the calculus of Fircrest School's future.

Zer Rejection

Fircrest School is one of four Residential Habilitation Centers (RHC) in Washington State who served people with intellectual and developmentally disabilities. From the point of view of families, one of the biggest advantages to an RHCs is zero rejection. RHCs will not refuse a client due to severity of disability, medical condition, or behavioral challenges. This has been a significant relief for families who have been told by schools, and service agencies, "we are unable to meet your loved one's needs."[6]

PROGRAMMATICUMPACTS

DD Disability Rights

The Developmental Disabilities Assistance and Bill of Rights Act, 2000 relays the following goals for individuals with developmental disablities—

(A) make informed choices and decisions about their lives;

(B) live in homes and communities in which such individuals can exercise their full rights and responsibilities as citizens;

(C) pursue meaningful and productive lives;

(D) contribute to their families, communities, and States, and the Nation;

(E) have interdependent friendships and relationships with other persons;

(F) live free of abuse, neglect, financial and sexual exploitation, and violations of their legal and human rights; and

(G) achieve full integration and inclusion in society, in an individualized manner, consistent with the unique strengths, resources, priorities, concerns, abilities, and capabilities of each individual;

A Place Called H me

The creation of a more home-like physical environment is one of the hallmarks of culture change in nursing homes, and facilities that have implemented culture change practices have shown an increased quality of care[6]. Innovations in nursing care, such as the Green Home model and Eden Care, are equally applicable to people with developmental disabilities.

The notion of creating a small “home-like” environment in concert with opportunities for gathering, connection to the outdoors and increased natural light, can lead to healthier lives for residents.

At Fircrest School, both staff and families have attested to the benefits of a home-like atmosphere and connection to the outdoors and natural light.

STATUATORY REQUIREMENTS

Identify and explain the statutory or other requirements that drive the project's operational programs and how these af ect the need or space, location or physical accommodations

CFR Federal Requirements

As a State Facility, Fircrest Nursing Facility falls under the regulations of The Code of Federal Regulations (CFR) Section 42 Chapter IV, Subchapter G- PART 483 - REQUIREMENTS F R STATES AND L NG TERM CARE FACILITIES (§§ 483.1 - 483.480)

Certification falls under the purview of Centers for Medicare & Medicaid Services (CMS), a federal agency. n-site surveys to assess certifications are performed by Residential Care Services (RCS), a state agency under the Department of Health.

WAC State Requirements

As a discretionary measure, Fircrest also applies the regulations of the Washington State Administrative Code (WAC) Section 388-97 Skilled Nursing.

Federal CFR requirements supersede State WAC requirements.

WAC 388-106-0355: Eligibility for Nursing Facility Care Services outlines the criteria to be met to receive nursing facility levels of care, including assessment to determine if the client has three or more activities of daily living as defined in WAC 388-106-0010. The assessment evaluates the level of assistance needed by each client in terms of supervision, limited assistance, extensive assistance, daily requirements, and level of support (one or more persons to support each client in any of the activities listed above).

The WAC regulations include building requirements. Any replacement facility is expected to meet these regulations.

Energy Requirements

The Governor ffice Executive rder 18-01 states that "…all newlyconstructed state-owned buildings shall be designed to be zero energy or zero energy-capable, and include consideration of net-embodied carbon. In unique situations where a cost effective zero-energy building is not yet technically feasible, buildings shall be designed to exceed the current state building code for energy efficiency to the greatest extent possible."

Accessibility

Americans with Disabilities Act (ADA) accessibility for all spaces is critical not only for DD residents, most of whom use wheelcharis, but for any staff, volunteers and visitors who require accessibility and all who are deaf, hard-of-hearing, blind, wheelchair users, people with mobility challenges, etc.

Other Requirements

Refer to *Section 4 'Preferred Alternative'* for additional regulatory requirements and codes affecting the building components of the nursing facility.

Disabilities Act (Pub.L.106-402) and includes people with a severe, chronic condition that:

- Is attributed to a mental or physical impairment or a combination of those impairments.
- ccurs before the individual reaches 18.
- Is likely to continue indefinitely.

ANTICIPATEDU POPULATION

Include anticipated population projections (growth or decline) and assumptions

Needs f P pulation Served

The target DD(Developmentally Disabled) population is defined by the Developmental

- Results in substantial functional limitations in three or more of the following areas of major life activity: self-care, receptive and expressive language, learning, mobility, self-activity, capacity for independent living, and economic self-sufficiency, and
- Reflects the individual's need for a combination and sequence of special, interdisciplinary, or generic services, individualized supports, or other forms of assistance that are of lifelong or of extended duration and are individually planned and coordinated.

In 2017 there were 45,032 total DD clients served by the Developmental Disabilities Administration (DDA) in Washington State. Based on the current DDA budget for 2018-2019, this is projected to increase 5.5% by the end of 2019. This reflects an average annual growth rate of 2.3%. At the current time, most individuals with a disability function well within community settings and do not require institutionalized care. Almost 70% live with and receive care from their parent or relative.

nly 1.5% reside in a Residential Habilitation Center (RHC) such as the Fircrest School and less than 0.6% reside in nursing facilities operated by the RHCs.

Table 1: Projected Need for DD Nursing Facilities Statewide, Attune Healthcare

Year	Statewide Population	DD Total Caseload	DD Clients Per 1000 Population	Percent Eligible for Nursing Facilities*	Projected Nursing Facility DD Clients**
2017 Actual	7,090,000	45,032	6.35	- .7%	307
2018 Budgeted	7,272,840	46,259	6.34	- .6%	282
2019 Budgeted	7,455,620	47,519	6.34	- .6%	283
2030 Projected	8,503,200	60,373	6.34	- .6%	323
2040 Projected	9,242,000	72,088	6.34	- .6%	352

* Not Adjusted for Aging of the verall Population

** Includes Rainier School eligible nursing facility clients

Washington State currently operates 4 RHC facilities, and 3 of them offer nursing facility care. Those campuses with nursing facilities are Fircrest in Shoreline, Lakeland Village in Medical Lake, and Yakima Valley School in Selah. In 2017, there were 307 identified DD clients in need of nursing care in the DDA 2017 Caseload and Cost Report.

The distribution of licensed Nursing Facility Beds is shown below:

Tabl 2 – Octob r 2018

Residential Habilitation Center	CertifiedtNF Beds	#tof Clients *
Raini r School	0	60
Fircrest School	92	87
Yakima Vall y School	73**	68
Lak land Villag	93	67
TOTAL COUNT	258	282

* Cli nts with docum nt d n ds. ** 112 b ds partially clos d. 57 long- t rm cli nts. Not acc pting n w long- t rm cli nts & will v ntually clos . Short-t rm b ds: 16 short- t rm respit & crisis plac m nts. 57+16=73. This tabl displays stat wid population proj ction r quirem nts. It is not sp cific to any region of RHC. Th int nt of this tabl is to illustrat th re is a great r n d for DD nursing s rvic s long t rm than address d in this proj ct. Th s s rvic s may also b provid d in community-bas d s ttings.

Projected Need

The need for nursing facilities is growing rapidly due to aging of the entire DD population together with general population growth across the state.

Although there has been a remarkable shift in Washington State from institutional care to community based residential care over the last 30 years, there remains a core number of clients who continue to benefit from institutional care, including nursing and ICF care.

Care Needs Exceed Community-Based Skilled Nursing Facilities

As the DD population is aging with the general population, the specialized needs of the typical frail DD clients exceed those found in community skilled nursing facilities. The extensive care needs of this target population exceed the level of care available in community based skilled nursing facilities. The majority of the DD individuals (95%) are incontinent and do not use toilets and 77% are tube fed. They often have multiple chronic conditions in addition to their physical and/or intellectual deficits. For example, 75% of clients frequently have the following diagnoses in addition to profound mental deficiencies:

- Gastrointestinal/Digestive/Metabolic conditions such as gastrointestinal reflux disease, gastrostomy tube placement, dysphagia, hypo or hyper thyroidism, diabetes, colostomy, and/or jejunostomy;
- Reduced physical function due to contracture, hemiplegia, quadriplegia, scoliosis, and kyphosis. This requires assistance to turn, reposition, or ambulate at all times.

ther common problems that impact 50% of clients include:

- Respiratory problems such as aspiration pneumonia, C PD, and asthma.
- Mood behavior and mental health conditions such as bi-polar diagnoses and management, autism spectrum disorder, post-traumatic stress disorder, depression, psychosis, impaired cognition, and dementia.
- Recurrent infectious disease, including upper respiratory infection and

pneumonia, urinary tract infection, C-diff, influenza, and MRSA.

During the past decade, there has been a push to close state-run residential centers, and move residents into smaller community-based homes where residents can interact with the larger community.

A 2003 study, *Planning or the Future of DDD Residential Habilitation Centers*, found that community service homes, such as S LA (State perated Living Alternatives), are getting better at meeting the most challenging needs of DD people[6]. However, this study focused on younger age groups. It is important to note the distinction of the lack of suitable nursing facility care in community skilled nursing due to the elevated needs of frail DD elders.

Increased Need f r Respite and Crisis Care

In addition to the need for long term DD Nursing Facility care, there is a growing need for short term Respite and Crisis Care.

Short term respite and crisis care allows DD clients to stay at a facility for a short time. These services provide added support to the following people:

1) caregivers at community based residential facilities where crisis management can be an issue

2) parental care givers in need of a break or who are also aging and have become increasingly unable to care for their loved ones.

Following a stay at the hospital, older clients often require a 24/7 recovery option that consolidates multiple therapies and supports after a hospitalization. Patients on more than a dozen medications, with advanced dementia, ventilator-dependent, incontinent, or with other complex clinical conditions or disabilities often cannot be safely attended to in private homes or assisted living. Patients in recovery deserve good nursing care to maximize their strengths and abilities. Providing crisis and respite care can help alleviate this problem.

This has created a shift in the mix of clientele among nursing facility residents to include an increased number of short- term admissions for respite care (average length of stay capped at 30 days) and crisis management/crisis stabilization clients who may reside in nursing facilities for up to one or two years. This shift in client mix impacts programmatic needs, staffing needs, and facility needs at Fircrest.

Tabl 3 - Stat Wid N d vs Supply

Y ar	Proj ct d NF N d	Certifi d NF B ds*
2018	282	258
2023	297	258
2030	323	185**
2040	352	185**

*Assumes No Action

**Assumes Yakima Valley School is closed.
Based on current population projections. See the full Attune Healthcare report in Appendix G.

State-Wide DD Nursing Facility Need

As shown in Table 3, the anticipated statewide need for DD Nursing Facilities will likely grow from 282 clients in 2018 to 352 clients by 2040. This is a 2.8% per year rate of growth as expected from the Washington State population. If there is “no action,” the nursing beds available for the DD community will continue to be deficient. Yakima Valley School is planned for eventual closure and that closure is indicated in the projections.

Rel cati n Trauma

Relocation trauma, also called Transfer Trauma, occurs when a resident is moved to a new location

and experiences physiologic and/or psychosocial trauma. In some instances, a client unexpectedly dies after the move. Relocation Trauma is a formal nursing diagnosis. Clients may experience relocation trauma if they move away from the friends and staff they have known all their lives.

At Fircrest School and the other RHC schools, many residents have worked with the same staff, and lived with the same friends for many years. There have been instances of clients dying after relocation to another facility—attributed to relocation trauma.

MISSION AND GOALS

Explain the connection between the agency's mission, goals and objectives; statutory requirements; and the problem, opportunity, or program requirements.

DSHS/DDA

The Developmental Disabilities Administration (DDA) is a direct service agency under DSHS. DDA administers programs at Fircrest School.

The Developmental Disabilities Administration (DDA) endeavors to make a positive difference in the lives of people eligible for DD services, through offering quality supports and services that are: individual and family driven; stable and flexible; satisfying to the person and their family; and able to meet individual needs. Support and services are offered in ways that ensure people have the necessary information to make decisions about their options and provide optimum opportunities for success.

The proposed nursing care model supports DDA's mission and goals by tailoring services to a clients individual needs; by creating spaces that allow for healthy living; and by encouraging connection to the younger IDD community and events at Rainier School.

DDA Values

- All persons with developmental disabilities are provided every possible opportunity to live in a manner consistent with the general citizenry.
- The Administration promotes the development and implementation of new techniques and program approaches to ensure opportunities for positive change and for personal growth and development toward maximum independence.
- All services to persons with developmental disabilities are based on individual need and designated to preserve human dignity, protect civil and human rights and encourage the involvement and responsibility of the individual's family and community.

The DDA wants people who receive residential services to experience these benefits:

- Health and Safety
- Personal Power and Choice
- Personal Value and Positive Recognition by Self and thers
- A Range of Experiences Which Help People Participate in the Physical and Social Life of Their Communities
- Good Relationships with Family and Friends
- Competence to Manage Daily Activities

OPERATIONAL GOALS

Based on experience at the current Fircrest Nursing Facility, the most operationally efficient bed configuration involves 20-bed pods. This allows for the most economical staffing plan and meets or exceeds CMS direct nursing staff ratios of 4 : 1. Each single and double bed room has a shared bathroom, individual wardrobes, and personal storage areas. ther programmatic functions within each pod include family-like amenities such as dining areas, activity space, nurse administration space, medication management space, and equipment storage.

ther functions that improve efficiencies are included in the space program such as activity space for on-site physical therapy, occupational therapy, and speech therapy. There is also space within the new facilities to accommodate physician office space for on-site rounding and for on-site behavioral health professional visits.

Program goals that impact DD nursing facility space requirements include:

- Implement a staffing plan that embraces the Fircrest School model which has consistently received 4 to 5- star status from CMS annual audits.
- ptimize operational efficiencies
  - Develop single story buildings that minimize staff transport time
  - Utilize double loaded corridors to maximize staff observation capabilities and minimize walking distances for clients and staff
  - Include space within the nursing facility rather than transporting clients to other buildings on campus for heavily utilized programs and services. Services to be included within the nursing facility:
    - Physical, occupational, and speech therapy
    - Medical clinic space for physician rounding
    - Activity space
  - Include visual amenities such as windows for viewing the outdoors, covered patios for outdoor enjoyment, and skylights/clearstories for ample natural light.
- Minimize costly duplication of services where possible
  - Utilize centralized services available elsewhere on campus, including the centralized kitchen, laundry, and maintenance that can be transported to the new facility easily and economically.
  - Establish single point of entry for families and visitors with centralize reception area for check-in to promote safety and security for the entire building.
- Utilize existing space as much as possible while ensuring other program goals are met.

VISI NING W RKSH PS

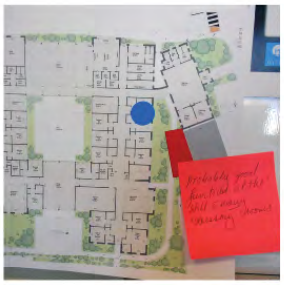
The SAGE team conducted a series of six visioning workshops to incorporate goals shared by staff and supporters at Fircrest School. The visioning workshops incorporated “lessons learned” from Fircrest’s current four-star nursing facility, as well as future needs of aging residents at Fircrest Rainier School.

Honoring the human dignity of people with intellectual and developmental disabilities was one the most important goals cited in the visioning workshops. Staff at Fircrest School have close relationships with the residents there, many have worked with clients for over 20 years.

VISI NING

WORK-SHOPS

RESULTS



Results of work-shops reveal a consensus towards certain architectural features and pro-grammatic spaces

CURRENT STRENGTHS

"We're already one of the best nursing facilities in the state"
- Fircrest School

"Our medical team provides great care"
- Rainier School

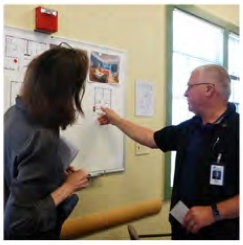
"Rainier School has excellent staff retention, 55% of our staff have worked here more than 15 years"
- Rainier School

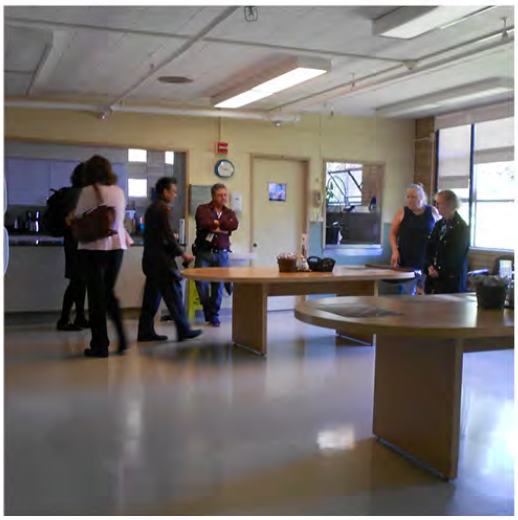
VISION OF NATURE AND LIGHT

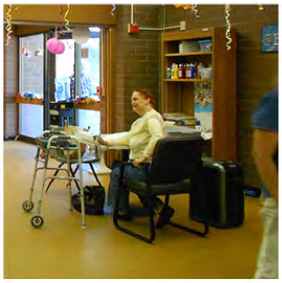
"A recreation zone, indoor greenhouse/ gardening, sensory room"
- Fircrest School

"It's important that clients can look out from the nursing home and see the world."
- Friends of Rainier

"Connection to nature, lots of natural light, lots of storage"
- Fircrest School







VISION OF A PLACE CALLED HOME

"more home-like"
- Fircrest School

"A fireplace in the Common Living Areas"
- Rainier School

"Nice place for social gathering between bedrooms"
- Fircrest School

SENSORY AREAS

"Open areas for clients to move about"
"Over-sized corridors are under-rated, wide corridors make for nice informal interior space."

"water fountain, bird bath, hummingbird feeder outdoors"

"Fenced gardening area, ability to feel different textile opportunities, and therapy area"

"Tactile things to touch and feel"

THE NURSING FACILITY

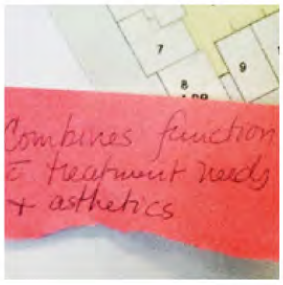
"One big building to house all nursing home clients and a space for indoor activities"
- Fircrest School

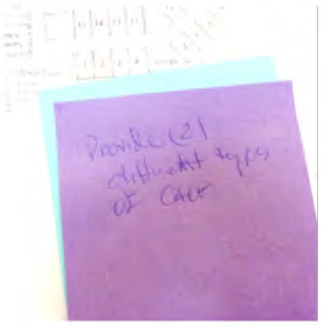
"AC in each bedroom with individual controls"
- Fircrest and Rainier School

NURSING MENITIES

More parking"
"Northwest portion of the campus, close to Activities Building"

"Combine all (NF) buildings"





WHAT US UNEEDED

Describe in general terms what is needed to solve the problem.

Replacement is needed for the existing nursing facility buildings that have exceeded their useful life. The preferred solution for the Fircrest School is a new 120-bed facility at the Madrona site, at the northwest side of campus with the following features:

- Single-story building under one roof.
- Use of 20-bed cottages.
- Mix of single and double rooms utilizing the ratio of 1 toilet room per 2 bedrooms.
- Expansion capability.
- Netzero construction.

Staffing

Analysis of the projected staffing requirements to operate a new nursing facility at Fircrest School is based on the staffing plan outlined for the Fircrest School as defined in the 2017 study "Facility Wide Resource Assessment". This detailed study describes the staffing mix for three staff categories, including:

- Clinical staff which is comprised of direct nursing staff, medical practitioners, dentists, pharmacists, and therapists
- Administrative and support staff for the nursing facility
- Centralized staff for the campus who are allocated to the nursing facility including housekeeping, maintenance, dietary, laundry, and others.

Direct Nursing Staff

The direct nursing staff configuration for the Fircrest School is core to the entire staffing model developed for the new facility. Table 4 describes the Fircrest Model which results in an average of 5.5 hours of nursing face-time per bed per day.

Table 4: Direct Nursing Care Staff – 2017 Fircrest School Staffing Model

		Staffing Plan by Type of Staff by Shift						
		6:30 am 3:00 pm	3:00 pm 9:00 pm	9:00 pm 11:00 pm	11:00 pm 6:30 am	Nursing Hours/Day	Nursing Hours/Week	FTEs @ 40 Hrs/Week
# of Staff	CNA*	20	20	10	10	385.0	2,695.0	67.4
	LPN**	5	5	5	2	97.5	682.5	17.1
	RN***	1	1	1	1	24	168.0	4.2
	Total	26	26	16	13			
Hrs/Shift		8.5	6.0	2.0	7.5			
Total Hrs/Shift		221	156	32	97.5	505.5	3,545.5	88.6
Total Hours/ Bed/Day		2.4	1.7	0.3	1.1	**5.5**		

Notes *CNA: Certified Nurse Assistant provides hands-on direct patient care

**LPN: Licensed Practical Nurse provides medication management

*** RN: Registered Nurse provides staff management and care planning for each client

Fircrest Nursing Beds: 92

HISTORY

Include any relevant history of the project, including previous predesigns that did not go orward to design or construction.

The 10,600 sf laundry building burned down in July 2017.

Prior master plans and studies that informed this Predesign Study:

- Drainage Investigation (in progress at the time of this report), AHBL, 2018.
- Power Infrastructure Study (in progress at the time of this report), Sazan, 2018.
- Campus Master Plan Phase III by AHBL, June 30, 2017.
- Geotechnical Report for D H Laboratory, June 29, 2011. & March 14, 2016.
- Fircrest Campus Excess Property Master Plan January 6, 2010
- Part 3 Feasibility Study for the Closure of State Residential Habilitation Centers, November 1, 2009
- DSHS Excess Property Report, January 4, 2008.
- Heartland, November 2003
- DSHS Planning for the Future of DDD Residential Habilitation Centers, Report to the Legislature, David Deshaies LLC, September 30, 2003
- Ecological Resources Assessment by Golder Associates, April 10, 2002.

ENDNOTES

1. Carolyn C. Tinglin (2013) Adults With Intellectual and Developmental Disabilities: A Unique Population, Today's Geriatric Medicine, Vol. 6 No. 3 P. 22
2. Alan Factor, Tamar Heller, Matthew Janicki (2012) Bridging the Aging and Developmental Disabilities Service Networks: Challenges and Best Practices , University of Illinois Department of Disability and Human Development www.acf.hhs.gov/sites/default/files/aidd/bridgingreport_3_15_2012.pdf
3. Arthur Webb (2012) 'The role of nursing homes in national health care reform: From warehouse to medical home' 2-6
4. DSHS Nursing Facility List for WA State: https://fortress.wa.gov/dshs/adsaapps/lookup/NHAdvLookup.aspx
5. DSHS (September 30, 2003) Planning for the Future of DDD Residential Habilitation Centers, Report to the Legislature

3 ANALY I OF ALTERNATIVE

“Every moment of light and dark is a miracle.”—Walt Whitman

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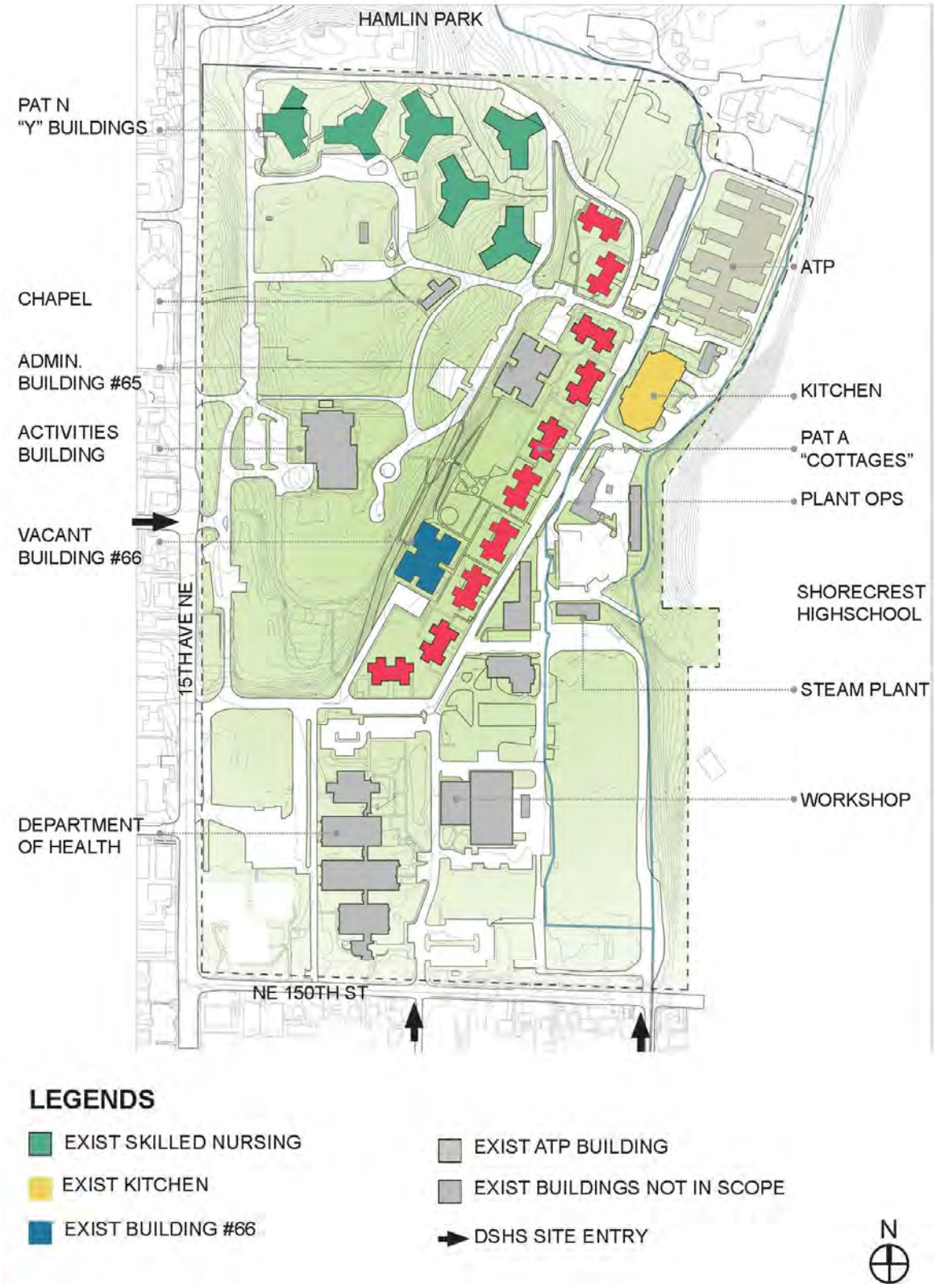
3.2 EX ST NG CAMPUS MAP



3.1
SUMMARY OF ALTERNAT VES

This predesign explored 4 Alternative Sites, each with variables of bed count, layout design, and LEED Silver or LEED Silver plus Netzero. The impacts of taking "no action" or the potential for an offsite alternative were also investigated.

The Nursing Home Facility topography of the site dictates potential sites because of the strong program preference for a 1-story connected facility. The lower east campus is flat and apparently formed as the stream bed of Hamlin Creek. The upper west campus is less flat but does have a wide plateau that is the preferred Alternative 3. Site Location Alternative 3 was selected by a strong majority of Fircrest School's Predesign Visioning Committee. Each of the Action Alternatives require construction of two Water Tanks and new water distribution system before new construction can occur, but some Action Alternatives will require longer distribution line. Water tank placement appears to require demolition of one Y-Building. The following is a list of alternatives investigated:

N Action Alternative

The effects if no action is taken.

Alternative 1 - Bldg 66 Site

Renovate Building 66 with a new addition – 90 bed option.

Alternative 2A - ATP Site

New construction North East of site (ATP) - 100 nursing bed option.

Alternative 2B - ATP Site

New construction North East of site (ATP) - 160 nursing bed option.

Alternative 3A Madr na Site

New construction North West of site (Madrona) along 15th Ave.- 100 nursing bed option.

Alternative 3B Madr na Site

New construction NW Campus (Madrona) along 15th Ave.- 160 nursing bed options.

Alternative 3C Madr na Site

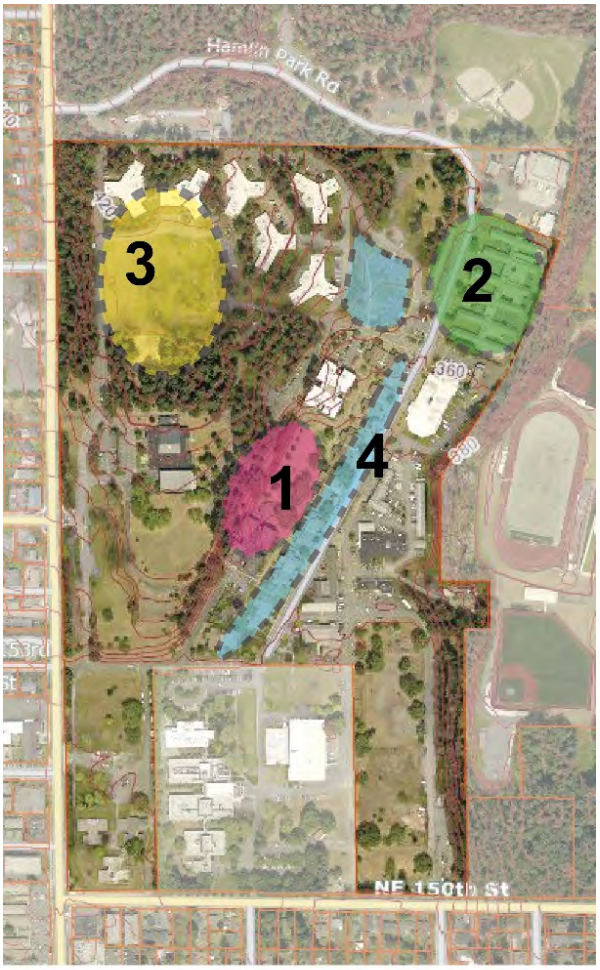
New construction NW Campus (Madrona) along 15th Ave.- 120 nursing bed options.

Alternative 4

Renovate 10 wood frame cottages connected with a new interior covered walkway – 84 nursing beds.

Off-Site in King County

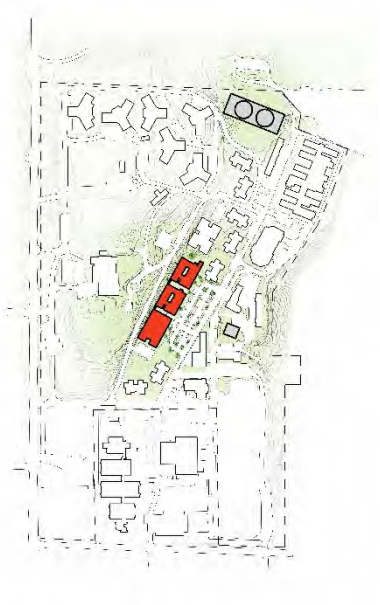
Investigation of 5 Nursing Homes in King County that have closed in the last 24 months for potential repurposing to serve the Fircrest Nursing Home population.



Alternative 1-Ren vate Bldg 66

90-bed option -Renovate Building 66 plus 2 new 20-bed cottages.

- LEED Silver
- LEED Silver + Netzero



Alternative 2A-ATP Site

100-bed new construction at ATP Site (NE Campus) using (3) 2-story 20-bed cottages with Admin/Services..

- LEED Silver
- LEED Silver + Netzero

Alternative 2B-ATP Site

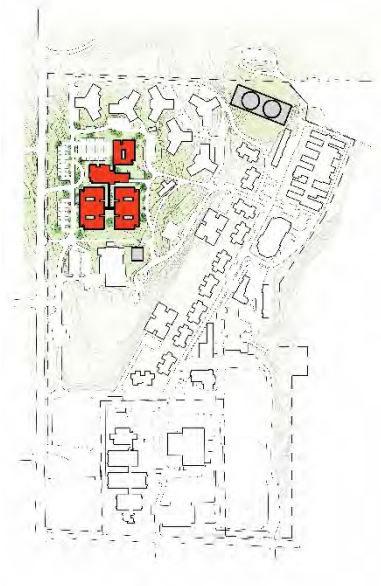
160-bed new construction at ATP Site (NE Campus) adding (3) 1-story 20-bed cottages to west side of road from Alt 2A.

- LEED Silver
- LEED Silver + Netzero

Alternative 3 A- Madr na Site

100-bed new construction at Madrona site (NW Campus) along 15th Ave. with (5) 20-bed cottages.

- LEED Silver
- LEED Silver + Netzero



Alternative 3 B-Madr na Site

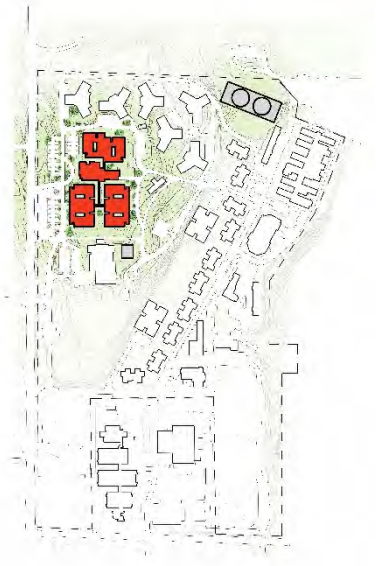
160-bed new construction at Madrona site (NW Campus) along 15th Ave. with (8) 20-bed cottages.

- LEED Silver
- LEED Silver + Netzero

Alternative 3 C- Madr na Site (Preferred)

120-bed new construction at Madrona site (NW Campus) along 15th Ave. (6) 20-bed cottages.

- LEED Silver
- LEED Silver + Netzero



Alternative 4 – Ren vate ICF C ttages

Renovate 10 Intermediate Care Facility (ICF) wood frame cottages connected with a new interior covered walkway – 84 nursing beds.

Off-Site Alternatives

Utilize existing available King County nursing facilities. A public disclosure letter dated September 10, 2018 was provided from DSHS Aging and Long-Term Support Administration for the Nursing Homes that were closed in the last 24 months. See appendix for full letter. There were 5 Nursing Facilities identified and the feasibility of using each facility was studied.

3.2
NO ACT ON ALTERNAT VE

Pr grammatic Outc me

Describe all the alternatives that were considered including the preferred alternative. Alternatives may include co-location, renovation, leased space, purchase, new construction or other options explored.

i. A not action alternative. Describe the programmatic outcome of not addressing the problem or opportunity.

The chief dysfunctions include:

- Poor and failing buildings.
- Building layout doesn't meet operational needs.
- Space needs don't meet regulatory requirements.
- Capacity is inadequate

The existing 6 Nursing Facility Buildings are in poor condition and the capacity of the existing facilities are not large enough to care for the increasing population needing nursing care. The poor condition of the Y-Buildings was documented in the 2002 Excess Property Master Plan and the 2017 DSHS Capital Project Request. Problems include plumbing, electrical, seismic, building envelope issues as well as primary space needs that don't meet Nursing Facility standards. The condition of the facilities is so poor that one of the 6 facilities is always held in reserve, so if any of the remaining 5 buildings have mechanical failures that make them un-habitable, the clients can be moved to the backup building. No action could lead to multiple building failures that render multiple buildings simultaneously inhabitable and threaten client well-being.

The Fircrest Nursing Facilities are currently filled. But ICF (Intermediate Care Facility) clients living in the cottages are aging and needing nursing care faster than spaces open up for them. If these clients with increasing needs remain in the IFC's, Fircrest will receive citations for inadequate care and IFC certification and funding will be threatened. At worst, serious life-safety incidents may occur. There is also increasing Nursing Facility need for crisis and respite nursing care from clients living in the broader community that is not being adequately served. No Action will result in increasing unmet needs and reduced safety and well-being of the most vulnerable clients.

Advantages and Disadvantages

ii. The advantages and disadvantages of each alternative. Please include a high-level summary table with your analysis.

There are no advantages of the No Action Alternative. The disadvantages are itemized in item i above.

Cost Estimates

iii. Cost estimates for each alternative.

None.

Schedule

iv. *Schedule estimates for each alternative. Estimate the start, midpoint and completion dates.*

None.

ALTERNAT VE 1 – RENOVATE BLDG 66

Each of the Action Alternatives require construction of new Water Tanks and new water distribution system before new construction can occur, but some Alternatives will require longer distribution line.

Description

Describe all the alternatives that were considered including the preferred alternative. Alternatives may include co-location, renovation, leased space, purchase, new construction or other options explored.

The existing 3-story Building 66 is extensively renovated to meet functional requirements and LEED Silver or LEED Silver plus Netzero. The building envelope is insulated inside and outside and receives new cement board siding. All building electrical, mechanical and elevator systems are replaced. Required sitework is extensive. But Building 66 can only accommodate 44-beds with Admin and Services, so two 1-story, new construction "neighborhood clusters" are added to the north to achieve 90-beds.

Advantages and Disadvantages

i. The advantages and disadvantages of each alternative. Please include a high-level summary table with your analysis.

Advantages

- Reuse of existing under-used structure
- Central Location
- Adjacent to ICF Cottages

Disadvantages

- Tight site with limited expansion potential due to steep grade on west, existing ICF cottages on east, and Building 65 to north.
- Building 66 is 3-stories and a 1-story building is strongly preferred operationally and for client's connection to outdoors.
- Adapting the Nursing Facility layout to less desirable features of the existing building reduces operational efficiency.
- Clients in the new construction "neighborhood clusters" have to reach Physical Therapy by elevator.
- Fire access impaired by steep grade requiring new access road cut into hillside.
- Removal of large trees required for west access road.
- Demo of 3 ICF cottages required to create main entry access.
- Requires transporting food services by truck.

C st Estimates

ii. Cost estimates for each alternative.

The estimated construction cost in today's dollars are as follows:

LEED Silver: $42,004,160.

LEED Silver +Netzero: $50,642,866.

Schedule

iii. *Schedule estimates for each alternative. Estimate the start, midpoint and completion dates.*

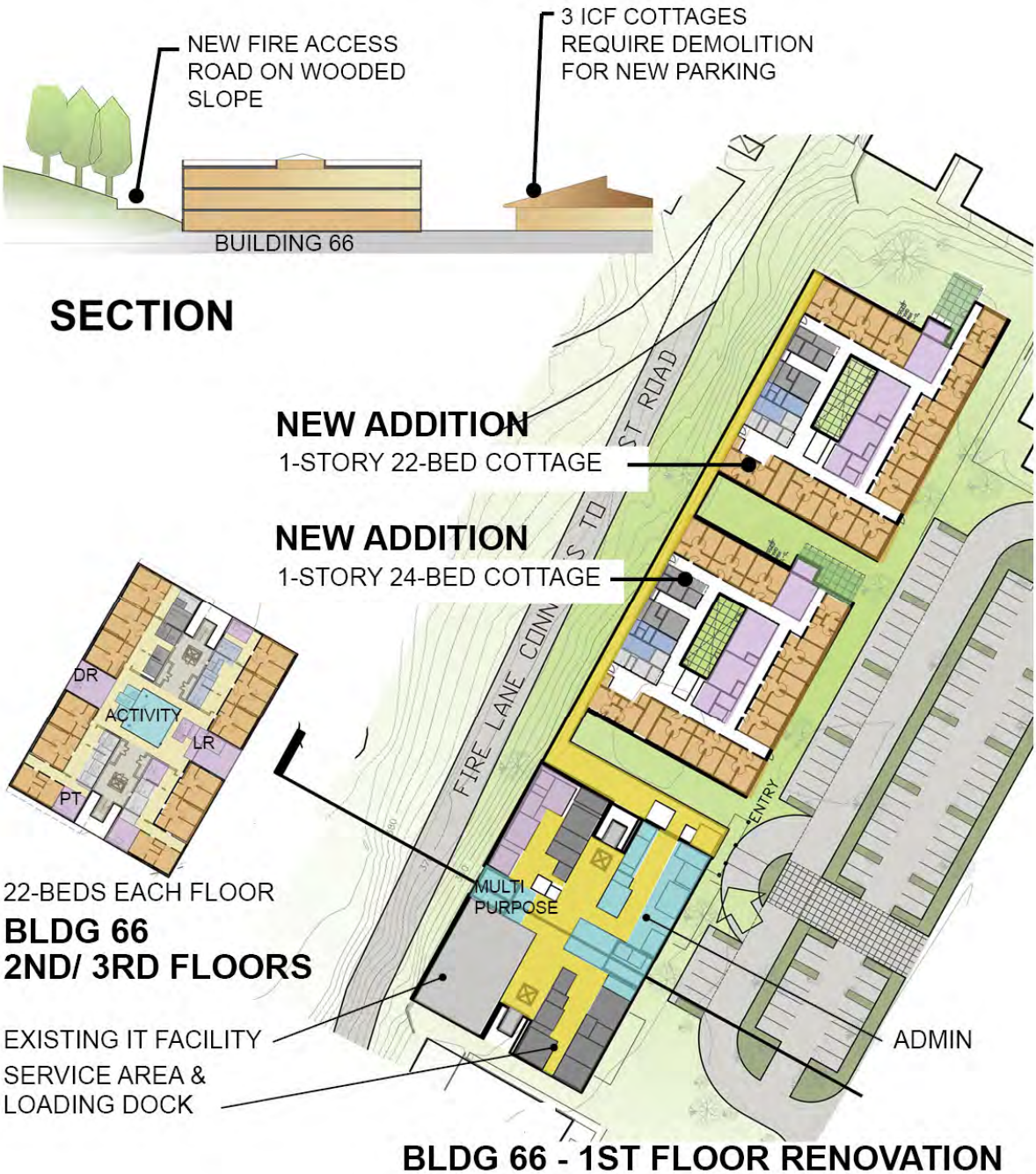
Design and Bidding Phases: November 2019 through February 2021

Construction Start Date: April 2021

Construction Midpoint Date: November 2021

Construction Completion Date: October 2022

EXISTING BUILDING 66


NEW FIRE ACCESS ROAD ON WOODED SLOPE
3 ICF COTTAGES REQUIRE DEMOLITION FOR NEW PARKING
BUILDING 66
SECTION
NEW ADDITION
1-STORY 22-BED COTTAGE
NEW ADDITION
1-STORY 24-BED COTTAGE
DR
ACTIVITY
LR
PT
22-BEDS EACH FLOOR
BLDG 66
2ND/ 3RD FLOORS
FIRE LANE CONN
ST ROAD
MULTI PURPOSE
ENTRY
EXISTING IT FACILITY
SERVICE AREA & LOADING DOCK
ADMIN
BLDG 66 - 1ST FLOOR RENOVATION

ALTERNAT VE 2A – ATP S TE 100-BEDS

Description

Describe all the alternatives that were considered including the preferred alternative. Alternatives may include co-location, renovation, leased space, purchase, new construction or other options explored.

New construction of 2-story 100-bed nursing facility with connection to Main Kitchen. Design includes (2) 2-story, 20-bed cottages connected by a glazed link. These cottages in turn link to a 2-story cottage with 20-beds on level 1 and with Admin, Physical Therapy, and Multipurpose on level 2. Both LEED Silver and LEED Silver plus Netzero were considered.

This site currently houses the ATP (Adult Training Program) so relocation of programs and demolition of old wood-frame ATP building dating from 1940's is required.

The Alternative 2 location, north of the main kitchen, has an undetermined viability depending on City of Shoreline and wetland specialists' decisions about the routing of a piped portion of Hamlin Creek and determination of the buffer zones associated with the Creek. With a favorable determination, Alternative 2 could accommodate the preferred building facility and it would have the advantage of proximity to the Main Kitchen and ICF cottages. However, with an unfavorable Hamlin Creek determination by Shoreline and wetlands specialists, the preferred building design will be unfeasible.

Advantages and Disadvantages

i. The advantages and disadvantages of each alternative. Please include a high-level summary table with your analysis.

Advantages

- Connects to Main Kitchen for food service efficiency.
- Clients can easily be taken to Main Dining Room as a second dining venue.
- Central Location
- Adjacent to ICF Cottages
- 2-story design is more compact.
- If all Hamlin Creek were piped to the east and a small buffer required, this would be a desirable central location.

Disadvantages

- The site is constrained by Hamlin Creek that is split just north of the site to an open ditch at the east property line and pipe routed down the center of the roadway fronting the west side of the site.
- Required Hamlin Creek buffers are in discussion and not definited at the date of report issuance. With the unknown buffers, it is not known if this alternative is feasible.
- 2-story operation requires transporting clients with large wheelchairs in elevators and will limit mobility and connection with outdoors.
- Expansion requires the addition be separated by the west roadway, limiting ease of communication and operational efficiency.
- Requires relocation of ATP (Adult Training Program) and demolition of building.
- Demolition of Paint and Maintenance Buildings or Storage and an ICF Cottage are required for the parking lot.

C st Estimates

ii. Cost estimates for each alternative.

The estimated construction cost in today's dollars are as follows:

LEED Silver: $50,165,631

LEED Silver +Netzero: $59,356,629

Schedule

iii. *Schedule estimates for each alternative. Estimate the start, midpoint and completion dates.*

Design and Bidding Phases: November 2019 through February 2021

Construction Start Date: April 2021

Construction Midpoint Date: December 2021

Construction Completion Date: October 2022

ATP BUILDING - EAST ROAD -HAMLIN CREEK RUNS ALONG OTHER SIDE OF FENCE

PORTION OF HAMLIN CREEK IS IN OPEN DITCH ALONG EAST PROPERTY LINE

ATP BUILDING - WEST ROAD - PORTION OF HAMLIN CREEK IS PIPED DOWN ROAD

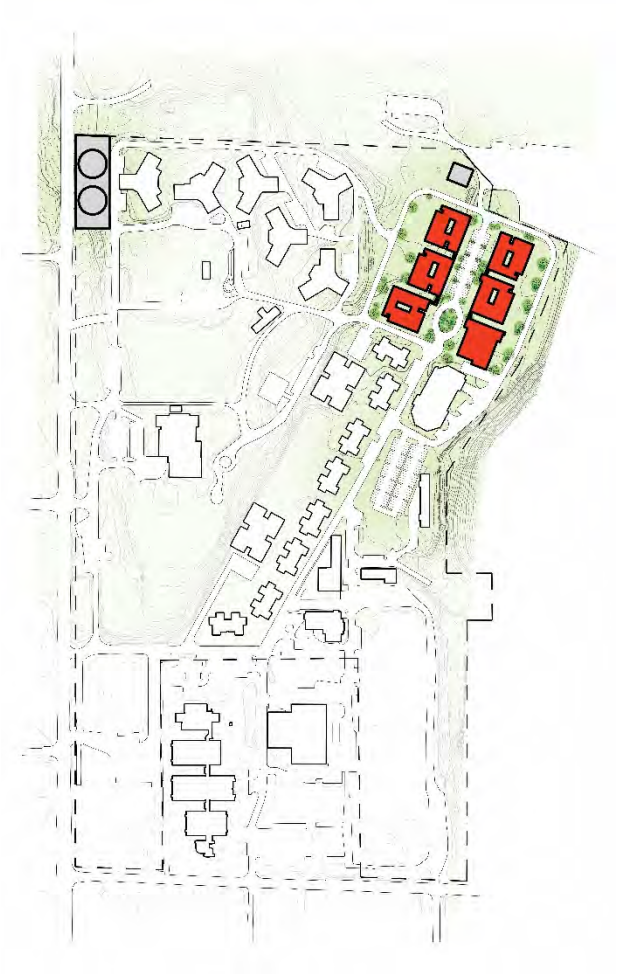
ATP BUILDING - WEST ROAD - PORTION OF HAMLIN CREEK IS PIPED DOWN ROAD

SOUTH SIDE OF CAFETERIA BUILDING

MAIN KITCHEN AT CAFETERIA BUILDING


New Laundry Building
Parking
20-Bed Cluster
20-Bed Cluster
Main Entry
Administration Section
Kitchen and Cafeteria
370
370

ALTERNAT VE 2B – ATP S TE 160-BEDS



Description

Describe all the alternatives that were considered including the preferred alternative. Alternatives may include co-location, renovation, leased space, purchase, new construction or other options explored.

New construction of (3) 1-story 20-bed cottages to the west of the Hamlin Creek pipe and opposite Alternative 2A with 100-beds. It is assumed the new cottages will rely on the Admin, Physical Therapy, and Multipurpose of Alternative 2A. Both LEED Silver and LEED Silver plus Netzero were considered.

This site currently houses a Storage Building and 2 IFC Cottages that will require relocation and demolition. Parking should also be expanded.

Advantages and Disadvantages

i. The advantages and disadvantages of each alternative. Please include a high-level summary table with your analysis.

Advantages

- Same as Alt 2A

Disadvantages

- Same as Alt 2A
- The existing piped branch of Hamlin Creek splits the facility in two. The current buffer each side of the pipe is 10 ft clearance but that may change with review now underway.
- The 60-bed addition requires considerable cut and retaining to maintain the same ground elevation level as Alt 2A.
- A new roadway is needed to loop around the west of the 3 additional 20-bed cottages for fire access.

C st Estimates

ii. Cost estimates for each alternative.

The estimated construction cost in today's dollars are as follows:

LEED Silver: $71,682,041.

LEED Silver +Netzero: $83,268,350.

Schedule

iii. *Schedule estimates for each alternative. Estimate the start, midpoint and completion dates.*

Design and Bidding Phases: November 2019 through February 2021

Construction Start Date: April 2021

Construction Midpoint Date: December 2021

Construction Completion Date: October 2022


ALT 2 - 160 BEDS
65'
45'
0'
VISITOR PARKING 50
LEVEL 1
EXIST
NEW
ENTRY
LEVEL 1
NEW
EXIST
FOOD
MAIN LOADING
LEVEL 2


VISITOR PARKING 50
EXIST NEW
NEW EXIST
MAIN LOADING
NEW EXIST
MAIN PARKING 34,000 SF 100

ALTERNAT VE 3A – MADRONA S TE 100 BEDS

Description

Describe all the alternatives that were considered including the preferred alternative. Alternatives may include co-location, renovation, leased space, purchase, new construction or other options explored.

New construction at the Madrona Site of (5) 1-story cottages and Administrative / Services wing with new entry from 15th Avenue. Covered drop-off serves Village Center Wing including Admin, Multi-Purpose, Meeting Rooms, Physical Therapy, and Services. The service area and loading dock is at the rear of this wing.

Both LEED Silver and LEED Silver plus Netzero were considered.

Advantages and Disadvantages

i. The advantages and disadvantages of each alternative. Please include a high-level summary table with your analysis.

Advantages

- Largest area of relatively flat campus for expansion potential.
- Space for preferred 1-story design.
- 100-bed Alternative requires no demolition.
- Potential Visibility from 15th.
- Width of site allows for more compact circulation.
- Adjacent to Activity Building.
- Can minimize construction interference with current Fircrest School Operations.

Disadvantages

- Food Service will need truck delivery from Main Kitchen at lower campus.
- Buried debris and potential soil contamination at NE side of site.

C st Estimates

ii. Cost estimates for each alternative.

The estimated construction cost in today's dollars are as follows:

LEED Silver: $46,925,261

LEED Silver +Netzero: $50,494,029

Schedule

iii. *Schedule estimates for each alternative. Estimate the start, midpoint and completion dates.*

Design and Bidding Phases: November 2019 through February 2021

Construction Start Date: April 2021

Construction Midpoint Date: December 2021

Construction Completion Date: October 2022


Water Tank
Y Buildings
15th Ave NE
20-Bed Cluster
Admin / Staff
Main Entry
Service Entry
20-Bed Cluster
20-Bed Cluster
20-Bed Cluster
20-Bed Cluster
Activity Building
New Laundry Building

ALTERNAT VE 3B – MADRONA S TE 160 BEDS

Description

Describe all the alternatives that were considered including the preferred alternative. Alternatives may include co-location, renovation, leased space, purchase, new construction or other options explored.

New construction at the Madrona Site of (8) 20-bed 1-story cottages and Administration/ Services Wing with new entry from 15th Avenue. Covered drop-off serves Village Center Wing including Admin, Multi-Purpose, Meeting Rooms, Physical Therapy, and Services. The service area and loading dock is at the rear of this wing. Compared to Alt 3A, this alternative expands further to the north and requires demolition of (2) Y-Buildings and additional parking.

Both LEED Silver and LEED Silver plus Netzero were considered.

Advantages and Disadvantages

i. The advantages and disadvantages of each alternative. Please include a high-level summary table with your analysis.

Advantages

- Largest area of relatively flat campus for expansion potential.
- Space for preferred 1-story design.
- 100-bed Alternative requires no demolition.
- Potential Visibility from 15th.
- Width of site allows for more compact circulation.
- Adjacent to Activity Building.

Disadvantages

- The project should consider phasing so the clients in the Y-Buildings can be relocated into the new facility prior to demolition of their building.
- Food Service will need truck delivery from Main Kitchen at lower campus.
- Buried debris and potential soil contamination at NE side of site.

C st Estimates

ii. Cost estimates for each alternative.

The estimated construction cost in today's dollars are as follows:

LEED Silver: $67,612,865

LEED Silver +Netzero: $73,137,811.

Schedule

iii. *Schedule estimates for each alternative. Estimate the start, midpoint and completion dates.*

Design and Bidding Phases: November 2019 through February 2021

Construction Start Date: April 2021

Construction Midpoint Date: December 2021

Construction Completion Date: October 2022


Water Tank
Y Buildings
15th Ave NE
20-Bed Cluster
Admin / Staff
Main Entry
Service Entry
20-Bed Cluster
20-Bed Cluster
20-Bed Cluster
20-Bed Cluster
20-Bed Cluster
Activity Building
New Laundry Building

ALTERNAT VE 3C – MADRONA S TE 120 BEDS

Description

Describe all the alternatives that were considered including the preferred alternative. Alternatives may include co-location, renovation, leased space, purchase, new construction or other options explored.

New construction at the Madrona Site of (6) 20-bed 1-story cottages and Administration/ Services Wing with new entry from 15th Avenue. Covered drop-off serves Village Center Wing including Admin, Multi-Purpose, Meeting Rooms, Physical Therapy, and Services. The service area and loading dock is at the rear of this wing. Compared to Alt 3A, this alternative expands further to the north and requires additional parking. Compared to Alt 3B, this alternative does not require demolition of additional Y-Buildings.

Both LEED Silver and LEED Silver plus Netzero were considered.

Advantages and Disadvantages

i. The advantages and disadvantages of each alternative. Please include a high-level summary table with your analysis.

Advantages

- Largest area of relatively flat campus for expansion potential.
- Space for preferred 1-story design.
- 120-bed Alternative requires no demolition and creates no displacement of current clients.
- Potential Visibility from 15th.
- Width of site allows for more compact circulation.
- Adjacent to Activity Building.

Disadvantages

- Food Service will need truck delivery from Main Kitchen at lower campus.
- Buried debris and potential soil contamination at NE side of site.

C st Estimates

ii. Cost estimates for each alternative.

The estimated construction cost in today's dollars are as follows:

LEED Silver +Netzero: $73,068,289.

Schedule

iii. *Schedule estimates for each alternative. Estimate the start, midpoint and completion dates.*

Design and Bidding Phases: November 2019 through February 2021

Construction Start Date: April 2021

Construction Midpoint Date: December 2021

Construction Completion Date: October 2022

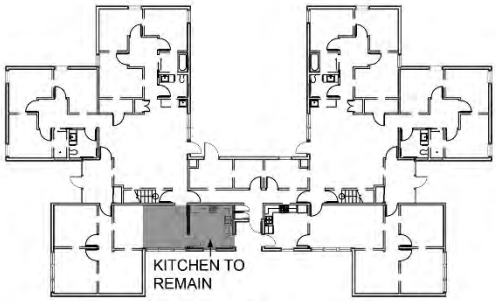

Water Tank
Y Buildings
20-Bed Cluster
20-Bed Cluster
Admin / Staff
Main Entry
Service Entry
15th Ave NE
20-Bed Cluster
20-Bed Cluster
20-Bed Cluster
20-Bed Cluster
Activity Building
New Laundry Building

ALTERNAT VE 4- RENOVATE 10- CF COTTAGES – 84 BEDS

Description

Describe all the alternatives that were considered including the preferred alternative. Alternatives may include co-location, renovation, leased space, purchase, new construction or other options explored.

Renovate 10 Intermediate Care Facility (ICF) wood frame cottages and connect them with a new enclosed walkway – 84 nursing beds. Each existing IFC cottage accomodates 8 nursing facility bedrooms.



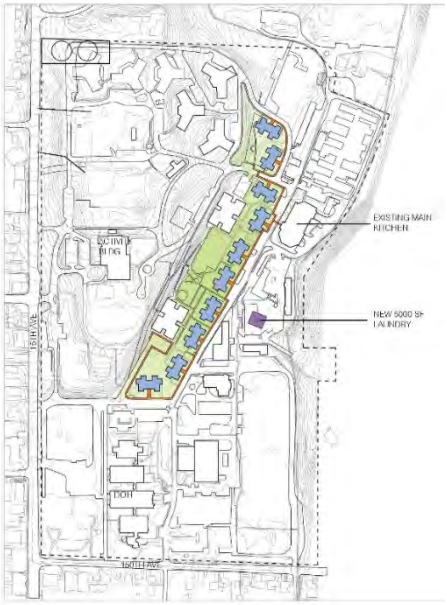
DEMOLITION PLAN

Advantages and Disadvantages

i. The advantages and disadvantages of each alternative. Please include a high-level summary table with your analysis.

Advantages
None.

Disadvantages



- Current client bedrooms are smaller than allowed by 2015 Building Code.
- The Building Code requires a minimum Type V-A construction, which would require reworking the exterior wood siding.
- Little of the buildings can be reused.
- This Alternative is much more operationally inefficient than the existing Y-Buildings with long circulation distances for staff.
- Each cottage only accommodates 8 bedrooms which is operationally very inefficient.

C st Estimates

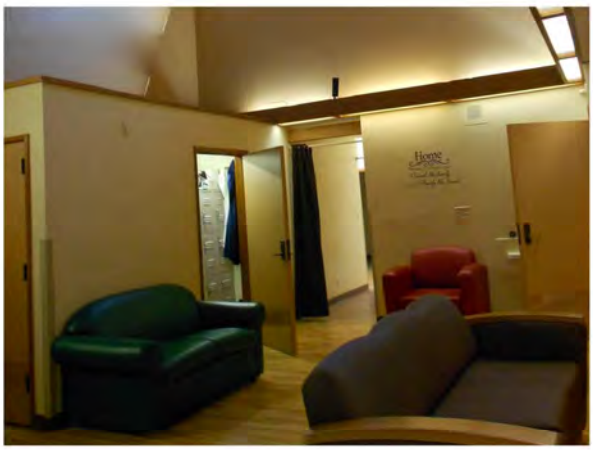
ii. Cost estimates for each alternative.

This alternative is impractical and no cost estimates were done.

Schedule

This alternative is so impractical that no schedule was done.

COTTAGES



OFF-S TE ALTERNAT VES

AVAILABILITY OF CLOSED NURSING HOMES IN KING COUNTY

There are 54 Nursing Homes in King County and in the last 24 months, 5 have become available.

Description

Describe all the alternatives that were considered including the preferred alternative. Alternatives may include co-location, renovation, leased space, purchase, new construction or other options explored.

#1 - Anderson House

17201 15th Ave NE, Shoreline, WA 98155

Anderson Home had 100 beds and its effective year of construction was 1963. It was closed in 2017 due to maintenance issues and inability to secure financing for improvements. The plumbing system has failed, there is no fire suppression, and the 2-story portion is a Building Code non-compliant construction type. The facility is now scheduled for demolition.

#2- Health & Rehabilitation of North Seattle

1333 Greenwood Avenue N, Seattle, WA 98133

Health & Rehabilitation of North Seattle is a wood-framed, 2-story, 151-bed facility built in 1954 and updated in 1968. The construction type is not compliant with the current Building Code for nursing homes because 2-story facilities can't be wood-framed. It would be unfeasible to make the building framing non-combustible. The building would prohibit use of the second floor for the nursing facility.

#3- Kindred Seattle at Northgate

10631 8th Ave NE, Seattle

Kindred Seattle at Northgate is a concrete 2-story structure with basement built in1964.

The nursing home portion of the building consists of 30 beds on the main level that was closed last year. There is an active hospital in operation on the upper level.

#4 – Kindred Seattle at First Hill

1334 Terry Avenue, Seattle, WA 98101

Kindred Seattle at First Hill is a 23-bed nursing home built in 1964 and updated in 2000. The nursing home is co-located in a 4-story building with the 50-bed Kindred hospital. The building is now closed.

#5 – The Kenney in West Seattle

7125 Fauntleroy Way SW, Seattle, WA 98136

The Kenney is a non-profit Continuing Care Retirement Community that closed the nursing care and is converting the rooms to assisted living care. This facility is not available.

Alternative 5 Summary

Of the five King County nursing facilities that have closed, two are more than 50 years old and in such serious disrepair that they are unfeasible to renovate.

Two facilities, Kindred First Hill and Kindred Northgate, both appear to be in good condition. Both are small 30-bed nursing facilities co-located with Kindred Hospital facilities. At Northgate, the small hospital is still operating. At First Hill, both nursing facility and hospital have closed. The small size of these facilities would make them inefficient to operate long term.

The closings are recent, and the study has been unable to reach Kindred ownership. Kindred is a very large national organization with headquarters out of state.

Washington State Department of Social & Health Services
Transforming lives

FIRCREST SCHOOL NEW NURSING CAPACITY

Predesign Study | October 21, 2018

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PREFERRED LTERN TIVE DESCRIPTION - LTERN TIVE 3C

Na ure of Spaces

The Prefered Iternative is for new construction of the Nursing Facility based on present codes and nursing care standards. Of high importance is that the program is contained within a single building for operations and communications efficiency. The Preferred Iternative is for 20-bed residential "Household Neighborhoods" or Cottages organized around an inner light-filled courtyard maximizing natural light and connection with nature for the clients and staff. The important features of the Cottage organization include the following

- Homey, non-institutional atmosphere
- Natural light
- Connection to nature and outdoors
- Cluster of bedrooms centered around the living room and off the main circulation path (not in circulation corridor)
- Nursing operational and staffing efficiency of 20-bed care units.
- 1-story/ ground level (admin could be at 2nd level but not the Pods).
- Located in a single building connected by indoor corridors.
- Close to Main Kitchen for easy food/meal access.
- Mix of private and semi-private rooms with 20-30 % private.
- 5% of the bedrooms should be bariatric.
- 1 bathroom with sink and toilet for each two bedrooms.
- circular walking path since many clients have autism.

Four-Season Porch

Traditional Architectural Style and Details

Living Room

Warm Moveable Adjustable Home-like Furniture

Dining & Living Rooms

Physical and Visual Connection to Nature and Light

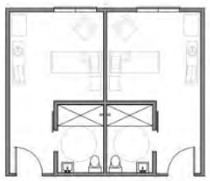
Bedroom Layou Op ions Considered

Bedroom Options were evaluated for efficient use of space, functionality, natural light, lines of sight into room and storage provided.

Priva e Bedrooms

Layou Op ion #1

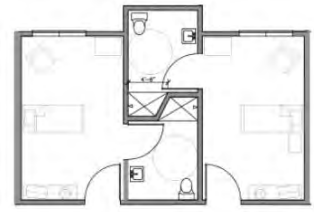
- 2 private rooms can share a toileting / grooming room. Few clients can use a toilet.
- Showers/ tubs should be off cottage hallway.
- Bathroom blocks visibility into bedroom.



ST-B - 330 SF

Layou Op ion #2

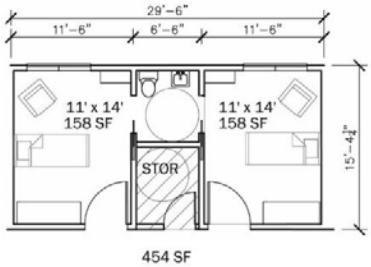
- Good visibility into bedrooms.
- Share toilet room & convert 2nd bathroom to storage.



ST-A - 330 SF

Layout Option #3

- Good visibility into bedrooms.
- Storage should open to each bedroom for large private wheelchairs.
- t toilet, use barn doors instead of pocket doors.

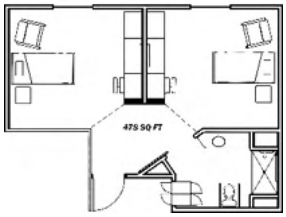


454 SF

Double Bedrooms

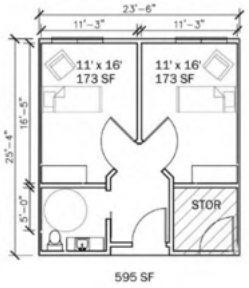
Layou Op ion #4

- It is beneficial to have a bedroom door to prevent infection spread if a client is sick.



Layou Op ion #5

- Storage room should open to shared entry for private wheelchair storage.

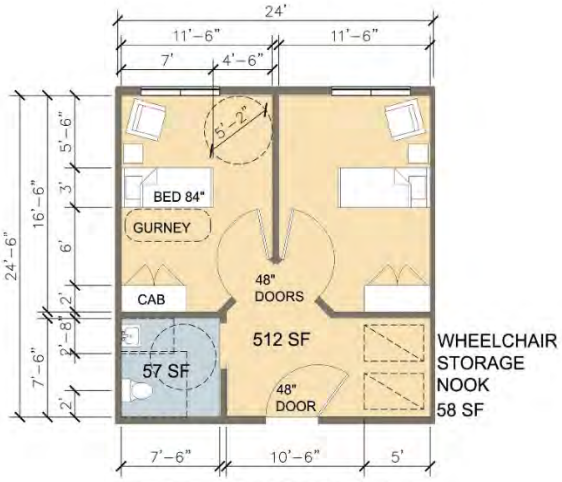


595 SF

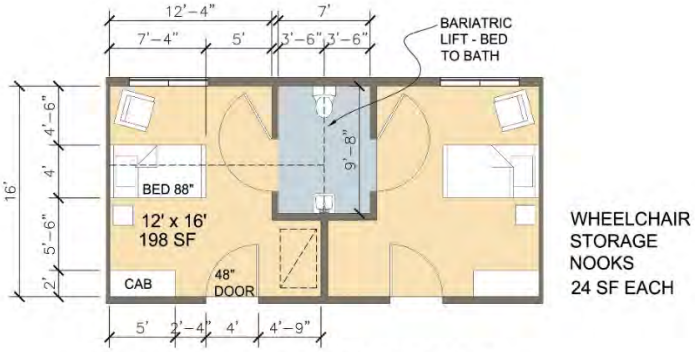
Preferred Bedroom Op ions

The preferred bedroom options for private, double, and bariatric bedrooms are shown below.

A PRIVATE



B DOUBLES



C BARIATRIC

Bedroom Program and Features

Sleeping Rooms should have the following design elements:

- Window for review and natural light.
- 14 ft x 16 ft of clear area for the bed and maneuvering.
- 1 bathroom with sink, toilet and grooming cubby.
- Bathing facilities will be accessed from the corridor.
- Storage niche for large wheelchair.
- Lockable drawer in wardrobe.
- The ability to close a bedroom door to separate the client when sick.
- Lots of outlets and multi-lighting systems including wall sconces and/or bedside lamps.
- Flat screen TVs and sturdy shelves for stereos.
- Remote control blinds and shutters.
- Should look directly out to the Commons so those that are in bed can feel part of the activity.

Big Trees, Accessible Paths, Hard Furniture, and Colorful Shrubs and Flowers

Landscape

Co age Layou Op ions Considered

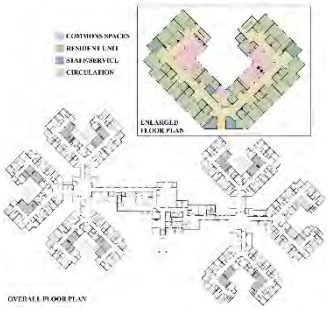
Layout Options were evaluated for quality of environment they provided for clients and staff and for nursing operational efficiency. Fircrest Nursing Staff and operations specialists, ttune Healthcare, both arrived at 20-bed groupings being the most operationally efficient size.

Layou Op ion #1

- Bedrooms open to major circulation reduces privacy.
- Long circulation reduces operational efficiency.

Layou Op ion #2

- Organization similar to connected cottages is good.
- More efficient if ends of corridors are joined.



Layou Op ion #3

- Less institutional than Option 1.
- Major circulation is outside bedrooms.
- Long linear circulation

Layou Op ion #4

- Bedrooms open to major circulation reduces privacy.
- Long linear circulation.

Layou Op ion #5

- Bedrooms open to cottage living rooms-more homey & private.
- Compact 20-bed circulation
- Central cottage courtyard maximizes natural light & connection to outdoors.

Layou Op ion #6

- Back to back cottages – nursing staff can support adjacent cottage
- Main circulation bypasses cottages and has views to outdoors.

Co age Space Needs

Common Spaces within each 20-bed Pod /Cluster should include the following:

- Living Room/ Sitting rea
- ctivity Room
- TV Room
- Dining rea
- Country-Style Prep Kitchen
- Lockable Prep Room
- Quiet Room
- 4-Season Porch
- Covered Patio

The Living Room should have a fireplace and fish tank. It should have soothing colors, and the ability to provide soothing lighting and sounds.

The ctivity Room is an additional needed common space so that staff meetings, entertainment, TV and a family visit could be happening in separate spaces without conflict. It should have a nook for video-conferencing.

Dining Room

Four-Season Porch

Dining rea with capacity for 10 clients in wheelchairs. The audio characteristics of spaces should be softened. The number of tube-feeding pumps has increased and they are noisy. The Dining Room should include a music system and flat screen TV's. The tables should be adjustable to different heights and adaptive chairs designed to meet individual needs.

Dietary services delivery should be designed for food quality and engaging clients in a home-like meal setting. Country-Kitchen style Prep Kitchen with serving counter provides clients a sense of engagement with food preparation. Plating food from steam tables at the serving counter has the benefit of including meal aromas found in the home setting.

The Prep Kitchen should include the following:

- Lockable Prep Room with stainless steel counters.
- Non-slip flooring
- Commercial Refrigerator
- Coffee maker
- Built-in microwaves
- utomatic washer/ sanitizer
- Kitchen sink with telescope faucets
- Commercial style ovens

Residential Laundry should have:

- Commercial machines
- Laundry bins and shelving.
- Commercial style folding tables.

Laundry Storage needs a work table, storage cabinets and shelving.

Linen and Diaper Storage should be a separate room.


Water Tank
Y Buildings
20-Bed Cluster
20-Bed Cluster
Admin / Staff
Main Entry
Service Entry
15th Ave NE
20-Bed Cluster
20-Bed Cluster
20-Bed Cluster
20-Bed Cluster
Activity Building
New Laundry Building

large covered Patio should be adjacent to the common area.

There should be a small Quiet Room for calming clients.

silent call system should be used. Most clients don't use call buttons but with the increase in behavioral health and less mental impairment, the call systems are needed.

Services within each 20-bed Pod/ Cluster should include the following:

- Nursing Office
- Med Room
- Clean Work Room
- Clean Linen Room
- Soiled Linen and Handwashing Sink
- Bathing facilities accessed from the Pod corridor. Each Pods should have 2 gurney showers and 1 chair shower. Each Pod should have 1 tub. Bathing facilities should have overhead heat lamps. Slip-resistant flooring.
- Storage Room for tube-feeding formula.
- Storage for wheelchairs, beds, shower and bath chairs, commodes, etc.
- Lift storage. 1 lift per 4 clients.
- Janitor Closet with mop sink.
- Place for staff to store belongings.

Nursing Facility General Use Program Spaces that comprise the Nursing Facility "Village Center" include the following:

- Main Entry
- dministration
- Multipurpose Room
- Large Meeting Room
- Physical Therapy
- Sensory Rooms
- Coffee Shop/ Gift Shop are desireable
- Staff Break Room
- Service and Receiving rea

Main Entrance Canopy

The Main Entry should have a covered porte coche so clients can board vans under cover. There should be a reception desk and small lobby area at the Main Entry.

dministration should include the following:

- dmin Director's Office
- ssistant Director's Office
- Medical Staff Offices
- IT Office
- Work Room/ Copier
- Family Meeting Room with video conferencing.
- Unisex Toilet.

large Multipurpose Room that can function as a Media Room and Theater. Entertainers provide performances so a small stage would be ideal. There should be storage for tables and equipment.

Large Meeting Room for staff to accommodate meetings of about 50 occupancy is needed.

Physical Therapy should include:

- Parallel bars, stairs, tread mill, stationery bike.
- mple storage for wheel chairs, lifts, walkers, extra beds.

- bility to double as a therapy staff room.
- Separate room for speech therapy.

Sensory Rooms should be provided for featuring sensory lighting, sound and auditory equipment.

Coffee Shop where meals can be purchased would be a desirable amenity. Whereas Rainier currently has a coffee shop, Fircrest doesn't.

small Gift Shop for clients to visit would be desireable.

For a 100-bed Nursing Facility, two staff break rooms would be desireable.

The Service and Receiving rea should include:

- Loading Dock
- Trash / Recycling Room
- Maintenance Room.
- MDF Telecommunications Room
- Electrical Room
- Mechanical Room
- Indoor Generator Room
- Emergency Electrical Room

Fircrest has an emergency generator near the steam plant, but Electrical Engineering recommends the Nursing Facility include its own generator due to the distance from the central generator. This would protect against the chance of an earthquake breaking a long power run.

Maintenance and Durability needs include plenty of clean-outs since clogged plumbing is a frequent concern. Maintenance staff advocated for a 30-inch high under slab crawl space to run under the resident areas with high concentration of plumbing fixtures. The estimated cost of this feature is $51 /sf. Other durability features include low-wax welded seam vinyl flooring to contain urine spills, carpet squares, ceramic tile and FRP or crovyn wainscots for impact resistance.

Open-Plan and Free-Flow Corridors

Corridor

Integration of Art in Open Spaces

Public Spaces

Facility circulation doors should be automatic or power assist. Walkie talkie communication system is currently used. Security cameras should be provided inside and out.

Outdoor ctivity Space: The required outdoor space is for therapy and wellness programs and the social connection of visiting families.

The inner courtyard of each 20-bed Pod and the large patios adjacent to the Commons of each Pod are described above and are central to the quality of life and connecting clients with natural light and the outdoors.

dditional Outdoor ctivity spaces shared with all the Fircrest clients include the following:

- Therapy Garden with accessible paths
- Garden Gazebo
- Flower Gardens

The Garden should include shaded areas, swings, raised beds, non-poisonous plants, different scents, barbeque area, chimes, wind streamers, water features,fire pits, bird baths, bird feeders and other features to allow uplifting or new experiences.

Occupancy Numbers

100-bed facility is the preferred Nursing Facility size. The 100-beds consist of five (5) 20-bed Pods/ Clusters that are described above and strongly preferred for 20-beds being operationally efficient for care staffing.

Basic Configura ion

Each 20-bed Pod is 14,690 gross sf and the preferred 120-bed facility is 110,130 gross sf. n important layout feature of the 20-bed pods is that they are linked to other pods and the dministration Wing by a circulation spine that doesn't enter the pod, providing the 20-bed pods and their living area with a more residential, private environment.

It is important to nursing staff that the Nursing Facility residential pods be ground-related and single story. Elevators are a restrictive encumberence for residents with large wheelchairs and connection with nature and the outdoors is of prime importance for the residents.

Space Needs Assessmen

There are no State recognized space planning guidelines for this building type. The project team is basing the space needs on CFR (Code of Federal Regulations) Title 42 Part 483 Requirements for States and Long Term Care Facilities, 2012 Health Care Facilities – NFP 99 (CMS adopted standard for Medicare certified facilities) and W C (Washington dministrative Code) 388-97. In addition, the study included programming workshops attended by the Fircrest nursing and care staff reviewing and evaluating comparable long-term, skilled nursing facilities for very frail seniors. Questionnaire responses from staff detailed space needs problems that were addressed in preferred alternative. detailed program with space requirements is found in the appendix.

Bed Coun & Facility Size

t the lternative 3 site, facility size ranging from 100-beds to 160-beds were considered. The size of 120 beds has been chosen to match the maximum capacity of the existing 6 nursing facility (Y-buildings). With an initial phase of 120-beds, it appears possible to keep all the Y-Buildings in operation during construction of the full 120-beds. dditional study is needed for whether the additional water tank(s) required for the water distribution projects can be located without demolition of a Y-Building.

DAPTIVE USE

Respite care, crisis- care and behavioral health would best be served by a different layout than the 20-bed cottages, designed for long-term residents. The adaptive use needs are expected to be 10% of the bed count, or 12-beds for the proposed design. daptive uses would be better

arranged in traditional corridor layout with double loaded corridors. More study is needed, including operational efficiency, but 10 additional beds are shown added on the east end of the dmin Wing. These 10-12 beds were not included in the cost estimate. To include these beds, the costs should be increased by roughly 10%.

SITE N LYSIS

Site S udies

In 2010, a report "Fircrest Campus Excess Property Master Plan" dated January 6, 2010 was produced by HBL. This study suggested that the nursing facility be located per lternative 2 and the western side of the campus be classified excess property and redeveloped as mixed use and affordable housing. The highest density mixed use was shown in the southwest corner and the Madrona site was shown as mixed income residential and open space.

Other previous studies include a geotechnical report prepared for the Department of Health property at the south end of campus in 2016. In 2009 Davis Heshaies LLC authored a report titled, "Feasibility Study for the Closure of State Institution Facilities" that included Fircrest. Stormwater master planning is underway by BHL for the Fircrest Campus. Stormwater planning for the adjacent Shorecrest High School east of Fircrest is also underway and is scheduled to make determination of the requirements for Hamlin Creek by September or October 2018.

In addition, a power systems project is in design by Sazan Group that will replace all aging medium voltage feeders on campus.

Loca ion

15230 15th venue NE, Shoreline, W 98155

Building Foo prin and Site Fea ures

The preferred Madrona Site, lternative 3 is located in the upper campus toward the northwest side of the campus where the grade plateaus in a relatively level area with steeper grade to the east and west.

In this area, the site consists of two generally flat levels of grade, the grade to the north being about 5 ft higher in elevation than the southerly level. Since the program prioritizes the facility to be at a single level, this will be accomplished by importing of 5-6 ft of fill toward the south half of the facility. This southerly (lower) level was formerly a tennis court and is currently concrete surfaced.

The site is bounded by the steep grade drop to lower campus to the east. To the west is the existing campus entry drive and a thick band of evergreen trees screening the site from the 15th venue arterial and a single family neighborhood. The proposed design creates a new entry onto 15th venue for better visibility to the neighborhood. Staff noted that increased visibility would likely lead to more community volunteerism.

The ability to access the ctivity Building as a pedestrian or in a wheelchair instead of being transported by van from lower campus is of benefit and provides the opportunity for increased quality of life. The grade changes about 6 – 8 feet down to the ctivity Building so a zigzag ramp is shown or a lift could be added.

To the north and northeast, the 6 existing old nursing facility buildings, called the Y-Buildings,

step down the hillside.To the north beyond the property line is Hamlin Park. To the northwest is the proposed location for two new required water tanks. New visitor and staff parking are also located to the north.

The main entry faces 15th venue and the greater community. The service entry connects to an existing roadway to lower campus and main commercial kitchen. Meals will be brought from lower campus by truck, unloaded at the central service dock and distributed to each of the Pod Country Kitchens.

Stormwater Requirements

Fircrest Campus soils on the campus are expected to generally have areas of existing fill above glacial till. Glacial till is a very dense, silty sand with gravel, with low drainage permeability. Storm drainage requirements for the Fircrest property are guided by the 2012 Stormwater Management Manual for Western Washington amended in 2014 as adopted by and amended by the City of Shoreline.

Onsite Stormwater Management is required for all new and replaced impervious surface. For the Madrona site, this will consist of pervious pavement, bioretention cells, and rainwater harvesting.

Flow control facilities will include two underground concrete detention vaults for a total of approximately 245,000 cubic feet of volume positioned to avoid potential future facility expansion (see previous lternatives Section of report).

Ownership of he Site

Much of the Fircrest Campus, including the Madrona site is owned and managed by the Washington State Department of Natural Resources for the benefit of DSHS. Next steps should include determining what additional agreements or land transfers will need to occur for project development.

Easemen s and Se backs

No issues

From Fircrest Campus Master Plan Study

Po en ial Issues with he Surrounding Neighborhood

The City of Shoreline requires a Master Development Plan be completed for the project. The work on this plan is now underway by HBL and is expected to be completed by June 2019.

The proposed design proposes a new campus entry from 15th venue, a major arterial. current major campus entry, with stop light, is located to the south about a block. Traffic studies will be needed, and the Master Development Plan should study the connections with 15th venue.

The Fircrest side of 15th venue doesn't have sidewalks. A major project at Fircrest is likely to trigger street improvements but the extent of those improvements north-south will need to be resolved.

The Preferred lternative 3 offers the least interference with the ongoing operations of Fircrest Campus.

U ility Ex ension Issues – Wa er Sys em

The water system is a significant project cost. It has been determined that the water flow capacity for the campus is sub-standard. This may have contributed to the loss of the previous Laundry Building by fire. The City of Shoreline may require 2 new water tanks to be located in the northwest corner of the campus before another building project can proceed. The costs of the new water tanks and distribution system are assumed to be part of this project. It may be possible to construct the Madrona site development with a loop system around the new project without upgrading the entire water distribution of the campus as shown on the Civil Site Plan.

POTENTI L ENVIRONMENT L IMP CTS

Green Space and Na ural Amen ities

i. Green space and natural amenities that need to be preserved.

No.

Site Mitigation

ii. Required or potential site mitigation, including possible history of contaminants.

The northwest portion of the Madrona site previously contained a building with a basement that had been cleaned out and demolished to 6 ft below grade leaving clean concrete below ground. ccording to Fircrest staff, at the northeast side of the proposed building footprint another demolished building was turned over into the soil. It is expected that the soil in this area contains possible hazardous meterials such as asbestos containing materials .

Critical reas

iii. Wetlands and shorelines

No.

iv. Shoreline jurisdiction issues

No.

SEP

v. Requirements for SEPA (State Environmental Policy Act) or an environmental impact statement.

See Surrounding Neighborhood above. The Master Development Plan that is underway is expected to address SEP .

vi. Other regulatory requirements

No Issues

Parking and Access Issues

The next design phase or Master Development Plan work (see Section above on Surrounding Neighborhood) should include a traffic and parking study. The Shoreline Zoning Code has parking requirements for a list of building uses but the Fircrest parking needs are so unique, a parking study is recommended.

Impac on surroundings due o cons ruc ion

The demolition of one Y-Building, required for placement of the Water Tanks, may require additional maintenance precautions for the existing Nursing Facility in the Y-Buildings. Fircrest maintenance staff have noted that clients reside in 5 of the buildings while the 6th is used as a backup for maintenance redundancy.

The campus loop road provides alternate routes to lower campus from the main entry that can be used to bypass the major construction area. Construction related utility outages will need to be coordinated with operations of the lower campus.

LONG-TERM PL NS

Identify whether the proposed project is consistent with applicable long-term plans.

s discussed in the “Site Studies” section above, the Preferred lternative is a departure from the Fircrest Master Plan of 2010 but is based on additional information that was not considered by the Master Plan. The 2010 plan was an internal Fircrest study and not shared with the City of Shoreline. The Master Development Plan now underway is part of the City of Shoreline development process.

L WS ND REGUL TIONS

Provide documentation that indicates the preferred Alternative is consistent with the ollowing:

i. High Performance/ LEED Silver +Ne zero

See LEED checklist in appendix.

The study also compared the life cycle costs of LEED Silver with LEED Silver plus Netzero. LEED Silver incorporates sustainability benefits in multiple categories including energy, water, air quality, and materials. The Netzero alternative adds an upgrade to the building envelope, mechanical, and electrical systems such that the addition of photo-voltaic panels, generates the year- long building energy consumption to zero. The life-cycle analysis of these two alternatives showed that the benefit of the premium paid for Netzero was not offset by energy savings over 30 years. However, by 50 years the costs of Netzero were close to paying off.

Per state policy, the Preferred lternative will be LEED Silver plus Netzero.

ii. Greenhouse Gas Emissions

The Madrona site has better access to public transit than the other lternatives on the lower eastern campus. More staff use of public transit will reduce greenhouse gas emissions.

iii. Archaeological and cu ural resources

Not addressed at this time.

iv. American with Disabilities Ac

The Project will comply per all requirements and codes.

v. Informa ion required by RCW 43.88.0301(1)

See declaration answers in appendix.

vi. O her codes ha will be followed

s Required by the Centers of Medicare and Medicaid Services (CMS):

42 CFR (Code of Federal Regulations) Chapter IV, Section 483.90, October 1, 2017 edition (CMS adopted standard for Medicare certified nursing facilities)

2018 Life Safety Code – NFP 101 (CMS adopted standard for Medicare certified facilities)

It is the State's discretionary decision that Washington Department of Health Construction Review Services will review the building design and that the Nursing Facility comply with the W C (Washington dministrative Code) Chapter 388-97 Nursing Homes in addition to federal CFR requirements..

Other codes include the current set of codes and regulations as required by uthorities Having Jurisdiction (HJs).

FURTHER STUDY REAS

Identify problems that require urther study (for example, environmental contaminates, traf ic studies, or IT or other infrastructure challenges). Evaluate identified problems to establish probably costs and risks.

Recommended areas of further study are as follows:

- Confirm extent of Water Tanks and demolition of Y-Building.
- Environmental Phase 1 for suspected soil contamination.
- Traffic and Parking Study.
- Confirm if project to include Commercial Kitchen.
- Confirm that Laundry Building location.
- Confirm extent of Street Front Improvements on 15th venue
- Confirm new campus entry location and signal requirements.

- Confirm if City of Shoreline will limit water distribution to looping lternative 3.
- DAHP requirements.
- Involve DOH Construction Review Services early in next design phases.
- Demographics of the growing need for DD Nursing Care and available Nursing Facility

Capacity. (See ttune Report in Appendix.)

- Consider future use of ctivity Building to serve as Resource Center or Out-Patient Center to support aging DD residents in broader community (like a P CE Center - Program for ll-Inclusive Care of the Elderly).
- Upgrading the Fircrest Nursing Facility operations to Electronic Medical Records.

SIGNIFIC NT COMPONENT- L UNDRY

Identify significant or distinguishable components, including major equipment and ADA requirements in excess of existing code.

The Fircest School Central Laundry Building was lost to fire in April 2017.

Al erna ives S udied

Laundry replacement options studied include:

- lt L1- Handling Laundry at Rainier
- lt L2- Outsourcing
- lt L3- New Laundry Facility at Fircrest

Al erna ive L1 – Handling Laundry a Rainier

Fircrest laundry has been driven to the Rainier laundry facility since the fire. With the use of a truck already owned by Fircrest and valued at $44,700, a driver transports laundry to Rainier 3 days per week. Three staff from Fircrest drive in a fuel-efficient rental car to Rainier 3 days a week. There are also 3 staff that stay at Fircrest and 4 staff that stay at Rainier who also work on the Fircrest laundry processing.

ALT L1 - OSTS OF HANDLING LAUNDRY AT RAINIER	
	TOTAL
D liv ry & Transp of work rs & lin n	$ 93,694
Laundry Proc ssing Labor (dirty at Raini r, cl an at Fircr st)	$ 401,789
Machin util, repair, mtn at Raini r	$ 65,564
	$ 561,047

Full calculations are provided in Appendix L.

Al erna ive L2 – Ou sourcing Laundry

Three commercial laundry operators located in Shoreline were contacted and they provided their cost per pound per month.

1) North Seattle Cleaners: $2.50
2) Downtown Cleaners: $2.25
3) Sno-King: $2.50

Each vendor was requested to quote for 63,000 lbs of laundry per month plus the cost of pressing for 12,217 pieces. Only North Seattle Cleaners said they had the capacity to handle the job. They are located within a quarter mile of Fircrest School. Their cost is shown in the table below.

Al erna ive L3 – New Laundry Facility a Fircres

The laundry building cost estimate assumed the building alone is LEED Silver plus Net Zero energy usage. The team worked with Lind Industries of Lynden, who provided commercial equipment costs. Checking with their suppliers,

they found there is no feasible commercial heat pump laundry washing system and most cost-effective and practical system uses a gas boiler. The use of gas is not allowed by Netzero, so the equipment has to be exempted from the Netzero calculations. The equipment does have other sustainable features that were included in the cost estimate: equipment for recapture of rinse water and use of drier exhaust heat for pre-heating the hot water boiler system. The list of equipment and hours of operation of each piece of equipment are found in ppendix L. The building is budgeted at 7000 sf, 24 ft ceiling clearance with office and two staff toilets.

The Maximum llowable Construction Cost of a new Laundry Facility is $6,064,109. The project cost is $8,705,785.

LAUNDRY OST OPTIONS			
	CONSTRUC-TION COST	PROJECT COST	OPERATION COST PER YR
ALT L1- Handling at Raini r			$561,047
ALT L2 – Out-sourcing			$4,089,060
ALT L3 - N w Laundry at Fircrest	$6,064,109	$8,705,785	$467,353

Preferred Al erna ive – L1 Handling Laundry a Rainier

For lternate L1 – Handling Laundry at Rainier, the transport cost of $93,694 per year is much less than the project cost of new construction. The simple ratio indicates it would take about 93 years of saving transport costs to pay-back the initial project cost. The preferred lternative is L1, continuing to handle Fircrest Laundry at Rainier.

SIGNIFIC NT COMPONENT-TR NSITION BUDGET

Identify significant or distinguishable components, including major equipment and ADA requirements in excess of existing code.

Transition costs are an additional component that need to be added to the initial operating budget. The Transition Budget should include additional management staff and a superintendent expert in Nursing Facility operations for establishing the initial procedures and institutional staff culture. dditional nursing and CNA staff should be budgeted, so long term staff who know the clients are available for more 1 to 1 connection with clients to ease the stress of frail clients entering the new environment.

IT SYSTEMS

Identify planned IT systems that affect the building plans.

Fircrest currently doesn't have Electronic Medical Records, EMRs, which is being a standard of practice for Nursing Facilities to better track patient care. Fiber on the Fircrest campus is not robust enough to handle Electronic Records nor will it handle any of today's standards for data/voice transmission. However, DSHS has an upcoming technology project to upgrade the fiber on campus.

Costs for upgrading the fiber to lternative 3 is included in the budget. The costs also include a Communication Rooms in the dmin/ Services Wing and Communication Closets in the Cottages. IT needs should be coordinated with the Office of the Chief Information Officer (OCIO) as part of next steps.

BUILDING COMMISSIONING

Describe planned building commissioning to ensure systems function as designed.

The project is to be LEED Silver plus Netzero. LEED Silver requires enhanced commissioning. The commissioning must be provided by a Commissioning uthority that has documented commissioning process experience on at least two building projects with a similar scope of work. Commissioning will include mechanical, electrical, plumbing and renewable energy systems and assemblies.

PROJECT & FUTURE PHASES

Describe any future phases, plans or other facilities that will affect this project.

Po en ial Projec Phasing

Due to the urgent project need, project phasing should be considered:

Phase 1

dmin / Service Wing plus two north Cottages

Water Tanks and distribution lines

Site utilities stubbed out.

Move-in for 40 clients and initial staffing.

Phase 2

Southern 4 Cottages

Complete sitework.

Move-in for 60 clients and staffing.

The phasing shown above could decrease design time by 3 months, decrease permitting time by 1 month and construction time by 4 months for a total 8 months saving. However, there is likely to be a cost premium for phasing.

On-going & Fu ure Phases.

Projects are now underway upgrading the campus electrical systems.

The campus storm water master planning is also underway.

The water system study needs to be completed to define the new capacity. t this time, it appears new water tanks must be installed, and a distribution loop installed around lternative 3 before the Nursing Facility can open.

second phase of the water distribution project will extend to pick up the remainder of the campus.

The campus is currently on a central steam system. lternative 3 will not connect to the steam system and in time the campus steam system will be decommissioned.

The Needs Study by ttune Healthcare cited in the Problem section and provided in the ppendix, finds that the population of cute Developmentally Disabled needing Nursing Facility care will continue to increase with the overall state population growth. Future phases of Nursing Facility expansion can be expected.

PROJECT M N GEMENT & DELIVERY METHOD

Identify the proposed project delivery method, such as design-build, phased construction, general contractor / construction manager (GC/CM), or conventional design/bid/build.

Projec Delivery

General Contractor/Construction Manager (GC/CM) is the proposed project delivery method.

In the GC/CM process, the owner contracts with an rchitect/Engineer firm for design and also retains the services of a GC/CM through a preconstruction services contract. fter the design has sufficiently progressed, the owner negotiates a Maximum llowable Construction Cost (M CC) and Guaranteed Maximum Price (GMP) with the GC/CM.

While DHSH has traditionally delivered projects via the Design-Bid-Build process, GC/CM offers advantages:

1. The proposed project is to be certified LEED Silver. Design-Bid-Build does not allow for collaboration between contractors and the design team during design, which can impact attainable LEED credits, jeopardizing LEED Silver accredidation.
2. With the contractor on board during design, a GC/CM can increase the likelihood of meeting DSHS goals for sustainability, especially LEED silver requirements.
3. Reduces risk of change orders during construction.
4. Having a contractor on board during design can help reconcile conflicting cost estimates and provide more accurate value engineering.
5. Overall reduced schedule, given the likelihood of a fast-track schedule for this project.

One disadvantage to GC/CM delivery, is that it requires multiple contracts during design. The process often involves payment of a premium for additional time and investment by the GC/CM.

GC/CM Approvals

Justify the proposed method of project delivery, and link the justification for using GC/CM to the requirements in RCW 39.10.340

In order to use the GC/CM project delivery method, DSHS will seek project approval from the Capital Project dvisory Review Board, Project Review Committee, to utilize the GC/CM process per RCW 39.10.340

GC/CM is allowed in WA State per RCW . 39.10.340 limitations. The proposed nursing facility project meets the following under RCW 39.10.340:

1. Implementation of the project involves complex scheduling, phasing, or coordination—fast-track scheduling is proposed.
2. The project involves construction at an occupied facility which must continue to operate during
3. construction — buildings adjacent to the nursing facility site are occupied.
4. The involvement of the general contractor / construction manager during the design stage is critical to the success of the project — specifically attaining LEED Silver credits.

Projec Managemen

Describe how the project will be managed within the agency:

(a) Identify roles and responsibilities for the project.

Consistent with prior DSHS capital projects, the project will be managed through The Department of Social and Health Services (DSHS) Office of Capital Programs (OCP).

(b) Identify in-house staffing requirements for the proposed project.

Recommended DSHS In-house staffing includes a full-time project manager from schematic design through occupancy. dditional staff from Fircrest School include a representative from facilities maintenance and the assistant superintendant to attend design meetings and constructability review meetings.

(c) Identify consultant services, DES resources, or additional staff needed to manage the project.

Clien Reloca ion and Projec S affing

Client relocation into a new setting is known to cause relocation trauma, particularly for highly frail clients. Consideration should be made of staff continuity.

The Operating Budget should provide additional staff support during client relocation so that long-time staff can attend to reducing relocation trauma. Staggering of the relocation process should also be considered to better understand mitigating strategies before moving those clients likely to be the most sensative.

The Operating Budget should also provide additional dministrative support during client relocation and during staffing transition from 90 to 120 nursing bed capacity.

The DSHS Project Manager (PM) assigned to the project will be supported by resources across several state departments and agencies:

- DSHS ssistant Director of Capital Facilities Management and other operational support staff as needed.
- Department of Enterprise Services (DES) contract specialists for executing of the projects agreements for services and contracts for construction.

SCHEDULE

i. Provide a high-level milestone schedule for the project, including key dates for budget approval, design, bid, acquisition, construction, equipment installation, testing, occupancy, and full operation.

ii. Incorporate value-engineering analysis and constructability review into the project schedule, as required by RCW 43.88.110(5)(c)

Miles one Schedule

Master Development Plan	ugust 2018 to ugust 2019
Budget pproval	March 2019
Funding lottments	ugust 2019
Environmental Phase I / D HP/ Geotech/ Survey	ugust 2019
Consultant Selection / greement	November 2019
Water System Schematic Design-Construction Documents	November 2019 – July 2020
Nursing Facility Schematic Design	November 2019 – March 2020
GC/CM Bid & Selection	March 2020
Decontamination of soils as required	March 2020
NF Design Development -Construction Documents	pril 2020 – November 2020
Value-Engineering/ Constructibility nalysis	December 2020 – January 2021
Permitting	November 2020 to March 2021
Permitting Sub-Contractor Bidding:	February 2021
Construction Start Date:	pril 2021
Construction Completion Date:	October 2022
Commissioning & FFE Installation	November 2022
Occupancy	December 2022-February 2023

:

iii. Describe factors that may delay the project schedule, such as an environmentally sensitive location, possible presence of archaeological or historical assets, or possible contamination of the site or building undergoing renovation.

See above for discussion of possible soil contamination. D HP is noted as still to be completed.

iv. Describe the permitting or local government ordinances or neighborhood issues (such as location or parking compatibility) that could affect the schedule.

There is about 3 month's of lag time in the Milestone Schedule of Master Development Plan completion to start of nursing facility design. If SEP , parking or traffic issues delay the Master Development Plan beyond 3-4 months, the Nursing Home design may be impacted.

v. Identify when the local jurisdiction will be contacted and whether community stakeholder meetings are part of the process.

Community stakeholder meetings should be part of the Master Development Plan now underway that will require a public hearing for approval.

5 PROJECT BUDGET PREFERRED ALTERNATIV

FIRCREST SCHOOL NEW NURSING CAPACITY
Predesign Study | October 21, 2018

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ASSUMPTIONS

i. Major assumptions used in p epa ing the cost estimate:

1. Assumes an April 2021 Construction Start and an anticipated move-in date of December 2022 to February 2023 for an 18 month construction duration.
2. Cost estimates assume a 3.12% inflation rate.
3. A/E fee is Class B of 6.12%
4. Assumed construction delivery method is GCCM (General Contractor / Construction Manager).
5. Cost estimate Alternatives are either LEED Silver or LEED Silver plus Netzero as shown.

COSTIESTIMATEISUMMARIESI(ALTERNATIVESI1A –I3C)

ii. *Summa y table of Unifo mat II Level 2 cost estimates.*

90 BED

ALTERNATIVE 1 - LEED ILVER

90-Beds Building 66 Renovation plus Expansion

Item	De cription	Gro Square Feet	$/ GSF	Co t
1	Site Con truction			$ 9,188,390
2	Relocate 1 t Fl Office	3,600	400	$ 1,440,000
3	Renovation Building Con truction	67,100	266	$ 17,834,553
4	New Building Con truction	39,480	450	$ 17,766,000
5	Water Infrastructure			$ 2,430,000
6	Frontage Improvement			$ 1,081,739
Total Estimate Construction Cost in Today's Dollars*				**$ 49,740,682**

E calation i EXCLUDED. See C-100 Form for Total Con truction Budget w/ E calation

ALTERNATIVE 1 - LEED ILVER + NETZERO

90-Beds Building 66 Renovation plus Expansion

Item	De cription	Gro Square Feet	$/ GSF	Co t
1	Site Con truction			$ 9,188,390
2	Relocate 1 t Fl Office	3,600	400	$ 1,440,000
3	Renovation Building Con truction	67,100	277	$ 18,617,610
4	New Building Con truction	39,480	489	$ 19,325,127
5	Water Infrastructure			$ 2,430,000
6	Frontage Improvement			$ 1,081,739
Total Estimate Construction Cost in Today's Dollars				**$ 52,082,866**

E calation i EXCLUDED. See C-100 Form for Total Con truction Budget w/ E calation

100 BED

ALTERNATIVE 2A - LEED ILVER

100-Beds ATP ite

Item	De cription	Gro Square Feet	$/ GSF	Co t
1	Site Con truction			$ 10,168,421
2	Relocate ATP program	54,000	400	$ 21,600,000
3	Demo ATP Building (wood-frame)	54,000	30	$ 1,620,000
4	New Building Con truction	101,300	413	$ 41,874,025
5	Frontage Improvement			$ 1,081,739
6	Water Infra tructure			$ 2,430,000
Total Estimate Construction Cost in Today's Dollars				**$ 78,774,185**

E calation is EXCLUDED. See C-100 Form for Total Con truction Budget w/ E calation

ALTERNATIVE 2A - LEED ILVER + NETZERO

100-Beds ATP ite

Item	De cription	Gro Square Feet	$/ GSF	Co t
1	Site Con truction			$ 10,168,421
2	Relocate ATP program	54,000	400	$ 21,600,000
3	Demo ATP Building (wood-frame)	54,000	30	$ 1,620,000
4	New Building Con truction	101,300	451	$ 45,676,469
5	Frontage Improvement			$ 1,081,739
6	Water Infra tructure			$ 2,430,000
Total Estimate Construction Cost in Today's Dollars				**$ 82,576,629**

E calation i EXCLUDED. See C-100 Form for Total Con truction Budget w/ E calation

160 BED

ALTERNATIVE 2B - LEED ILVER

160-Beds ATP ite

Item	De cription	Gro Square Feet	$/ GSF	Co t
1	Site Con truction			$ 11,811,030
2	Relocate ATP program	54,000	400	$ 21,600,000
3	Demo ATP Building (wood-frame)	54,000	30	$ 1,620,000
4	New Building Con truction	149,300	414	$ 61,811,434
3	Frontage Improvement			$ 1,081,739
5	Water Infra tructure			$ 2,430,000
Total Estimate Construction Cost in Today's Dollars				**$ 100,354,203**

E calation i EXCLUDED. See C-100 Form for Total Con truction Budget w/ E calation

ALTERNATIVE 2B - LEED ILVER + NETZERO

160-Beds ATP ite

Item	De cription	Gro Square Feet	$/ GSF	Co t
1	Site Con truction			$ 11,811,030
2	Relocate ATP program	54,000	400	$ 21,600,000
3	Demo ATP Building (wood-frame)	54,000	30	$ 1,620,000
4	New Building Con truction	149,300	455	$ 67,945,581
5	Frontage Improvement			$ 1,081,739
6	Water Infra tructure			$ 2,430,000
Total Estimate Construction Cost in Today's Dollars				**$ 106,488,350**

E calation i EXCLUDED. See C-100 Form for Total Con truction Budget w/ E calation

100 BED

ALTERNATIVE 3A - LEED ILVER

100-Beds Madrona ite

Item	De cription	Gro Square Feet	$/ GSF	Co t
1	Site Con truction			$ 13,491,517
2	Frontage Improvement			$ 1,081,739
3	New Building Con truction	97,200	413	$ 40,143,600
4	Water Infra tructure			$ 2,430,000
Total Estimate Construction Cost in Today's Dollars				**$ 57,146,856**

E calation i EXCLUDED. See C-100 Form for Total Con truction Budget w/ E calation

ALTERNATIVE 3A - LEED ILVER + NETZERO

100-Beds Madona ite

Item	De cription	Gro Square Feet	$/ GSF	Co t
1	Site Con truction			$ 13,491,517
2	Frontage Improvement			$ 1,081,739
3	New Building Con truction	97,200	451	$ 43,837,200
4	Water Infra tructure			$ 2,430,000
Total Estimate Construction Cost in Today's Dollars				**$ 60,840,456**

E calation i EXCLUDED. See C-100 Form for Total Con truction Budget w/ E calation

ALTERNATIVE 3B - LEED ILVER + NETZERO **** Preferred

120-Beds Madona ite

Item	De cription	Gro Square Feet	$/ GSF	Co t
1	Site Con truction			$ 13,340,092
2	Frontage Improvement			$ 1,081,739
3	New Building Con truction	112,220	451	$ 50,629,245
4	Water Infra tructure			$ 2,430,000
Total Estimate Construction Cost in Today's Dollars				**$ 67,481,076**

E calation i EXCLUDED. See C-100 Form for Total Con truction Budget w/ E calation

160 BED

ALTERNATIVE 3C - LEED ILVER

160-Beds Madrona ite

Item	De cription	Gro Square Feet	$/ GSF	Co t
1	Site Con truction			$ 14,532,660
2	Demo 2 Y-Building	26,000	39	$ 1,003,248
3	Frontage Improvement			$ 1,081,739
4	New Building Con truction	140,006	413	$ 57,822,478
5	Water Infra tructure			$ 2,430,000
Total Estimate Construction Cost in Today's Dollars				**$ 76,870,125**

E calation i EXCLUDED. See C-100 Form for Total Con truction Budget w/ E calation

ALTERNATIVE 3C - LEED ILVER + NETZERO **** Preferred

160-Beds Madrona ite

Item	De cription	Gro Square Feet	$/ GSF	Co t
1	Site Con truction			$ 14,532,660
2	Demo (2) Y-Building	26,000	39	$ 1,003,248
3	Frontage Improvement			$ 1,081,739
4	New Building Con truction	140,006	449	$ 62,810,004
5	Water Infra tructure			$ 2,430,000
Total Estimate Construction Cost in Today's Dollars				**$ 81,857,651**

E calation i EXCLUDED. See C-100 Form for Total Con truction Budget w/ E calation

iii. The C-100 in Excel

STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY

Agency	Department of Social and Health Services	
roject Name	Fircrest Nursing Facility- A3 120 Beds Zero Energy	
OFM roject Number		

Contact Information		
Name	Sage Architectural Alliance/The Robinson Company	
hone Number	206 556-4181/206 441-8872	
Email		

Statistics			
Gross Square Feet	118,220	MACC per Square Foot	$571
Usable Square Feet	73,420	Escalated MACC per Square Foot	$634
Space Efficiency	62.1%	A/E Fee Class	B
Construction Type	Nursing homes	A/E Fee ercentage	5.78%
Remodel	No	rojected Life of Asset (Years)	
Additional Project Details			
Alternative ublic Works roject	No	Art Requirement Applies	
Inflation Rate	3.12%	Higher Ed Institution	
Sales Tax Rate %	10.10%	Location Used for Tax Rate	
Contingency Rate	5%		
Base Month	June-18		
roject Administered By	Agency		

Schedule			
redesign Start	June-18	redesign End	October-18
Design Start	November-19	Design End	February-21
Construction Start	April-21	Construction End	October-22
Construction Duration	18 Months		

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Project Cost Estimate

Total roject	**$93,183,261**	Total roject Escalated	**$103,246,173**
		Rounded Escalated Total	**$103,246,000**

STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY

Agency	Department of Social and Health Services	
roject Name	Fircrest Nursing Facility- A3 120 Beds Zero Energy	
OFM roject Number		

Cost Estimate Summary

Acquisition			
Acquisition Subtotal	**$0**	**Acquisition Subtotal Escalated**	**$0**

Consultant Services			
redesign Services	$0		
A/E Basic Design Services	$2,825,844		
Extra Services	$2,193,000		
Other Services	$1,529,582		
Design Services Contingency	$327,421		
Consultant Services Subtotal	**$6,875,848**	**Consultant Services Subtotal Escalated**	**$7,417,913**

Construction			
Construction Contingencies	$3,374,054	Construction Contingencies Escalated	$3,767,132
Maximum Allowable Construction Cost (MACC)	$67,481,076	Maximum Allowable Construction Cost (MACC) Escalated	$74,912,902
Sales Tax	$7,156,368	Sales Tax Escalated	$7,946,684
Construction Subtotal	**$78,011,498**	**Construction Subtotal Escalated**	**$86,626,718**

Equipment			
Equipment	$4,769,050		
Sales Tax	$481,674		
Non-Taxable Items	$0		
Equipment Subtotal	**$5,250,724**	**Equipment Subtotal Escalated**	**$5,862,435**

Artwork			
Artwork Subtotal	**$374,565**	**Artwork Subtotal Escalated**	**$374,565**

Agency Project Administration			
Agency roject Administration Subtotal	$1,395,626		
DES Additional Services Subtotal	$0		
Other roject Admin Costs	$0		
Project Administration Subtotal	**$1,995,626**	**Project Administation Subtotal Escalated**	**$2,2 8,117**

Other Costs			
Other Costs Subtotal	**$675,000**	**Other Costs Subtotal Escalated**	**$736,425**

Project Cost Estimate

Total roject	**$93,183,261**	Total roject Escalated	**$103,246,173**
		Rounded Escalated Total	**$103,246,000**

Cost Estimate Details

Acquisition Costs					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
urchase/Lease					
Appraisal and Closing					
Right of Way					
Demolition					
re-Site Development					
Other					
Insert Row Here					
ACQUISITION TOTAL	**$0**		**NA**	**$0**	

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Cost Estimate Details

Consultant Services				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
1) Pre-Schematic Design Services				
rogramming/Site Analysis				
Environmental Analysis				
redesign Study				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.0446**	**$0**	Escalated to Design Start
2) Construction Documents				
A/E Basic Design Services	$2,825,844			69% of A/E Basic Services
Other				
Insert Row Here				
Sub TOTAL	**$2,825,844**	**1.0649**	**$3,009,242**	Escalated to Mid-Design
3) Extra Services				
Civil Design (Above Basic Svcs)	$100,000			
Geotechnical Investigation	$70,000			
Commissioning	$50,000			
Site Survey	$85,000			
Testing	$160,000			
LEED Services	$170,000			
Voice/Data Consultant	$35,000			
Value Engineering	$80,000			
Constructability Review	$95,000			
Environmental Mitigation (EIS)	$60,000			
Landscape Consultant	$90,000			
ELCCA	$65,000			
LCCT	$85,000			
Reimburseables incl Reprographics prior to bid	$100,000			
Advertising	$3,000			
Traffic analysis	$80,000			
Envelope Consultant	$65,000			
Interior Design	$90,000			
Acoustic Design	$60,000			
Security Consultant	$60,000			
Audio Visual Consultant	$25,000			
Cost and Scheduling	$65,000			
Value Engineering articipation	$65,000			
Constructability Review articipation	$65,000			
Environmental Graphics/Signage	$40,000			
Lighting Consultant	$50,000			
Heatlhcare Services Consultant	$75,000			
Door Hardware Consultant	$15,000			
SEPA/Land Use	$35,000			
Net Zero Energy Consultant	$155,000			
Sub TOTAL	**$2,193,000**	**1.0649**	**$2,335,326**	Escalated to Mid-Design

4) Other Services				
Bid/Construction/Closeout	$1,269,582			31% of A/E Basic Services
HVAC Balancing				
Staffing				
Commissioning and Training	$120,000			
Reimburseables/Reprographics for bid and construction	$50,000			
Construction Materials Testing	$90,000			
Insert Row Here				
Sub TOTAL	**$1,529,582**	**1.1165**	**$1,707,779**	Escalated to Mid-Const.
5) Design Services Contingency				
Design Services Contingency	$327,421			
Other				
Insert Row Here				
Sub TOTAL	**$327,421**	**1.1165**	**$365,566**	Escalated to Mid-Const.
CONSULTANT SERVICES TOTAL	**$6,875,848**		**$7,417,913**	

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Cost Estimate Details

Construction Contracts				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
1) Site Work				
G10 - Site reparation	$4,353,548			
G20 - Site Improvements	$1,860,560			
G30 - Site Mechanical Utilities	$6,931,585			
G40 - Site Electrical Utilities	$194,400			
G60 - Other Site Construction				
Water Tank System	$2,430,000			
Insert Row Here				
Sub TOTAL	**$15,770,092**	**1.0910**	**$17,205,171**	
) Related Project Costs				
Offsite Improvements	$1,081,739			
City Utilities Relocation				
arking Mitigation				
Stormwater Retention/Detention				
Other				
Insert Row Here				
Sub TOTAL	**$1,081,739**	**1.0910**	**$1,180,178**	
3) Facility Construction				
A10 - Foundations	$2,798,538			
A20 - Basement Construction	$544,731			
B10 - Superstructure	$5,714,399			
B20 - Exterior Closure	$7,195,651			
B30 - Roofing	$2,452,354			
C10 - Interior Construction	$5,986,763			
C20 - Stairs				
C30 - Interior Finishes	$5,254,545			
D10 - Conveying				
D20 - lumbing Systems	$2,920,983			
D30 - HVAC Systems	$2,886,321			
D40 - Fire rotection Systems	$1,602,683			
D50 - Electrical Systems	$8,770,317			
F10 - Special Construction				
F20 - Selective Demolition				
General Conditions	$2,245,065			
Building Related Site Improvements	$237,295			
V anels	$2,019,600			
Insert Row Here				
Sub TOTAL	**$50,629,245**	**1.1165**	**$56,527,553**	
4) Maximum Allowable Construction Cost				
MACC Sub TOTAL	**$67,481,076**		**$74,912,902**	

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7) Construction Contingency				
Allowance for Change Orders	$3,374,054			
Other				
Insert Row Here				
Sub TOTAL	**$3,374,054**	**1.1165**	**$3,767,132**	
8) Non-Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.1165**	**$0**	
Sales Tax				
Sub TOTAL	**$7,156,368**		**$7,946,684**	
CONSTRUCTION CONTRACTS TOTAL	**$78,011,498**		**$86,626,718**	

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Cost Estimate Details

Equipment				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
E10 - Equipment	$1,402,750			
E20 - Furnishings	$1,683,000			
F10 - Special Construction				
IT Equip/computers/printers	$1,683,300			
Insert Row Here				
Sub TOTAL	**$4,769,050**	**1.1165**	**$5,324,645**	
1) Non Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.1165**	**$0**	
Sales Tax				
Sub TOTAL	**$481,674**		**$537,790**	
EQUIPMENT TOTAL	**$5,250,724**		**$5,862,435**	

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Cost Estimate Details

Artwork					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
roject Artwork	$374,565				0.5% of Escalated MACC for new construction
Higher Ed Artwork	$0				0.5% of Escalated MACC for new and renewal construction
Other					
Insert Row Here					
ARTWORK TOTAL	**$374,565**		**NA**	**$374,565**	

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Cost Estimate Details

Project Management				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
Agency roject Management	$1,395,626			
Additional Services				
Additional Management/Administration	$600,000			
Insert Row Here				
PROJECT MANAGEMENT TOTAL	**$1,995,626**	**1.1165**	**$2,2 8,117**	

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Cost Estimate Details

Other Costs				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
Mitigation Costs				
Hazardous Material Remediation/Removal	$125,000			
Historic and Archeological Mitigation				
ermit and lan Review Fees	$550,000			
Insert Row Here				
OTHER COSTS TOTAL	**$675,000**	**1.0910**	**$736,425**	

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PROPOSEDIFUNDING

Identify the fund sou ces and expectedr eceipt of the funds. If alte natively financed, p ovide the p ojected debt se vice and fund sou ce:

Funds are expected to be sourced from the Washington State building construction account with design and construction funding appropriated November 2019.

Alternative financing is not being pursued.

OPERATIONSI&IMAINTENANCE

i. Define the anticipated impact of the p oposed p oject on the ope ating budget for the agency or institution. Include maintenance and ope ating assumptions (including FTEs)

he utilities and maintenance costs for the new 120-bed LEED Silver Netzero will be less than the existing 90-bed nursing facility.

Currently there are 5 operating Y-Buildings, but the plan is to put all 6 Y-Buildings in operation. he staffing of (6) 16-bed Y-Buildings is expected to be same as staffing (6) 20-bed cottages because the new design optimizes nursing care staffing.

ii. Show five biennia of capital and ope ating costs f om the time of occupancy, including an estimate of buildingr epai s, eplacement, and maintenance:

Staffing Cost Assumptions

Staffing projections and associated operations costs were generated by operations consultant Attune Healthcare.

Staffing operations budget projections include the following assumptions:

1. Five Bieniums of capital and staffing operations costs (10 years, 2020-2029)
2. 5% per year discount rate for NPV (net present value).
3. 3.34% per year escalation rate for budget line items.

Building Utilities & Maintenance Assumptions

Operations and maintenance costs for the proposed nursing facility were calculated using the Life Cycle Cost Model. Utility charges were projected using historical utility charges and energy modeling from the mechanical and sustainability engineers.

FIVE BIENNIA OF CAPITAL AND OPERATING COSTS

ALTERNATIVE 1 - LEED ILVER + NETZERO- OPERATING COST

90-Beds Building 66 Renovation plus Expansion

Biennia	Years	Staffing Co t	Utility & Mtn Co t	Total Co t
1	2022-2023	$35,690,545	$2,136,994	$ 37,827,539
2	2024-2025	$34,571,194	$1,938,224	$ 36,509,418
3	2026-2027	$33,571,194	$1,758,061	$ 35,329,255
4	2028-2029	$32,436,278	$1,594,646	$ 34,030,924
5	2030-2031	$28,922,648	$1,446,334	$ 30,368,982
Total Operating Cost in Today's Dollars (NPV)				**$ 174,066,118**

FIVE BIENNIA OF CAPITAL AND OPERATING COSTS

ALTERNATIVE 2A - LEED ILVER + NETZERO- OPERATING COST 100-Beds ATP ite				
Biennia	Years	Staffing Co t	Utility & Mtn Co t	Total Co t
1	2022-2023	$36,752,599	$2,215,818	$ 38,968,417
2	2024-2025	$35,599,703	$2,009,716	$ 37,609,419
3	2026-2027	$34,482,973	$1,822,909	$ 36,305,882
4	2028-2029	$33,401,273	$1,653,465	$ 35,054,738
5	2030-2031	$30,813,551	$1,499,683	$ 32,313,234
Total Operating Cost in Today's Dollars (NPV)				**$ 180,251,690**

FIVE BIENNIA OF CAPITAL AND OPERATING COSTS

ALTERNATIVE 2B - LEED ILVER + NETZERO- OPERATING COST 160-Beds ATP ite				
Biennia	Years	Staffing Co t	Utility & Mtn Co t	Total Co t
1	2022-2023	$58,040,337	$3,247,013	$ 61,287,350
2	2024-2025	$56,219,662	$2,944,996	$ 59,164,658
3	2026-2027	$54,456,102	$2,671,252	$ 57,127,354
4	2028-2029	$52,694,252	$2,422,953	$ 55,117,205
5	2030-2031	$48,660,200	$2,197,604	$ 50,857,804
Total Operating Cost in Today's Dollars (NPV)				**$ 283,554,372**

FIVE BIENNIA OF CAPITAL AND OPERATING COSTS

ALTERNATIVE 3A - LEED ILVER + NETZERO- OPERATING COST 100-Beds Madrona ite				
Biennia	Years	Staffing Co t	Utility & Mtn Co t	Total Co t
1	2022-2023	$36,752,599	$2,007,534	$ 38,760,133
2	2024-2025	$35,599,703	$1,820,806	$ 37,420,509
3	2026-2027	$34,482,973	$1,651,557	$ 36,134,530
4	2028-2029	$33,401,273	$1,498,041	$ 34,899,314
5	2030-2031	$30,812,861	$1,358,715	$ 32,171,576
Total Operating Cost in Today's Dollars (NPV)				**$ 179,386,062**

FIVE BIENNIA OF CAPITAL AND OPERATING COSTS

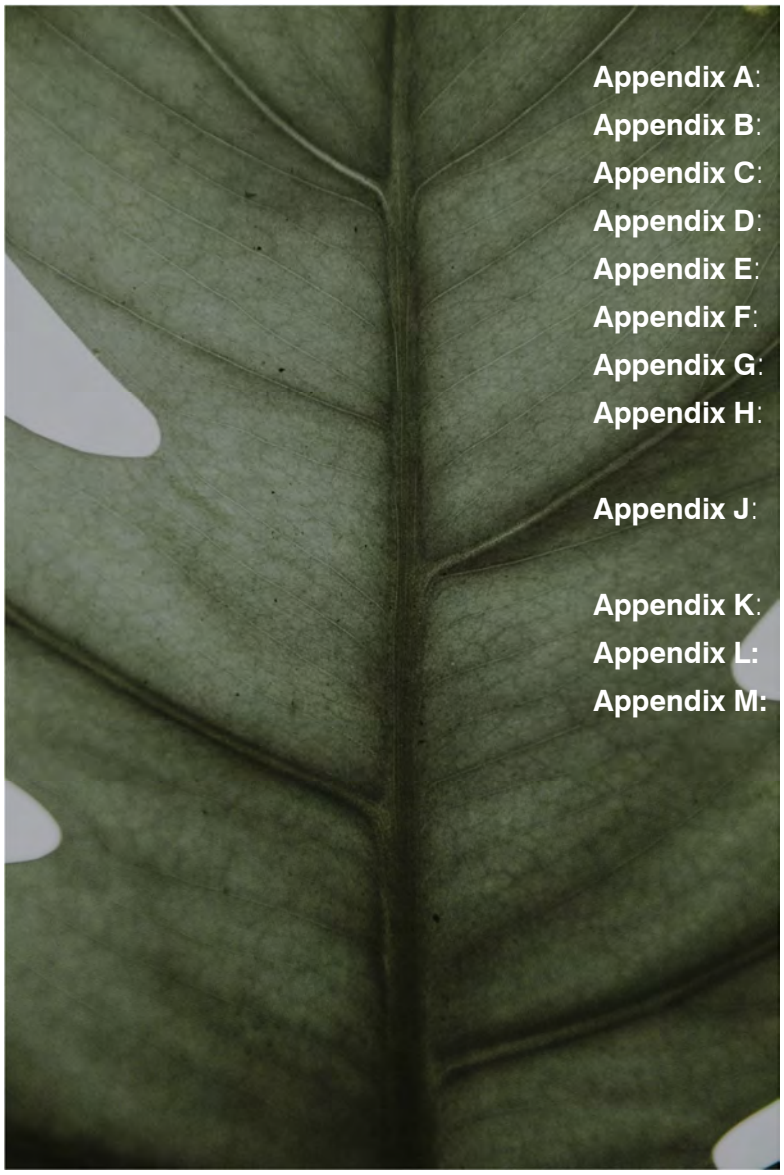
ALTERNATIVE 3C - LEED ILVER + NETZERO- OPERATING COST 160-Beds Madrona ite				
Biennia	Years	Staffing Co t	Utility & Mtn Co t	Total Co t
1	2022-2023	$55,385,792	$3,016,915	$ 58,402,707
2	2024-2025	$53,649,881	$ 2,736,300.37	$ 56,386,181
3	2026-2027	$51,965,487	$ 2,481,954.85	$ 54,447,442
4	2028-2029	$50,335,376	$ 2,251,251.41	$ 52,586,627
5	2030-2031	$46,434,667	$ 2,041,872.21	$ 48,476,539
Total Operating Cost in Today's Dollars (NPV)				**$ 270,299,497**

FURNITURE & EQUIPMENT

Cla ify whether fu nitu e, fixtu es, and equipment a e included in the p oject budget. If not included, explain:

Furniture and Equipment is included in the total project cost.

6 APPENDICES



Appendix A: Predesign Checklist
Appendix B: Life Cycle Cost Models (LCCM)
Appendix C: LEED Checklist
Appendix D: Campus Photos
Appendix E: Visioning Questionnaire Results
Appendix F: Detailed Space Needs Program
Appendix G: Operations Consultant Reports
Appendix H: Engineer's Existing Conditions Reports
Appendix J: Engineer's Preferred Alternative Report
Appendix K: Glossary
Appendix L: Laundry Analysis
Appendix M: Laundry C100 & LCCM

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APPENDIX A: PREDESIGN CHECKLIST

A prede ign hould include the content detailed here. OFM will approve limited cope prede ign on a ca e-by-ca e ba i .

- ❖ **Executive Summary**
- ❖ **Problem Statement, Opportunity or Program Requirement**
  - ☑ **PA E 2.1** Identify the problem, opportunity or program requirement that the project addre e and how it will be accompli hed.
  - ☑ **PA E 2.7** Identify and explain the tatutory or other requirement that drive the project' operational programs and how the e affect the need for pace, location or phy ical accommodation . **PA E 2.9** Include anticipated population projection (growth or decline) and a umption .
  - ☑ **PA E 2.10** Explain the connection between the agency' mi ion, goal and objective ; tatutory requirement ; and the problem, opportunity, or program requirement .
  - ☑ **PA E 2.20** De cribe in general terms what i needed to olve the problem.
  - ☑ **PA E 2.21** Include any relevant hi tory of the project, including previou prede ign that did not go forward to de ign or con truction.
- ❖ **Analysis of Alternatives (including the preferred alternative)**
  - ☑ **PA E 3.1** De cribe all alternative that were con idered, including the preferred alternative. Include:
    - ☑ **PA E 3.2** A no action alternative.
    - ☑ Advantage and di advantage of each alternative. Plea e include a high-level ummary table with your analy i .
    - ☑ Co t e timate for each alternative.
      - ☑ Provide enough information o deci ion maker have a general under tanding of the co t .
      - ☑ Complete OFM' Life Cycle Co t Model (RCW 39.35B.050).
    - ☑ Schedule e timate for each alternative. E timate the tart, midpoint, and completion date .
- ❖ **Detailed Analysis of Preferred Alternative**
  - ☑ Nature of pace – how much of the propo ed pace will be u ed for what purpo e (i.e., office, lab, conference, cla room, etc.)
  - ☑ Occupancy number .
  - ☑ Ba ic configuration of the building, including quare footage number of floor .
  - ☑ Space need a e ment. Identify the guideline u ed.
  - ☑ Site Analy i
    - ☑ Identify ite tudie that are completed or under way.
    - ☑ Location.

- ☑ Building footprint and it relation hip to adjacent facilitie and ite feature . Provide an aerial view, ketche of the building ite, and ba ic floorplan .
- ☑ Stormwater requirement .
- ☑ Owner hip of the ite and any acqui ition i ue .
- ☑ Ea ement and etback requirement .
- ☑ Potential i ue with the urrounding neighborhood, during con truction and ongoing.
- ☑ Utility exten ion or relocation i ue .
- ☑ Potential environmental impact .
- ☑ Parking and acce i ue , including improvement required by local ordinance , local road impact , and parking demand.
- ☑ Impact on urrounding and exi ting development with con truction lay-down area and con truction pha ing.
- ☑ Con i tency with applicable long-term plan (uch a the Thur ton County and Capitol Campu ma ter plan and agency or area ma ter plan) a required by RCW 43.88.110.
- ☑ Con i tency with other law and regulation
- ☑ High-performance public building (Chapter 39.35D RCW).
- ☑ Greenhou e ga emi ion reduction policy (RCW 70.235.070).
- ☑ Archeological and cultural re ource (Executive Order 05-05 and Section 106 of the National Hi toric Pre ervation Act of 1966).
- ☑ American with Di abilitie Act implementation (Executive Order 96-04).
- ☑ Compliance with planning under Chapter 36.70A RCW, a required by RCW 43.88.0301.
- ☑ Information required by RCW 43.88.0301(1).
- ☑ Other code or regulation .
- ☑ Identify problems that require further tudy. Evaluate identified problems to e tabli h probable co t and ri k.
- ☑ Identify ignificant or di tingui hable component , including major equipment and ADA requirement in exce of exi ting code.
- ☑ Identify planned IT y tems that affect the building plan .
- ☑ De cribe planned commi ioning to en ure y tems function a de igned.
- ☑ De cribe any future pha e or other facilitie that will affect thi project.
- ☑ Identify and ju tify the propo ed project delivery method. For GC/CM, link to the requirement in RCW 39.10.340.
- ☑ De cribe how the project will be managed within the agency.

- ☑ Schedule
  - ☑ Provide a high-level mile tone chedule for the project, including key date for budget approval, de ign, bid, acqui ition, con truction, equipment in tallation, te ting, occupancy, and full operation.
  - ☑ Incorporate value-engineering analy i and con tructability review into the project chedule, a required by RCW 43.88.110(5)(c).
  - ☑ De cribe factor that may delay the project chedule.
  - ☑ De cribe the permitting or local government ordinance or neighborhood i ue (uch a location or parking compatibility) that could affect the chedule.
  - ☑ Identify when the local juri diction will be contacted and whether community takeholder meeting are a part of the proce .

❖ Project Budget Analysis for the Preferred Alternative

- ☑ Co t e timate
  - ☑ Major a umption u ed in preparing the co t e timate.
  - ☑ Summary table of Uniformat Level II co t e timate .
  - ☑ The C-100. If project co t are out ide the C-100 co t control range, explain.
- ☑ Propo ed funding
  - ☑ Identify the fund ource and expected receipt of the fund .
  - ☑ If alternatively financed, provide the projected debt ervice and fund ource. Include the a umption u ed for calculating finance terms and intere t rate .
- ☑ Facility operation and maintenance requirement
  - ☑ Define the anticipated impact of the propo ed project on the operating budget for the agency or in titution. Include maintenance and operating a umption (including FTE).
  - ☑ Show five biennia of capital and operating co t from the time of occupancy, including an e timate of building repair, replacement, and maintenance.
- ☑ Clarify whether furniture, fixture , and equipment are included in the project budget. If not included, explain.

❖ Predesign Appendix

- ☑ Completed Life Cycle Co t Model.
- ❑ A letter from the Department of Archaeology and Hi toric Pre ervation.

APPENDIX B - LIFE CYCLE ALT 1,2 & 3 - 90 or 100 BED

Life Cycle Cost Analysis - Project Summary

Agency	
Project Title	

Existing Description	

Lease Option 1 Description	

Lease Option 2 Description	

Ownership Option 1 Description	Fircrest Nursing Facility A 3-100 Beds Leed Silver

Ownership Option 2 Description	Fircrest Nursing Facility A 2-100 Beds Leed Silver

Ownership Option 3 Description	Fircrest Nursing Facility A 1-90 Beds Leed Silver

Lease Options Information	**Existing Lease**	**Lease Option 1**	**Lease Option 2**
Total Rentable Square Feet	-	-	-
Annual Lease Cost (Initial Term of Lease)	$ -	$ -	$ -
Full Service Cost/SF (Initial Term of Lease)	$ -	$ -	$ -
Occupancy Date	n/a		
Project Initial Costs	n/a	$ -	$ -
Persons Relocating	-	-	-
RSF/Person Calculated			

Ownership Information	**Ownership 1**	**Ownership 2**	**Ownership 3**
Total Gross Square Feet	93,200	101,300	97,900
Total Rentable Square Feet	63,874	63,874	57,487
Occupancy Date	3/15/2022	3/15/2022	3/15/2022
Initial Project Costs	$ -	$ -	$ -
Est Construction TPC ($/GSF)	$ 794	$ 792	$ 688
RSF/Person Calculated	-	-	-

Financial Anal sis of Options

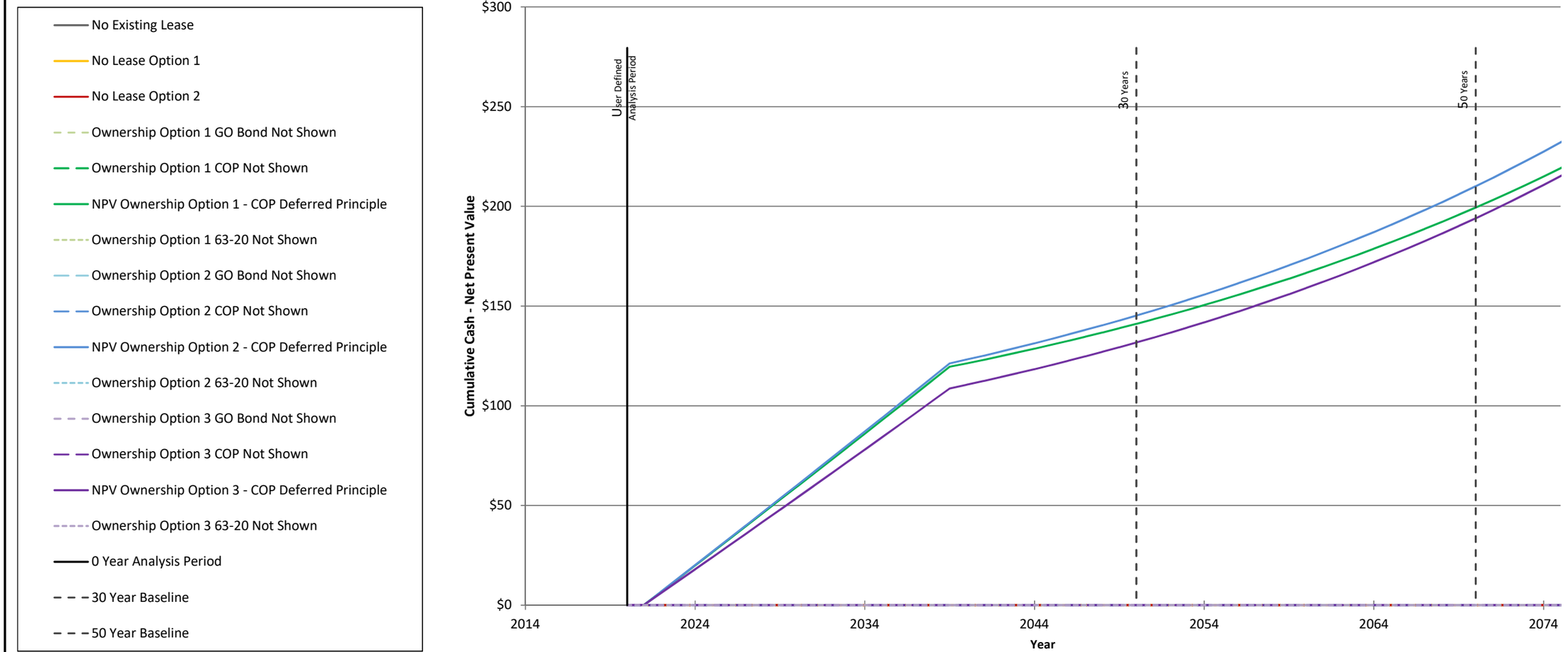
	Display Option?	Yes	Yes	Yes	No	No	Yes	No	No	No	Yes	No	No	No	Yes	No
	Financial Comparisons	**Existing Lease**	**Lease 1**	**Lease 2**	**Ownership 1**				**Ownership 2**				**Ownership 3**			
Years	**Financing Means**	**Current**	**Current**	**Current**	**GO Bond**	**COP**	**COP Deferred ***	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**
0	0 Year Cumulative Cash	$ -	$ -	$ -			$ -				$ -				$ -	
	0 Year Net Present Value	$ -	$ -	$ -			$ -				$ -				$ -	
	Lowest Cost Option (Anal sis Period)															

	Financial Comparisons	**Existing Lease**	**Lease 1**	**Lease 2**	**Ownership 1**				**Ownership 2**				**Ownership 3**			
Years	**Financing Means**	**Current**	**Current**	**Current**	**GO Bond**	**COP**	**COP Deferred ***	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**
30	30 Year Cumulative Cash	$ -	$ -	$ -			$ 147,126,934				$ 151,356,678				$ 137,234,101	
	30 Year Net Present Value	$ -	$ -	$ -			$ 138,874,360				$ 142,754,488				$ 129,353,809	
	Lowest Cost Option (30 Years)						**2**				**3**				**1**	

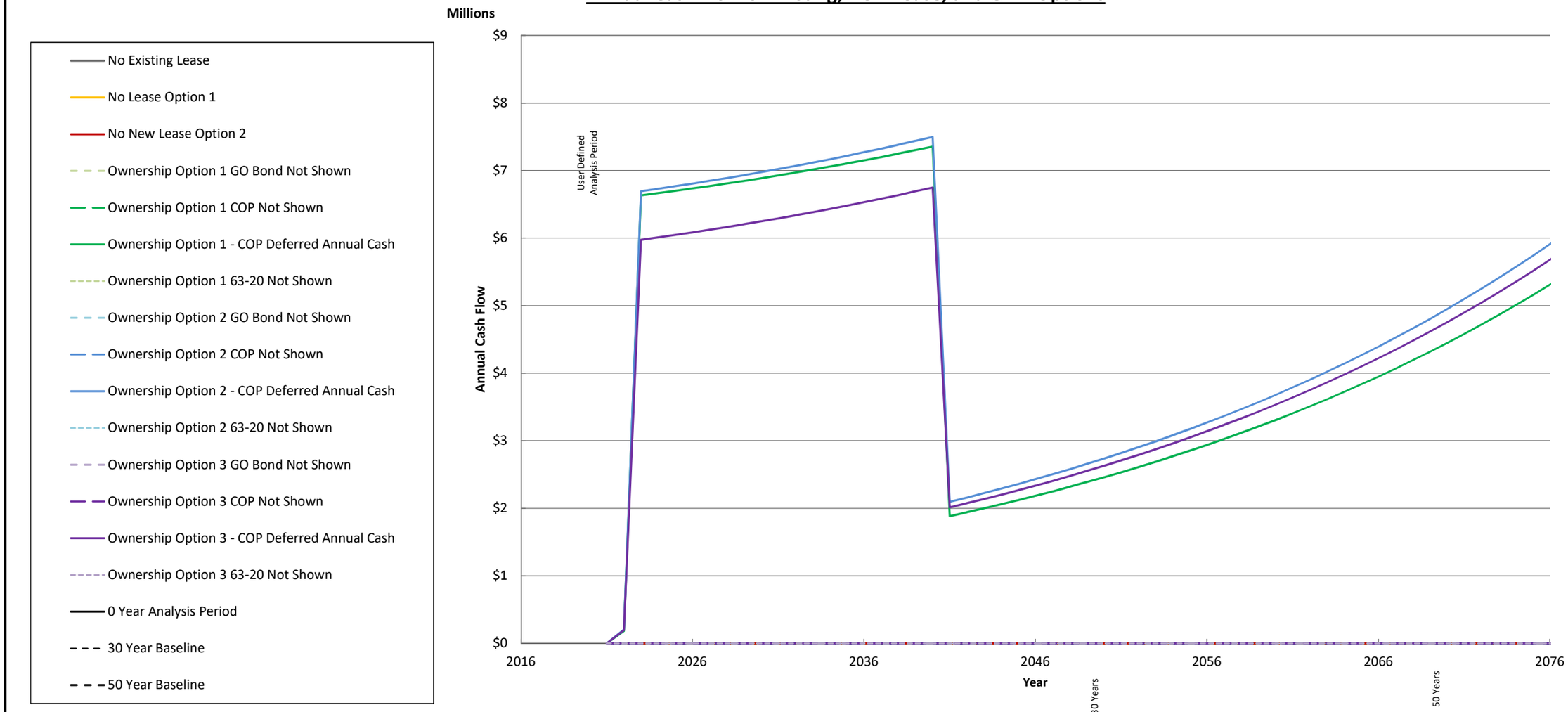
	Financial Comparisons	**Existing Lease**	**Lease 1**	**Lease 2**	**Ownership 1**				**Ownership 2**				**Ownership 3**			
Years	**Financing Means**	**Current**	**Current**	**Current**	**GO Bond**	**COP**	**COP Deferred ***	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**
50	50 Year Cumulative Cash	$ -	$ -	$ -			$ 215,217,899				$ 227,111,388				$ 210,020,785	
	50 Year Net Present Value	$ -	$ -	$ -			$ 195,742,707				$ 206,023,458				$ 190,143,936	
	Lowest Cost Option (50 Years)						**2**				**3**				**1**	

** - Defers payment on principle for 2 ears while the building is being constructed. See instructions on Capitalized Interest.*

Cumulative Cash - NPV of Exist, Lease, and Own Options



Annual Cash Flow of Existing, New Lease, and Own Options



Financial Assumptions

Date of Life Cycle Cost Analysis:	
Analysis Period Start Date	3/15/2020
User Input Years of Analysis	0

All assumptions subject to change to reflect updated costs and conditions.

	Lease Options			Ownership Option 1			Ownership Option 2			Ownership Option 3		
	Existing Lease	**Lease Option 1**	**Lease Option 2**	**GO Bond**	**COP**	**63-20**	**GO Bond**	**COP**	**63-20**	**GO Bond**	**COP**	**63-20**
Inflation / Interest Rate	3.006%	3.006%	3.006%	3.160%	3.460%	3.660%	3.160%	3.460%	3.660%	3.160%	3.460%	3.660%
Discount Rate	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%
Length of Financing	N/A	N/A	N/A	20	20	20	20	20	20	20	20	20

See Financial Assumptions tab for more detailed information

COP Deferred and 63-20 Financing defer the payment on principle until construction completion.

New Lease Assumptions

Real Estate Transaction fees are 2.5% of the lease for the first 5 ears and 1.25% for each ear thereafter in the initial term of the lease.

Tenant Improvements are typically estimated at $15 per rentable square foot.

IT infrastructure is typically estimated at $350 per person.

Furniture costs are typically estimated at $500 per person and do not include new workstations.

Moving Vendor and Supplies are typically estimated at $205 per person.

Default Ownership Options Assumptions

Assumes a 2 month lease to move-in overlap period for outfitting building and relocation.

Assumes surface parking.

The floor plate of the construction option office building is 25,000 gross square feet.

The estimated total project cost for construction is $420.00 per square foot.

See the Capital Construction Defaults tab for more construction assumptions.

Ownership Option 3 Information Sheet

*	***Requires a user input***	*Green Cel*	*= Value can be entered by user.*	*Yel ow Cel*	*= Calculated value.*

*	**Project Description**	Fircrest Nursing Facility A 1-90 Beds Leed Silver
*	**Construction or Purchase/Remodel**	Construction
*	**Project Location**	Shoreline — Market Area = King-North

	Statistics	
*	Gross Sq Ft	97,900
*	Usable Sq Ft	57,487
	Space Efficiency	59%
	Estimated Acres Needed	4.00
	MACC Cost per Sq Ft	$429.05
	Estimated Total Project Costs per Sq Ft	$610.89
	Escalated MACC Cost per Sq Ft	$483.01
	Escalated Total Project Costs per Sq Ft	$687.72

*	**Move In Date**	3/15/2022

Interim Lease Information	**Start Date**
Lease Start Date	
Length of Lease (in months)	
Square Feet (holdover/temp lease)	
Lease Rate- Full Serviced ($/SF/Year)	
One Time Costs (if double move)	

	Construction Cost Estimates (See Capital Budget System For Detail)			
		Known Costs	Estimated Costs	Cost to Use
	Acquisition Costs Total		$ 1,000,000	$ 1,000,000
A & E	**Consultant Services**			
	A & E Fee Percentage (if services not specified)	9.33%	6.18% Std	9.33%
	Pre-Schematic Design services	$ 192,054		
	Construction Documents	$ 2,839,307		
	Extra Services	$ 1,881,000		
	Other Services	$ 1,495,631		
	Design Services Contingency	$ 320,400		
	Consultant Services Total	$ 6,728,392	$ 2,596,469	$ 6,728,392
MACC	**Construction Contracts**			
	Site Work	$ 7,408,982		
	Related Project Costs			
	Facility Construction	$ 34,595,178		
	MACC SubTotal	$ 42,004,160	$ 29,370,000	$ 42,004,160
	Construction Contingency (5% default)	$ 2,100,208	$ 2,100,208	$ 2,100,208
	Non Taxable Items			$ -
	Sales Tax	$ 4,454,541		$ 4,454,541
	Construction Additional Items Total	$ 6,554,749	$ 6,554,749	$ 6,554,749
	Equipment			
	Equipment	$ 4,160,750		
	Non Taxable Items			
	Sales Tax	$ 420,236		
	Equipment Total	$ 4,580,986		$ 4,580,986
	Art Work Total	$ 228,473	$ 210,021	$ 228,473
	Other Costs			
		$ 600,000		
	Other Costs Total	$ 600,000		$ 600,000
	Project Management Total	$ 1,698,383		$ 1,698,383
	Grand Total Project Cost		**$ -**	**$ 63,395,143h**

Construction One Time Project Costs			
One Time Costs	Estimate	Calculated	
Moving Vendor and Supplies		$ -	*$205 / Person in FY09*
Other (not covered in construction)			
Total	$ -	$ -	

	Ongoing Building Costs				
Added Services	New Building Operating Costs	Known Cost /GSF/ 2022	Estimated Cost /GSF/ 2022	Total Cost / Year	Cost / Month
☑	**Energy (Electricity. Natural Gas)**	$ 0.91	$ 1.22	$ 89,089	$ 7,424
☑	**Janitorial Services**	$ -	$ 1.51	$ 148,158	$ 12,346
☑	**Utilities (Water, Sewer, & Garbage)**	$ -	$ 1.61	$ 157,794	$ 13,150
☑	**Grounds**	$ -	$ 0.16	$ 15,659	$ 1,305
☑	**Pest Control**	$ -	$ 0.06	$ 6,023	$ 502
☑	**Security**	$ -	$ 0.12	$ 12,045	$ 1,004
☑	**Maintenance and Repair**	$ -	$ 6.41	$ 627,563	$ 52,297
☑	**Management**	$ -	$ 0.75	$ 73,477	$ 6,123
☑	**Road Clearance**	$ -	$ 0.09	$ 8,432	$ 703
☑	**Telecom**	$ 0.35	$ -	$ 34,265	$ 2,855
	Additional Parking	$ -	$ -	$ -	$ -
	Other	$ -	$ -	$ -	$ -
	Total Operating Costs	**$ 1.26**	**$ 11.93**	**$ 1,172,505**	**$ 97,709**

Ownership Option 2 Information Sheet

*	***Requires a user input***	*Green Cel*	*= Value can be entered by user.*	*Yel ow Cel*	*= Calculated value.*

*	**Project Description**	Fircrest Nursing Facility A 2-100 Beds Leed Silver
*	**Construction or Purchase/Remodel**	Construction
*	**Project Location**	Shoreline — Market Area = King-North

	Statistics	
*	Gross Sq Ft	101,300
*	Usable Sq Ft	63,874
	Space Efficiency	63%
	Estimated Acres Needed	4.00
	MACC Cost per Sq Ft	$495.22
	Estimated Total Project Costs per Sq Ft	$703.18
	Escalated MACC Cost per Sq Ft	$557.50
	Escalated Total Project Costs per Sq Ft	$791.62

*	**Move In Date**	3/15/2022

Interim Lease Information	**Start Date**
Lease Start Date	
Length of Lease (in months)	
Square Feet (holdover/temp lease)	
Lease Rate- Full Serviced ($/SF/Year)	
One Time Costs (if double move)	

	Construction Cost Estimates (See Capital Budget System For Detail)			
		Known Costs	Estimated Costs	Cost to Use
	Acquisition Costs Total		$ 1,000,000	$ 1,000,000
A & E	**Consultant Services**			
	A & E Fee Percentage (if services not specified)	6.12%	5.97% Std	6.12%
	Pre-Schematic Design services	$ 192,054		
	Construction Documents	$ 2,224,314		
	Extra Services	$ 1,881,000		
	Other Services	$ 1,219,329		
	Design Services Contingency	$ 275,835		
	Consultant Services Total	$ 5,792,532	$ 2,996,662	$ 5,792,532
MACC	**Construction Contracts**			
	Site Work	$ 8,291,606		
	Related Project Costs			
	Facility Construction	$ 41,874,025		
	MACC SubTotal	$ 50,165,631	$ 30,390,000	$ 50,165,631
	Construction Contingency (5% default)	$ 2,508,282	$ 2,508,282	$ 2,508,282
	Non Taxable Items			$ -
	Sales Tax	$ 5,320,065		$ 5,320,065
	Construction Additional Items Total	$ 7,828,347	$ 7,828,347	$ 7,828,347
	Equipment			
	Equipment	$ 4,390,250		
	Non Taxable Items			
	Sales Tax	$ 443,415		
	Equipment Total	$ 4,833,665		$ 4,833,665
	Art Work Total	$ 272,939	$ 250,828	$ 272,939
	Other Costs			
		$ 600,000		
	Other Costs Total	$ 600,000		$ 600,000
	Project Management Total	$ 1,752,209		$ 1,752,209
	Grand Total Project Cost		**$ -**	**$ 72,245,323h**

Construction One Time Project Costs			
One Time Costs	Estimate	Calculated	
Moving Vendor and Supplies		$ -	*$205 / Person in FY09*
Other (not covered in construction)			
Total	$ -	$ -	

	Ongoing Building Costs				
Added Services	New Building Operating Costs	Known Cost /GSF/ 2022	Estimated Cost /GSF/ 2022	Total Cost / Year	Cost / Month
☑	**Energy (Electricity. Natural Gas)**	$ 0.98	$ 1.22	$ 99,274	$ 8,273
☑	**Janitorial Services**	$ -	$ 1.51	$ 153,303	$ 12,775
☑	**Utilities (Water, Sewer, & Garbage)**	$ -	$ 1.61	$ 163,274	$ 13,606
☑	**Grounds**	$ -	$ 0.16	$ 16,203	$ 1,350
☑	**Pest Control**	$ -	$ 0.06	$ 6,232	$ 519
☑	**Security**	$ -	$ 0.12	$ 12,464	$ 1,039
☑	**Maintenance and Repair**	$ -	$ 6.41	$ 649,358	$ 54,113
☑	**Management**	$ -	$ 0.75	$ 76,028	$ 6,336
☑	**Road Clearance**	$ -	$ 0.09	$ 8,725	$ 727
☑	**Telecom**	$ 0.35	$ -	$ 35,455	$ 2,955
	Additional Parking	$ -	$ -	$ -	$ -
	Other	$ -	$ -	$ -	$ -
	Total Operating Costs	**$ 1.33**	**$ 11.93**	**$ 1,220,316**	**$ 101,693**

Ownership Option 1 Information Sheet

*	***Requires a user input***	*Green Cel*	*= Value can be entered by user.*	*Yel ow Cel*	*= Calculated value.*

*	**Project Description**	Fircrest Nursing Facility A 3-100 Beds Leed Silver
*	**Construction or Purchase/Remodel**	Construction
*	**Project Location**	Shoreline — Market Area = King-North

	Statistics	
*	Gross Sq Ft	93,200
*	Usable Sq Ft	63,874
	Space Efficiency	69%
	Estimated Acres Needed	4.00
	MACC Cost per Sq Ft	$503.49
	Estimated Total Project Costs per Sq Ft	$704.89
	Escalated MACC Cost per Sq Ft	$566.81
	Escalated Total Project Costs per Sq Ft	$793.54

*	**Move In Date**	3/15/2022

Interim Lease Information	**Start Date**
Lease Start Date	
Length of Lease (in months)	
Square Feet (holdover/temp lease)	
Lease Rate- Full Serviced ($/SF/Year)	
One Time Costs (if double move)	

	Construction Cost Estimates (See Capital Budget System For Detail)			
		Known Costs	Estimated Costs	Cost to Use
	Acquisition Costs Total		$ 1,000,000	$ 1,000,000
A & E	**Consultant Services**			
	A & E Fee Percentage (if services not specified)	6.21%	6.05% Std	6.21%
	Pre-Schematic Design services	$ 192,054		
	Construction Documents	$ 2,107,836		
	Extra Services	$ 1,881,000		
	Other Services	$ 1,166,999		
	Design Services Contingency	$ 267,394		
	Consultant Services Total	$ 5,615,283	$ 2,803,097	$ 5,615,283
MACC	**Construction Contracts**			
	Site Work	$ 8,456,400		
	Related Project Costs			
	Facility Construction	$ 38,468,861		
	MACC SubTotal	$ 46,925,261	$ 27,960,000	$ 46,925,261
	Construction Contingency (5% default)	$ 2,346,236	$ 2,346,263	$ 2,346,236
	Non Taxable Items			$ -
	Sales Tax	$ 4,976,424		$ 4,976,424
	Construction Additional Items Total	$ 7,322,660	$ 2,346,263	$ 7,322,660
	Equipment			
	Equipment	$ 3,961,000		
	Non Taxable Items			
	Sales Tax	$ 400,061		
	Equipment Total	$ 4,361,061		$ 4,361,061
	Art Work Total	$ 255,217	$ 234,626	$ 255,217
	Other Costs			
		$ 600,000		
	Other Costs Total	$ 600,000		$ 600,000
	Project Management Total	$ 1,720,710		$ 1,720,710
	Grand Total Project Cost	**$ 66,800,192h**	**$ 34,343,987h**	**$ 67,800,192h**

Construction One Time Project Costs			
One Time Costs	Estimate	Calculated	
Moving Vendor and Supplies		$ -	*$205 / Person in FY09*
Other (not covered in construction)			
Total	$ -	$ -	

	Ongoing Building Costs				
Added Services	New Building Operating Costs	Known Cost /GSF/ 2022	Estimated Cost /GSF/ 2022	Total Cost / Year	Cost / Month
☑	Energ (Electricit . Natural Gas)	$ 0.85	$ 1.22	$ 79,220	$ 6,602
☑	Janitorial Services	$ -	$ 1.51	$ 141,045	$ 11,754
☑	Utilities (Water, Sewer, & Garbage)	$ -	$ 1.61	$ 150,219	$ 12,518
☑	Grounds	$ -	$ 0.16	$ 14,907	$ 1,242
☐	Pest Control	$ -	$0.00	$ -	$ -
☑	Securit	$ -	$ 0.12	$ 11,467	$ 956
☑	Maintenance and Repair	$ -	$ 6.41	$ 597,435	$ 49,786
☑	Management	$ -	$ 0.75	$ 69,949	$ 5,829
☐	Road Clearance	$ -	$0.00	$ -	$ -
☑	Telecom	$ 0.35	$ -	$ 32,620	$ 2,718
	Additional Parking	$ -	$ -	$ -	$ -
	Other	$ -	$ -	$ -	$ -
	Total Operating Costs	**$ 1.20**	**$ 11.79**	**$ 1,096,862**	**$ 91,405**

APPENDIX B - LIFE CYCLE ALT 2 & 3 - 160 BED

Life Cycle Cost Analysis - Project Summary

Agency	
Project Title	

Existing Description	

Lease Option 1 Description	

Lease Option 2 Description	

Ownership Option 1 Description	A-3 160 Bed LEED Silver

Ownership Option 2 Description	A 2 160 Bed LEED Silver

Ownership Option 3 Description	

Lease Options Information	**Existing Lease**	**Lease Option 1**	**Lease Option 2**
Total Rentable Square Feet	-	-	-
Annual Lease Cost (Initial Term of Lease)	$ -	$ -	$ -
Full Service Cost/SF (Initial Term of Lease)	$ -	$ -	$ -
Occupancy Date	n/a		
Project Initial Costs	n/a	$ -	$ -
Persons Relocating	-	-	-
RSF/Person Calculated			

Ownership Information	**Ownership 1**	**Ownership 2**	**Ownership 3**
Total Gross Square Feet	140,006	149,300	-
Total Rentable Square Feet	93,057	93,057	-
Occupancy Date	3/15/2022	3/15/2022	
Initial Project Costs	$ -	$ -	$ -
Est Construction TPC ($/GSF)	$ 761	$ 768	$ -
RSF/Person Calculated	-	-	-

Financial Anal sis of Options

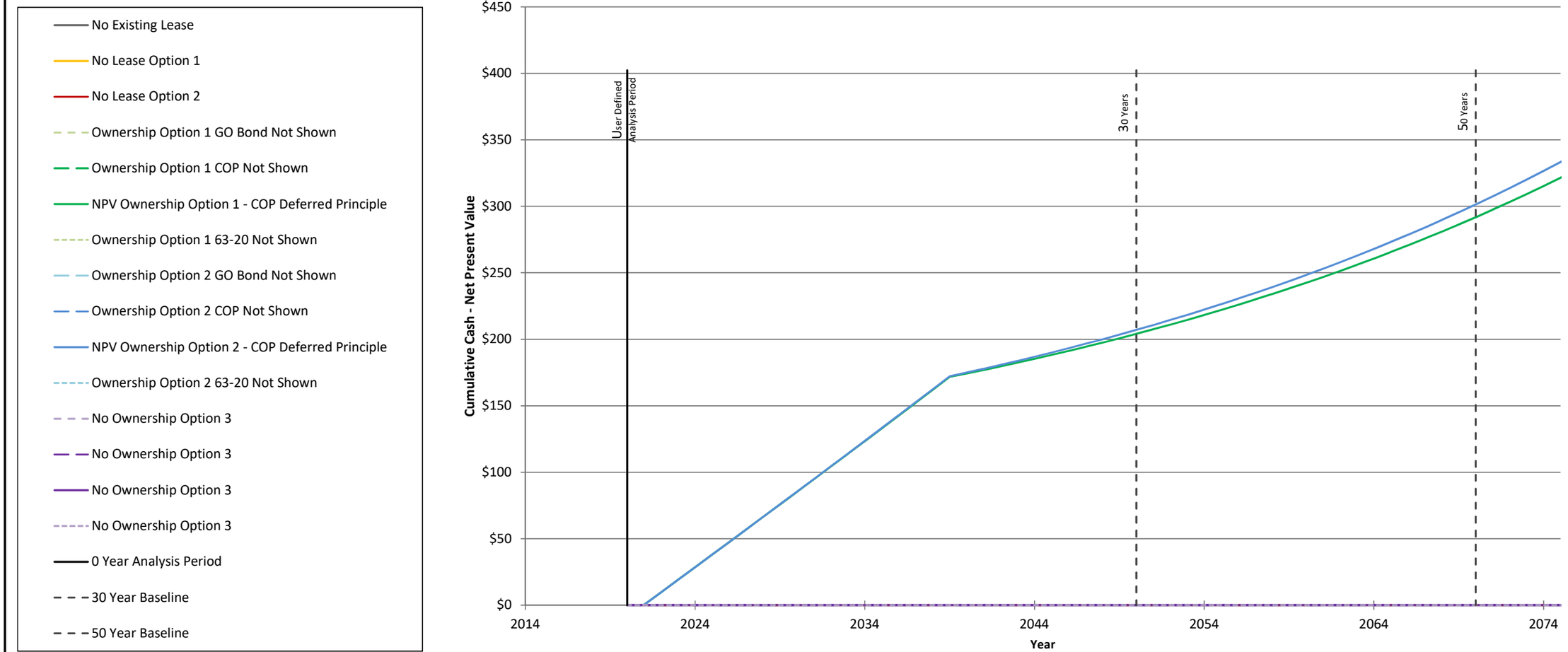
	Display Option?	Yes	Yes	Yes	No	No	Yes	No	No	No	Yes	No	No	No	Yes	No
	Financial Comparisons	**Existing Lease**	**Lease 1**	**Lease 2**	**Ownership 1**				**Ownership 2**				**Ownership 3**			
Years	**Financing Means**	**Current**	**Current**	**Current**	**GO Bond**	**COP**	**COP Deferred ***	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**
0	0 Year Cumulative Cash	$ -	$ -	$ -			$ -				$ -				$ -	
	0 Year Net Present Value	$ -	$ -	$ -			$ -				$ -				$ -	
	Lowest Cost Option (Anal sis Period)															

	Financial Comparisons	**Existing Lease**	**Lease 1**	**Lease 2**	**Ownership 1**				**Ownership 2**				**Ownership 3**			
Years	**Financing Means**	**Current**	**Current**	**Current**	**GO Bond**	**COP**	**COP Deferred ***	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**
30	30 Year Cumulative Cash	$ -	$ -	$ -			$ 212,758,645				$ 215,791,888				$ -	
	30 Year Net Present Value	$ -	$ -	$ -			$ 200,746,018				$ 203,484,579				$ -	
	Lowest Cost Option (30 Years)						**1**				**2**					

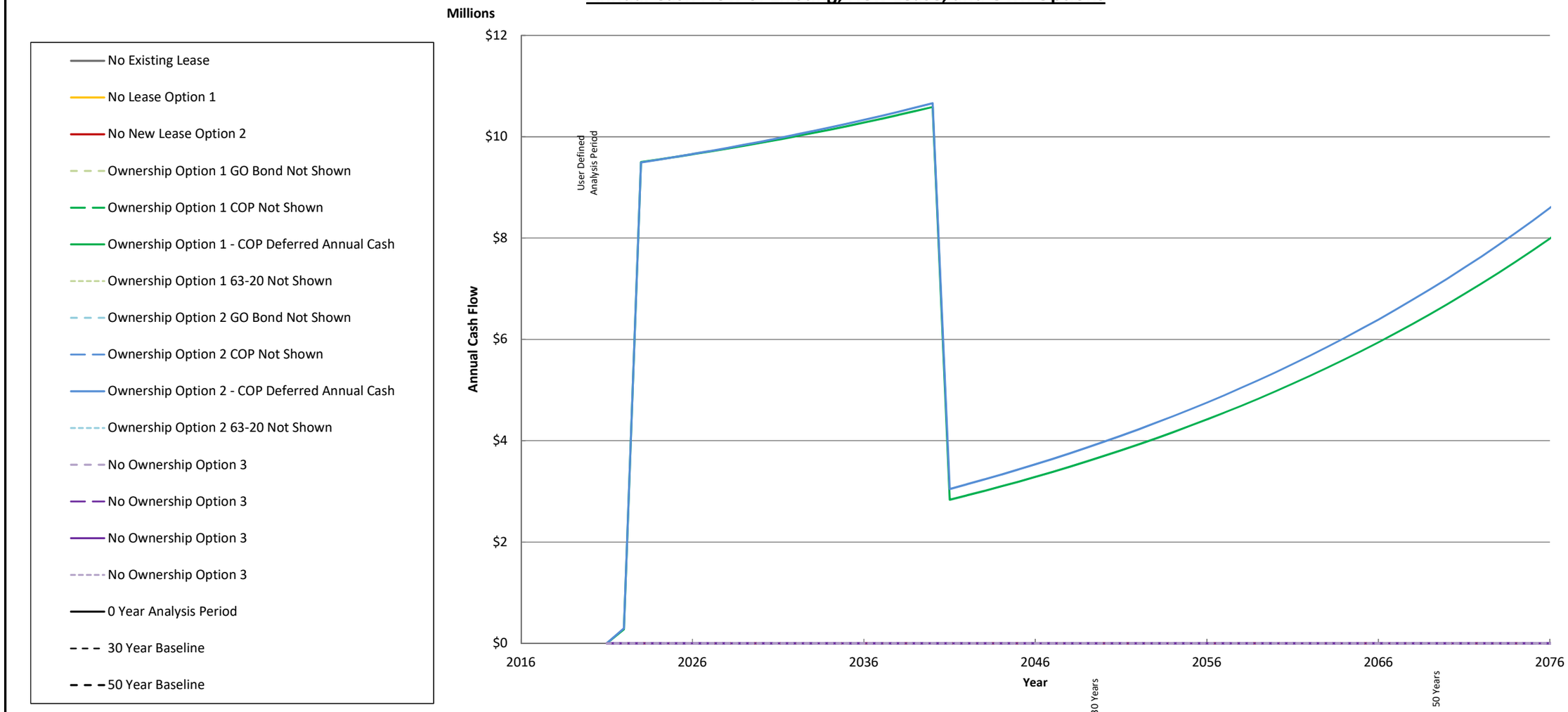
	Financial Comparisons	**Existing Lease**	**Lease 1**	**Lease 2**	**Ownership 1**				**Ownership 2**				**Ownership 3**			
Years	**Financing Means**	**Current**	**Current**	**Current**	**GO Bond**	**COP**	**COP Deferred ***	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**
50	50 Year Cumulative Cash	$ -	$ -	$ -			$ 315,219,419				$ 325,981,126				$ -	
	50 Year Net Present Value	$ -	$ -	$ -			$ 286,319,411				$ 295,512,646				$ -	
	Lowest Cost Option (50 Years)						**1**				**2**					

** - Defers payment on principle for 2 ears while the building is being constructed. See instructions on Capitalized Interest.*

Cumulative Cash - NPV of Exist, Lease, and Own Options



Annual Cash Flow of Existing, New Lease, and Own Options



Financial Assumptions

Date of Life Cycle Cost Analysis:	
Analysis Period Start Date	3/15/2020
User Input Years of Analysis	0

All assumptions subject to change to reflect updated costs and conditions.

	Lease Options			Ownership Option 1			Ownership Option 2			Ownership Option 3		
	Existing Lease	**Lease Option 1**	**Lease Option 2**	**GO Bond**	**COP**	**63-20**	**GO Bond**	**COP**	**63-20**	**GO Bond**	**COP**	**63-20**
Inflation / Interest Rate	3.006%	3.006%	3.006%	3.160%	3.460%	3.660%	3.160%	3.460%	3.660%	3.160%	3.510%	3.710%
Discount Rate	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%
Length of Financing	N/A	N/A	N/A	20	20	20	20	20	20	20	20	20

See Financial Assumptions tab for more detailed information

COP Deferred and 63-20 Financing defer the payment on principle until construction completion.

New Lease Assumptions

Real Estate Transaction fees are 2.5% of the lease for the first 5 ears and 1.25% for each ear thereafter in the initial term of the lease.

Tenant Improvements are typically estimated at $15 per rentable square foot.

IT infrastructure is typically estimated at $350 per person.

Furniture costs are typically estimated at $500 per person and do not include new workstations.

Moving Vendor and Supplies are typically estimated at $205 per person.

Default Ownership Options Assumptions

Assumes a 2 month lease to move-in overlap period for outfitting building and relocation.

Assumes surface parking.

The floor plate of the construction option office building is 25,000 gross square feet.

The estimated total project cost for construction is $420.00 per square foot.

See the Capital Construction Defaults tab for more construction assumptions.

Ownership Option 2 Information Sheet

*	***Requires a user input***	*Green Cel*	*= Value can be entered by user.*	*Yel ow Cel*	*= Calculated value.*

*	**Project Description**	A 2 160 Bed LEED Silver
*	**Construction or Purchase/Remodel**	Construction
*	**Project Location**	Shoreline — Market Area = King-North

	Statistics	
*	Gross Sq Ft	149,300
*	Usable Sq Ft	93,057
	Space Efficiency	62%
	Estimated Acres Needed	6.00
	MACC Cost per Sq Ft	$480.12
	Estimated Total Project Costs per Sq Ft	$682.22
	Escalated MACC Cost per Sq Ft	$540.51
	Escalated Total Project Costs per Sq Ft	$768.02

*	**Move In Date**	3/15/2022

Interim Lease Information	**Start Date**
Lease Start Date	
Length of Lease (in months)	
Square Feet (holdover/temp lease)	
Lease Rate- Full Serviced ($/SF/Year)	
One Time Costs (if double move)	

	Construction Cost Estimates (See Capital Budget System For Detail)			
		Known Costs	Estimated Costs	Cost to Use
	Acquisition Costs Total		$ 1,500,000	$ 1,500,000
A & E	**Consultant Services**			
	A & E Fee Percentage (if services not specified)		5.56% Std	5.56%
	Pre-Schematic Design services	$ 192,054		
	Construction Documents	$ 2,965,411		
	Extra Services	$ 2,028,000		
	Other Services	$ 1,552,286		
	Design Services Contingency	$ 336,888		
	Consultant Services Total	$ 7,074,639	$ 3,984,150	$ 7,074,639
MACC	**Construction Contracts**			
	Site Work	$ 9,870,607		
	Related Project Costs			
	Facility Construction	$ 61,811,434		
	MACC SubTotal	$ 71,682,041	$ 44,790,000	$ 71,682,041
	Construction Contingency (5% default)	$ 3,584,102	$ 3,584,102	$ 3,584,102
	Non Taxable Items			$ -
	Sales Tax	$ 7,601,880		$ 7,601,880
	Construction Additional Items Total	$ 11,185,982	$ 11,185,982	$ 11,185,982
	Equipment			
	Equipment	$ 6,345,250		
	Non Taxable Items			
	Sales Tax	$ 640,870		
	Equipment Total	$ 6,986,120		$ 6,986,120
	Art Work Total	$ 390,265	$ 358,410	$ 390,265
	Other Costs			
	Additional DSHS Management	$ 800,000		
	Other Costs Total	$ 800,000		$ 800,000
	Project Management Total	$ 2,171,707		$ 2,171,707
	Grand Total Project Cost		**$ -**	**$ 101,790,754h**

Construction One Time Project Costs			
One Time Costs	Estimate	Calculated	
Moving Vendor and Supplies		$ -	*$205 / Person in FY09*
Other (not covered in construction)			
Total	$ -	$ -	

	Ongoing Building Costs				
Added Services	New Building Operating Costs	Known Cost /GSF/ 2022	Estimated Cost /GSF/ 2022	Total Cost / Year	Cost / Month
☑	**Energy (Electricity. Natural Gas)**	$ 0.97	$ 1.22	$ 144,821	$ 12,068
☑	**Janitorial Services**	$ -	$ 1.51	$ 225,945	$ 18,829
☑	**Utilities (Water, Sewer, & Garbage)**	$ -	$ 1.61	$ 240,640	$ 20,053
☑	**Grounds**	$ -	$ 0.16	$ 23,880	$ 1,990
☐	**Pest Control**	$ -	$0.00	$ -	$ -
☑	**Security**	$ -	$ 0.12	$ 18,369	$ 1,531
☑	**Maintenance and Repair**	$ -	$ 6.41	$ 957,050	$ 79,754
☑	**Management**	$ -	$ 0.75	$ 112,054	$ 9,338
☐	**Road Clearance**	$ -	$0.00	$ -	$ -
☑	**Telecom**	$ 0.35	$ -	$ 52,255	$ 4,355
	Additional Parking	$ -	$ -	$ -	$ -
	Other	$ -	$ -	$ -	$ -
	Total Operating Costs	**$ 1.32**	**$ 11.79**	**$ 1,775,014**	**$ 147,918**

Ownership Option 1 Information Sheet

*	***Requires a user input***	*Green Cel*	*= Value can be entered by user.*	*Yel ow Cel*	*= Calculated value.*

*	**Project Description**	A-3 160 Bed LEED Silver
*	**Construction or Purchase/Remodel**	Construction
*	**Project Location**	Shoreline — Market Area = King-North

	Statistics	
*	Gross Sq Ft	140,006
*	Usable Sq Ft	93,057
	Space Efficiency	66%
	Estimated Acres Needed	5.00
	MACC Cost per Sq Ft	$482.93
	Estimated Total Project Costs per Sq Ft	$676.10
	Escalated MACC Cost per Sq Ft	$543.67
	Escalated Total Project Costs per Sq Ft	$761.13

*	**Move In Date**	3/15/2022

Interim Lease Information	**Start Date**
Lease Start Date	
Length of Lease (in months)	
Square Feet (holdover/temp lease)	
Lease Rate- Full Serviced ($/SF/Year)	
One Time Costs (if double move)	

	Construction Cost Estimates (See Capital Budget System For Detail)			
		Known Costs	Estimated Costs	Cost to Use
	Acquisition Costs Total		$ 1,250,000	$ 1,250,000
A & E	**Consultant Services**			
	A & E Fee Percentage (if services not specified)		5.63% Std	5.63%
	Pre-Schematic Design services	$ 192,054		
	Construction Documents	$ 2,826,465		
	Extra Services	$ 2,028,000		
	Other Services	$ 1,489,861		
	Design Services Contingency	$ 326,819		
	Consultant Services Total	$ 6,863,199	$ 3,757,982	$ 6,863,199
MACC	**Construction Contracts**			
	Site Work	$ 10,327,807		
	Related Project Costs			
	Facility Construction	$ 57,285,058		
	MACC SubTotal	$ 67,612,865	$ 42,001,800	$ 67,612,865
	Construction Contingency (5% default)	$ 3,380,643	$ 3,380,643	$ 3,380,643
	Non Taxable Items			$ -
	Sales Tax	$ 7,170,344		$ 7,170,344
	Construction Additional Items Total	$ 10,550,987	$ 3,380,643	$ 10,550,987
	Equipment			
	Equipment	$ 5,950,255		
	Non Taxable Items			
	Sales Tax	$ 600,976		
	Equipment Total	$ 6,551,231		$ 6,551,231
	Art Work Total	$ 367,977	$ 338,064	$ 367,977
	Other Costs			
	Additional DSHS Management	$ 800,000		
	Other Costs Total	$ 800,000		$ 800,000
	Project Management Total	$ 2,142,224		$ 2,142,224
	Grand Total Project Cost	**$ 94,888,483h**	**$ 50,728,489h**	**$ 96,138,483h**

Construction One Time Project Costs			
One Time Costs	Estimate	Calculated	
Moving Vendor and Supplies		$ -	*$205 / Person in FY09*
Other (not covered in construction)			
Total	$ -	$ -	

	Ongoing Building Costs				
Added Services	New Building Operating Costs	Known Cost /GSF/ 2022	Estimated Cost /GSF/ 2022	Total Cost / Year	Cost / Month
☑	Energ (Electricit . Natural Gas)	$ 0.87	$ 1.22	$ 121,805	$ 10,150
☑	Janitorial Services	$ -	$ 1.51	$ 211,879	$ 17,657
☑	Utilities (Water, Sewer, & Garbage)	$ -	$ 1.61	$ 225,660	$ 18,805
☑	Grounds	$ -	$ 0.16	$ 22,394	$ 1,866
☐	Pest Control	$ -	$0.00	$ -	$ -
☑	Securit	$ -	$ 0.12	$ 17,226	$ 1,435
☑	Maintenance and Repair	$ -	$ 6.41	$ 897,473	$ 74,789
☑	Management	$ -	$ 0.75	$ 105,078	$ 8,757
☐	Road Clearance	$ -	$0.00	$ -	$ -
☑	Telecom	$ 0.35	$ -	$ 49,002	$ 4,084
	Additional Parking	$ -	$ -	$ -	$ -
	Other	$ -	$ -	$ -	$ -
	Total Operating Costs	**$ 1.22**	**$ 11.79**	**$ 1,650,518**	**$ 137,543**

APPENDIX B - LIFE CYCLE ALT 1,2 & 3 - 90 or 100 BED NET ZERO

Life Cycle Cost Analysis - Project Summary

Agency	
Project Title	

Existing Description	

Lease Option 1 Description	

Lease Option 2 Description	

Ownership Option 1 Description	Fircrest Nursing Facility A 3-100 Beds Zero Energy Includes Water Tank System, Fire Loop and Frontage work

Ownership Option 2 Description	Fircrest Nursing Facility A 2-100 Beds ZE Includes Water Tank System, Fire Loop and Frontage Work

Ownership Option 3 Description	Fircrest Nursing Facility A 1-90 Beds ZE Includes Water Tank System, Fire Loop and Frontage Work

Lease Options Information	**Existing Lease**	**Lease Option 1**	**Lease Option 2**
Total Rentable Square Feet	-	-	-
Annual Lease Cost (Initial Term of Lease)	$ -	$ -	$ -
Full Service Cost/SF (Initial Term of Lease)	$ -	$ -	$ -
Occupancy Date	n/a		
Project Initial Costs	n/a	$ -	$ -
Persons Relocating	-	-	-
RSF/Person Calculated			

Ownership Information	**Ownership 1**	**Ownership 2**	**Ownership 3**
Total Gross Square Feet	93,200	101,300	97,900
Total Rentable Square Feet	63,874	63,874	57,487
Occupancy Date	1/15/2023	1/15/2023	1/15/2023
Initial Project Costs	$ -	$ -	$ -
Est Construction TPC ($/GSF)	$ 1,028	$ 963	$ 852
RSF/Person Calculated	-	-	-

Financial Anal sis of Options

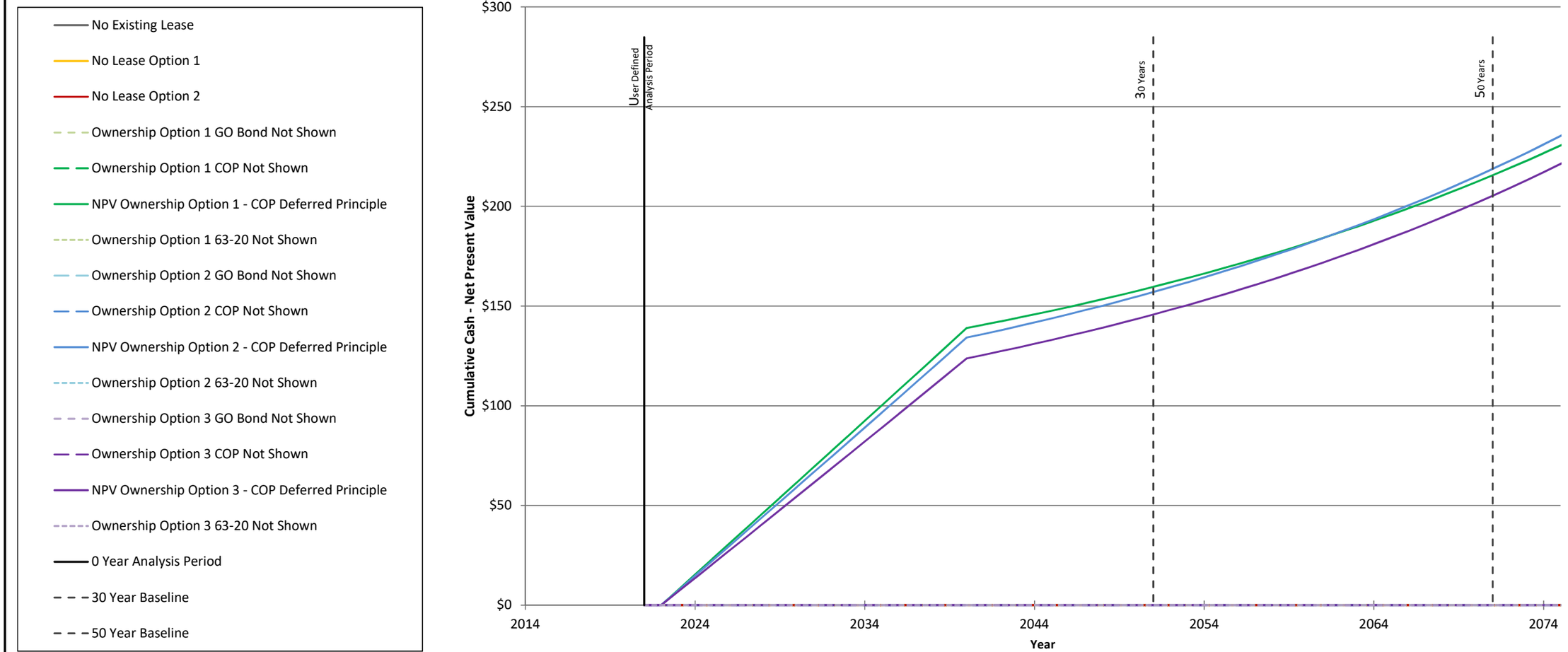
	Display Option?	Yes	Yes	Yes	No	No	Yes	No	No	No	Yes	No	No	No	Yes	No
	Financial Comparisons	**Existing Lease**	**Lease 1**	**Lease 2**	**Ownership 1**				**Ownership 2**				**Ownership 3**			
Years	**Financing Means**	**Current**	**Current**	**Current**	**GO Bond**	**COP**	**COP Deferred ***	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**
0	0 Year Cumulative Cash	$ -	$ -	$ -			$ -				$ -				$ -	
	0 Year Net Present Value	$ -	$ -	$ -			$ -				$ -				$ -	
	Lowest Cost Option (Anal sis Period)															

	Financial Comparisons	**Existing Lease**	**Lease 1**	**Lease 2**	**Ownership 1**				**Ownership 2**				**Ownership 3**			
Years	**Financing Means**	**Current**	**Current**	**Current**	**GO Bond**	**COP**	**COP Deferred ***	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**
30	30 Year Cumulative Cash	$ -	$ -	$ -			$ 166,517,046				$ 163,649,947				$ 151,883,987	
	30 Year Net Present Value	$ -	$ -	$ -			$ 157,332,065				$ 154,472,441				$ 143,316,286	
	Lowest Cost Option (30 Years)						**3**				**2**				**1**	

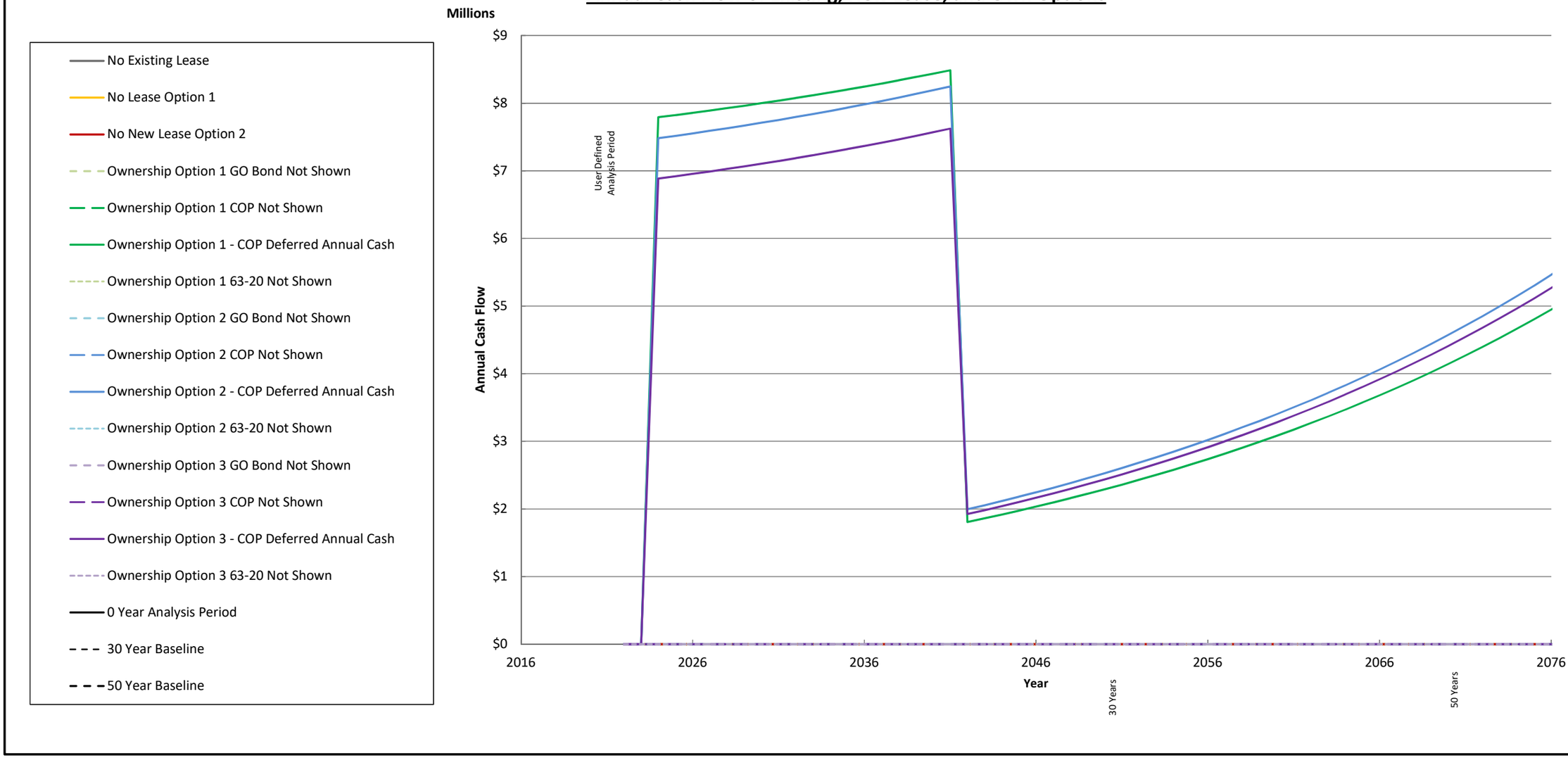
	Financial Comparisons	**Existing Lease**	**Lease 1**	**Lease 2**	**Ownership 1**				**Ownership 2**				**Ownership 3**			
Years	**Financing Means**	**Current**	**Current**	**Current**	**GO Bond**	**COP**	**COP Deferred ***	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**
50	50 Year Cumulative Cash	$ -	$ -	$ -			$ 231,696,307				$ 235,588,599				$ 221,267,566	
	50 Year Net Present Value	$ -	$ -	$ -			$ 211,789,234				$ 214,577,070				$ 201,286,156	
	Lowest Cost Option (50 Years)						**2**				**3**				**1**	

** - Defers payment on principle for 2 ears while the building is being constructed. See instructions on Capitalized Interest.*

Cumulative Cash - NPV of Exist, Lease, and Own Options



Annual Cash Flow of Existing, New Lease, and Own Options



Financial Assumptions

Date of Life Cycle Cost Analysis:	
Analysis Period Start Date	1/15/2021
User Input Years of Analysis	0

All assumptions subject to change to reflect updated costs and conditions.

	Lease Options			Ownership Option 1			Ownership Option 2			Ownership Option 3		
	Existing Lease	**Lease Option 1**	**Lease Option 2**	**GO Bond**	**COP**	**63-20**	**GO Bond**	**COP**	**63-20**	**GO Bond**	**COP**	**63-20**
Inflation / Interest Rate	3.006%	3.006%	3.006%	3.160%	3.460%	3.660%	3.160%	3.460%	3.660%	3.160%	3.460%	3.660%
Discount Rate	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%
Length of Financing	N/A	N/A	N/A	20	20	20	20	20	20	20	20	20

See Financial Assumptions tab for more detailed information

COP Deferred and 63-20 Financing defer the payment on principle until construction completion.

New Lease Assumptions

Real Estate Transaction fees are 2.5% of the lease for the first 5 ears and 1.25% for each ear thereafter in the initial term of the lease.

Tenant Improvements are typically estimated at $15 per rentable square foot.

IT infrastructure is typically estimated at $350 per person.

Furniture costs are typically estimated at $500 per person and do not include new workstations.

Moving Vendor and Supplies are typically estimated at $205 per person.

Default Ownership Options Assumptions

Assumes a 2 month lease to move-in overlap period for outfitting building and relocation.

Assumes surface parking.

The floor plate of the construction option office building is 25,000 gross square feet.

The estimated total project cost for construction is $420.00 per square foot.

See the Capital Construction Defaults tab for more construction assumptions.

Ownership Option 1 Information Sheet

*	***Requires a user input***	*Green Cell*	*= Value can be entered by user.*	*Yellow Cell*	*= Calculated value.*

*	**Project Description**	Fircrest Nursing Facility A 3-100 Beds Zero Energy Includes Water Tank System, Fire Loop and Frontage work
*	**Construction or Purchase/Remodel**	Construction
*	**Project Location**	Shoreline — Market Area = King-North

	Statistics	
*	Gross Sq Ft	93,200
*	Usable Sq Ft	63,874
	Space Efficiency	69%
	Estimated Acres Needed	4.00
	MACC Cost per Sq Ft	$633.49
	Estimated Total Project Costs per Sq Ft	$886.88
	Escalated MACC Cost per Sq Ft	$734.60
	Escalated Total Project Costs per Sq Ft	$1,028.44

*	**Move In Date**	1/15/2023

Interim Lease Information	**Start Date**
Lease Start Date	
Length of Lease (in months)	
Square Feet (holdover/temp lease)	
Lease Rate- Full Serviced ($/SF/Year)	
One Time Costs (if double move)	

	Construction Cost Estimates (See Capital Budget System For Detail)			
		Known Costs	Estimated Costs	Cost to Use
	Acquisition Costs Total		$ 1,000,000	$ 1,000,000
A & E	**Consultant Services**			
	A & E Fee Percentage (if services not specified)	6.12%	5.78% Std	6.12%
	Pre-Schematic Design services			
	Construction Documents	$ 2,536,565		
	Extra Services	$ 2,031,000		
	Other Services	$ 1,359,616		
	Design Services Contingency	$ 296,359		
	Consultant Services Total	$ 6,223,540	$ 3,410,898	$ 6,223,540
MACC	**Construction Contracts**			
	Site Work	$ 15,921,517		
	Related Project Costs	$ 1,081,739		
	Facility Construction	$ 42,037,629		
	MACC SubTotal	$ 59,040,885	$ 27,960,000	$ 59,040,885
	Construction Contingency (5% default)	$ 2,952,044	$ 2,952,044	$ 2,952,044
	Non Taxable Items			$ -
	Sales Tax	$ 6,261,286		$ 6,261,286
	Construction Additional Items Total	$ 9,213,330	$ 2,952,044	$ 9,213,330
	Equipment			
	Equipment	$ 3,961,000		
	Non Taxable Items			
	Sales Tax	$ 400,061		
	Equipment Total	$ 4,361,061		$ 4,361,061
	Art Work Total	$ 320,275	$ 295,204	$ 320,275
	Other Costs			
	Hazardous Material Removal	$ 100,000		
	Permit/Plan Review/Misc.	$ 500,000		
	Other Costs Total	$ 600,000		$ 600,000
	Project Management Total	$ 1,828,158		$ 1,828,158
	Grand Total Project Cost	**$ 81,587,249**	**$ 35,618,147**	**$ 82,587,249**

Construction One Time Project Costs			
One Time Costs	Estimate	Calculated	
Moving Vendor and Supplies		$ -	*$205 / Person in FY09*
Other (not covered in construction)			
Total	$ -	$ -	

	Ongoing Building Costs				
Added Services	New Building Operating Costs	Known Cost /GSF/ 2023	Estimated Cost /GSF/ 2023	Total Cost / Year	Cost / Month
☑	Energ (Electricit . Natural Gas)	$ 0.11	$ 1.25	$ 10,597	$ 883
☑	Janitorial Services	$ -	$ 1.56	$ 145,285	$ 12,107
☑	Utilities (Water, Sewer, & Garbage)	$ -	$ 1.66	$ 154,734	$ 12,895
☑	Grounds	$ -	$ 0.16	$ 15,355	$ 1,280
☐	Pest Control	$ -	$0.00	$ -	$ -
☑	Securit	$ -	$ 0.13	$ 11,812	$ 984
☑	Maintenance and Repair	$ -	$ 6.60	$ 615,394	$ 51,283
☑	Management	$ -	$ 0.77	$ 72,052	$ 6,004
☐	Road Clearance	$ -	$0.00	$ -	$ -
☑	Telecom	$ 0.35	$ -	$ 32,620	$ 2,718
	Additional Parking	$ -	$ -	$ -	$ -
	Other	$ -	$ -	$ -	$ -
	Total Operating Costs	**$ 0.46**	**$ 12.14**	**$ 1,057,849**	**$ 88,154**

Ownership Option 2 Information Sheet

* ***Requires a user input*** | *Green Cell* = *Value can be entered by user.* | *Yellow Cell* = *Calculated value.*

*	**Project Description**	Fircrest Nursing Facility A 2-100 Beds ZE Includes Water Tank System, Fire Loop and Frontage Work
*	**Construction or Purchase/Remodel**	Construction
*	**Project Location**	Shoreline — Market Area = King-North

	Statistics	
*	Gross Sq Ft	101,300
*	Usable Sq Ft	63,874
	Space Efficiency	63%
	Estimated Acres Needed	4.00
	MACC Cost per Sq Ft	$585.95
	Estimated Total Project Costs per Sq Ft	$830.20
	Escalated MACC Cost per Sq Ft	$679.47
	Escalated Total Project Costs per Sq Ft	$962.71

*	**Move In Date**	1/15/2023

Interim Lease Information	**Start Date**
Lease Start Date	
Length of Lease (in months)	
Square Feet (holdover/temp lease)	
Lease Rate- Full Serviced ($/SF/Year)	
One Time Costs (if double move)	

	Construction Cost Estimates (See Capital Budget System For Detail)			
		Known Costs	Estimated Costs	Cost to Use
	Acquisition Costs Total		$ 1,000,000	$ 1,000,000
A & E	**Consultant Services**			
	A & E Fee Percentage (if services not specified)	6.12%	5.78% Std	6.12%
	Pre-Schematic Design services			
	Construction Documents	$ 2,550,130		
	Extra Services	$ 2,031,000		
	Other Services	$ 1,365,711		
	Design Services Contingency	$ 297,342		
	Consultant Services Total	$ 6,244,183	$ 3,429,139	$ 6,244,183
MACC	**Construction Contracts**			
	Site Work	$ 12,598,421		
	Related Project Costs	$ 1,081,739		
	Facility Construction	$ 45,676,469		
	MACC SubTotal	$ 59,356,629	$ 30,390,000	$ 59,356,629
	Construction Contingency (5% default)	$ 2,967,831	$ 2,967,831	$ 2,967,831
	Non Taxable Items			$ -
	Sales Tax	$ 6,294,770		$ 6,294,770
	Construction Additional Items Total	$ 9,262,601	$ 9,262,601	$ 9,262,601
	Equipment			
	Equipment	$ 4,390,250		
	Non Taxable Items			
	Sales Tax	$ 443,415		
	Equipment Total	$ 4,833,665		$ 4,833,665
	Art Work Total	$ 322,437	$ 296,783	$ 322,437
	Other Costs			
	Hazardous Material Removal	$ 100,000		
	Permit/Plan Review/Misc.	$ 500,000		
	Other Costs Total	$ 600,000		$ 600,000
	Project Management Total	$ 1,834,955		$ 1,834,955
	Grand Total Project Cost		**$ -**	**$ 83,454,470**

Construction One Time Project Costs			
One Time Costs	Estimate	Calculated	
Moving Vendor and Supplies		$ -	*$205 / Person in FY09*
Other (not covered in construction)			
Total	$ -	$ -	

	Ongoing Building Costs				
Added Services	New Building Operating Costs	Known Cost /GSF/ 2023	Estimated Cost /GSF/ 2023	Total Cost / Year	Cost / Month
☑	**Energ (Electricity. Natural Gas)**	$ 0.14	$ 1.25	$ 13,878	$ 1,157
☑	**Janitorial Services**	$ -	$ 1.56	$ 157,912	$ 13,159
☑	**Utilities (Water, Sewer, & Garbage)**	$ -	$ 1.66	$ 168,182	$ 14,015
☑	**Grounds**	$ -	$ 0.16	$ 16,690	$ 1,391
☑	**Pest Control**	$ -	$ 0.06	$ 6,419	$ 535
☑	**Security**	$ -	$ 0.13	$ 12,838	$ 1,070
☑	**Maintenance and Repair**	$ -	$ 6.60	$ 668,878	$ 55,740
☑	**Management**	$ -	$ 0.77	$ 78,314	$ 6,526
☑	**Road Clearance**	$ -	$ 0.09	$ 8,987	$ 749
☑	**Telecom**	$ 0.35	$ -	$ 35,455	$ 2,955
	Additional Parking	$ -	$ -	$ -	$ -
	Other	$ -	$ -	$ -	$ -
	Total Operating Costs	**$ 0.49**	**$ 12.29**	**$ 1,167,553**	**$ 97,296**

Ownership Option 3 Information Sheet

*	***Requires a user input***	*Green Cell*	*= Value can be entered by user.*	*Yellow Cell*	*= Calculated value.*

*	**Project Description**	Fircrest Nursing Facility A 1-90 Beds ZE Includes Water Tank System, Fire Loop and Frontage Work
*	**Construction or Purchase/Remodel**	Purchase/Remodel
*	**Project Location**	Shoreline — Market Area = King-North

	Statistics	
*	Gross Sq Ft	97,900
*	Usable Sq Ft	57,487
	Space Efficiency	59%
	Estimated Acres Needed	4.00
	MACC Cost per Sq Ft	$517.29
	Estimated Total Project Costs per Sq Ft	$734.42
	Escalated MACC Cost per Sq Ft	$599.86
	Escalated Total Project Costs per Sq Ft	$851.64

*	**Move In Date**	1/15/2023

Interim Lease Information	**Start Date**
Lease Start Date	
Length of Lease (in months)	
Square Feet (holdover/temp lease)	
Lease Rate- Full Serviced ($/SF/Year)	
One Time Costs (if double move)	

	Construction Cost Estimates (See Capital Budget System For Detail)			
		Known Costs	Estimated Costs	Cost to Use
	Acquisition Costs Total		$ 1,000,000	$ 1,000,000
A & E	**Consultant Services**			
	A & E Fee Percentage (if services not specified)	9.33%	7.96% Std	9.33%
	Pre-Schematic Design services			
	Construction Documents	$ 3,426,707		
	Extra Services	$ 1,881,000		
	Other Services	$ 1,759,535		
	Design Services Contingency	$ 565,379		
	Consultant Services Total	$ 7,632,621	$ 4,032,421	$ 7,632,621
MACC	**Construction Contracts**			
	Site Work	$ 11,618,390		
	Related Project Costs	$ 1,081,739		
	Facility Construction	$ 37,942,737		
	MACC SubTotal	$ 50,642,866	$ 29,370,000	$ 50,642,866
	Construction Contingency (5% default)	$ 4,051,429	$ 4,051,429	$ 4,051,429
	Non Taxable Items			$ -
	Sales Tax	$ 5,524,124		$ 5,524,124
	Construction Additional Items Total	$ 9,575,553	$ 9,575,553	$ 9,575,553
	Equipment			
	Equipment	$ 4,160,750		
	Non Taxable Items			
	Sales Tax	$ 420,236		
	Equipment Total	$ 4,580,986		$ 4,580,986
	Art Work Total	$ 274,967	$ 253,214	$ 274,967
	Other Costs			
	Hazardous Material Removal	$ 100,000		
	Permit/Plan Review/Misc.	$ 500,000		
	Other Costs Total	$ 600,000		$ 600,000
	Project Management Total	$ 1,808,880		$ 1,808,880
	Grand Total Project Cost		**$ -**	**$ 76,115,873**

Construction One Time Project Costs			
One Time Costs	Estimate	Calculated	
Moving Vendor and Supplies		$ -	*$205 / Person in FY09*
Other (not covered in construction)			
Total	$ -	$ -	

	Ongoing Building Costs				
Added Services	New Building Operating Costs	Known Cost /GSF/ 2023	Estimated Cost /GSF/ 2023	Total Cost / Year	Cost / Month
☑	**Energ (Electricity. Natural Gas)**	$ 0.11	$ 1.25	$ 11,131	$ 928
☑	**Janitorial Services**	$ -	$ 1.56	$ 152,611	$ 12,718
☑	**Utilities (Water, Sewer, & Garbage)**	$ -	$ 1.66	$ 162,537	$ 13,545
☑	**Grounds**	$ -	$ 0.16	$ 16,130	$ 1,344
☑	**Pest Control**	$ -	$ 0.06	$ 6,204	$ 517
☑	**Security**	$ -	$ 0.13	$ 12,407	$ 1,034
☑	**Maintenance and Repair**	$ -	$ 6.60	$ 646,428	$ 53,869
☑	**Management**	$ -	$ 0.77	$ 75,685	$ 6,307
☑	**Road Clearance**	$ -	$ 0.09	$ 8,685	$ 724
☑	**Telecom**	$ 0.35	$ -	$ 34,265	$ 2,855
	Additional Parking	$ -	$ -	$ -	$ -
	Other	$ -	$ -	$ -	$ -
	Total Operating Costs	**$ 0.46**	**$ 12.29**	**$ 1,126,084**	**$ 93,840**

APPENDIX B - LIFE CYCLE ALT 3- 120 BEDS PLUS 2 & 3 - 160 BED NET ZERO

Life Cycle Cost Analysis - Project Summary

Agency	
Project Title	

Existing Description	

Lease Option 1 Description	

Lease Option 2 Description	

Ownership Option 1 Description	Fircrest A 3 160 Bed Zero Energy Includes Water Tank System, Fire Loop and Frontage Work

Ownership Option 2 Description	Fircrest A2 160 Bed Zero Energy Includes Water Tank System, Fire Loop and Frontage Work

Ownership Option 3 Description	Fircrest 120 Bed A3 Zero Energy Includes Water Tank System, Fire Loop and Frontage Work

Lease Options Information	**Existing Lease**	**Lease Option 1**	**Lease Option 2**
Total Rentable Square Feet	-	-	-
Annual Lease Cost (Initial Term of Lease)	$ -	$ -	$ -
Full Service Cost/SF (Initial Term of Lease)	$ -	1/15/2023	$ -
Occupancy Date	n/a		
Project Initial Costs	n/a	$ -	$ -
Persons Relocating	-	-	-
RSF/Person Calculated			

Ownership Information	**Ownership 1**	**Ownership 2**	**Ownership 3**
Total Gross Square Feet	140,006	149,300	118,220
Total Rentable Square Feet	93,057	93,057	73,420
Occupancy Date	1/15/2023	1/15/2023	1/15/2023
Initial Project Costs	$ -	$ -	$ -
Est Construction TPC ($/GSF)	$ 938	$ 917	$ 939
RSF/Person Calculated	-	-	-

Financial Anal sis of Options

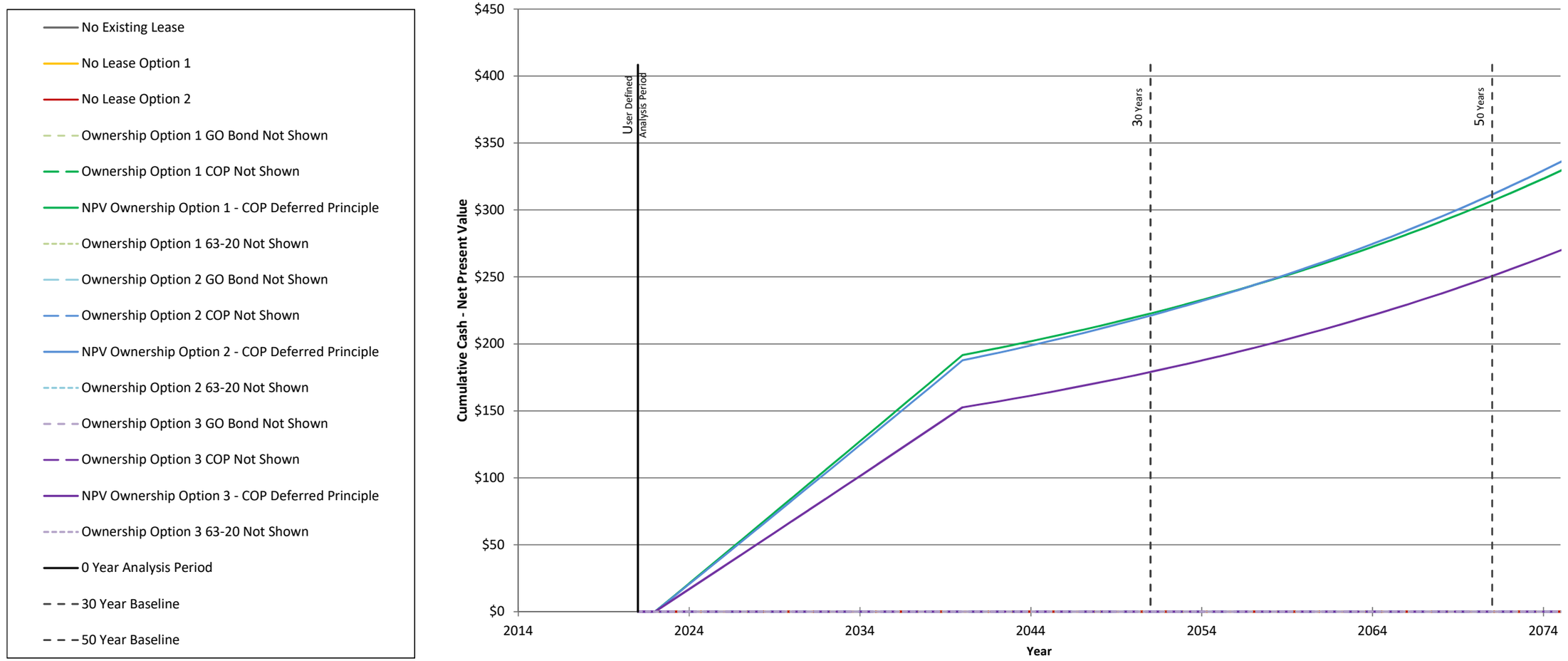
	Display Option?	Yes	Yes	Yes	No	No	Yes	No	No	No	Yes	No	No	No	Yes	No
	Financial Comparisons	**Existing Lease**	**Lease 1**	**Lease 2**	**Ownership 1**				**Ownership 2**				**Ownership 3**			
Years	**Financing Means**	**Current**	**Current**	**Current**	**GO Bond**	**COP**	**COP Deferred ***	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**
0	0 Year Cumulative Cash	$ -	$ -	$ -			$ -				$ -				$ -	
	0 Year Net Present Value	$ -	$ -	$ -			$ -				$ -				$ -	
	Lowest Cost Option (Anal sis Period)															

	Financial Comparisons	**Existing Lease**	**Lease 1**	**Lease 2**	**Ownership 1**				**Ownership 2**				**Ownership 3**			
Years	**Financing Means**	**Current**	**Current**	**Current**	**GO Bond**	**COP**	**COP Deferred ***	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**
30	30 Year Cumulative Cash	$ -	$ -	$ -			$ 232,175,351				$ 230,411,937				$ 186,587,176	
	30 Year Net Present Value	$ -	$ -	$ -			$ 219,233,533				$ 217,411,441				$ 176,096,196	
	Lowest Cost Option (30 Years)						**3**				**2**				**1**	

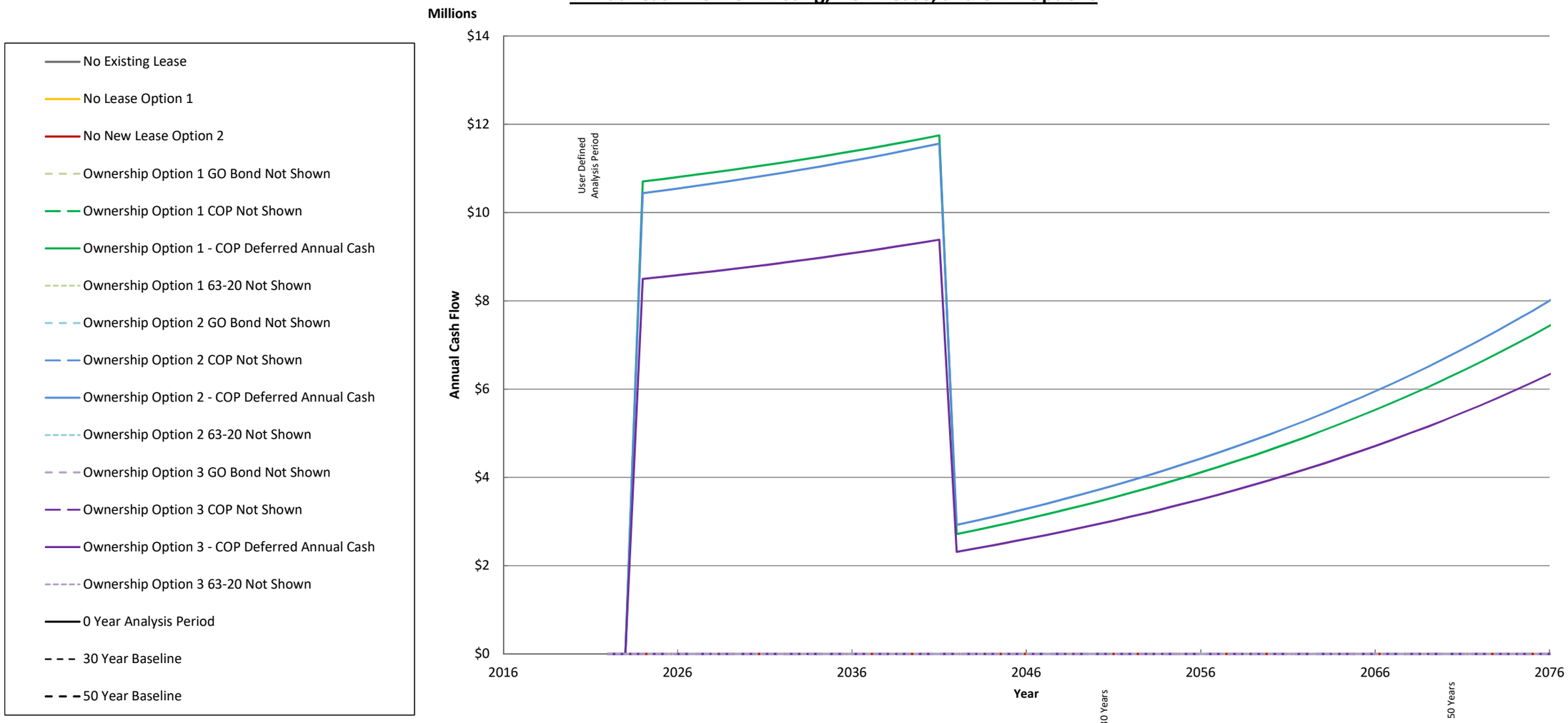
	Financial Comparisons	**Existing Lease**	**Lease 1**	**Lease 2**	**Ownership 1**				**Ownership 2**				**Ownership 3**			
Years	**Financing Means**	**Current**	**Current**	**Current**	**GO Bond**	**COP**	**COP Deferred ***	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**
50	50 Year Cumulative Cash	$ -	$ -	$ -			$ 330,125,402				$ 335,829,320				$ 270,029,074	
	50 Year Net Present Value	$ -	$ -	$ -			$ 301,070,646				$ 305,487,497				$ 245,811,769	
	Lowest Cost Option (50 Years)						**2**				**3**				**1**	

** - Defers payment on principle for 2 ears while the building is being constructed. See instructions on Capitalized Interest.*

Cumulative Cash - NPV of Exist, Lease, and Own Options



Annual Cash Flow of Existing, New Lease, and Own Options



Financial Assumptions

Date of Life Cycle Cost Analysis:	
Analysis Period Start Date	1/15/2021
User Input Years of Analysis	0

All assumptions subject to change to reflect updated costs and conditions.

	Lease Options			Ownership Option 1			Ownership Option 2			Ownership Option 3		
	Existing Lease	**Lease Option 1**	**Lease Option 2**	**GO Bond**	**COP**	**63-20**	**GO Bond**	**COP**	**63-20**	**GO Bond**	**COP**	**63-20**
Inflation / Interest Rate	3.006%	3.006%	3.006%	3.160%	3.460%	3.660%	3.160%	3.460%	3.660%	3.160%	3.460%	3.660%
Discount Rate	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%
Length of Financing	N/A	N/A	N/A	20	20	20	20	20	20	20	20	20

See Financial Assumptions tab for more detailed information

COP Deferred and 63-20 Financing defer the payment on principle until construction completion.

New Lease Assumptions

Real Estate Transaction fees are 2.5% of the lease for the first 5 ears and 1.25% for each ear thereafter in the initial term of the lease.

Tenant Improvements are typically estimated at $15 per rentable square foot.

IT infrastructure is typically estimated at $350 per person.

Furniture costs are typically estimated at $500 per person and do not include new workstations.

Moving Vendor and Supplies are typically estimated at $205 per person.

Default Ownership Options Assumptions

Assumes a 2 month lease to move-in overlap period for outfitting building and relocation.

Assumes surface parking.

The floor plate of the construction option office building is 25,000 gross square feet.

The estimated total project cost for construction is $420.00 per square foot.

See the Capital Construction Defaults tab for more construction assumptions.

Ownership Option 1 Information Sheet

* ***Requires a user input*** | *Green Cell* = *Value can be entered by user.* | *Yellow Cell* = *Calculated value.*

*	**Project Description**	Fircrest A 3 160 Bed Zero Energy Includes Water Tank System, Fire Loop and Frontage Work
*	**Construction or Purchase/Remodel**	Construction
*	**Project Location**	Shoreline — Market Area = King-North

	Statistics	
*	Gross Sq Ft	140,006
*	Usable Sq Ft	93,057
	Space Efficiency	66%
	Estimated Acres Needed	5.00
	MACC Cost per Sq Ft	$577.51
	Estimated Total Project Costs per Sq Ft	$808.51
	Escalated MACC Cost per Sq Ft	$669.68
	Escalated Total Project Costs per Sq Ft	$937.56

*	**Move In Date**	1/15/2023

Interim Lease Information	**Start Date**
Lease Start Date	
Length of Lease (in months)	
Square Feet (holdover/temp lease)	
Lease Rate- Full Serviced ($/SF/Year)	
One Time Costs (if double move)	

	Construction Cost Estimates (See Capital Budget System For Detail)			
		Known Costs	Estimated Costs	Cost to Use
	Acquisition Costs Total		$ 1,250,000	$ 1,250,000
A & E	**Consultant Services**			
	A & E Fee Percentage (if services not specified)		5.42% Std	5.42%
	Pre-Schematic Design services			
	Construction Documents	$ 3,262,851		
	Extra Services	$ 2,178,000		
	Other Services	$ 1,685,919		
	Design Services Contingency	$ 356,338		
	Consultant Services Total	$ 7,483,108	$ 4,354,183	$ 7,483,108
MACC	**Construction Contracts**			
	Site Work	$ 16,962,660		
	Related Project Costs	$ 1,081,739		
	Facility Construction	$ 62,810,004		
	MACC SubTotal	$ 80,854,403	$ 42,001,800	$ 80,854,403
	Construction Contingency (5% default)	$ 4,042,720	$ 4,042,720	$ 4,042,720
	Non Taxable Items			$ -
	Sales Tax	$ 8,574,609		$ 8,574,609
	Construction Additional Items Total	$ 12,617,329	$ 4,042,720	$ 12,617,329
	Equipment			
	Equipment	$ 5,950,255		
	Non Taxable Items			
	Sales Tax	$ 600,976		
	Equipment Total	$ 6,551,231		$ 6,551,231
	Art Work Total	$ 439,294	$ 404,272	$ 439,294
	Other Costs			
	Hazardous Material Removal	$ 100,000		
	Permit/Plan Review/Misc.	$ 700,000		
	Other Costs Total	$ 800,000		$ 800,000
	Project Management Total	$ 2,212,930		$ 2,212,930
	Grand Total Project Cost	**$ 110,958,295**	**$ 52,052,976**	**$ 112,208,295**

Construction One Time Project Costs			
One Time Costs	Estimate	Calculated	
Moving Vendor and Supplies		$ -	*$205 / Person in FY09*
Other (not covered in construction)			
Total	$ -	$ -	

	Ongoing Building Costs				
Added Services	New Building Operating Costs	Known Cost /GSF/ 2023	Estimated Cost /GSF/ 2023	Total Cost / Year	Cost / Month
☑	Energ (Electricit . Natural Gas)	$ 0.12	$ 1.25	$ 16,521	$ 1,377
☑	Janitorial Services	$ -	$ 1.56	$ 218,248	$ 18,187
☑	Utilities (Water, Sewer, & Garbage)	$ -	$ 1.66	$ 232,443	$ 19,370
☑	Grounds	$ -	$ 0.16	$ 23,067	$ 1,922
☐	Pest Control	$ -	$0.00	$ -	$ -
☑	Securit	$ -	$ 0.13	$ 17,744	$ 1,479
☑	Maintenance and Repair	$ -	$ 6.60	$ 924,451	$ 77,038
☑	Management	$ -	$ 0.77	$ 108,237	$ 9,020
☐	Road Clearance	$ -	$0.00	$ -	$ -
☑	Telecom	$ 0.35	$ -	$ 49,002	$ 4,084
	Additional Parking	$ -	$ -	$ -	$ -
	Other	$ -	$ -	$ -	$ -
	Total Operating Costs	**$ 0.47**	**$ 12.14**	**$ 1,589,713**	**$ 132,476**

Ownership Option 2 Information Sheet

*	***Requires a user input***	*Green Cell*	*= Value can be entered by user.*	*Yellow Cell*	*= Calculated value.*

*	**Project Description**	Fircrest A2 160 Bed Zero Energy Includes Water Tank System, Fire Loop and Frontage Work
*	**Construction or Purchase/Remodel**	Construction
*	**Project Location**	Shoreline — Market Area = King-North

	Statistics	
*	Gross Sq Ft	149,300
*	Usable Sq Ft	93,057
	Space Efficiency	62%
	Estimated Acres Needed	6.00
	MACC Cost per Sq Ft	$557.73
	Estimated Total Project Costs per Sq Ft	$790.86
	Escalated MACC Cost per Sq Ft	$646.74
	Escalated Total Project Costs per Sq Ft	$917.09

*	**Move In Date**	1/15/2023

Interim Lease Information	**Start Date**
Lease Start Date	
Length of Lease (in months)	
Square Feet (holdover/temp lease)	
Lease Rate- Full Serviced ($/SF/Year)	
One Time Costs (if double move)	

	Construction Cost Estimates (See Capital Budget System For Detail)			
		Known Costs	Estimated Costs	Cost to Use
	Acquisition Costs Total		$ 1,500,000	$ 1,500,000
A & E	**Consultant Services**			
	A & E Fee Percentage (if services not specified)		5.39% Std	5.39%
	Pre-Schematic Design services			
	Construction Documents	$ 3,336,134		
	Extra Services	$ 2,178,000		
	Other Services	$ 1,718,843		
	Design Services Contingency	$ 361,649		
	Consultant Services Total	$ 7,594,626	$ 4,484,180	$ 7,594,626
MACC	**Construction Contracts**			
	Site Work	$ 14,241,030		
	Related Project Costs	$ 1,081,739		
	Facility Construction	$ 67,945,581		
	MACC SubTotal	$ 83,268,350	$ 44,790,000	$ 83,268,350
	Construction Contingency (5% default)	$ 4,163,417	$ 4,163,417	$ 4,163,417
	Non Taxable Items			$ -
	Sales Tax	$ 8,830,608		$ 8,830,608
	Construction Additional Items Total	$ 12,994,025	$ 12,994,025	$ 12,994,025
	Equipment			
	Equipment	$ 6,345,250		
	Non Taxable Items			
	Sales Tax	$ 640,870		
	Equipment Total	$ 6,986,120		$ 6,986,120
	Art Work Total	$ 452,838	$ 416,342	$ 452,838
	Other Costs			
	Hazardous Material Removal	$ 100,000		
	Permit/Plan Review/Misc.	$ 700,000		
	Other Costs Total	$ 800,000		$ 800,000
	Project Management Total	$ 2,216,144		$ 2,216,144
	Grand Total Project Cost		**$ -**	**$ 115,812,103**

Construction One Time Project Costs			
One Time Costs	Estimate	Calculated	
Moving Vendor and Supplies		$ -	*$205 / Person in FY09*
Other (not covered in construction)			
Total	$ -	$ -	

	Ongoing Building Costs				
Added Services	New Building Operating Costs	Known Cost /GSF/ 2023	Estimated Cost /GSF/ 2023	Total Cost / Year	Cost / Month
☑	**Energ (Electricity. Natural Gas)**	$ 0.13	$ 1.25	$ 20,036	$ 1,670
☑	**Janitorial Services**	$ -	$ 1.56	$ 232,736	$ 19,395
☑	**Utilities (Water, Sewer, & Garbage)**	$ -	$ 1.66	$ 247,874	$ 20,656
☑	**Grounds**	$ -	$ 0.16	$ 24,598	$ 2,050
☐	**Pest Control**	$ -	$0.00	$ -	$ -
☑	**Security**	$ -	$ 0.13	$ 18,922	$ 1,577
☑	**Maintenance and Repair**	$ -	$ 6.60	$ 985,819	$ 82,152
☑	**Management**	$ -	$ 0.77	$ 115,422	$ 9,619
☑	**Road Clearance**	$ -	$ 0.09	$ 13,245	$ 1,104
☑	**Telecom**	$ 0.35	$ -	$ 52,255	$ 4,355
	Additional Parking	$ -	$ -	$ -	$ -
	Other	$ -	$ -	$ -	$ -
	Total Operating Costs	**$ 0.48**	**$ 12.23**	**$ 1,710,907**	**$ 142,576**

Ownership Option 3 Information Sheet

*	***Requires a user input***	*Green Cell*	*= Value can be entered by user.*	*Yellow Cell*	*= Calculated value.*

*	**Project Description**	Fircrest 120 Bed A3 Zero Energy Includes Water Tank System, Fire Loop and Frontage Work
*	**Construction or Purchase/Remodel**	
*	**Project Location**	Market Area =

	Statistics	
*	Gross Sq Ft	118,220
*	Usable Sq Ft	73,420
	Space Efficiency	62%
	Estimated Acres Needed	5.00
	MACC Cost per Sq Ft	$570.81
	Estimated Total Project Costs per Sq Ft	$809.71
	Escalated MACC Cost per Sq Ft	$661.92
	Escalated Total Project Costs per Sq Ft	$938.94

*	**Move In Date**	1/15/2023

Interim Lease Information	**Start Date**
Lease Start Date	
Length of Lease (in months)	
Square Feet (holdover/temp lease)	
Lease Rate- Full Serviced ($/SF/Year)	
One Time Costs (if double move)	

	Construction Cost Estimates (See Capital Budget System For Detail)			
		Known Costs	Estimated Costs	Cost to Use
	Acquisition Costs Total		$ 1,250,000	$ 1,250,000
A & E	**Consultant Services**			
	A & E Fee Percentage (if services not specified)		7.63% Std	7.63%
	Pre-Schematic Design services			
	Construction Documents	$ 2,825,844		
	Extra Services	$ 2,193,000		
	Other Services	$ 1,529,582		
	Design Services Contingency	$ 327,421		
	Consultant Services Total	$ 6,875,847	$ 5,147,499	$ 6,875,847
MACC	**Construction Contracts**			
	Site Work	$ 15,770,092		
	Related Project Costs	$ 1,081,739		
	Facility Construction	$ 50,629,245		
	MACC SubTotal	$ 67,481,076	$ 35,466,000	$ 67,481,076
	Construction Contingency (5% default)	$ 3,374,054	$ 3,374,054	$ 3,374,054
	Non Taxable Items			$ -
	Sales Tax	$ 7,156,368		$ 7,156,368
	Construction Additional Items Total	$ 10,530,422	$ 10,530,422	$ 10,530,422
	Equipment			
	Equipment	$ 4,769,050		
	Non Taxable Items			
	Sales Tax	$ 481,674		
	Equipment Total	$ 5,250,724		$ 5,250,724
	Art Work Total	$ 366,399	$ 337,405	$ 366,399
	Other Costs			
	Hazardous Material Removal	$ 125,000		
	Permit/Plan Review/Misc.	$ 550,000		
	Other Costs Total	$ 675,000		$ 675,000
	Project Management Total	$ 1,995,626		$ 1,995,626
	Grand Total Project Cost		**$ -**	**$ 94,425,094**

Construction One Time Project Costs			
One Time Costs	Estimate	Calculated	
Moving Vendor and Supplies		$ -	*$205 / Person in FY09*
Other (not covered in construction)			
Total	$ -	$ -	

	Ongoing Building Costs				
Added Services	New Building Operating Costs	Known Cost /GSF/ 2023	Estimated Cost /GSF/ 2023	Total Cost / Year	Cost / Month
☑	**Energ (Electricity. Natural Gas)**	$ 0.13	$ 1.25	$ 15,369	$ 1,281
☑	**Janitorial Services**	$ -	$ 1.56	$ 184,287	$ 15,357
☑	**Utilities (Water, Sewer, & Garbage)**	$ -	$ 1.66	$ 196,274	$ 16,356
☑	**Grounds**	$ -	$ 0.16	$ 19,478	$ 1,623
☐	**Pest Control**	$ -	$0.00	$ -	$ -
☑	**Security**	$ -	$ 0.13	$ 14,983	$ 1,249
☑	**Maintenance and Repair**	$ -	$ 6.60	$ 780,599	$ 65,050
☑	**Management**	$ -	$ 0.77	$ 91,395	$ 7,616
☑	**Road Clearance**	$ -	$ 0.09	$ 10,488	$ 874
☑	**Telecom**	$ 0.35	$ -	$ 41,377	$ 3,448
	Additional Parking	$ -	$ -	$ -	$ -
	Other	$ -	$ -	$ -	$ -
	Total Operating Costs	**$ 0.48**	**$ 12.23**	**$ 1,354,248**	**$ 112,854**

APPENDIX C - LEED CHECKLISTS

Project: Fircrest School Nursing Facility
Date: 7/17/2018

Yes	Silver	Plat	No			
52	17	20	21	Total Project Score		Certified 40-49 po

Silver	ZEB	Plat	No			
1				Integrative Process	Possible Points	1
1				Credit 1 Integrative Process		1

Silver	ZEB	Plat	No			
2		4		Location and Transportation	Possible Points	16
			16	Credit 1 LEED ND Location		16
1				Credit 2 Sensitive Land Protection		1
		2		Credit 3 High Priority Site		2
			5	Credit 4 Surrounding Density and Diverse Uses		5
			5	Credit 5 Access to Quality Transit		5
1				Credit 6 Bicycle Facilities		1
		1		Credit 7 Reduced Parking Footprint		1
		1		Credit 8 Green Vehicles		1

Silver	ZEB	Plat	No			
3		4	3	Sustainable Sites	Possible Points	10
Y				Prereq 1 Construction Activity Pollution Prevention		required
1				Credit 1 Site Assessment		1
		2		Credit 2 Site Development: Protect or Restore Habitat		2
1				Credit 3 Open Space		1
			3	Credit 4 Rainwater Management		3
		2		Credit 5 Heat Island Reduction		2
1				Credit 6 Light Pollution Reduction		1

Silver	ZEB	Plat	No			
5		3	3	Water Efficiency	Possible Points	11
Y				Prereq 1 Outdoor Water Use Reduction		required
Y				Prereq 2 Indoor Water Use Reduction		required
Y				Prereq 3 Building-Level Water Metering		required
1			1	Credit 1 Outdoor Water Use Reduction		2
3		3		Credit 2 Indoor Water Use Reduction		6
			2	Credit 3 Cooling Tower Water Use		2
1				Credit 4 Water Metering		1

Silver	ZEB	Plat	No			
14	16	2	1	Energy & Atmosphere	Possible Points	33
Y				Prereq 1 Fundamental Building Commissioning and Verification		required
Y				Prereq 2 Minimum Energy Performance		required
Y				Prereq 3 Building-Level Energy Metering		required
Y				Prereq 4 Fundamental Refrigerant Management		required
6				Credit 1 Enhanced Commissioning		6
5	13			Credit 2 Optimize Energy Performance		18
1				Credit 3 Advanced Energy Metering		1
		1	1	Credit 4 Demand Response		2
	3			Credit 5 Renewable Energy Production		3
		1		Credit 6 Enhanced Refrigeration Management		1
2				Credit 7 Green Power and Carbon Offsets		2

9 points Silver 50-59 points Gold 60-79 points Platinum 80 points and above

design \ construction

Possible Points 110

Silver	ZEB	Plat	No			
7		2	4	**Materials & Resources**	Possible Points	13
Y				Prereq 1	Storage & Collection of Recyclables	required
Y				C Prereq 2	Construction and Demolition Waste Management Planning	required
3			2	C Credit 1	Building Life-Cycle Impact Reduction	5
1			1	C Credit 2	Environmental Product Declarations	2
		1	1	C Credit 3	Sourcing of Raw Materials	2
1		1		C Credit 4	Material Ingredients	2
2				C Credit 5	Construction Waste Management: Divert 50% (75%)	2

Silver	ZEB	Plat	No			
13		3		**Indoor Environmental Quality**	Possible Points	16
Y				Prereq 1	Minimum IAQ Performance	required
Y				Prereq 2	Environmental Tobacco Smoke (ETS) Control	required
1		1		Credit 1	Enhanced Indoor Air Quality Strategies	2
2		1		C Credit 2	Low-Emitting Materials	3
1				C Credit 3	Construction IAQ Management Plan	1
2				C Credit 4	Indoor Air Quality Assessment	2
1				Credit 5	Thermal Comfort	1
2				Credit 6	Interior Lighting	2
3				Credit 7	Daylight	3
1				Credit 8	Quality Views	1
		1		Credit 9	Acoustic Performance	1

Silver	ZEB	Plat	No			
6				**Innovation in Design**	Possible Points	6
1				Credit 1	Innovation in Design: Green Building Education	1
1				Credit 2	Innovation in Design: LEED O&M Starter Kit	1
1				Credit 3	Innovation in Design: Exemplary performance for Optimize Energy or Other	1
1				Credit 4	Innovation in Design: Exemplary performance for Renewable Energy or Other	1
1				Credit 5	Innovation in Design: [Specific Title]	1
1				C Credit 6	LEED™ Accredited Professional	1

Yes	Silver	Plat	No			
1	1	2		Regional Priority Credits	Possible Points	4
		1		Credit 1	RPC 1 - Demand Response	1
	1			Credit 2	RPC 2 - Renewable Energy Production	1
1				Credit 3	RPC 3 - Environmental Product Declarations	1
		1		Credit 4	RPC 4 - Sourcing of Raw Materials	1
		1		Credit 5	RPC 5 - Rainwater Management	1
			1	Credit 6	RPC 6 - Indoor Water Use Reduction	1

APPENDIX C - CAMPUS PHOTOS

LEGENDS

- EXIST SKILLED NURSING
- EXIST KITCHEN
- EXIST BUILDING #66
- EXIST ATP BUILDING
- EXIST BUILDINGS NOT IN SCOPE
- DSHS SITE ENTRY

N

EXIST CAMPUS PLAN

0.2

EXISTING ACTIVITY BUILDING

EXISTING ATP BUILDING (Adult Training Program)

COTTAGES

KITCHEN AND CAFETERIA

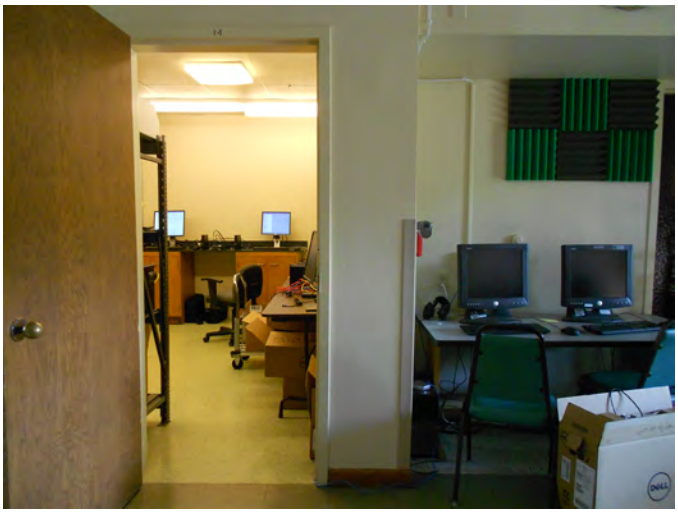
Y-BUILDING: HICKORY HOUSE

CHAPEL

PAINT SHOP

STEAM PLANT

EXISTING BUILDING 65



LAUNDRY BUILDING - BURNED DOWN APRIL 2017

EXISTING BUILDING 66 (ABANDONED)

Y-BUILDING - EXISTING PATIO IN HICKORY HOUSES

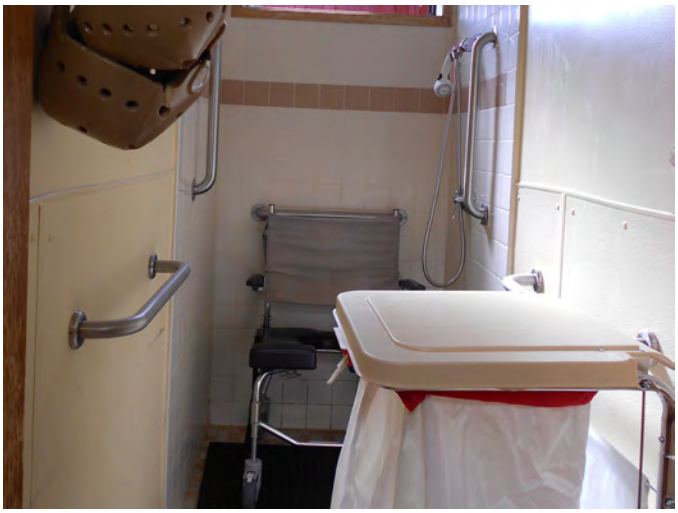
BEDROOM CONDITION

SENSORY ROOM

PASSENGER VAN

WALL ART

CHAIR SHOWER



GURNEY SHOWER

TV SPACE

NURSE OFFICE AND MEDICATION ROOM

NURSE MAIL

NURSE LOCKERS

NURSE CABINET AND FILE STORAGE

EXISTING LANDSCAPE

HAMLINE STREAM

APPENDIX E - STAKEHOLDER VISIONING RESPONSES

FIRCREST CAMPUS - QUESTIONNAIRE RESPONSES 7/1/2018

PROGRAM & FACILITY OVERVIEW

STRENGTHS

Y-bldg patios/ bedrooms
Y-bldg patios. Like the patios.
Y-bldg wide hallways. Nurse office in units
Y-bldg exits easily reached. Ease to exits
excellent care provided to many residents to live a long & healthy life with ability to grow
The staff is committed to providing quality care to clients. community base for the clients

Teamwork, stable work force, commitment to serve.

The collaboration of nursing, medical, HPA's, AC staff, Dietary, Administration, Recreation staff, PT's, speech pathologist, OT, and psychologist. Staff work together for the betterment of clients living at Fircrest

long-term staff, care for clients, knowledge expertise

Single -story Y-buildings

The time that staff have worked here, esp. Occupational Therapy, which builds continuity and institutional memory.

WEAKNES

No covered path that connects y-bldgs
y-bldg shower - irregular floors
Y-bldgs look institutional. Have fought to change public view of DD, now we need to change our look.
breakroom too small
y-bldg no privacy during sleep
y-bldg lacks home environment. No sensory rooms, inadequate activity rooms.
narrow bathrooms in Y-bldg. Not enough space. Need more space in bathrooms.
not enough space in y-bldgs
need more bathrooms per client
Inability to communicate about work loads across north & south sides of Y-buildings.
Y bldgs. are ready to fall in an earthquake, have antiquated plumbing, heating and wiring.
Inadequate & aging facility and equipment
Most clients are not as mobile and confine to a wheelchair
Limited linen access.
Turnover in AC positions, constant scrutiny
The inability to attack enough staff to reduce overtime and staff burnout.
Need a serious update. Tenured staff deserve stability and great environment.
A central kitchen would most help staff and improve patient care

lack of space for W/C storage

Utilizing buses for intra campus transportation is less ideal than having things fully accessible without resorting to busing.

I have noticed that in spite of having desk telephones, email, frequent staff meetings, postal mail, interoffice mail, pagers and cell phones there are still communication gaps that another gadget or official meetings don't seem to remedy.

It is difficult for clients to get from one building to another. Need to depend upon transportation to attend activities or medical appointment. Due to the different level of topography, it is challenging to push a client up the steep hills. We have gardens, the Activity Building, Day Program, Art program, and ATP but they all need transportation to attend these activities.

THREA

aging environment & increasing demands on regullations, life and safety, and infection control need to be addressed
Funding
Turnover, hire as fast as possible to mitigate. Not enough staff, have lots of overtime.

Failing building systems
lack of funding and imagination needed for a new building.
challenge to Retain good dietary staff who consistently send the proper food texture.

Surrounding Shoreline Community does not truly provide activities, which can full engage the residents within this environment. The homeless encampment, theft, and property damages places challenges on provide a safe atmosphere to encourage resident growth in their home.
any concerns with the growth of the surrounding Shoreline community? No, the growth is not that noticeable compared to other communities
inadequate funding causing lack of competitiveness to attract new workforce.

OPPORTUNITIES

Providing opportunity for indoor/outdoor living/ area zones such as a recreation zone, indoor greenhouse/gardening. sensory room.

I would like for the new skilled nursing program to be one big building to house all nursing home clients and a space for indoor activities.
Already run one of best NF in state. already have a good program in place, successful surveys.

To have sufficient NAC staff.

multi-story building would provide more efficient services.

demonstrated success for 24 years and understanding the mission.

Utilizing Flex time or compensation time so I can accomplish certain tasks on weekends or other times when the campus is less populated.
Improve lighting

Building upward would be more cost effective.

On-site laundry with seamstress to mend clothing/ linens.

caregivers live on campus? Not at this point but that could be a good incentive to work here.

Building 66 is so old it can not get computer cable access to many parts, has limited wiring, poor control of heating, multiple plumbing problems, small bathrooms, etc. If anything it could be a space for staff offices and storage if the new SNF were built nearby.

GENERAL INFORMATION

most residents live on campus until end of life. Hospice is offered. Not Hospice but POLS
focus is on moving clients to community setting when possible.
Surrounding Shoreline Community does not truly provide activities, which can full engage the residents within this environment. The homeless encampment, theft, and property damages places challenges on provide a safe atmosphere to encourage resident growth in their home.
NF residents have about 1 outing per week
ICF's currently have 9 residents sharing a LR/ commons
Y-bldgs have 16- 18 residents sharing LR/commons
The MD goes to the unit. There are a team of doctors on campus that work in clinic & go to units. Have medical doctors on campus. Consults such as Neurology, Psychiatrist, Ophthalmology, podiatry come to campus all other consults go to doctors in the community.

Food can be prepared in the commercial kitchen and then send to the nursing facility that has a set-up to hold carts to keep food hot and Refrigerators or docking stations to keep the carts hot/cold.

Most families don't live in King County. client families live in King County? About 50%. many live in Snohomish county but cities that are close by.

Do any caregivers live on campus? no

Nf residents have outings about 1x per day. Frequent outings. Many clients have about 2-4 outings per month. Daily outings

Steam for heat. Compact fluorescent fixtures. Since laundry building burned, laundry is sent to Rainier Campus. windows are not energy efficient, sewer lines and some rooftop drains have issues.

Currently, majority of our clients do not utilize a toilet. Majority take showers

SITE

more parking !
possible underground parking
visitors should be able to come straight to the NF to park
At least 4 disabled spots near entry, other parking within 150 feet.
the higher ground on the Fircrest campus makes for the best sites for building a nursing facility, and probably other new State operated buildings that may be built. The high ground being generally in the Northwest portion of the campus. Siting a new nursing facility on an even grade with, and somewhat close to, the Activities Building makes the Activities Building more convenient and viable for nursing clients and or staff use. Link NF with Activities Bldg with walkway

The SNF should be close to the ICF and not up a hill, so SNF clients in wheelchairs could go visit old friends in the ICF.

Recommend against siting the new building in the old Hamlin creek bed area along east side of campus.

ADA van loading adjacent to the main entry for resident's mobility? Yes, esp. good when rainy or cold. Our vans and buses have lifts.
Currently the residential nursing buildings are reliant on external kitchen facilities, an external laundry facility, an external commissary/ warehouse, and storage buildings, external maintenance/ support services buildings, external boiler building, and external office/administrative, program buildings, etc. Consolidating some, most, or all of those, and other items into the new building would be ideal in my opinion.

Staff parking of their personal vehicles away from the facility residential units. This gives a different sense to the residential part of that campus, not having parked cars crowded around the residences. It makes the feel of the inner campus more open and less urban.

Exterior Recreation areas: The Therapy Garden the Access Garden, the Playfield Garden, the dog park, and the patios of the residential units. The sidewalks throughout campus are used by ambulatory clients for recreational and program walking exercise.

Exterior Program areas,- some programs have utilized certain outdoor areas to operate client programs or classes in. The utilization of outdoor space for classroom or program activities seem to come and go and be somewhat fluid by nature. They have been located near to classroom buildings usually, out on a lawn or on an outdoor paved, patio type surface.

Garbage dumpster closer to Bldg. Trash dumpsters too far away.

If we could combine all the buildings we could be more efficient and the staff would not feel so overwhelmed and due to the open concept have a better overall view of the facility.

Currently visitor parking & van parking & unloading is inadequate.

NEIGHBORHOOD CLUSTERS

ideal size

10-16 residents ideal / 8-10

16

Bedrooms

- private room or with roommate
- lots of electrical outlets, wall sconces in addition to regular lighting.
- wide doorways
- closets
- bedside lamps , good lighting. Good sound/ communications system.
- reachable call lights for those that can use them
- wide space for using lifts
- Sturdy shelves for TV, stereos
- folding lockable support rails
- Facing Directly to commons so even when in bed they can feel part of what is going on.
- better window shades
- multi-lighting systems
- remote control blinds & shutters
- flat screen TVs
- grooming area.
- face sink
- more space
- small storage element for towels & sheets
- shelving storage that doesn't diminish floor space.
- As the majority of the residents may not be able to use a call bell system to request assistance, we should demonstrate a model for bedrooms to open to the common area. The common area should be different from the dining/Activity/laundry room areas but have some form of entertainment with access to a quit sitting area, outdoor season porch, and a separate TV area for choices.
- Bedrooms should open directly into Commons Area
- tinted windows instead of blinds that break frequently

Bathing / Shower areas

- two bedrooms sharing bathroom can have Problems with infection control
- needs more space
- needs more space
- slip-resistant flooring
- good exhaust
- lower sink counters for W/C
- storage closets
- automatic soap dispenser & paper towels
- residents take baths instead of showers? About 25%
- overhead heat lamp
- built in cabinet
- dirty linens not stored openly in shower rooms
- spray air freshner / automatic timer

Living Room/ common areas

- Need room for clients to be mobile either utilizing using forward wheel walker, Rifton walker (which tend to have a wider and larger footprint), wheelchairs (frequently are wide) or clients who are ambulatory. They need to have interesting spaces to explore i.e. variety of different sensory stimulation. Also needs space for using Hoyer lifts, larger Arjo shower gurneys.
- The ability to observe the clients at all times, but also need room for the clients to be mobile.
- Nice place for social gathering between bedrooms
- roomy dayrooms for residents who all use wheelchairs
- open areas for client to move about.

needs more space for variety of activities.
more modern
private family room
nice furniture

Connection to nature, lots of natural light, lots of storage, etc.
Lots of room, some storage space, lots of windows to see outside.
indoor plants
flat screen TVs
comfortable sofa
easily accessible shutters and blinds
slip-resistant flooring
skylight
natural light & storage
Wider doorways
Larger Janitor closet
Just more of an open concept for resident accessibility. More loops in the path so that clients do not get stuck in an area that they can't get out of easily.

Oversized corridors are under-rated. The wide corridors make for nice informal interior space that people do seem to utilize for a variety of purposes. I think residents and families appreciate the open space and apartness from city streets the campus provides in a general sense.

Dining Area

Y-bldg is fine
more modern. More homelike.
large enough for W/C & seating 4 people at the tables
ice machines
not used as conference room.
music system, adequate lighting.
flat screen TVs
more windows to see outside.
More space
W/C accessible tables, different size & height tables & adaptive chairs to meet individual needs.

The ability to have the new building attached to the existing dietary services would be beneficial for resident's availability of dining choices, and the ability to provide services for resident families to visit and enjoy mealtime with loved ones.

It would lower the cost to add to the side of the dietary building & would be the best in my opinion.

Should be spatially connected to the neighborhood prep kitchen. Residents don't participate in food prep

Utilizing the Main Kitchen, dietary staffing should remain the same.

Prep Kitchen

Y-bldg is fine
Modern that can facilitate efficient food preparation in more homelike experience.
more windows
stainless counters
non-slip flooring
large Cabinets for easily accessible items
potable food prep table with wheels
storage cabinets for towels, etc
better cabinet system
island for clients to participate with food prep
commercial refrig/ coffee maker

multiple built-in microwaves
wrap around table
Automatic washer/ sanitizer.
kitchen sink with telescope faucets
commercial style ovens
commercial style comfort mat
multiple large space cabinets
many residents are fed by tube.
Are residents able to participate in food preparation? They can if they want but very few actually do. The staff mostly cook
Currently a Challenge Providing the client with hot food/cold food with trying to reheat on the unit.
greatest dietary concern - food hot & ready at appropriate times
Currently the prep kitchen is primarily used for just heating things up and cleaning of dishware. Range exhaust hood has no fire suppression.

Laundry-cleaning
more space
more modern
room for expansion
heavy duty machines
laundry bins / shelves./ cupboard
commercial style machines. The washers and dryers are residential grade machines not commercial so breakdowns are more often.
commercial style folding tables
commercial style hampers
adequate exhaust
larger machines

Laundry - storage
more space
more space for storage
work table
easily accessible cabinets, cupboards, shelving
separate linen storage and diapers
more supplies
most space

Outdoors
W/C accessible, outdoor lighting
Have even, flat walk ways, ADA regulations, interesting features plants, bird feeders, chimes, different scents, visual outside features, streamers.
non-poisonous plants
good sized patio with sunroom, cooking / BBQ area, gardening space.
lots of plants, raised beds.
spacious. Large open space to be able to walk, sitting area - covered and uncovered, swing.
Water fountain
Bird bath
humming bird feeder
accessible pathways for clients to go in garden
Gardens are source of happiness to clients & staff-provide well organized & nice
lawn grass
to be more inviting
gardening area. Therapy garden.

Fenced area (independence), with the ability to plant, feel different textile opportunities, observe flower beds, swings or even a vehicle which they can be rolled through would provide them a new and uplifting experience. Activity boards and water features/fire pits to allow experiences not achieved.

Nature/ nice flowering plants (flowers a repeat comment)

Covered patio space works well, playground

clear of cluttered materials. Safe

provide wide patio doors.

gardens with accessible paths.

Functioning Outdoor living areas:. patios, building's yards, doorway areas, some sidewalk areas, landscapes directly adjacent to buildings, these areas are commonly used for program functions also, such as the recycling program.

Program elements per Neighborhood

DR
Quiet Area (yes from most)
Separate TV (yes from most)
Separate Activity (yes from most) with setup to Skype with family
4-season porch/ sunroom (sunroom- some yes, most not needed, yes 4-season porch)
sensory or quiet room (yes, within neighborhood cluster)
resident laundry (yes from most)
Exterior flower gardens/ shaded area
(most say - don't need private family dining/ visitation)
bathroom shared by adjacent bedrooms
shower in hall, off a bathroom
residents also take bed-baths (with the trolley)
bariatric rooms to have built-in lifts
storage specific to individual clients
More Activities - computer games, new tools.
A/V equipment/ movie screen / projector
reachable nurse calls
Fish tank
Soothing Colors, lights, and sounds, and better temperature control of spaces.

NURSING CARE

portable emergency life alert for clients & staff

Doctors employed, most appointments are seen on campus with doctors coming to the facility for treatment.

The nurse station is operated like an extension of the Phamacy.With one centralized location, less opportunities for lost keys or compromised med rooms. With centralization, it is harder to have multiple nurses to serve the population needs of 100-150 residents. Mobile as long as there is a potential to secure the carts when done would solve the needs and to have them centralized within the building might be the way to go. Individuality with a one location view.
Central nurse station . Better centralized so newer nurses can learn from ones with more experience. If centralized, all nurses hear about changes in clients and carry over that info if the primary nurse is off the next day.

Nursing Central offices to include Nursing, Recreations personals, ACM's, Med room.

Storage for wheelchairs, beds, commodes, shower and bath chairs, etc.

specialty caregivers OT, PT, Speech, dentist, plus consultants for podiatry, rehab medicine, vision, psychiatry,neurologist, ophthalmologist, etc. .

The current campus-wide pharmacy does a good job.

PHYSICAL THERAPY

There can be a room for parallel bars, stairs, combination bicycle for upper and lower extremities, and space for extra wheelchairs and rehab parts.

MAIN KITCHEN

deliveries made? Most are made to the commissary, however there are deliveries to our dietary building as well.
The current campus-wide kitchen is doing a good job. It would be easier if the kitchen only had to deliver to one location, and there would be less wasted food.
challenge to Retaining good staff who consistently send the proper food texture.
Foods that are available. Do not get much choices. Get what is served for the day, whatever comes on their tray.
greatest concern - not being able to provide home-like food choices.

ADMINISTRATION

Receptionist
Medical staff offices
lobby/ small waiting room/ public toilets
Managers and HPA's offices

FACILITIES & MAINTENANCE

automatic doors or power assist
walkie talkie communication system
better access to plumbing under floor- provide crawl space
What type of security equipment is needed? Security cameras and monitors? Yes both inside and outside. Will some residential areas be locked facilities? Most of them to provide safty and control of access to resident areas. After hours for sure. Security cameras and monitors? Probably not legal for our clients. Will some residential areas be locked facilities? No
Maintenance efficiency: Ease of access to water closets, components and equipment vital to ensure a safe and healthy environment. Appropriate fall protection, durable surfaces to not defer from preventative maintenance replacing it with corrective.

Yes, need a maintenance room within the proposed skilled nursing facility? Yes. I see for the size that there will be more than just one. (No, don't need) Yes, to maintain wheelchairs, walkers, beds, etc.

maintenance storage Not necessarily needed within the proposed facility. Certain chemicals and supplies need to be in a safe and maintained environment and the potential for errors which can relate to violation would be too great in areas not visited daily or have multiple access point compromised by others outside of the department. (No, don't need) Yes, or nearby, at least 1000 sq ft. Also, a part time electronics technician would continue to be needed, with a space of about 200 sq ft.

At the service area, need Mop sink, chemical dispensary, supplies for weekly needs would be adequate. This would be beneficial for not only the housekeeping staff but the SN staff as well, after hour's needs and emergencies.

The facility staff within Transportation pick up trash. An on campus recycling crew comprised of residents from ICF handles recycle. The yard waste can be removed by grounds and taken to the yard waste weed pile.

Vinyl flooring , VCT, Carpet squares, ceramic tiles, FRP, Wainscoting. Square flooring makes for ease of doing repairs. FRP is durable.

Maintenance efficiency: green . Plumbing, windows, commercial grade appliances

most common maintenance complaint with the building? Heating control

present lighting or acoustics does not seem to be an issue.

The mechanical rooms are not worker friendly at all.

We have plumbing systems that are failing due to the age of our buildings. It is also difficult to find some parts due to age. The electrical system is just as old with outdated panels that are starting to have overloading issues

It does not appear that all staff are comfortable the use of the communication devices that we have here on site now. We used to have Radios but now the P.T.T. phones are a little more confusing.

No compactor.

implement composting of non-biological waste. Better recycling needed. Kitchen waste could be converted to garden compost via worm bins, providing jobs for clients.

IT support needed.

Garbage system needs to change.

Need Better access to the roof

Supporting services just needs equipment that can easily be repaired and parts for. Paint colors to a minimum to make it easier for our painting staff. Grounds? Easy care foliage and beds.

Construction site needs to be secured & drivers careful since residents free to walk campus.

BREAK ROOM

Large room with comfortable sofa
sleeping/ resting area for staff
personal shower area
massage reclining chair for staff
Staff regularly access snack shop
resting area for staff that worked overtime.

SHARED AMENITY SPACES

Physical Therapy- new equipment/ lots of space (yes from all)
Therapies - Jacuzzi Bath/ massage recliners
Interactive touch to speak tablets
Central Media / Theater. (Yes from most, but some no)
Library / Computer Room (Yes from some, but some no)
Sensory Rooms (yes from all) Quiet sensory room with bubble lights, music. Quiet area with padded mats/ recliners
Large Meeting Rm/ Multipurpose Rm (Yes from most, but some no) Yes for karaoke, musicians. For resident council, CP review, med review meetings.
Utilize existing on-site Pharmacy
Should have good connection to ICF residents
NF residents will use existing spaces throughout campus
Circulation from NF to activities, recreation, chapel
Speech, OT, PT, MD's, Dentist could continue to serve the entire campus. Rec should change to shared to increase opportunities for clients and encourage mixing.

Swimming Pool . Rebuild pool.
Gym
Daycare for all staff
Giftshop for clients to visit
Coffee / Ice Cream machine for visiting families. Onsite café
Reading / relaxation place for families
Water fountain
gold fish pond
Therapy pets
Therapy pool
minature garden

humming bird feeder
lawn grass
theater with stage
built-in movie theater
built-in surround sound
live wall pictures
interactive lighting
botanical garden with produce

salon for NF (Yes from most, but some no) new salon. Separate Beauty Salon for SN? That would save travel time for clients.

Could share with ICF the following: Central PT, Central Theater, Library/Computer Room, Beauty salon, On-site Pharmacy, transportation. ATP.

NF Staff utilize ATP, coffee shop, activity building, Day Program, ATP, and Art program. Also to go observe at the dog park on campus or to Hamlin Park.

Connection to other parts of campus: Delivery and program assistance. Maybe a janitor work location, cleaning crew, therapy moving assistance, etc.

Both ICF & NF staff will access Activities Building & ATP. other areas will they go? To the coffee cart and other areas in the Coffee Shop, Art Group, Day Program, ATP. Art Groups, Day Program, Vocational programs. Visits to parks, pools, malls, etc.

Programs used most that is outside NF - Recreation & Art Programs, Day program, transportation.

Connections of NF to other parts of campus: Recreation/ Activities / Salon / Doctors / pharmacy

NF residents will also go off-campus

Fire pit / water fall / pond

Large shared gazebo

FIRCREST SCHOOL PREFERRED ALTERNATIVE 3

BUILDING PROGRAM: SUMMARY OF MAJOR COMPONENTS

		FTE Staff	Subtotal ASF	Total ASF
A	**FACILITY COMPONENTS (NET)**			
	RESIDENT COTTAGES:			57,826
	Typical Bedrooms Cottages		26,300	
	Bariatric Bedroom Cottages		5,330	
	Resident Support At Cottages		16,410	
	Resident Bathing At Cottages		3,510	
	Service Areas At Cottages		6,276	
	CENTRAL / COMMON SERVICE AREAS			1,600
	CENTRAL NURSING			950
	THERAPY / REHAB / WELLNESS			6,950
	STAFF BREAK ROOM / WELLNESS			910
	ADMINISTRATIVE / VISITOR AREAS			1,135
	VILLAGE CENTER (Meeting Rooms, Coffee/Gift Shop)			2,285
	MAINTENANCE / MECHANICAL / ELECTRICAL			1,764
	Total Net	0.0	57,826	73,420
B	**AUXILLIARY COMPONENTS (GROSS)**			
	Circulation / Structure Allowance (includes minimum 8 foot wide resident corridors, hallways, MEP, shafts, walls)	50% of net SF		36,710
	Total Gross Area (A+B)			110,130

		Number of Cars		
C	**PARKING + ACCESS NEEDS**			
	Parking	131		34,699
	Total Parking Area	131		34,699
D	**OUTDOOR AREAS**			
	Outdoor Areas, Walks, Landscaping, Loading Dock			23,676
	Total Outdoor Areas			23,676

		# of Panels	SF / panel*	
E	**NET-ZERO SOLAR**			
	Photovoltaic Solar Array-Roof	2,500	18	45,000

FIRCREST SCHOOL PREFERRED ALTERNATIVE 3

BUILDING PROGRAM: INDOOR COMPONENTS

TYPE OF SPACE	Number of Rooms per Cottage	Number of Rooms	SF per Room	Net ASF Required
A TYPICAL BEDROOMS COTTAGES				
Grouped in **5** *Neighborhood Cottages of 20 rooms each*				
1-Bed Private Rooms	4	20	210	4200
with wheelchair storage				
1-Bed Shared Sink/Toilet Room	2	10	70	700
shared between 2 private rooms				
2-Bed Double Rooms	8	40	500	20000
2-Bed Shared Sink/Toilet Room	4	20	70	1400
1 per each double room				
Total Beds 100				
ASF per Cottage 5,260				
Subtotal Net ASF				26,300
B BARIATRIC BEDROOM COTTAGES				
Grouped in **1** *Neighborhood Cottage of 20 rooms*				
1-Bed Private Rooms		0	210	0
with wheelchair storage				
1-Bed Shared Sink/Toilet Room		0	70	0
shared between 2 private rooms				
2-Bed Double Rooms	8	8	500	4000
2-Bed Shared Sink/Toilet Room	4	4	70	280
1 per each double room				
Bariatric Private Bedrooms	4	4	225	900
with hoist to shared bathroom				
Bariatric Shared Sink/Toilet Room	2	2	75	150
shared between 2 bariatric bedrooms				
Total Beds 20				
ASF per Cottage 5,330				
Subtotal Net ASF				5,330

FIRCREST SCHOOL PREFERRED ALTERNATIVE 3

BUILDING PROGRAM: INDOOR COMPONENTS

TYPE OF SPACE	Number of Rooms per Cottage	Number of Rooms	SF per Room	Net SF Required
C RESIDENT SUPPORT AT COTTAGES				
Proposed Cottages: **6**				
Clustered at Each Neighborhood Cottage				
Living / Sitting Area / Lounge	1	6	600	3600
w/ fish tank + video-conferencing nook				
Dining Area	1	6	450	2700
Dining Storage	1	6	50	300
Activity Room	1	6	500	3000
w/ sink, service counter, cabinets, large flat TV & sound system				
TV Room *flat screen TV, sound system*	1	6	180	1080
Country Kitchen	1	6	200	1200
Country Kitchen staff only	1	6	80	480
Locked Storage Closet	1	6	225	1350
Quiet Room / Sensory Room	1	6	100	600
4-Season Sunroom	1	6	150	900
Uni-Sex Toilet Room	1	6	40	240
Resident Laundry	1	6	80	480
Laundry Storage	1	6	80	480
ASF per Cottage 2,735				
Subtotal Net ASF				16,410
D RESIDENT BATHING AT COTTAGES				
Clustered at Each Neighborhood Cottage				
Resident Bathing				
Gurney shower	2	12	210	2520
Chair Shower	1	6	125	750
Toilet/ Sink shared between bathing	2	6	40	240
ASF per Cottage 585				
Subtotal Net ASF				3,510

FIRCREST SCHOOL PREFERRED ALTERNATIVE 3

BUILDING PROGRAM: INDOOR COMPONENTS

TYPE OF SPACE	Number of Rooms per Cottage	Number of Rooms	SF per Room	Net SF Required
E SERVICE AREAS AT COTTAGES				
Clustered at Each Neighborhood Cottage				
Nursing Staff Office	1	6	200	1200
Clean Work Room	1	6	150	900
Clean Linen Area	1	6	75	450
Soiled Linen Area + Handwashing Station	1	6	75	450
Tube Feeding Prep Area and Storage	1	6	80	480
Oxygen Storage	1	6	36	216
Housekeeping Supplies w/ mop sink	1	6	80	480
Storage - Hoyer Lifts *with nearby charging, near Living*	2	12	30	360
Storage *commodes, shower chair, beds*	1	6	100	600
Sub Electrical Rooms		6	65	390
Staff Mail Slots	1	6	35	210
Staff Locker Room	1	6	30	180
Staff Bathroom M/W	1	6	60	360
ASF per Cottage 1,046				
Subtotal Net ASF				6,276
F CENTRAL / COMMON SERVICE AREAS				
Central Clean Linen Room		1	200	200
Central Soiled Linen Storage		1	200	200
Housekeeping Room *with mop sink / chemical storage*		1	200	200
Indoor Trash		1	100	100
Food Receiving Area *Connected to Outdoor Loading Dock*		1	400	400
Equipment Storage Room		1	100	100
Indoor Furniture Storage Room		1	200	200
Future Expansion Storage Room		1	200	200
Subtotal Net ASF				1,600
G CENTRAL NURSING				
Nursing Office (no central meds room)		1	300	300
Doctor's Office		1	150	150
Visiting Consultants/Volunteers Office		2	100	200
Recreation Staff / Work Room / Copier		1	300	300
Subtotal Net ASF				950

FIRCREST SCHOOL PREFERRED ALTERNATIVE 3

BUILDING PROGRAM: INDOOR COMPONENTS

TYPE OF SPACE	Number of Rooms	SF per Room	Net SF Required
H THERAPY / REHAB / WELLNESS			
Community Physical Therapy/Exercise	3	1200	3600
adjacent to outdoor area			
Unisex Toilet	3	70	210
Rehab Therapy Equipment Storage	3	200	600
Rehab Office	3	80	240
Sensory Rooms	6	150	900
Clean Linen Storage	3	80	240
Beauty/Salon	1	180	180
One-On-One Therapy Room	1	80	80
Resident SoakingTub	2	210	420
Hydrotherapy Tank	1	300	300
Housekeeping/ Janitor	3	60	180
Subtotal Net ASF			6,950
I STAFF BREAK ROOM / WELLNESS			
Staff/Volunteer Lounge Indoor	1	300	300
connected to an outdoor patio			
Staff Restrooms	1	300	300
Staff Rest/Quiet Area	1	80	80
Staff showers	1	150	150
Lockable Staff/Volunteer Lockers	1	80	80
Subtotal Net ASF			910
J ADMINISTRATIVE / VISITOR AREAS			
Lobby / Entry / Waiting Area	1	225	225
Lobby Reception Desk	1	80	80
Admin Director Office	1	200	200
Assistance Director Office	1	150	150
Work Room / Copier	1	200	200
Family/Volunteer Meeting Room	1	150	150
with video conferencing			
Communications / IT	1	80	80
Visitor Uni-Sex Restroom	1	50	50
Subtotal Net ASF			1,135

FIRCREST SCHOOL PREFERRED ALTERNATIVE 3

BUILDING PROGRAM: INDOOR COMPONENTS

TYPE OF SPACE	Number of Rooms	SF per Room	Net SF Required
K VILLAGE CENTER (Meeting Rooms, Coffee/Gift Shop)			
Large Multi-Purpose / Meeting Room	1	1200	1200
Multi-Purpose Room Stage	1	100	100
Multi-Purpose Room Storage	1	100	100
M/W Toilets	1	160	160
Small Mult-Purpose Room	1	500	500
Coffee/Ice Cream/ Gift Shop *for Visitors and Clients*	1	225	225
Subtotal Net ASF			2,285
L MAINTENANCE / MECHANICAL / ELECTRICAL			
Main Electrical Room	1	350	350
MDF Telecommunications Room	1	144	144
Sub Telecommunications Rooms	4	100	400
Mechanical Room	1	300	300
Sprinkler Closet	1	100	100
Maintenance Room	1	150	150
Emergency Electrical Room	1	320	320
Subtotal Net ASF			1,764
NET ASF TYPICAL COTTAGE (A)			9,626
GROSS SF 5,135 SF CIRCULATION / WALLS AT 53%			14,761
NET ASF BARIATRIC COTTAGE (B)			9,696
GROSS SF 5140 SF CIRCULATION / WALLS AT 53%			14,836
TOTAL NET ASF ALL COTTAGES (A+B+C+D+E)			57,826
TOTAL NET ASF COMMON SPACES (F+G+H+I+J+K+L)			15,594
TOTAL NET ASSIGNABLE SQUARE FEET			73,420
TOTAL GROSS SQUARE FEET (1.5 x)			110,130

M PROGRAM SPACES SHARED WITH CAMPUS

None

Abbreviations

ASF: Assignable Square Feet
FTE: Full Time Equivalent (staff)
GSF: Gross Square Feet
M/W: Men's and Women's
NSF: Net Square Feet
SF: Square Feet
W/: With
W/C: Wheelchair

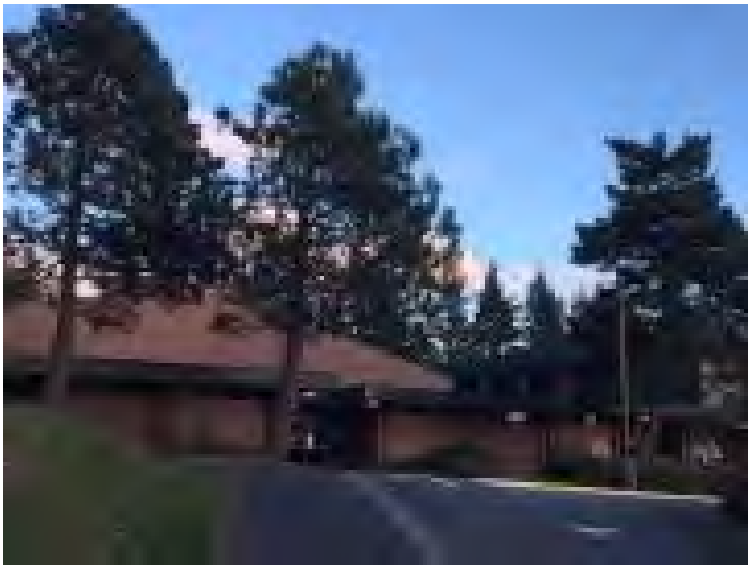
FIRCREST SCHOOL PREFERRED ALTERNATIVE 3

BUILDING PROGRAM: OUTDOOR COMPONENTS

TYPE OF SPACE	FTE Daytime Staff or Occupants	Total Number of Beds	NSF of Office Space	Number of Spaces	SF per each Outdoor Space	Total SF Required
N PARKING[1]				131		34,699
Visitor Parking		100		50		12,500
1 per 2 beds						
Nursing Staff Parking	30			30		7,500
1 per *each FTE daytime nursing staff*						
Admin/Office Staff Parking	7		0	7		1,750
1 per FTE daytime admin. staff, plus						
1 per 400 SF of office space						
Meeting/Conference Room Parking[3]	113.3		1700	28		7,083
1 per 4 occupants						
HC Accessible Parking - Code				3		1,566
1 per 25 parking spaces						
HC Accessible Parking - beyond Code				4		1,800
Van / Bus Parking				3		900
Golf Cart Only' Transport Parking				5		1,600
O OUTDOOR AREAS						23,676
For **6** *Resident Neighborhoods*						
Outdoor Resident Areas - Uncovered				6	600	3,600
Outdoor Resident Areas - Covered				6	400	2,400
w/ swing						
Outdoor Storage for Chairs, Gardening Supplies				6	100	600
Cottage Courtyard / Therapy Garden	20' x 50'			6	1,000	6,000
raised beds/ non-poisonous plants, gold fish pond, water fountain,						
bird bath, hummingbird feeder, shared Gazebo & barbeque						
Loading Dock	10' x 40'			2	400	800
Main Dumpster Area - Trash/Recycle/Compost				1	300	300
Visitor Outdoor Area				1	150	150
Staff Private Outdoor Area				1	150	150
Bicycle Parking				15	4	60
Parking Landscape/Walks	20 SF per car			1	2,616	2,616
Landscaping - Lawn Areas				1	4,000	4,000
Landscaping - Shrub/Trees Areas				1	3,000	3,000

Notes

1. 250 SF per automobile incl. backing distance (not including drives or landscaping)
2. 450 SF per assessible space incl. backing distance (not including drives or landscaping)
3. 15 SF per occupant assumed



Fircrest School

Nursing Facility
Operating Plan an
Bu get Analysis

October 26, 2018

Prepare By:

ATTUNE
Healthcare Partners

Contents

1. Projecte Deman for DD Nursing Facility Be s

There are currently 258 certified DD Nursing Facility beds in Washingt n State. This includes 92 beds at the Fircrest Sch l in Sh reline, WA, 93 beds at Lakeland Village in Medical Lake near Sp kane, WA and 73 beds at the Yakima Valley Sch l. As f June, 2018 there were 282 DD clients wh were assessed t be eligible for Nursing Facility level f care, including 60 clients at the Rainier Sch l in Buckley, WA. This exceeds current bed capacity by 24 clients.

Statewide growth in demand am ng DD Nursing Facility clients is expected t increase from 282 in 2018 t approximately 323 by 2030 and p ssibly ver 350 by 2040. This is based n current p pulati n pr jecti ns prepared by OFM f r Washingt n State as well as c ntinuati n f current DD rates per th usand am ng nursing eligible clients.

In additi n, it is expected that the pr grammatic needs f the DD p pulati n will likely change ver time. Over the last 30 years, the Devel pmental Disabilities Administrati n has transiti ned the maj rity f DD clients t c mmunity based residential care settings. While this has w rked very well, this group f clients is aging and will increasingly need access t interim s luti ns, such as respite care f r sh rt term (30 day) stays t relieve aging caregivers, as well as crisis management care f r clients that are devel ping m re severe chr nic c nditi ns similar t the general p pulati n. This will increase DD nursing facility demand and it will change the mix f clients served. A change in client needs will require a mix f d uble bed ro ms and single bed r ms t acc mm date individual client needs am ng the three client types (l ng term care, sh rt term respite care, and crisis management). The pr jected demand f r nursing facility beds at the Fircrest Sch l will gr w fr m a current average daily census f 87 t 140 r even 160 f r l ng term care, respite and crisis management by 2040.

2. Programmatic Requirements

Based n experience at the current Fircrest Nursing Facility, the m st perati nally efficient bed c nfigurati n inv lves 20-bed p ds. This all ws f r the m st ec n mical staffing plan and meets r exceeds CMS direct nursing staff rati s f 4 – 1. Each single and d uble bed ro m has a shared bathro m, individual wardr bes, and pers nal st rage areas. Other programmatic functi ns within each p d include family-like amenities such as dining areas, activity space, nurse administrati n space, medicati n management space, and equipment st rage. Other functi ns that improve efficiencies are included in the space program such as activity space f r n-site physical therapy, ccupati nal therapy, and speech therapy. There is als space within the new facilities t acc mm date physician ffice space f r n-site r unding and for n-site behavi ral health professi nal visits.

Program g als that impact DD nursing facility space requirements include:

- Implement a staffing plan that embraces the Fircrest Sch l m del which has c nsistently received 4 star status fr m CMS annual audits
- Optimize perati nal efficiencies
  - Devel p single st ry buildings that minimize staff transp rt time

- Utilize double loaded corridors to maximize staff observation capabilities and minimize walking distances for clients and staff
- Include space within the nursing facility rather than transporting clients to other buildings on campus for heavily utilized programs and services. Services to be included within the nursing facility:
  - Physical, occupational, and speech therapy
  - Medical clinic space for physician rounding
  - Activity space
- Include visual amenities such as windows for viewing the outdoors, covered patios for outdoor enjoyment, and skylights/clearstories for ample natural light.

- Minimize costly duplication of services where possible
  - Utilize centralized services available elsewhere on campus, including the centralized kitchen, laundry, and maintenance that can be transported to the new facility easily and economically
  - Establish single point of entry for families and visitors with centralize reception area for check-in to promote safety and security for the entire building
- Utilize existing space as much as possible while ensuring other program goals are met
- Comply with Fircrest's existing facility master plan that promotes reduction of the overall facility footprint across the campus.

3. Staffing Projections

The projected staffing requirements to operate a new nursing facility at Fircrest School are based on the staffing plan outlined for the Fircrest School as defined in the 2017 study "Facility Wide Resource Assessment". This detailed study describes the staffing mix for three staff categories, including:

- Clinical staff which is comprised of direct nursing staff, medical practitioners, dentists, pharmacists, and therapists
- Administrative and support staff for the nursing facility
- Centralized staff for the campus who are allocated to the nursing facility including housekeeping, maintenance, dietary, laundry, and others.

Direct Nursing Staff

The direct nursing staff configuration for the Fircrest School is core to the entire staffing model developed for the new facility. Table 1 describes the Fircrest Model which results in an average of 5.5 hours of nursing face-time per bed per day.

Table 1: Direct Nursing Care Staff – 2017 Fircrest School Staffing Mo el

		Staffing Plan by Type f Staff by Shift						
		6:30 am 3:00 pm	3:00 pm 9:00 pm	9:00 pm 11:00 pm	11:00 pm 6:30 am	Nursing H urs/Day	Nursing H urs/Week	FTEs @ 40 Hrs/Week
# f Staff	CNA*	20	20	10	10	385.0	2,695.0	67.4
	LPN**	5	5	5	2	97.5	682.5	17.1
	RN***	1	1	1	1	24	168.0	4.2
	T tal	26	26	16	13			
Hrs/Shift		8.5	6.0	2.0	7.5			
T tal Hrs/Shift		221	156	32	97.5	505.5	3,545.5	88.6
T tal H urs/ Bed/Day		2.4	1.7	0.3	1.1	**5.5**		

N tes

*CNA: Certified Nurse Assistant provides hands- n direct patient care
**LPN: Licensed Practical Nurse provides medicati n management
*** RN: Registered Nurse provides staff management and care planning for each client
Fircrest Nursing Beds: 92

The informati n pr vided in Table 2 bel w extrap lates the 2017 staffing m del t the five physical space alternatives devel ped for the new Fircrest Sch l Nursing Facility. Operating efficiencies are measured in terms f FTEs per bed where l wer rati s reflect higher perating efficiencies. The results indicate that Alternative 3 provides the highest perating efficiencies due t the ability t 1) acc mm date 20 bed p ds in new space; 2) implement a functi nal plan that eliminates tw fl r c nfigurati ns; 3) inv lves all new c nstructi n; and 4) provides ptimal rati s f single bed r ms with d uble bed r ms. Alternatives 3 als includes d uble l aded c rrid rs that maximize sight distances and minimize walking distances. In additi n, Alternatives 3 minimizes the number f client transp rts t external facilities t access services that w uld be included within the new nursing facility. Alt gether, DD clients can be better served in new space that prom tes better client utc mes, greater c nvenience for clients and staff, as well as l wer perating c sts.

Table 2: Fircrest Nursing Faciity Estimate Direct Nursing FTEs by Facility Alternative

Direct Nursing Staff	Alt 1 FTES f r 90 Beds in Ren vated Space (Building 66) Plus Expansi n	Alt 2A FTEs f r 100 Beds in New C nstructi n N rth f the Existing Kitchen	Alt 2B FTEs f r 160 Beds Same as Alt. 2A Plus 60 Bed Expansi n Acr ss the Street	Alt 3A FTEs f r 100 Beds in New C nstructi n n the Madr na Site	Alt 3B FTEs f r 160 Beds Same as 3A plus 60 Bed Expansi n n the Madr na Site
CNA	80.6	73.2	128.9	73.2	117.2
LPN	20.4	18.5	32.6	18.5	29.7
RN	5.0	4.6	8.0	4.6	7.3
T tal	106.0	96.3	169.6	96.3	154.2
Adjustments f r Reuse f Existing Space	+18.0%	+10.0%	+22.5%		
FTEs/Bed*	1.18	.96	1.06	.96	.96
*L wer is better					

Other Clinical Personnel

In additi n t direct nursing staff, there are additi nal clinical pers nal wh interact with clients n an as needed basis per their individualized care plan. This includes physicians, dentists, pharmacy, therapies, and behavi ral health specialists. F r the Rainier Campus, it als includes n-site phthalm l gy, imaging, and lab rat ry services. While these services are shared with the ICF facilities, they are available n site f r m re c nvenient client access t medical professi nals skilled in managing the challenges f DD medical, dental, and behavi ral health care. M st specialty services are pr vided by c mmunity based h spitals and specialty care pr viders.

Table 3: Other Clinical Personnel for Rainier School

Personnel Currently Available On-Site	**Routinely Purchased Specialty Services**
Medical Direct r	P diatry
Physicians	Gastroenter l gy
Physician Assistants	Neurol gy
Psychiatrist	EKC
Dentist	Mamm graphy
Dental Assistants	Ophthalm l gy
Dental Hygienist	Imaging
Sedati n Rec very	Lab rat ry Services
Pharmacy	
Occupati nal Therapy	
Physical Therapy	
Speech Therapy	
Behavi ral Health Specialists	

Table 4: Fircrest School Estimate FTEs for All Clinical Staff by Alternative

Direct Nursing Staff	Alt 1 FTES f r 90 Beds in Ren vated Space (Building 66) Plus Expansi n	Alt 2A FTEs f r 100 Beds in New C nstructi n N rth f the Existing Kitchen	Alt 2B FTEs f r 160 Beds Same as Alt. 2A Plus 60 Bed Expansi n Acr ss the Street	Alt 3A FTEs f r 100 Beds in New C nstructi n n the Madr na Site	Alt 3B FTEs f r 160 Beds Same as 3A plus 60 Bed Expansi n n the Madr na Site
Other Medical FTEs	19.2	21.3	34.1	21.3	34.1
Direct Nursing FTEs	106.0	96.3	169.6	96.3	154.2
T tal Clinical FTEs n Site	125.2	117.6	203.7	117.6	188.3
Clinical FTEs per Bed	1.39	1.18	1.27	1.18	1.18

As sh wn in Table 4, the m st efficient facility pr gram plans are reflected in Alternatives inv lving new c nstructi n regardless f facility size which have the l west rati f clinical staff per bed @ 1.18 FTEs per bed. These alternatives include space within the new facilities t acc mm date ther medical

pers nnel which av ids transp rting clients t ther n-site facilities f r regular PT/OT, as well as medical and behavi ral health care c nsults.

A ministrative an Support Personnel

Administrative and supp rt pers nnel include direct supp rt staff as well as centralized pers nnel that is shared with the ICF pr gram at Fircrest. Centralized services as depicted bel w acc unt f r th se additi nal FTEs needed t perati nalize the new Fircrest Nursing Facility and exclude the number f FTEs needed t supp rt ther campus services and facilities.

Table 5: Support Personnel for Fircrest Nursing Facility

Direct Supp rt Staff	Supp rt Services for Nursing Facility Only	Centralized Services (Nursing Facility –NF- Only)
Nursing Facility (NF) Administrat r	NF Building Operati ns and Maintenance	NF Quality Management
NF Direct r f Nursing	NF H usekeeping	NF Human Res urces
NF Assistant Direct r	Dietary	NF Medical Rec rds
NF Activities C rdinat r	Commissary	NF Sh rt Stay Management
Habilitati n Plan Administrat r	Other	NF Safety
CNA Managers		NF Business Services
Secretary		NF Regi nal Supp rt Services

Please refer t Appendix A for detailed Supp rt Pers nnel FTE Projecti ns f r Fircrest Nursing Facility

Table 6: Fircrest School Estimate Nursing Facility <u>TOTAL FTEs</u> by Alternative

Direct Nursing Staff	Alt 1 FTES f r 90 Beds in Ren vated Space (Building 66) Plus Expansi n	Alt 2A FTEs f r 100 Beds in New C nstructi n N rth f the Existing Kitchen	Alt 2B FTEs f r 160 Beds Same as Alt. 2A Plus 60 Bed Expansi n Acr ss the Street	Alt 3A FTEs f r 100 Beds in New C nstructi n n the Madr na Site	Alt 3B FTEs f r 160 Beds Same as 3A plus 60 Bed Expansi n n the Madr na Site
T tal Clinical FTEs n Site (Table 4)	125.2	117.6	203.7	117.6	188.3
Admin & Supp rt FTEs	70.2	78.0	114.2	78.0	114.2
Centralized FTEs	13.0	18.9	21.0	18.9	21.0
T tal FTEs	208.4	214.6	338.9	214.6	323.4
T tal FTEs/Bed	2.32	2.15	2.12	2.15	2.02

As sh wn in Table 6, Alternatives 3B ffers the m st perati nally efficient staffing plan c mpared t the ther f ur facility design pp rtunities. This is due t the foll wing attributes that describe Alternatives 3B:

- All new c nstructi n

- Maximum use f 20 bed p d design
- Maximum use f d uble l aded c rrid rs
- Inclusi n f clinical space within the facility f r PT/OT/Speech as well as clinical space f r medical staff r unding for r utine medical checkups
- Inclusi n f activity space within the facility design – minimizes n-campus transp rts and frees staff time for direct nursing care
- Optimal mix f single and d uble bed r ms t acc mm date l ng term care, respite care, and crisis management care within the facility
- Ability t leverage current administrative and support staff t acc mm date increased client v lumes
- Eliminati n f multi-st ry structures.
- Maximum rati f d uble and single bed ro ms.
- Continuity f space that eliminates barriers for staff and clients such as utd r breezeway building c nnect rs (Alt 1A and 1B) r bed expansi n across the street fr m the main building (Alt 2B).

4. Projecte Operating Bu gets by Alternative

The projected perating budget for a Nursing Facility at the Fircrest Sch l is based n the hist rical budget for 2016 - 2017 actual Biennium and the pr jected budget f r the 2018 -2019 Biennium. An ther s urce d cument is the Devel pmental Disabilities Administrati n 2017 Casel ad and Cost Rep rt as well as the 2018 CBO Rep rt. The budget analysis addresses nly the prop sed Nursing Facility and excludes the ICF program at the Fircrest Sch l.

The maj r line items in the budget estimates f r 2023 (the first year f perati n) through 2032 include:

- Salaries and Wages, escalated at 3.4% per year
- Empl yee Benefits, calculated at 54% f C mpensati n
- G ds and Services
- Travel
- Capital Outlays
- Grants, Benefits, and Client Services
- Debt Service
- Inter and Intra-agency Reimbursements

Table 7: Bu get Estimate - $$ in Millions
Alternative 1A: 90 Be s in Renovate Space – Buil ing 66

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Salaries	$12.1	$12.5	$13.0	$13.4	$13.8	$14.3	$14.8	$15.2	$15.8	$16.3
Benefits	6.6	6.8	7.0	7.2	7.5	7.7	8.0	8.2	8.5	8.8
G ds/Services	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4
Other*	.3	.3	.3	.3	.3	.4	.3	.3	.4	.4
T tal	$21.5	$22.2	$23.0	$23.7	$24.5	$25.4	$26.2	$27.1	$28.0	$29.0

* Includes Travel, Capital Outlays, Grants & Client Services, Pri r Debt Service, Intra and Inter-Agency Reimbursements

Table 8: Bu get Estimate - $$ in Millions
Alternative 2A: 100 Be s in New Construction North of Kitchen

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Salaries	$12.5	$12.9	$13.4	$13,8	$14.3	$14.7	$15.2	$15.7	$16.3	$16.8
Benefits	6.8	7.0	7.2	7.5	7.7	8.0	8.2	8.5	8.8	9.1
G ds/Services	2.6	2.7	2.8	2.8	2.9	3.0	3.1	3.2	3.4	3.5
Other*	.3	.3	.3	.4	.4	.4	.5	.4	.3	.4
T tal	$22.2	$22.9	$23.7	$24.5	$25.3	$26.1	$27.0	$27.9	$28.8	$29.8

* Includes Travel, Capital Outlays, Grants & Client Services, Pri r Debt Service, Intra and Inter-Agency Reimbursements

Table 9: Bu get Estimate - $$ in Millions
Alternative 2B: 2A + 60 Be Expansion Across the Street from Main Structure

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Salaries	$19.7	$20.4	$21.1	$21.8	$22.5	$23.3	$24.0	$24.8	$26.7	$26.5
Benefits	10.7	11.0	11.4	11.7	12.2	12.6	13.0	13.4	13.9	14.3
G ds/Services	4.0	4.2	4.4	4.5	4.6	4.8	5.0	5.1	5.3	5.5
Other*	.6	.5	.5	.6	.7	.5	.6			
T tal	$35.0	$36.1	$37.4	$38.6	$40.0	$41.2	$42.6	$44.0	$45.5	$47.0

* Includes Travel, Capital Outlays, Grants & Client Services, Pri r Debt Service, Intra and Inter-Agency Reimbursements

Table 10: Bu get Estimate - $$ in Millions
Alternative 3A: 100 Be s in Newly Constructe Space on Ma rona Site

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Salaries	$12.5	$13.0	$13.4	$13.8	$14.3	$14.7	$15.2	$15.7	$16.3	$16.8
Benefits	6.8	7.0	7.2	7.5	7.7	8.0	8.2	8.5	8.8	9.1
G ds/Services	3.6	2.7	2.8	2.8	2.9	3.0	3.1	3.2	3.4	3.5
Other*	.4	.2	.4	.4	.4	.4	.5	.5	.3	.4
T tal	$22.2	$22.9	$23.7	$24.5	$25.3	$26.1	$27.0	$27.9	$28.8	$29.8

* Includes Travel, Capital Outlays, Grants & Client Services, Pri r Debt Service, Intra and Inter-Agency Reimbursements

Table 11: Bu get Estimate - $$ in Millions
Alternative 3B: 160 Be s in Newly Constructe Space on Ma rona Site

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Salaries	$18.8	$19.4	$20.1	$20.7	$21.4	$22.2	$22.9	$23.7	$24.5	$25.3
Benefits	10.2	10.5	10.8	11.2	11.6	12.0	12.4	12.8	13.2	13.7
G ds/Services	3.9	4.0	4.2	4.3	4.4	4.6	4.7	4.9	5.0	5.2
Other*	.5	.6	.6	.7	.7	.6	.7	.6	.7	.7
T tal	$33.4	$34.5	$35.7	$36.9	$38.1	$39.4	$40.7	$42.0	$43.4	$44.9

* Includes Travel, Capital Outlays, Grants & Client Services, Pri r Debt Service, Intra and Inter-Agency Reimbursements

5. Net Present Value Analysis

The net present value analysis allows evaluation and comparison of the relative costs associated with operating a Nursing Facility by alternative. When paired with the life cycle costs of construction, maintenance, and utilities (as prepared by the architectural and engineering team) it offers an assessment of which alternative is most cost effective over the life of the facility and examines the trade offs of capital costs versus operating costs. For example, it may be more cost effective to renovate existing facilities for less capital expenditures up front but may cost more to operate the facility over time and vice versa. Both pieces of the equation need to be evaluated and compared to identify the most economical approach toward meeting the need for nursing care at the Fircrest School.

The net present value of operating the facility has been calculated assuming a 5% annual discount rate over a ten year time horizon. Table 12 summarizes the net present value of each alternative.

6. Preferred Alternative

As shown in Table 12 below, Alternative 3B, offers the best financial results for operating the facility over time. Alternative 1A would be most expensive to operate per bed, exceeding the preferred alternative (3B) by 14.2%. The preferred alternative involves all new construction on a greenfield site with no demolition costs. It also allows for maximum staff efficiency in facility design and includes functions that are currently provided elsewhere on campus which currently requires time consuming client transport to access those services.

Table 12: Net Present Value Analysis of Operations

Alternative	Bed Size	Net Present Value	Net Present Value/Be	Comparison to Alt. 3B
Alternative 1A: Retrofit Building 66	90 Beds	$145.0 Million	$1.61 Million / Bed	+14.2%
Alternative 2A: New Construction North of Kitchen	100 Beds	$149.3 Million	$1.49 Million / Bed	+5.7%
Alternative 2B: Alt 2A + 60 New Beds Across the Street	160 Beds	$235.8 Million	$1.47 Million /Bed	+4.3%
Alternatives 3A: New Construction on Separate Madrona Site	100 Beds	$149.1 Million	$1.49 Million /Bed	+5.7%
Alternatives 3B: Alt #A with 60 Bed Expansion on Madrona Site	160 Beds	$225.0 Million	$1.41 Million / Bed	0%

The net present value analysis of alternatives is only one factor to address when selecting the preferred alternative. It should be evaluated as part of a broader analysis of capital costs, maintenance costs, and utility costs over the life cycle of the facility.

7. Transition Costs

In addition to the capital costs, operating costs, maintenance costs and utility costs, there are transition costs associated with the project. This includes the cost to prepare a Certificate of Need which includes costs associated with community input via public meetings. These costs will be incurred during the design period.

Other transition costs will occur as part of operationalizing the new facility, including recruitment of new staff and retraining of existing staff to provide direct nursing care, medical and dental care as well as therapies and pharmacy. And finally, there are costs associated with transitioning clients from their existing nursing facility at the Fircrest School to their new home.

FIRCREST SCHOOL (Revised 10 26 2018)
Nursing Facility Predesign Budget Projections

	Current Biennial Budget		First Biennium		Second Biennium		Third Biennium		Fourth Biennium		Fifth Biennium		Budget Assumptions
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
NO ACTION ALTERNATIVE																
FTEs	268.6	268.6	268.6	268.6	268.6	268.6	268.6	268.6	268.6	268.6	268.6	268.6	268.6	268.6	268.6	Capped @ 2019 Budget Allocation
Average Salary	$ 49,730	$ 51,082	$ 52,788	$ 54,551	$ 56,373	$ 58,256	$ 60,202	$ 62,213	$ 64,291	$ 66,438	$ 68,657	$ 70,950	$ 73,320	$ 75,769	$ 78,299	Escalated 3.34% / year
SALARIES & WAGES	$ 13,357,478	$13,720,625	$14,178,894	$14,652,469	$15,141,862	$15,647,600	$16,170,230	$16,710,315	$17,268,440	$17,845,206	$18,441,236	$19,057,173	$ 19,693,682	$ 20,351,451	$ 21,031,190	
EMPLOYEE BENEFITS	$ 16,110,000	$16,414,000	$ 7,656,603	$ 7,912,333	$ 8,176,605	$ 8,449,704	$ 8,731,924	$ 9,023,570	$ 9,324,958	$ 9,636,411	$ 9,958,267	$10,290,873	$ 10,634,589	$ 10,989,784	$ 11,356,843	54% of Salaries & Wages
TOTAL COMPENSATION	$ 29,467,478	$30,134,625	$21,835,497	$22,564,802	$23,318,467	$24,097,304	$24,902,154	$25,733,886	$26,593,397	$27,481,617	$28,399,503	$29,348,046	$ 30,328,271	$ 31,341,235	$ 32,388,032	
GOODS & SERVICES	$ 6,307,000	$ 6,331,000	$ 2,925,957	$ 3,023,684	$ 3,124,675	$ 3,229,039	$ 3,336,889	$ 3,448,341	$ 3,563,515	$ 3,682,537	$ 3,805,533	$ 3,932,638	$ 4,063,988	$ 4,199,726	$ 4,339,996	13.4% Compensation
TRAVEL	$ 25,000	$ 25,000	$ 11,573	$ 11,959	$ 12,359	$ 12,772	$ 13,198	$ 13,639	$ 14,095	$ 14,565	$ 15,052	$ 15,554	$ 16,074	$ 16,611	$ 17,166	.053% of Compensation
CAPITAL OUTLAYS	$ 278,000	$ 278,000	$ 131,013	$ 135,389	$ 139,911	$ 144,584	$ 149,413	$ 154,403	$ 159,560	$ 164,890	$ 170,397	$ 176,088	$ 181,970	$ 188,047	$ 194,328	.6% of Compensation
GRANTS & CLIENT SERVICES	$ 60,000	$ 60,000	$ 28,386	$ 29,334	$ 30,314	$ 31,326	$ 32,373	$ 33,454	$ 34,571	$ 35,726	$ 36,919	$ 38,152	$ 39,427	$ 40,744	$ 42,104	.13% of Compensation
DEBT SERVICE	$ 78,000	$ 120,000	$ 56,772	$ 58,668	$ 60,628	$ 62,653	$ 64,746	$ 66,908	$ 69,143	$ 71,452	$ 73,839	$ 76,305	$ 78,854	$ 81,487	$ 84,209	.26% of Compensation
INTER-AGENCY REIMBURSEMT	$ (360,000)	$ (360,000)	$ (165,950)	$ (171,492)	$ (177,220)	$ (183,140)	$ (189,256)	$ (195,578)	$ (202,110)	$ (208,860)	$ (215,836)	$ (223,045)	$ (230,495)	$ (238,193)	$ (246,149)	(76%) of Compens
INTRA-AGENCY REIMBURSEMT	$ 665,000	$ 666,000	$ 307,881	$ 318,164	$ 328,790	$ 339,772	$ 351,120	$ 362,848	$ 374,967	$ 387,491	$ 400,433	$ 413,807	$ 427,629	$ 441,911	$ 456,671	1.41% of Compensation
TOTAL BUDGET	$ 36,520,478	$37,254,625	$25,131,128	$25,970,508	$26,837,923	$27,734,310	$28,660,636	$29,617,901	$30,607,139	$31,629,417	$32,685,840	$33,777,547	$ 34,905,717	$ 36,071,568	$ 37,276,358	
NPV	**$ 209,502,234**		$23,934,408	$23,556,016	$23,183,607	$22,817,085	$22,456,358	$22,101,333	$21,519,922	$21,408,034	$21,069,584	$20,736,483	$ 19,436,809	$ 19,129,533	$ 18,827,093	
	2023-2032															

ALTERNATIVE 1: RENOVATE BUILDING 66 PLUS ADDITION																
90 Beds																
FTEs			208.4	208.4	208.4	208.4	208.4	208.4	208.4	208.4	208.4	208.4	208.4	208.4	208.4	
Average Salary	$ 49,730	$ 51,082	$ 52,788	$ 54,551	$ 56,373	$ 58,256	$ 60,202	$ 62,213	$ 64,291	$ 66,438	$ 68,657	$ 70,950	$ 73,320	$ 75,769	$ 78,299	Escalated 3.34% / year
SALARIES & WAGES	$ -	$ -	$11,001,048	$11,368,483	$11,748,190	$12,140,580	$12,546,075	$12,965,114	$13,398,149	$13,845,647	$14,308,092	$14,785,982	$ 15,279,834	$ 15,790,180	$ 16,317,573	
EMPLOYEE BENEFITS	$ 16,110,000	$16,414,000	$ 5,940,566	$ 6,138,981	$ 6,344,023	$ 6,555,913	$ 6,774,881	$ 7,001,162	$ 7,235,001	$ 7,476,650	$ 7,726,370	$ 7,984,430	$ 8,251,110	$ 8,526,697	$ 8,811,489	54% of Salaries & Wages
TOTAL COMPENSATION	$ 16,110,000	$16,414,000	$16,941,614	$17,507,464	$18,092,213	$18,696,493	$19,320,956	$19,966,276	$20,633,150	$21,322,297	$22,034,462	$22,770,413	$ 23,530,944	$ 24,316,878	$ 25,129,062	
GOODS & SERVICES	$ 6,307,000	$ 6,331,000	$ 2,270,176	$ 2,346,000	$ 2,424,357	$ 2,505,330	$ 2,589,008	$ 2,675,481	$ 2,764,842	$ 2,857,188	$ 2,952,618	$ 3,051,235	$ 3,153,147	$ 3,258,462	$ 3,367,294	13.4% Compensation
TRAVEL	$ 25,000	$ 25,000	$ 8,979	$ 9,279	$ 9,589	$ 9,909	$ 10,240	$ 10,582	$ 10,936	$ 11,301	$ 11,678	$ 12,068	$ 12,471	$ 12,888	$ 13,318	.053% of Compensation
CAPITAL OUTLAYS	$ 278,000	$ 278,000	$ 101,650	$ 105,045	$ 108,553	$ 112,179	$ 115,926	$ 119,798	$ 123,799	$ 127,934	$ 132,207	$ 136,622	$ 141,186	$ 145,901	$ 150,774	.6% of Compensation
GRANTS & CLIENT SERVICES	$ 60,000	$ 60,000	$ 22,024	$ 22,760	$ 23,520	$ 24,305	$ 25,117	$ 25,956	$ 26,823	$ 27,719	$ 28,645	$ 29,602	$ 30,590	$ 31,612	$ 32,668	.13% of Compensation
DEBT SERVICE	$ 78,000	$ 120,000	$ 44,048	$ 45,519	$ 47,040	$ 48,611	$ 50,234	$ 51,912	$ 53,646	$ 55,438	$ 57,290	$ 59,203	$ 61,180	$ 63,224	$ 65,336	.26% of Compensation
INTER-AGENCY REIMBURSEMT	$ (360,000)	$ (360,000)	$ (128,756)	$ (133,057)	$ (137,501)	$ (142,093)	$ (146,839)	$ (151,744)	$ (156,812)	$ (162,049)	$ (167,462)	$ (173,055)	$ (178,835)	$ (184,808)	$ (190,981)	(76%) of Compens
INTRA-AGENCY REIMBURSEMT	$ 665,000	$ 666,000	$ 238,877	$ 246,855	$ 255,100	$ 263,621	$ 272,425	$ 281,524	$ 290,927	$ 300,644	$ 310,686	$ 321,063	$ 331,786	$ 342,868	$ 354,320	1.41% of Compensation
TOTAL BUDGET	$ 23,163,000	$23,534,000	$19,498,612	$20,149,866	$20,822,871	$21,518,355	$22,237,068	$22,979,786	$23,747,311	$24,540,471	$25,360,123	$26,207,151	$ 27,082,470	$ 27,987,024	$ 28,921,791	
NPV	**$ 145,024,316**		$18,570,106	$18,276,522	$17,987,578	$17,702,967	$17,423,324	$17,147,870	$16,876,770	$16,609,956	$16,347,361	$16,088,917	$ 15,080,532	$ 14,842,116	$ 14,607,470	
	2023-2032															

ALTERNATIVE 2A: NEW CONSTRUCTION NORTH OF KITCHEN																
100 Beds																
FTEs			214.6	214.6	214.6	214.6	214.6	214.6	214.6	214.6	214.6	214.6	214.6	214.6	214.6	
Average Salary	$ 49,730	$ 51,082	$ 52,788	$ 54,551	$ 56,373	$ 58,256	$ 60,202	$ 62,213	$ 64,291	$ 66,438	$ 68,657	$ 70,950	$ 73,320	$ 75,769	$ 78,299	Escalated 3.34% / year

SALARIES & WAGES	$ -	$10,962,197	$11,328,335	$11,706,701	$12,097,705	$12,501,768	$12,919,327	$13,350,833	$13,796,751	$14,257,562	$14,733,765	$15,225,872	$ 15,734,416	$ 16,259,946	$ 16,803,028			
EMPLOYEE BENEFITS	$ 16,110,000	$16,414,000	$ 6,117,301	$ 6,321,619	$ 6,532,761	$ 6,750,955	$ 6,976,437	$ 7,209,450	$ 7,450,245	$ 7,699,083	$ 7,956,233	$ 8,221,971	$ 8,496,585	$ 8,780,371	$ 9,073,635	54% of Salaries & Wages		
TOTAL COMPENSATION	$ 16,110,000	$27,376,197	$17,445,635	$18,028,319	$18,630,465	$19,252,723	$19,895,764	$20,560,282	$21,246,996	$21,956,645	$22,689,997	$23,447,843	$ 24,231,001	$ 25,040,317	$ 25,876,663			
GOODS & SERVICES	$ 6,307,000	$ 6,331,000	$ 2,337,715	$ 2,415,795	$ 2,496,482	$ 2,579,865	$ 2,666,032	$ 2,755,078	$ 2,847,097	$ 2,942,190	$ 3,040,460	$ 3,142,011	$ 3,246,954	$ 3,355,402	$ 3,467,473	13.4% Compensation		
TRAVEL	$ 25,000	$ 25,000	$ 9,246	$ 9,555	$ 9,874	$ 10,204	$ 10,545	$ 10,897	$ 11,261	$ 11,637	$ 12,026	$ 12,427	$ 12,842	$ 13,271	$ 13,715	.053% of Compensation		
CAPITAL OUTLAYS	$ 278,000	$ 278,000	$ 104,674	$ 108,170	$ 111,783	$ 115,516	$ 119,375	$ 123,362	$ 127,482	$ 131,740	$ 136,140	$ 140,687	$ 145,386	$ 150,242	$ 155,260	.6% of Compensation		
GRANTS & CLIENT SERVICES	$ 60,000	$ 60,000	$ 22,679	$ 23,437	$ 24,220	$ 25,029	$ 25,864	$ 26,728	$ 27,621	$ 28,544	$ 29,497	$ 30,482	$ 31,500	$ 32,552	$ 33,640	.13% of Compensation		
DEBT SERVICE	$ 78,000	$ 120,000	$ 45,359	$ 46,874	$ 48,439	$ 50,057	$ 51,729	$ 53,457	$ 55,242	$ 57,087	$ 58,994	$ 60,964	$ 63,001	$ 65,105	$ 67,279	.26% of Compensation		
INTER-AGENCY REIMBURSEMT	$ (360,000)	$ (360,000)	$ (132,587)	$ (137,015)	$ (141,592)	$ (146,321)	$ (151,208)	$ (156,258)	$ (161,477)	$ (166,871)	$ (172,444)	$ (178,204)	$ (184,156)	$ (190,306)	$ (196,663)	(76%) of Compens		
INTRA-AGENCY REIMBURSEMT	$ 665,000	$ 666,000	$ 245,983	$ 254,199	$ 262,690	$ 271,463	$ 280,530	$ 289,900	$ 299,583	$ 309,589	$ 319,929	$ 330,615	$ 341,657	$ 353,068	$ 364,861	1.41% of Compensation		
TOTAL BUDGET	$ 23,163,000	$34,496,197	$20,078,705	$20,749,334	$21,442,361	$22,158,536	$22,898,631	$23,663,446	$24,453,805	$25,270,562	$26,114,599	$26,986,826	$ 27,888,186	$ 28,819,652	$ 29,782,228			
NPV	**$ 149,339,549**		$19,122,576	$18,820,257	$18,522,717	$18,229,882	$17,941,676	$17,658,027	$17,378,862	$17,104,111	$16,833,703	$16,567,570	$ 15,529,918	$ 15,283,633	$ 15,042,049			
	2023-2032																	

ALTERNATIVE 2B: NEW CONSTRUCTION NORTH of KITCHEN

160 Beds																		
FTEs	268.6	268.6	338.9	338.9	338.9	338.9	338.9	338.9	338.9	338.9	338.9	338.9	338.9	338.9	338.9			
Average Salary	$ 49,730	$ 51,082	$ 52,788	$ 54,551	$ 56,373	$ 58,256	$ 60,202	$ 62,213	$ 64,291	$ 66,438	$ 68,657	$ 70,950	$ 73,320	$ 75,769	$ 78,299	Escalated 3.34% / year		
SALARIES & WAGES	$ 13,357,478	$13,720,625	$17,889,900	$18,487,423	$19,104,903	$19,743,007	$20,402,423	$21,083,864	$21,788,065	$22,515,786	$23,267,814	$24,044,959	$ 24,848,060	$ 25,677,985	$ 26,535,630			
EMPLOYEE BENEFITS	$ 16,110,000	$16,414,000	$ 9,660,546	$ 9,983,208	$10,316,648	$10,661,224	$11,017,308	$11,385,287	$11,765,555	$12,158,525	$12,564,619	$12,984,278	$ 13,417,953	$ 13,866,112	$ 14,329,240	54% of Salaries & Wages		
TOTAL COMPENSATION	$ 29,467,478	$30,134,625	$27,550,446	$28,470,631	$29,421,550	$30,404,230	$31,419,731	$32,469,150	$33,553,620	$34,674,311	$35,832,433	$37,029,236	$ 38,266,013	$ 39,544,098	$ 40,864,870			
GOODS & SERVICES	$ 6,307,000	$ 6,331,000	$ 3,691,760	$ 3,815,065	$ 3,942,488	$ 4,074,167	$ 4,210,244	$ 4,350,866	$ 4,496,185	$ 4,646,358	$ 4,801,546	$ 4,961,918	$ 5,127,646	$ 5,298,909	$ 5,475,893	13.4% Compensation		
TRAVEL	$ 25,000	$ 25,000	$ 14,602	$ 15,089	$ 15,593	$ 16,114	$ 16,652	$ 17,209	$ 17,783	$ 18,377	$ 18,991	$ 19,625	$ 20,281	$ 20,958	$ 21,658	.053% of Compensation		
CAPITAL OUTLAYS	$ 278,000	$ 278,000	$ 165,303	$ 170,824	$ 176,529	$ 182,425	$ 188,518	$ 194,815	$ 201,322	$ 208,046	$ 214,995	$ 222,175	$ 229,596	$ 237,265	$ 245,189	.6% of Compensation		
GRANTS & CLIENT SERVICES	$ 60,000	$ 60,000	$ 35,816	$ 37,012	$ 38,248	$ 39,525	$ 40,846	$ 42,210	$ 43,620	$ 45,077	$ 46,582	$ 48,138	$ 49,746	$ 51,407	$ 53,124	.13% of Compensation		
DEBT SERVICE	$ 78,000	$ 120,000	$ 71,631	$ 74,024	$ 76,496	$ 79,051	$ 81,691	$ 84,420	$ 87,239	$ 90,153	$ 93,164	$ 96,276	$ 99,492	$ 102,815	$ 106,249	.26% of Compensation		
INTER-AGENCY REIMBURSEMT	$ (360,000)	$ (360,000)	$ (209,383)	$ (216,377)	$ (223,604)	$ (231,072)	$ (238,790)	$ (246,766)	$ (255,008)	$ (263,525)	$ (272,326)	$ (281,422)	$ (290,822)	$ (300,535)	$ (310,573)	(76%) of Compens		
INTRA-AGENCY REIMBURSEMT	$ 665,000	$ 666,000	$ 388,461	$ 401,436	$ 414,844	$ 428,700	$ 443,018	$ 457,815	$ 473,106	$ 488,908	$ 505,237	$ 522,112	$ 539,551	$ 557,572	$ 576,195	1.41% of Compensation		
TOTAL BUDGET	$ 36,520,478	$37,254,625	$31,708,635	$32,767,704	$33,862,145	$34,993,141	$36,161,911	$37,369,719	$38,617,868	$39,907,705	$41,240,622	$42,618,059	$ 44,041,502	$ 45,512,488	$ 47,032,605			
NPV	**$ 235,784,877**		$30,198,700	$29,721,273	$29,251,394	$28,788,943	$28,333,803	$27,885,859	$27,444,997	$27,011,105	$26,584,072	$26,110,180	$ 24,523,956	$ 24,136,244	$ 23,754,661			
	2023-2032																	

ALTERNATIVE 3A: NEW CONSTRUCTION MADRONA SITE

100 Beds																		
FTEs			214.6	214.6	214.6	214.6	214.6	214.6	214.6	214.6	214.6	214.6	214.6	214.6	214.6			
Average Salary	$ 49,730	$ 51,082	$ 52,788	$ 54,551	$ 56,373	$ 58,256	$ 60,202	$ 62,213	$ 64,291	$ 66,438	$ 68,657	$ 70,950	$ 73,320	$ 75,769	$ 78,299	Escalated 3.34% / year		
SALARIES & WAGES	$ -	$10,962,197	$11,328,335	$11,706,701	$12,097,705	$12,501,768	$12,919,327	$13,350,833	$13,796,751	$14,257,562	$14,733,765	$15,225,872	$ 15,734,416	$ 16,259,946	$ 16,803,028			
EMPLOYEE BENEFITS	$ 16,110,000	$16,414,000	$ 6,117,301	$ 6,321,619	$ 6,532,761	$ 6,750,955	$ 6,976,437	$ 7,209,450	$ 7,450,245	$ 7,699,083	$ 7,956,233	$ 8,221,971	$ 8,496,585	$ 8,780,371	$ 9,073,635	54% of Salaries & Wages		
TOTAL COMPENSATION	$ 16,110,000	$27,376,197	$17,445,635	$18,028,319	$18,630,465	$19,252,723	$19,895,764	$20,560,282	$21,246,996	$21,956,645	$22,689,997	$23,447,843	$ 24,231,001	$ 25,040,317	$ 25,876,663			
GOODS & SERVICES	$ 6,307,000	$ 6,331,000	$ 2,337,715	$ 2,415,795	$ 2,496,482	$ 2,579,865	$ 2,666,032	$ 2,755,078	$ 2,847,097	$ 2,942,190	$ 3,040,460	$ 3,142,011	$ 3,246,954	$ 3,355,402	$ 3,467,473	13.4% Compensation		
TRAVEL	$ 25,000	$ 25,000	$ 9,246	$ 9,555	$ 9,874	$ 10,204	$ 10,545	$ 10,897	$ 11,261	$ 11,637	$ 12,026	$ 12,427	$ 12,842	$ 13,271	$ 13,715	.053% of Compensation		
CAPITAL OUTLAYS	$ 278,000	$ 278,000	$ 104,674	$ 108,170	$ 111,783	$ 115,516	$ 119,375	$ 123,362	$ 127,482	$ 131,740	$ 136,140	$ 140,687	$ 145,386	$ 150,242	$ 155,260	.6% of Compensation		
GRANTS & CLIENT SERVICES	$ 60,000	$ 60,000	$ 22,679	$ 23,437	$ 24,220	$ 25,029	$ 25,864	$ 26,728	$ 27,621	$ 28,544	$ 29,497	$ 30,482	$ 31,500	$ 32,552	$ 33,640	.13% of Compensation		
DEBT SERVICE	$ 78,000	$ 120,000	$ 45,359	$ 46,874	$ 48,439	$ 50,057	$ 51,729	$ 53,457	$ 55,242	$ 57,087	$ 58,994	$ 60,964	$ 63,001	$ 65,105	$ 67,279	.26% of Compensation		
INTER-AGENCY REIMBURSEMT	$ (360,000)	$ (360,000)	$ (132,587)	$ (137,015)	$ (141,592)	$ (146,321)	$ (151,208)	$ (156,258)	$ (161,477)	$ (166,871)	$ (172,444)	$ (178,204)	$ (184,156)	$ (190,306)	$ (196,663)	(76%) of Compens		
INTRA-AGENCY REIMBURSEMT	$ 665,000	$ 666,000	$ 245,983	$ 254,199	$ 262,690	$ 271,463	$ 280,530	$ 289,900	$ 299,583	$ 309,589	$ 319,929	$ 330,615	$ 341,657	$ 353,068	$ 364,861	1.41% of Compensation		
TOTAL BUDGET	$ 23,163,000	$34,496,197	$20,078,705	$20,749,334	$21,442,361	$22,158,536	$22,898,631	$23,663,446	$24,453,805	$25,270,562	$26,114,599	$26,986,826	$ 27,888,186	$ 28,819,652	$ 29,782,228			
NPV	**$ 149,087,056**		$19,122,576	$18,820,257	$18,522,717	$18,229,882	$17,941,676	$17,658,027	$17,378,862	$17,104,111	$16,833,703	$16,567,570	$ 15,529,185	$ 15,283,676	$ 14,790,246			
	2023-2032																	

ALTERNATIVE 3B: NEW CONSTRUCTION MADRONA SITE

160 Beds																		
FTEs	268.6	268.6	323.4	323.4	323.4	323.4	323.4	323.4	323.4	323.4	323.4	323.4	323.4	323.4	323.4			
Average Salary	$ 49,730	$ 51,082	$ 52,788	$ 54,551	$ 56,373	$ 58,256	$ 60,202	$ 62,213	$ 64,291	$ 66,438	$ 68,657	$ 70,950	$ 73,320	$ 75,769	$ 78,299	Escalated 3.34% / year		

SALARIES & WAGES	$ 13,357,478	$13,720,625	$17,071,684	$17,641,878	$18,231,117	$18,840,036	$19,469,294	$20,119,568	$20,791,562	$21,486,000	$22,203,632	$22,945,233	$ 23,711,604	$ 24,503,572	$ 25,321,991		
EMPLOYEE BENEFITS	$ 16,110,000	$16,414,000	$ 9,218,709	$ 9,526,614	$ 9,844,803	$10,173,620	$10,513,419	$10,864,567	$11,227,443	$11,602,440	$11,989,961	$12,390,426	$ 12,804,266	$ 13,231,929	$ 13,673,875	54% of Salaries & Wages	
TOTAL COMPENSATION	$ 29,467,478	$30,134,625	$26,290,393	$27,168,493	$28,075,920	$29,013,656	$29,982,712	$30,984,135	$32,019,005	$33,088,440	$34,193,593	$35,335,659	$ 36,515,871	$ 37,735,501	$ 38,995,866		
GOODS & SERVICES	$ 6,307,000	$ 6,331,000	$ 3,522,913	$ 3,640,578	$ 3,762,173	$ 3,887,830	$ 4,017,683	$ 4,151,874	$ 4,290,547	$ 4,433,851	$ 4,581,942	$ 4,734,978	$ 4,893,127	$ 5,056,557	$ 5,225,446	13.4% Compensation	
TRAVEL	$ 25,000	$ 25,000	$ 13,934	$ 14,399	$ 14,880	$ 15,377	$ 15,891	$ 16,422	$ 16,970	$ 17,537	$ 18,123	$ 18,728	$ 19,353	$ 20,000	$ 20,668	.053% of Compensation	
CAPITAL OUTLAYS	$ 278,000	$ 278,000	$ 157,742	$ 163,011	$ 168,456	$ 174,082	$ 179,896	$ 185,905	$ 192,114	$ 198,531	$ 205,162	$ 212,014	$ 219,095	$ 226,413	$ 233,975	.6% of Compensation	
GRANTS & CLIENT SERVICES	$ 60,000	$ 60,000	$ 34,178	$ 35,319	$ 36,499	$ 37,718	$ 38,978	$ 40,279	$ 41,625	$ 43,015	$ 44,452	$ 45,936	$ 47,471	$ 49,056	$ 50,695	.13% of Compensation	
DEBT SERVICE	$ 78,000	$ 120,000	$ 68,355	$ 70,638	$ 72,997	$ 75,436	$ 77,955	$ 80,559	$ 83,249	$ 86,030	$ 88,903	$ 91,873	$ 94,941	$ 98,112	$ 101,389	.26% of Compensation	
INTER-AGENCY REIMBURSEMT	$ (360,000)	$ (360,000)	$ (199,807)	$ (206,481)	$ (213,377)	$ (220,504)	$ (227,869)	$ (235,479)	$ (243,344)	$ (251,472)	$ (259,871)	$ (268,551)	$ (277,521)	$ (286,790)	$ (296,369)	(.76%) of Compens	
INTRA-AGENCY REIMBURSEMT	$ 665,000	$ 666,000	$ 370,695	$ 383,076	$ 395,870	$ 409,093	$ 422,756	$ 436,876	$ 451,468	$ 466,547	$ 482,130	$ 498,233	$ 514,874	$ 532,071	$ 549,842	1.41% of Compensation	
TOTAL BUDGET	$ 36,520,478	$37,254,625	$30,258,403	$31,269,033	$32,313,419	$33,392,687	$34,508,003	$35,660,570	$36,851,633	$38,082,478	$39,354,433	$40,668,871	$ 42,027,211	$ 43,430,920	$ 44,881,512		
NPV	**$ 225,054,129**		$28,817,752	$28,361,934	$27,913,546	$27,472,246	$27,037,923	$26,611,958	$26,189,767	$25,775,720	$25,368,218	$24,967,158	$ 23,402,323	$ 23,032,344	$ 22,668,718		
	2023-2032																

BACKGROUND

Building 66 is a 3-story building constructed around 1971. The west side of the building's first floor is below grade and the exterior west concrete wall serves as a retaining wall. A series of ramps connect the 2nd and 3rd floors.

The building is constructed with cast-in-place concrete strip footings, slab on grade on the 1st floor, concrete pan joists and beams on the 2nd, 3rd floors and roof, and concrete columns. The concrete beams and columns system form space frames.

The exterior frames are infilled with brick cladding and CMU blocks and interior frames are infilled with CMU blocks (Photo 1). It is indicated on the existing drawings that the CMU walls are load bearing.

Photo 1 – East Elevation of Building

On the roof at the center of the building is a square opening that serves as a light well directly above the planters on the lower levels (Photos 2 and 3).

Photo 2 –
Courtyard with Planter at Level 2

Photo 3 –
Courtyard with Planter at Level 3

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Based on review of the existing drawings it appears that the only concrete walls other than the retaining walls are the stair shaft walls supporting the exterior landings. All CMU and brick wall types are shown only on the Architectural drawings and it is difficult to discern the wall types and their limits.

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columns must have displacement compatibility with the CMU walls when resisting lateral seismic loads.

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SEISMIC EVALUATION

Building 66 was evaluated using the Three-Tiered procedure outlined in the ASCE 41-13 Standards – Seismic Evaluation and Retrofit of Existing Buildings. The three tiers and their scope are:

Tier 1 – Screening: Structural inspection, review of existing drawings to ascertain well defined load path, identify deteriorations, defects, damages and potential deficiencies and completing a checklist to produce a deficiency list of Non-Compliant (NC) elements of structural systems and non-structural components. This is a quick check using simple analysis. Non-Compliant does not necessarily imply that the structure is unsafe but indicates that further and more detailed analysis is required to rule out the deficiencies noted.

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Tier 1 – Screening was performed on structural elements for the purposes of this report. Tier 2 was beyond the scope of this project.

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ASCE 41-13 seismic evaluation process is required to be conducted with defined performance objectives consisting of Basic Performance Objective for Existing Buildings (BPOE) that varies with the Performance Objective and is defined in ASCE41-13, and Seismic Hazard Levels as defined in the International Building Code (IBC) for different Risk Categories. It should be noted that it is up to the owner of the building or facility to decide what performance level is desired.

Performance Objective is targeted to Building Performance Levels as it relates to Seismic Hazard Level.

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Risk Category is based on the use or occupancy of the building, and they are:

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Structural Performance Levels

The following structural performance levels and their potential level of damages:

1. Collapse Prevention: The building suffers extensive damage in an earthquake, but remains standing, even if barely.
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3. Immediate Occupancy: The building remains essentially elastic in an earthquake, with most or all of its strength and stiffness intact. The building can be occupied immediately after the earthquake, even though minor repairs may be necessary.
4. Operational: The building remains occupied and operational during an earthquake

Risk Category II was selected for this evaluation for which a BPOE of Life Safety Structural Performance is required.

Design Earthquake

Two earthquake levels or Basic Safety Earthquake (BSE) as defined in ASCE 41-13 for existing buildings - BSE-1E with a probability of 20% occurrence in 50 years or 225 years return period and BSE-2E with a probability of 5% occurrence in 50 years or 975 years return period. ASCE 41-13 also defines BSEs where it is desired for existing buildings to have Basic Performance Objective Equivalent to New Building Standards (BPON) – BSE-1N and BSE-2N.

For this potential rehabilitation, a Basis Safety Earthquake BSE-1E targeted for Life Safety Performance was selected because the age of the building and the shorter remaining useful life of the structure compared to a new building.

Findings

Figures 2 to 4 contain ASCE 41-13 Seismic Evaluation Summary and applicable Checklists. The following is a summary and discussion on Non-Compliant Elements, if building upgrade option is selected:

1. *Building Configuration*
   a. *TORSION: The estimated distance between the story center of mass and the story center of rigidity is less than 20% of the building width in either plan dimension. (Commentary: Sec. A.2.2.7. Tier 2: Sec. 5.4.2.6)*

The contribution of shear forces in the shear walls due to torsion would probably be insignificant and can be resolved in Tier II Evaluation. This is more a localized effect, i.e. individual shear wall elements.

2. Foundation Configuration

a. OVERTURNING: The ratio of the least horizontal dimension of the seismic-force-resisting system at the foundation level to the building height (base/height) is greater than 0.6 S a. (Commentary: Sec. A.6.2.1. Tier 2: Sec. 5.4.3.3)

This Non-Compliant is isolated and applies only to the interior shear wall along Grid 49 and on Grid N. Tier II evaluation is required to clear this potential slenderness/overturning inadequacy.

3. Seismic-Force-Resisting System

a. SHEAR STRESS CHECK: The shear stress in the reinforced masonry shear walls, calculated using the Quick Check procedure of Section 4.5.3.3, is less than 70 lb/in.2. (Commentary: Sec. A.3.2.4.1. Tier 2: Sec. 5.5.3.1.1)

b. SHEAR STRESS CHECK: The shear stress in the unreinforced masonry shear walls, calculated using the Quick Check procedure of Section 4.5.3.3, is less than 30 lb/in.2 for clay units and 70 lb/in.2 for concrete units. Bays with openings greater than 25% of the wall area shall not be included in Aw of Eq. (4-9). (Commentary: Sec. A.3.2.5.1. Tier 2: Sec. 5.5.3.1.1

PROPOSED IMPROVEMENTS

Proposed improvements, within the building under consideration include:

1. Removal of sections and new windows of the interior CMU partition walls on the 2nd and 3rd floors to accommodate client space configurations.

   Since these infill CMU walls are load bearing and are shear walls removal CMU would be full height, between the floor slab and overhead concrete beam or joist soffit. The resulting opening would be reframed and reinforced as necessary to resist lateral seismic forces. This would be evaluated in Tier 2 when location and opening sizes are determined.

2. Removing the concrete railing around the light well opening on the 3rd floor plaza and forming a slab to filling the opening.

3. Removing the planter box and surrounding concrete railing on the 2nd floor plaza, and forming a slab to filling the opening.

   New floor framing would consist of formed cast in place concrete flat slab or slab and beams.

Proposed improvements outside the building include:

1. Modifying the shallow steam pipeline concrete chase (trench) on the sidewalk to accommodate emergency vehicle access. The top (lid) of the chase are in removable sections and serve as sidewalk. The lids may not be capable of supporting truck wheel load.
   A section of trench would be removed and replaced with a deeper precast concrete utility vault with an access hatch, rated for HS20 truck wheel load.

2. Possible egress from the building to the higher grounds to the west, adjacent to the existing ramps.

   There is a potential option of constructing an ADA compliant pedestrian bridge from the roof to the higher grounds to the west. This option would depend grade difference and accessibility considerations.

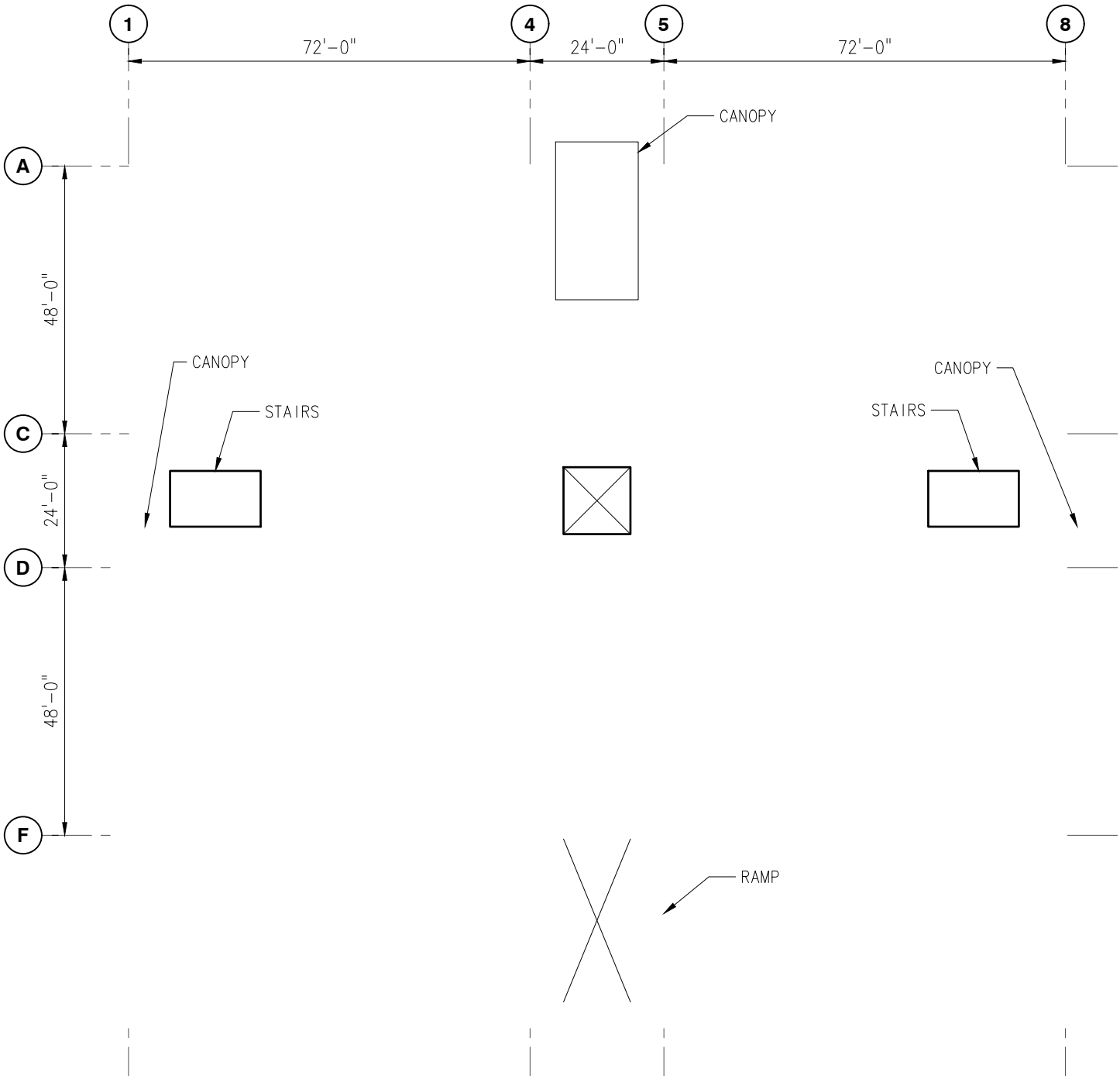

FIGURE 1

OVERALL BUILDING PLAN

FIGURE 2
ASCE 41-13 SUMMARY DATA SHEET
APPENDIX C
SUMMARY DATA SHEET

BUILDING DATA

Building Name: Fircrest School - Building 66 Apartments Date: July 2018

Building Address: 15230 15th Avenue NE, Shoreline, WA 98155

Latitude: 47.74038°N Longitude: 122.3105°W By: Ichiro Ikeda

Year Built: 1971 (Estimated) Year(s) Remodeled: Info. Not Avail. Original Design Code: UBC 1967 Edition

Area (sf): 19,000 (1st Floor) Length (ft): 122'-0" (E-W) Width (ft): 170'-0" (N-S)

No. of Stories: 3 Story Height: 11'-0" Total Height: 35'-0"

USE ☐ Industrial ☐ Office ☐ Warehouse ☐ Hospital ☐ Residential ☐ Educational ☒ Other: Nursing Facility

CONSTRUCTION DATA

Gravity Load Structural System: Reinforced concrete joist-slab, columns and CMU-in fill and bearing walls

Exterior Transverse Walls: 8" CMU with brick Openings? Yes

Exterior Longitudinal Walls: 8" CMU with brick Openings? Yes

Roof Materials/Framing: Built-up roofing over concrete joist-slabs

Intermediate Floors/Framing: Reinforced concrete joist-slab

Ground Floor: 5" thick reinforced concrete slab on ground

Columns: Concrete Foundation: Conc. stem walls and strip footings

General Condition of Structure: Good

Levels Below Grade? Existing grade at south face of building is at 2nd floor level.

Special Features and Comments: Wall at south face from 1st to 2nd level is 1'-1" thick concrete retaining wall.

LATERAL-FORCE-RESISTING SYSTEM

	Longitudinal	Transverse
System:	Reinforced masonry shear walls	Reinforced masonry shear walls
Vertical Elements:	Masonry walls and concrete columns	Masonry walls and concrete columns
Diaphragms:	3" thick concrete slabs	3" thick concrete slabs
Connections:	Slabs to walls and columns	Slabs to walls and clumns

EVALUATION DATA

BSE-1N Spectral Response Accelerations: S_{Ds} = _____ S_{D1} = _____

Soil Factors: Class = _____ F_a = _____ F_v = _____

BSE-1E Spectral Response Accelerations: S_{XS} = _____ S_{X1} = _____

Level of Seismicity: _____ Performance Level: _____

Building Period: T = _____

Spectral Acceleration: S_a = _____

Modification Factor: $C_mC_1C_2$ = _____ Building Weight: W = _____

Pseudo Lateral Force: V=

$C_mC_1C_2S_aW$= _____

BUILDING CLASSIFICATION: _____

REQUIRED TIER 1 CHECKLISTS	**Yes**	**No**
Basic Configuration Checklist	☒	☐
Building Type RM2 **Structural Checklist**	☒	☐
Nonstructural Component Checklist	☐	☒

FURTHER EVALUATION REQUIREMENT: 1) Shear stresses calculated using the Quick Check Procedure exceeds the limit stress of 70 lbs./in.^{2}
2) Shear stresses for 1st story walls due to torsional effects.

FIGURE 3
ASCE 41-13 CONFIGURATION CHECKLIST

Project: Fircrest Residential Habilitation Center Location: Fircrest, WA

Completed by: Ichiro Ikeda, Bright Engineering, Inc. Date: July 2018

16.1.2LS LIFE SAFETY BASIC CONFIGURATION CHECKLIST

Low Seismicity

Building System

General

(C) NC N/A U LOAD PATH: The structure shall contain a complete, well de ned load path, including structural elements and connections, that serves to transfer the inertial forces associated with the mass of all elements of the building to the foundation. (Commentary: Sec. A.2.1.1. Tier 2: Sec. 5.4.1.1)

C NC (N/A) U ADJACENT BUILDINGS: The clear distance between the building being evaluated and any adjacent building is greater than 4% of the height of the shorter building. This statement shall not apply for the following building types: W1, W1a, and W2. (Commentary: Sec. A.2.1.2. Tier 2: Sec. 5.4.1.2)

C NC (N/A) U MEZZANINES: Interior mezzanine levels are braced independently from the main structure or are anchored to the seismic-force-resisting elements of the main structure. (Commentary: Sec. A.2.1.3. Tier 2: Sec. 5.4.1.3)

Building Con guration

(C) NC N/A U WEAK STORY: The sum of the shear strengths of the seismic-force-resisting system in any story in each direction is not less than 80% of the strength in the adjacent story above. (Commentary: Sec. A2.2.2. Tier 2: Sec. 5.4.2.1)

(C) NC N/A U SOFT STORY: The stiffness of the seismic-force-resisting system in any story is not less than 70% of the seismic-force-resisting system stiffness in an adjacent story above or less than 80% of the average seismic-force-resisting system stiffness of the three stories above. (Commentary: Sec. A.2.2.3. Tier 2: Sec. 5.4.2.2)

(C) NC N/A U VERTICAL IRREGULARITIES: All vertical elements in the seismic-force-resisting system are continuous to the foundation. (Commentary: Sec. A.2.2.4. Tier 2: Sec. 5.4.2.3)

(C) NC N/A U GEOMETRY: There are no changes in the net horizontal dimension of the seismic-force-resisting system of more than 30% in a story relative to adjacent stories, excluding one-story penthouses and mezzanines. (Commentary: Sec. A.2.2.5. Tier 2: Sec. 5.4.2.4)

(C) NC N/A U MASS: There is no change in effective mass more than 50% from one story to the next. Light roofs, penthouses, and mezzanines need not be considered. (Commentary: Sec. A.2.2.6. Tier 2: Sec. 5.4.2.5)

C (NC) N/A U TORSION: The estimated distance between the story center of mass and the story center of rigidity is less than 20% of the building width in either plan dimension. (Commentary: Sec. A.2.2.7. Tier 2: Sec. 5.4.2.6)

Moderate Seismicity: Complete the Following Items in Addition to the Items for Low Seismicity.

Geologic Site Hazards

(C) NC N/A U LIQUEFACTION: Liquefaction-susceptible, saturated, loose granular soils that could jeopardize the building s seismic performance shall not exist in the foundation soils at depths within 50 ft under the building. (Commentary: Sec. A.6.1.1. Tier 2: 5.4.3.1)

C NC N/A (U) SLOPE FAILURE: The building site is suf ciently remote from potential earthquake-induced slope failures or rockfalls to be unaffected by such failures or is capable of accommodating any predicted movements without failure. (Commentary: Sec. A.6.1.2. Tier 2: 5.4.3.1)

(C) NC N/A U SURFACE FAULT RUPTURE: Surface fault rupture and surface displacement at the building site are not anticipated. (Commentary: Sec. A.6.1.3. Tier 2: 5.4.3.1)

High Seismicity: Complete the Following Items in Addition to the Items for Low and Moderate Seismicity.

Foundation Con guration

C (NC) N/A U OVERTURNING: The ratio of the least horizontal dimension of the seismic-force-resisting system at the foundation level to the building height (base/height) is greater than $0.6S_a$. (Commentary: Sec. A.6.2.1. Tier 2: Sec. 5.4.3.3)

(C) NC N/A U TIES BETWEEN FOUNDATION ELEMENTS: The foundation has ties adequate to resist seismic forces where footings, piles, and piers are not restrained by beams, slabs, or soils classi ed as Site Class A, B, or C. (Commentary: Sec. A.6.2.2. Tier 2: Sec. 5.4.3.4)

FIGURE 4
ASCE 41-13 BUILDING TYPE C3 CHECKLIST

Project: Fircrest Residential Habilitation Center Location: Fircrest, WA

Completed by: Ichiro Ikeda, Bright Engineering, Inc. Date: July 2018

16.11LS LIFE SAFETY STRUCTURAL CHECKLIST FOR BUILDING TYPES C3: CONCRETE FRAMES WITH INFILL MASONRY SHEAR WALLS AND C3A: CONCRETE FRAMES WITH INFILL MASONRY SHEAR WALLS AND FLEXIBLE DIAPHRAGMS

Low and Moderate Seismicity

Seismic-Force-Resisting System

(C) NC N/A U REDUNDANCY: The number of lines of shear walls in each principal direction is greater than or equal to 2. (Commentary: Sec. A.3.2.1.1. Tier 2: Sec. 5.5.1.1)

C (NC) N/A U SHEAR STRESS CHECK: The shear stress in the reinforced masonry shear walls, calculated using the Quick Check procedure of Section 4.5.3.3, is less than 70 lb/in.^{2}. (Commentary: Sec. A.3.2.4.1. Tier 2: Sec. 5.5.3.1.1)

C (NC) N/A U SHEAR STRESS CHECK: The shear stress in the unreinforced masonry shear walls, calculated using the Quick Check procedure of Section 4.5.3.3, is less than 30 lb/in.^{2} for clay units and 70 lb/in.^{2} for concrete units. Bays with openings greater than 25% of the wall area shall not be included in A_w of Eq. (4-9). (Commentary: Sec. A.3.2.5.1. Tier 2: Sec. 5.5.3.1.1)

(C) NC N/A U INFILL WALL CONNECTIONS: Masonry is in full contact with frame. (Commentary: A.3.2.6.1. Tier 2: Sec. 5.5.3.5.1 and 5.5.3.5.3)

Connections

(C) NC N/A U TRANSFER TO SHEAR WALLS: Diaphragms are connected for transfer of loads to the shear walls. (Commentary: Sec. A.5.2.1. Tier 2: Sec. 5.7.2)

(C) NC N/A U CONCRETE COLUMNS: All concrete columns are doweled into the foundation with a minimum of four bars. (Commentary: Sec. A.5.3.2. Tier 2: Sec. 5.7.3.1)

High Seismicity: Complete the Following Items in Addition to the Items for Low and Moderate Seismicity.

Seismic-Force-Resisting System

C NC N/A (U) DEFLECTION COMPATIBILITY: Secondary components have the shear capacity to develop the exural strength of the components. (Commentary: Sec. A.3.1.6.2. Tier 2: Sec. 5.5.2.5.2)

C NC (N/A) U FLAT SLABS: Flat slabs or plates not part of the seismic-force-resisting system have continuous bottom steel through the column joints. (Commentary: Sec. A.3.1.6.3. Tier 2: Sec. 5.5.2.5.3)

C NC (N/A) U PROPORTIONS: The height-to-thickness ratio of the unreinforced in ll walls at each story is less than 9. (Commentary: A.3.2.6.2. Tier 2: Sec. 5.5.3.1.2)

C NC (N/A) U CAVITY WALLS: The in ll walls are not of cavity construction. (Commentary: Sec. A.3.2.6.3. Tier 2: Sec. 5.5.3.5.2)

(C) NC N/A U INFILL WALLS: The in ll walls are continuous to the sof ts of the frame beams and to the columns to either side. (Commentary: Sec. A.3.2.6.4. Tier 2: Sec. 5.5.3.5.3)

Connections

C NC (N/A) U UPLIFT AT PILE CAPS: Pile caps have top reinforcement, and piles are anchored to the pile caps. (Commentary: Sec. A.5.3.8. Tier 2: Sec. 5.7.3.5)

C NC (N/A) U STIFFNESS OF WALL ANCHORS: Anchors of concrete or masonry walls to wood structural elements are installed taut and are stiff enough to limit the relative movement between the wall and the diaphragm to no greater than 1/8 in. before engagement of the anchors. (Commentary: Sec. A.5.1.4. Tier 2: Sec. 5.7.1.2)

Diaphragms (Flexible or Stiff)

(C) NC N/A U DIAPHRAGM CONTINUITY: The diaphragms are not composed of split-level oors and do not have expansion joints. (Commentary: Sec. A.4.1.1. Tier 2: Sec. 5.6.1.1)

(C) NC N/A U OPENINGS AT SHEAR WALLS: Diaphragm openings immediately adjacent to the shear walls are less than 25% of the wall length. (Commentary: Sec. A.4.1.4. Tier 2: Sec. 5.6.1.3)

(C) NC N/A U OPENINGS AT EXTERIOR MASONRY SHEAR WALLS: Diaphragm openings immediately adjacent to exterior masonry shear walls are not greater than 8 ft long. (Commentary: Sec. A.4.1.6. Tier 2: Sec. 5.6.1.3)

Flexible Diaphragms

C NC (N/A) U CROSS TIES: There are continuous cross ties between diaphragm chords. (Commentary: Sec. A.4.1.2. Tier 2: Sec. 5.6.1.2)

C NC (N/A) U STRAIGHT SHEATHING: All straight sheathed diaphragms have aspect ratios less than 2-to-1 in the direction being considered. (Commentary: Sec. A.4.2.1. Tier 2: Sec. 5.6.2)

C NC (N/A) U SPANS: All wood diaphragms with spans greater than 24 ft consist of wood structural panels or diagonal sheathing. (Commentary: Sec. A.4.2.2. Tier 2: Sec. 5.6.2)

C NC (N/A) U DIAGONALLY SHEATHED AND UNBLOCKED DIAPHRAGMS: All diagonally sheathed or unblocked wood structural panel diaphragms have horizontal spans less than 40 ft and aspect ratios less than or equal to 4-to-1. (Commentary: Sec. A.4.2.3. Tier 2: Sec. 5.6.2)

(C) NC N/A U OTHER DIAPHRAGMS: The diaphragm does not consist of a system other than wood, metal deck, concrete, or horizontal bracing. (Commentary: Sec. A.4.7.1. Tier 2: Sec. 5.6.5)

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The exterior frames are infilled with brick cladding and CMU blocks and interior frames are infilled with CMU blocks (Photo 1). It is indicated on the existing drawings that the CMU walls are load bearing.

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Courtyard with Planter at Level 2

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Tier 2 – Deficiency-based Evaluation: A further evaluation of identified deficiencies in the Checklist in Tier 1. Elements that are still Non-Compliant or have unresolved noted deficiencies may indicate an inherent weakness in their ability to performance satisfactorily in a seismic event.

Tier 3 – Systematic Evaluation: Further evaluation and detailed analysis or more sophisticated analysis of elements not resolved in Tier 2 evaluation. This may involve the entire building. These items would be subject to retrofit or seismic upgrade. Site specific geotechnical seismic information will be required for use in these analyses.

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Risk Category III – Buildings with potential to cause substantial impact and/or mass disruption to day-to-day civilian life in the event of failure.

Risk Category IV – Essential facilities required to maintain functionality immediately following an event.

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The following structural performance levels and their potential level of damages:

1. Collapse Prevention: The building suffers extensive damage in an earthquake, but remains standing, even if barely.
2. Life Safety: The building sustains substantial damage in an earthquake, but remains stable and with significant reserve capacity. Occupants have an opportunity to egress the structure. Nonstructural elements remain secured to the structure.
3. Immediate Occupancy: The building remains essentially elastic in an earthquake, with most or all of its strength and stiffness intact. The building can be occupied immediately after the earthquake, even though minor repairs may be necessary.
4. Operational: The building remains occupied and operational during an earthquake

Risk Category II was selected for this evaluation for which a BPOE of Life Safety Structural Performance is required.

Design Earthquake

Two earthquake levels or Basic Safety Earthquake (BSE) as defined in ASCE 41-13 for existing buildings - BSE-1E with a probability of 20% occurrence in 50 years or 225 years return period and BSE-2E with a probability of 5% occurrence in 50 years or 975 years return period. ASCE 41-13 also defines BSEs where it is desired for existing buildings to have Basic Performance Objective Equivalent to New Building Standards (BPON) – BSE-1N and BSE-2N.

For this potential rehabilitation, a Basis Safety Earthquake BSE-1E targeted for Life Safety Performance was selected because the age of the building and the shorter remaining useful life of the structure compared to a new building.

Findings

Figures 2 to 4 contain ASCE 41-13 Seismic Evaluation Summary and applicable Checklists. The following is a summary and discussion on Non-Compliant Elements, if building upgrade option is selected:

1. *Building Configuration*
   a. *TORSION: The estimated distance between the story center of mass and the story center of rigidity is less than 20% of the building width in either plan dimension. (Commentary: Sec. A.2.2.7. Tier 2: Sec. 5.4.2.6)*

The contribution of shear forces in the shear walls due to torsion would probably be insignificant and can be resolved in Tier II Evaluation. This is more a localized effect, i.e. individual shear wall elements.

2. Foundation Configuration

a. OVERTURNING: The ratio of the least horizontal dimension of the seismic-force-resisting system at the foundation level to the building height (base/height) is greater than 0.6 S a. (Commentary: Sec. A.6.2.1. Tier 2: Sec. 5.4.3.3)

This Non-Compliant is isolated and applies only to the interior shear wall along Grid 49 and on Grid N. Tier II evaluation is required to clear this potential slenderness/overturning inadequacy.

3. Seismic-Force-Resisting System

a. SHEAR STRESS CHECK: The shear stress in the reinforced masonry shear walls, calculated using the Quick Check procedure of Section 4.5.3.3, is less than 70 lb/in.2. (Commentary: Sec. A.3.2.4.1. Tier 2: Sec. 5.5.3.1.1)

b. SHEAR STRESS CHECK: The shear stress in the unreinforced masonry shear walls, calculated using the Quick Check procedure of Section 4.5.3.3, is less than 30 lb/in.2 for clay units and 70 lb/in.2 for concrete units. Bays with openings greater than 25% of the wall area shall not be included in Aw of Eq. (4-9). (Commentary: Sec. A.3.2.5.1. Tier 2: Sec. 5.5.3.1.1

PROPOSED IMPROVEMENTS

Proposed improvements, within the building under consideration include:

1. Removal of sections and new windows of the interior CMU partition walls on the 2nd and 3rd floors to accommodate client space configurations.

   Since these infill CMU walls are load bearing and are shear walls removal CMU would be full height, between the floor slab and overhead concrete beam or joist soffit. The resulting opening would be reframed and reinforced as necessary to resist lateral seismic forces. This would be evaluated in Tier 2 when location and opening sizes are determined.

2. Removing the concrete railing around the light well opening on the 3rd floor plaza and forming a slab to filling the opening.

3. Removing the planter box and surrounding concrete railing on the 2nd floor plaza, and forming a slab to filling the opening.

   New floor framing would consist of formed cast in place concrete flat slab or slab and beams.

Proposed improvements outside the building include:

1. Modifying the shallow steam pipeline concrete chase (trench) on the sidewalk to accommodate emergency vehicle access. The top (lid) of the chase are in removable sections and serve as sidewalk. The lids may not be capable of supporting truck wheel load.
   A section of trench would be removed and replaced with a deeper precast concrete utility vault with an access hatch, rated for HS20 truck wheel load.

2. Possible egress from the building to the higher grounds to the west, adjacent to the existing ramps.

   There is a potential option of constructing an ADA compliant pedestrian bridge from the roof to the higher grounds to the west. This option would depend grade difference and accessibility considerations.

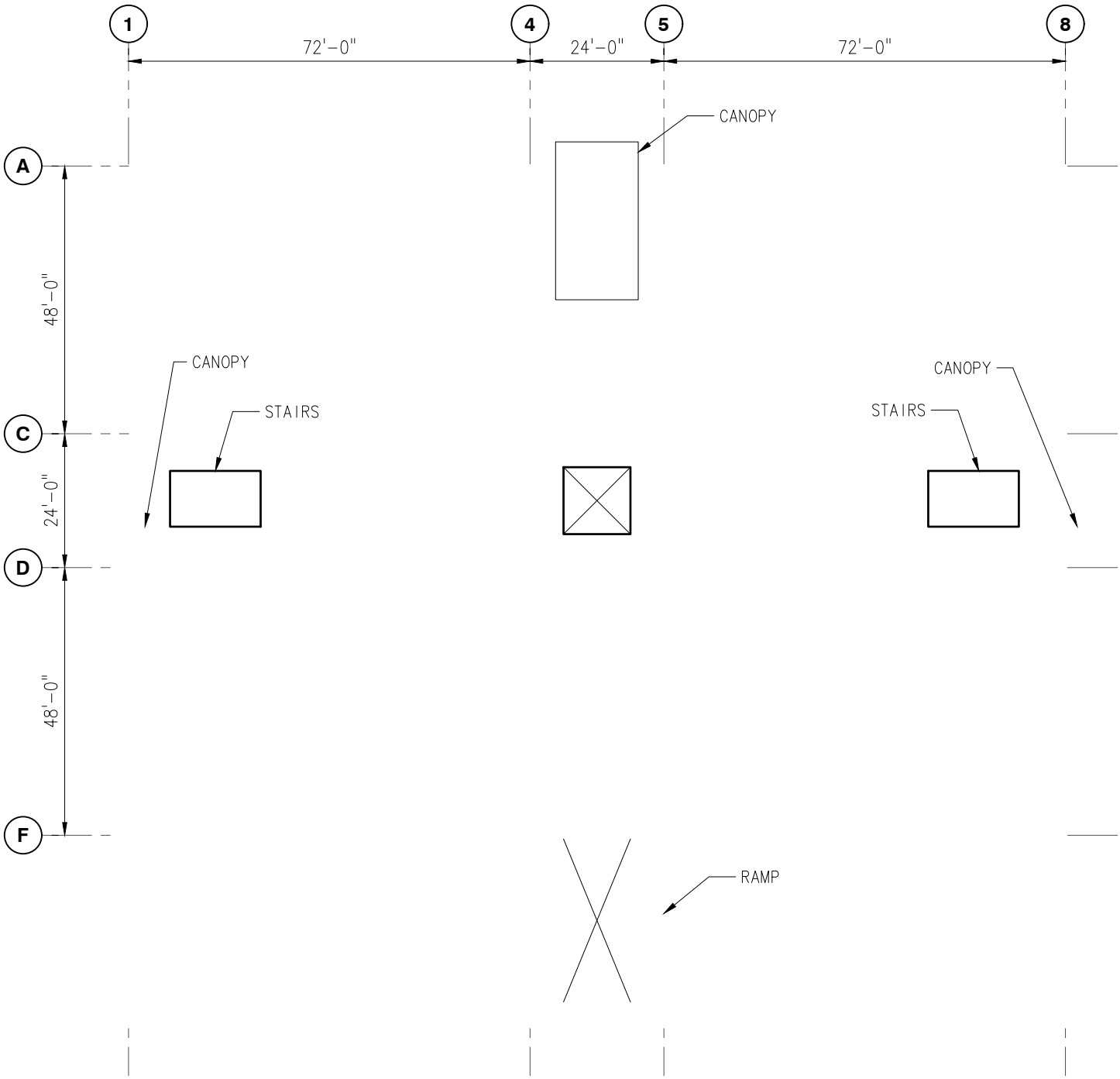


FIGURE 1

OVERALL BUILDING PLAN

FIGURE 2
ASCE 41-13 SUMMARY DATA SHEET

BUILDING DATA

Building Name: Fircrest School - Building 66 Apartments Date: July 2018

Building Address: 15230 15th Avenue NE, Shoreline, WA 98155

Latitude: 47.74038°N Longitude: 122.3105°W By: Ichiro Ikeda

Year Built: 1971 (Estimated) Year(s) Remodeled: Info. Not Avail. Original Design Code: UBC 1967 Edition

Area (sf): 19,000 (1st Floor) Length (ft): 122'-0" (E-W) Width (ft): 170'-0" (N-S)

No. of Stories: 3 Story Height: 11'-0" Total Height: 35'-0"

USE ☐ Industrial ☐ Office ☐ Warehouse ☐ Hospital ☐ Residential ☐ Educational ☒ Other: Nursing Facility

CONSTRUCTION DATA

Gravity Load Structural System: Reinforced concrete joist-slab, columns and CMU-in fill and bearing walls

Exterior Transverse Walls: 8" CMU with brick Openings? Yes

Exterior Longitudinal Walls: 8" CMU with brick Openings? Yes

Roof Materials/Framing: Built-up roofing over concrete joist-slabs

Intermediate Floors/Framing: Reinforced concrete joist-slab

Ground Floor: 5" thick reinforced concrete slab on ground

Columns: Concrete Foundation: Conc. stem walls and strip footings

General Condition of Structure: Good

Levels Below Grade? Existing grade at south face of building is at 2nd floor level.

Special Features and Comments: Wall at south face from 1st to 2nd level is 1'-1" thick concrete retaining wall.

LATERAL-FORCE-RESISTING SYSTEM

	Longitudinal	Transverse
System:	Reinforced masonry shear walls	Reinforced masonry shear walls
Vertical Elements:	Masonry walls and concrete columns	Masonry walls and concrete columns
Diaphragms:	3" thick concrete slabs	3" thick concrete slabs
Connections:	Slabs to walls and columns	Slabs to walls and clumns

EVALUATION DATA

BSE-1N Spectral Response Accelerations: S_{Ds} = _____ S_{D1} = _____

Soil Factors: Class = _____ F_a = _____ F_v = _____

BSE-1E Spectral Response Accelerations: S_{XS} = _____ S_{X1} = _____

Level of Seismicity: _____ Performance Level: _____

Building Period: T = _____

Spectral Acceleration: S_a = _____

Modification Factor: $C_m C_1 C_2$ = _____ Building Weight: W = _____

Pseudo Lateral Force: V=

$C_m C_1 C_2 S_a W$= _____

BUILDING CLASSIFICATION: _____

REQUIRED TIER 1 CHECKLISTS	**Yes**	**No**
Basic Configuration Checklist	☒	☐
Building Type RM2 **Structural Checklist**	☒	☐
Nonstructural Component Checklist	☐	☒

FURTHER EVALUATION REQUIREMENT: 1) Shear stresses calculated using the Quick Check Procedure exceeds the limit stress of 70 lbs./in.^{2}

2) Shear stresses for 1st story walls due to torsional effects.

FIGURE 3
ASCE 41-13 CONFIGURATION CHECKLIST

Project: Fircrest Residential Habilitation Center Location: Fircrest, WA

Completed by: Ichiro Ikeda, Bright Engineering, Inc. Date: July 2018

16.1.2LS LIFE SAFETY BASIC CONFIGURATION CHECKLIST

Low Seismicity

Building System

General

(C) NC N/A U LOAD PATH: The structure shall contain a complete, well de ned load path, including structural elements and connections, that serves to transfer the inertial forces associated with the mass of all elements of the building to the foundation. (Commentary: Sec. A.2.1.1. Tier 2: Sec. 5.4.1.1)

C NC (N/A) U ADJACENT BUILDINGS: The clear distance between the building being evaluated and any adjacent building is greater than 4% of the height of the shorter building. This statement shall not apply for the following building types: W1, W1a, and W2. (Commentary: Sec. A.2.1.2. Tier 2: Sec. 5.4.1.2)

C NC (N/A) U MEZZANINES: Interior mezzanine levels are braced independently from the main structure or are anchored to the seismic-force-resisting elements of the main structure. (Commentary: Sec. A.2.1.3. Tier 2: Sec. 5.4.1.3)

Building Con guration

(C) NC N/A U WEAK STORY: The sum of the shear strengths of the seismic-force-resisting system in any story in each direction is not less than 80% of the strength in the adjacent story above. (Commentary: Sec. A2.2.2. Tier 2: Sec. 5.4.2.1)

(C) NC N/A U SOFT STORY: The stiffness of the seismic-force-resisting system in any story is not less than 70% of the seismic-force-resisting system stiffness in an adjacent story above or less than 80% of the average seismic-force-resisting system stiffness of the three stories above. (Commentary: Sec. A.2.2.3. Tier 2: Sec. 5.4.2.2)

(C) NC N/A U VERTICAL IRREGULARITIES: All vertical elements in the seismic-force-resisting system are continuous to the foundation. (Commentary: Sec. A.2.2.4. Tier 2: Sec. 5.4.2.3)

(C) NC N/A U GEOMETRY: There are no changes in the net horizontal dimension of the seismic-force-resisting system of more than 30% in a story relative to adjacent stories, excluding one-story penthouses and mezzanines. (Commentary: Sec. A.2.2.5. Tier 2: Sec. 5.4.2.4)

(C) NC N/A U MASS: There is no change in effective mass more than 50% from one story to the next. Light roofs, penthouses, and mezzanines need not be considered. (Commentary: Sec. A.2.2.6. Tier 2: Sec. 5.4.2.5)

C (NC) N/A U TORSION: The estimated distance between the story center of mass and the story center of rigidity is less than 20% of the building width in either plan dimension. (Commentary: Sec. A.2.2.7. Tier 2: Sec. 5.4.2.6)

Moderate Seismicity: Complete the Following Items in Addition to the Items for Low Seismicity.

Geologic Site Hazards

(C) NC N/A U LIQUEFACTION: Liquefaction-susceptible, saturated, loose granular soils that could jeopardize the building s seismic performance shall not exist in the foundation soils at depths within 50 ft under the building. (Commentary: Sec. A.6.1.1. Tier 2: 5.4.3.1)

C NC N/A (U) SLOPE FAILURE: The building site is suf ciently remote from potential earthquake-induced slope failures or rockfalls to be unaffected by such failures or is capable of accommodating any predicted movements without failure. (Commentary: Sec. A.6.1.2. Tier 2: 5.4.3.1)

(C) NC N/A U SURFACE FAULT RUPTURE: Surface fault rupture and surface displacement at the building site are not anticipated. (Commentary: Sec. A.6.1.3. Tier 2: 5.4.3.1)

High Seismicity: Complete the Following Items in Addition to the Items for Low and Moderate Seismicity.

Foundation Con guration

C (NC) N/A U OVERTURNING: The ratio of the least horizontal dimension of the seismic-force-resisting system at the foundation level to the building height (base/height) is greater than $0.6S_a$. (Commentary: Sec. A.6.2.1. Tier 2: Sec. 5.4.3.3)

(C) NC N/A U TIES BETWEEN FOUNDATION ELEMENTS: The foundation has ties adequate to resist seismic forces where footings, piles, and piers are not restrained by beams, slabs, or soils classi ed as Site Class A, B, or C. (Commentary: Sec. A.6.2.2. Tier 2: Sec. 5.4.3.4)

FIGURE 4
ASCE 41-13 BUILDING TYPE C3 CHECKLIST

Project: Fircrest Residential Habilitation Center Location: Fircrest, WA

Completed by: Ichiro Ikeda, Bright Engineering, Inc. Date: July 2018

16.11LS LIFE SAFETY STRUCTURAL CHECKLIST FOR BUILDING TYPES C3: CONCRETE FRAMES WITH INFILL MASONRY SHEAR WALLS AND C3A: CONCRETE FRAMES WITH INFILL MASONRY SHEAR WALLS AND FLEXIBLE DIAPHRAGMS

Low and Moderate Seismicity

Seismic-Force-Resisting System

(C) NC N/A U REDUNDANCY: The number of lines of shear walls in each principal direction is greater than or equal to 2. (Commentary: Sec. A.3.2.1.1. Tier 2: Sec. 5.5.1.1)

C (NC) N/A U SHEAR STRESS CHECK: The shear stress in the reinforced masonry shear walls, calculated using the Quick Check procedure of Section 4.5.3.3, is less than 70 lb/in.^{2}. (Commentary: Sec. A.3.2.4.1. Tier 2: Sec. 5.5.3.1.1)

C (NC) N/A U SHEAR STRESS CHECK: The shear stress in the unreinforced masonry shear walls, calculated using the Quick Check procedure of Section 4.5.3.3, is less than 30 lb/in.^{2} for clay units and 70 lb/in.^{2} for concrete units. Bays with openings greater than 25% of the wall area shall not be included in A_w of Eq. (4-9). (Commentary: Sec. A.3.2.5.1. Tier 2: Sec. 5.5.3.1.1)

(C) NC N/A U INFILL WALL CONNECTIONS: Masonry is in full contact with frame. (Commentary: A.3.2.6.1. Tier 2: Sec. 5.5.3.5.1 and 5.5.3.5.3)

Connections

(C) NC N/A U TRANSFER TO SHEAR WALLS: Diaphragms are connected for transfer of loads to the shear walls. (Commentary: Sec. A.5.2.1. Tier 2: Sec. 5.7.2)

(C) NC N/A U CONCRETE COLUMNS: All concrete columns are doweled into the foundation with a minimum of four bars. (Commentary: Sec. A.5.3.2. Tier 2: Sec. 5.7.3.1)

High Seismicity: Complete the Following Items in Addition to the Items for Low and Moderate Seismicity.

Seismic-Force-Resisting System

C NC N/A (U) DEFLECTION COMPATIBILITY: Secondary components have the shear capacity to develop the exural strength of the components. (Commentary: Sec. A.3.1.6.2. Tier 2: Sec. 5.5.2.5.2)

C NC (N/A) U FLAT SLABS: Flat slabs or plates not part of the seismic-force-resisting system have continuous bottom steel through the column joints. (Commentary: Sec. A.3.1.6.3. Tier 2: Sec. 5.5.2.5.3)

C NC (N/A) U PROPORTIONS: The height-to-thickness ratio of the unreinforced in ll walls at each story is less than 9. (Commentary: A.3.2.6.2. Tier 2: Sec. 5.5.3.1.2)

C NC (N/A) U CAVITY WALLS: The in ll walls are not of cavity construction. (Commentary: Sec. A.3.2.6.3. Tier 2: Sec. 5.5.3.5.2)

(C) NC N/A U INFILL WALLS: The in ll walls are continuous to the sof ts of the frame beams and to the columns to either side. (Commentary: Sec. A.3.2.6.4. Tier 2: Sec. 5.5.3.5.3)

Connections

C NC (N/A) U UPLIFT AT PILE CAPS: Pile caps have top reinforcement, and piles are anchored to the pile caps. (Commentary: Sec. A.5.3.8. Tier 2: Sec. 5.7.3.5)

C NC (N/A) U STIFFNESS OF WALL ANCHORS: Anchors of concrete or masonry walls to wood structural elements are installed taut and are stiff enough to limit the relative movement between the wall and the diaphragm to no greater than 1/8 in. before engagement of the anchors. (Commentary: Sec. A.5.1.4. Tier 2: Sec. 5.7.1.2)

Diaphragms (Flexible or Stiff)

(C) NC N/A U DIAPHRAGM CONTINUITY: The diaphragms are not composed of split-level oors and do not have expansion joints. (Commentary: Sec. A.4.1.1. Tier 2: Sec. 5.6.1.1)

(C) NC N/A U OPENINGS AT SHEAR WALLS: Diaphragm openings immediately adjacent to the shear walls are less than 25% of the wall length. (Commentary: Sec. A.4.1.4. Tier 2: Sec. 5.6.1.3)

(C) NC N/A U OPENINGS AT EXTERIOR MASONRY SHEAR WALLS: Diaphragm openings immediately adjacent to exterior masonry shear walls are not greater than 8 ft long. (Commentary: Sec. A.4.1.6. Tier 2: Sec. 5.6.1.3)

Flexible Diaphragms

C NC (N/A) U CROSS TIES: There are continuous cross ties between diaphragm chords. (Commentary: Sec. A.4.1.2. Tier 2: Sec. 5.6.1.2)

C NC (N/A) U STRAIGHT SHEATHING: All straight sheathed diaphragms have aspect ratios less than 2-to-1 in the direction being considered. (Commentary: Sec. A.4.2.1. Tier 2: Sec. 5.6.2)

C NC (N/A) U SPANS: All wood diaphragms with spans greater than 24 ft consist of wood structural panels or diagonal sheathing. (Commentary: Sec. A.4.2.2. Tier 2: Sec. 5.6.2)

C NC (N/A) U DIAGONALLY SHEATHED AND UNBLOCKED DIAPHRAGMS: All diagonally sheathed or unblocked wood structural panel diaphragms have horizontal spans less than 40 ft and aspect ratios less than or equal to 4-to-1. (Commentary: Sec. A.4.2.3. Tier 2: Sec. 5.6.2)

(C) NC N/A U OTHER DIAPHRAGMS: The diaphragm does not consist of a system other than wood, metal deck, concrete, or horizontal bracing. (Commentary: Sec. A.4.7.1. Tier 2: Sec. 5.6.5)

APPENDIX H - FIRCREST EXISTING CONDITIONS TECHNICAL REPORTS

EXISTING CIVIL CONDITIONS

Site Topography and Soils (General)

The Fircrest property generally slopes downward from an elevation of 413 at the northwest corner of the campus toward the southwest and southeast corners with elevations of 331 and 334 respectively. Existing slopes on the campus vary widely with steeper grades between the upper northwest plateau and the lower southwest and southeast corners of the site.

Based on other projects in proximity to the Fircrest Campus, soils on the campus are expected to generally be glacial till. Glacial till is a very dense, silty sand with gravel. Areas of fill should be expected and planned for as the campus has had previous earthwork activities historically as part of previous development.

A geotechnical engineering report was prepared for the Newborn Screening Wing Addition in 2016. This site location is on the southerly portion of the campus. According to the geotechnical report, soils are described as areas of existing fill above glacial till. Which is consistent with soil conditions on nearby projects

Ground water was encountered in the geotechnical borings at a depth of 6 and 10 feet below the ground surface. This ground water is expected to be perched above the the low-permeability glacial till.

Storm Drainage Systems (General)

Drainage on the Fircrest Campus is reasonably controlled with a network of catch basins and underground pipes. Many existing building roof downspouts are connected to the campus storm system.

According to GIS and limited survey documents the existing storm conveyance system for the campus generally drains from north to south and varies from 6 inch to 18 inch diameter and generally increases in size extending southerly.

Storm drainage for the upper (NW and West) portions of the campus are collected by a series of catch basins and pipes pf various sizes that drain to the storm system in 15th Avenue just south of the driveway to the Activity Building.

Storm drainage for the southerly laboratory buildings drain both westerly and easterly to either 15th Avenue or the Fircrest storm system.

Campus staff has stated that they are not aware of significant capacity problems.

The Hamlin Creek Stream tributaries enter the campus from the north at two locations. One location is at the northeast corner of the campus at the bottom of the slope extending upward toward Shorecrest High School. This tributary enters the campus as a narrow swale, continuing for approximately 1,100 feet where it enters a 30 inch culvert.. From this point it continues as a piped system to approximately 1,200 feet to the city storm system in NE 150th Street.

The second location enters the site generally aligned with the main paved access road (Circle Drive) and continues southerly through the campus where it joines the east tributary roughly roughly 300 feet west of the NE corner.

These piped tributaries join together near the southeast corner of the campus approximately 150 feet north of NE 150th Street.

According to City of Shoreline critical areas ordinance, the Fircrest Campus portion of the Hamlin Creek Stream is considered a "Piped Stream Segment." Buffer widths for Piped Stream Segments vary widely (10 feet min. for piped) depending on the stream type. Typing the Fircrest portion of Hamlin Creek Stream is ongoing as part of the ongoing Master Planning effort and it is possible that if the stream is determined to be Type Ns or Np the buffer could be 45 feet or 65 feet respectively.

Hamlin Creek discharges into Thornton Creek roughly 1.1 miles downstream. Thornton Creek then discharges to Lake Washington. The site is thus included in the Thornton Creek watershed basin. Per City of Seattle Critical Area Maps, Thornton Creek is a riparian corridor.

Water Systems (General)

The water system on the Fircrest property is a private Class A system. This was confirmed with North City Water District.

The Water District is not involved with the Fircrest water system except for where the system connects to the Water District systems on 15th Avenue and 150th Street.

A normally closed water main presumed to be 8 inch diameter extends from the Shorecrest High School property and connects to the Fircrest system near the southeast corner of the ATP Building. The Water District has stated that this normally closed main was temporarily opened to improve the fire fighting for the Laundry Building.

The existing water main in 15th Avenue is 12-inch diameter and connects to Fircrest with an 8-inch meter. The existing water main in 150th Street is 8-inch diameter and connects to Fircrest with a 6-inch meter.

On the Fircrest property, fire hydrant flow is known to be poor and water mains are likely 8-inch diameter or less in some locations. Static water pressure is estimated to be on the order of 65 PSI.

The Water District has stated that there have been several past discussions with the State to improve the water system to meet District standards and transfer ownership to the Water District. This transfer of ownership would likely require upsizing the existing mains and constructing new water storage tanks at the NW corner of the property for fire flow.

Sanitary Sewer Systems (General)

Sanitary sewer mains on the Fircrest Campus are owned and maintained by Ronald Wastewater District. City of Shoreline is in the process of taking over Ronald Wastewater District.

Sanitary sewer for the Activity Building exits the building on the west side and extends south and west for approximately 700 feet where it connects to the sewer within 15th Street.

The easterly sanitary sewer main extends north from 150th Street onto the campus at the SE corner of the campus as a 15 inch diameter main. At approximately 250 feet feet north of 150th Street the sewer turns west to Circle Drive where it turns north and follows the paved drive north prpoerty line. This sewer main serves all buildings except for the Activity Building and portions of the southerly Laboratory Buildings which have sewer services that extend west and east.

Madrona Site

The Madrona site located south of the Aspen and Birch "Y" Buildings. This site consists of two levels with the northerly level being approximately 5 feet higher than the southerly level.

The northerly level previously contained a building that has been demolished and according to Fircrest staff, the easterly 1/3 of the building area still contains concrete foundations and possibly hazardous meterials such as asbestos containing materials. Our understanding is that the building area was backfilled with uncontrolled fill. The southerly (lower) level was formerly a tennis court and is currently concrete surfaced.

Storm drainage in this area include a series of catch basins and pipes that drain westerly and southerly eventually connecting to the city system in NE 150th Street.

An 8 inch water main exists around the perimeter of the northerly level with hydrants. The 8 inch water main extents southerly along the west edge of the southerly (lower) level toward the activity Builidng.

Records indicate that sanitary sewer of unknown size divides the north (upper) and south (lower) areas flowing east toward the Chapel Building.

Records indicate that steam supply are located along the west edge of the area. Gas supply runs along the east side of the north portion of the site and through the center of the south portion of the site.

Building 66 Site

The Building 66 site is located southeast of the Activity Building at the lower level of a roughly 30 foot steep slope. Pedestrian access from the west is with a series of concrete ramps and/or stairs.

An 8 inch diamter water main extends to the building area following the paved access from the south. The water main continues along the west side of the building continuing north toward Building 500. Fire hydrants are located near at the southwest and northwest corners of the building.

Records show that sanitary sewer of an unknown size is located approximately 140 feet north of the building. This sewer flows easterly to the sewer within Circle Drive.

Storm drainage is conveyed southeast in existing series of catch basins and pipes. Storm drainage eventually connects to the city system in NE 150th Street.

Steam utilities are located on the south and west sides of the building. The steam utility is within a concrete tunnel with removable lids that are at the surface and used as pedestrian walks. These lids are not traffic rated and will require relocation or other improvements to allow for fire truck access to the building.

ATP Site

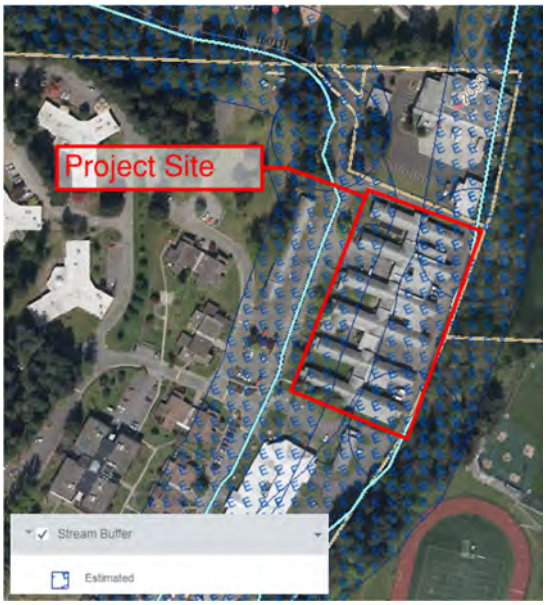
The ATP site is located northeast corner of the campus at the existing ATP building. The site is relatively flat with roughly 5 feet of fall across the site. Soils are assumed to be Glacial Till with some existing fill from previous construction. Shallow groundwater will require dewatering during construction and shallow storm drainage systems.

Two tributaries of Hamlin Creek drain from the northeast south towards NE 150th Street. The creeks are listed on the City's interactive map as a critical area with approximated buffers that expand the majority of the site

(see screenshot below). Storm drainage is collected and conveyed in a series of existing catch basins and pipes to the west and conveyed south to NE 150th Street.

An 8 inch water main exists to the west of the building. Records indicate that sanitary sewer of an unkown size is also located west of the existing building.

Existing gas is located to the south of the existing building.



Estimated Stream Buffer at the ATP Site as shown in City of Shoreline's interactive maps.

EXISTING MECHANICAL CONDITIONS

EXISTING CONDITION

S eam Plan

There are four high pressure steam (HPS) boilers in the existing Steam Plant Building and one of them is abandoned in place. The Steam Plant is located on the east side of the campus. Three boilers generate 120 psi HPS and distribute to the entire campus through the underground piping utility duct bank system. The utility duct back is constructed of concrete with removable concrete cover for piping access. The utility duct bank is not rated for vehicles. One of the three active boilers is dedicated for Summer load and rated for approximately 8,000 lb./hour. The next boiler is dedicated for Spring and rated for approximately 15,000 lb./hour. The third boiler is for Winter use and rated for approximately 20,000 lb./hour. The abandoned boiler is an original boiler and is disconnected and not in use.

All boilers have dual fuel burners, natural gas is a primary energy source and No. 2 diesel fuel oil is a backup fuel source. Under normal operation, the boilers use natural gas and during alternate fuel source operation, the boilers use No. 2 diesel fuel oil. The fuel oil is fed from the above ground 22,500-gallon fuel oil tank. The tank is setup such that the first 17,500 gallons can be used for the heating boilers and the emergency generator which is located in the Steam Plan. Once the fuel level reaches down to 5,000 gallons, the fuel oil will be sent to the generator only. Based on the discussion with the plant operator, the Winter boiler has sufficient capacity to support the entire campus heating requirements. The Winter boiler burner is rated at 180 gallons per hour and based on the initial assessment, the fuel oil tank has sufficient capacity to support minimum of 96 hours of the campus heating requirements when the initial 17,500-gallon fuel oil is used for the boiler only. If the initial 17,500 gallons is used for both the generator and the boiler simultaneously, it may not have sufficient capacity for 96 hours of operation.

Existing Summer Boiler

Existing Spring Boiler

Existing Summer Boiler

Disconnected Abandoned Boiler

The boiler makeup water feed pump set has been replaced in the recent year with triplex Grundfos multi-stage pump set with VFD controllers to provide energy efficient and trouble-free operation.

The steam condensate is returned from each building to the Steam Plan by the condensate pump set located in each building.

Existing Boiler Feed Pump Set

Emergency Genera or

There is one emergency generator in the Steam Plant Building, located east of the campus. The generator is fed with No. 2 diesel fuel oil from the 22,500-gallon above ground fuel oil tank. The fuel oil tank feeds fuel oil to the boilers as well. Based on the initial assessment, there is sufficient fuel capacity to run generators at 100% capacity for 96 hours.

Existing Generators

Birch Building and O her Y-Buildings

Six Y-Buildings including Birch building are located at the northwest corner of the campus and are single-story buildings with partial basements. The buildings were built in the 1960's. There have not been any renovations in the Y-Buildings, except Birch Building which had recent renovation to install new ventilation system, heating boiler, domestic hot water heater, and sprinkler system. Heating is provided by a natural gas fired, condensing type, high efficiency heating boiler producing hot water. Cooling is provided by an air-cooled chiller on grade located on the north side of Birch building. Hot & chilled water is circulated through AHU's to provide conditioned air to the building through under floor air passages. There are seven AHU's to provide temperature zoning in the building. Domestic hot water is produced by a natural gas fired, condensing type, high efficiency hot water heater. All equipment, except air cooled chiller are located in the basement mechanical room.

Based on the discussion with the facility's personnel, Y-Buildings do not have good

temperature control for the heating system and appeared to be under sized. Y-Buildings, except Birch Building, cooling is provided by the window air conditioning units and they are not adequate. There have been ongoing rain leader piping failures and leaks that need to be repaired. The facilities also have expressed the desire to have proper service accesses to the mechanical equipment, i.e. in Birch Building, AHU piping is blocking the AHU service areas sections creating tight service access.

Birch Bldg. Air Cooled Chiller

Birch Bldg. Air Handling Units

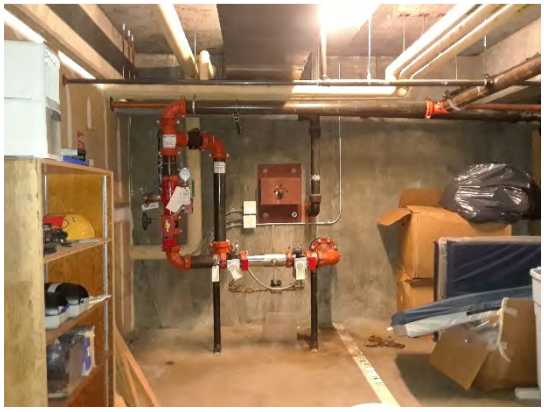
The waste piping is original to the building and 50 years old. The waste piping runs below the floor slab and through the underfloor ventilation air passages. Some of the piping has corroded and is leaking the waste water below the floor slab. Based on the discussion with the facility, Building 58 (one of the Y- Buildings) is closed due to waste piping leakage. In Birch building, the portion of the waste piping was repaired by access through the floor slab.

Birch Bldg. Dom Hot Water Heater & Heating Boiler

Birch Bldg. Corroded Waste Piping and Piece of Floor Slab

4" sprinkler water and 2" domestic cold water services enter the Birch Building basement mechanical room and distribute through the building. Based on the discussion with the

facility, the pressure and the capacity of the site water distribution system has an issue and the development of a site water tank to supplement the capacity has been discussed.



Birch Bldg. Sprinkler System

Birch Bldg. Domestic Cold Water Service

The original local control system provides control to the existing Y-Buildings. Birch Building's original control system has been replaced by Siemens Direct Digital Control (DDC) system when the building was renovated.

All Y-Buildings' heating system and domestic hot water heater, except Birch Building, are original to the building and are beyond their expected useful service life.

ATP Building

ATP building will be demolished in its entirety if the site is used for the new building. The building uses high pressure steam from the campus steam distribution and reduces to low pressure steam in the mechanical room. The low pressure steam is distributed through the underfloor piping to each room for heating. Based on the discussion with the facility's personnel, this type of heating system does not provide good temperature control for the occupants.

The building has an underfloor sprinkler system for wood structure protection. The piping is located in the unconditioned space and the sprinkler is a dry system. However, due to the difficulty of draining water from the pipe, which was used for the testing of the system, it has had pipe freezing issues in the past.

The ventilation air handling units serving each wing are original and beyond their expected useful service life. One of the units in the wing cannot be repaired and it's not in operation.

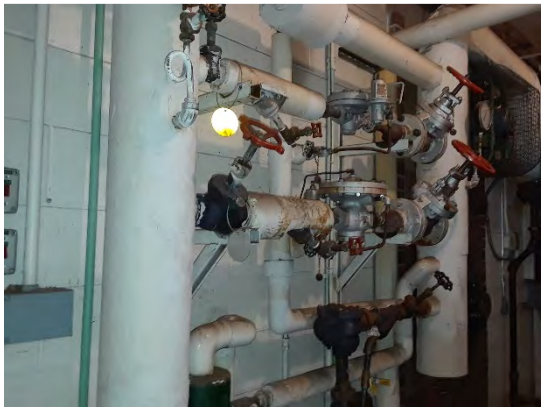
Building 66

The building was originally built in 1970. The building is located in the middle of the campus and is a three-story building. Part of the first floor west exposure is under grade.

3" HPS and 1-1/2" steam condensate return piping from the site utility, underground piping duct bank. enter the building at first floor mechanical room. HPS is reduced to low pressure steam through the steam pressure reducing station and used to produce heating water and the domestic hot water. Heating water is distributed through each floor through 4 risers and each riser is serving a quadrant section of the building. Domestic cold water enters the first floor mechanical room from the south and

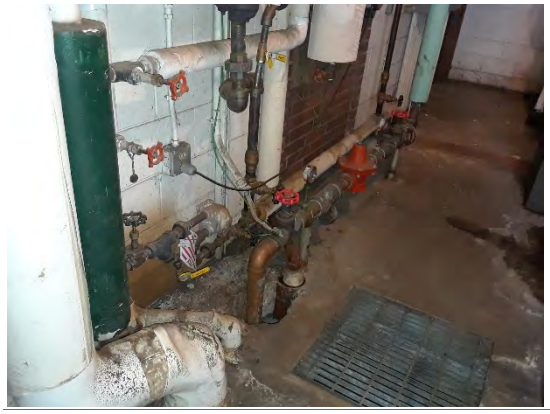
distribute through 4 risers with domestic hot water to serve each quadrant of the building toilet rooms.

The building does not have sprinkler water service and the entire building is not sprinklered.



Steam Pressure Reducing Station

Heating Steam HX



Dom CW Service

Dom Hot Water Heater

The Ventilation heating unit was designed to serve each quadrant section of each floor, total of four units per floor. The unit is located in the closet outside of each apartment section. The unit is heating and ventilation only and there is no cooling. The supply air duct is distributed through the ceiling space and return air is returned to the unit using underfloor ductwork. All control in the building is original and local control. There is no direct digital control system in the building. The units are original to the building and 48 years old and are beyond their expected useful service life.

Ventilation Heating Unit

EXISTING ELECTRICAL CONDITIONS

ELECTRICAL CODE ANALYSIS

2017 National Electric Code (NFPA 70)

2018 FGI Guidelines for Design and Construction of Residential Health Care, and Support Facilities.

2015 Health Care Facilities Code (NFPA 99)

2012 Life Safety Code (NFPA 101)

EXISTING ELECTRICAL CONDITIONS

General

Fircrest School is an 82 acre campus with over 40 buildings serving approximately 200 developmentally challenged persons and almost 700 staff.

Electrical Service

Electrical Service is provided by Seattle City Light entering the campus at the Northwest corner of the property on 15th Ave. NE terminating into a 2500 kVA sub-station transformer adjacent to the street. This provides service to both the Fircrest School campus and the Department of Health Public Health Lab.

There is a project in design that will change the location of the incoming Seattle City Light service to come from the corner of NE 150th St. and 20th Ave. NE and will separate the Department of Health Public Health Lab electric service from the Fircrest School service.

Service voltage to the Campus is provided at 4,160 volts and distributed underground to all buildings on campus. All buildings have oil filled outdoor transformers delivering power to the buildings at distribution voltages of 120/208 or 277/480. The transformers vary in age from the early 1970's to the late 1980's and are approaching end of life. Campus medium voltage feeders are old and have begun to fail in certain conditions.

A project is in design that will replace all aging medium voltage feeders on campus.

Standby Power

The Campus is served by one (1) 565 kW Caterpillar standby generator and fuel is provided from a 22,000 gallon diesel tank with a 5000 gallon allotment reserved for the generator. The transfer switch equipment is reported to be problematic and failing.

The generator supplies standby power to the campus feeding partial power to the buildings across the Campus.

A project is in design that will provide a new 1000 kW generator and transfer equipment to replace the existing generator and transfer equipment.

Neither the existing system nor the new design system for Standby Power will meet NEC 700 requirements for emergency power, therefore new egress lighting, exit lighting, some communications systems and fire alarm systems will require a new emergency power system.

The existing system for Standby power and the new design for the Standby power system will meet NEC 702 requirements for Optional Standby Power but it does not meet 2017 NEC 517 requirements for Essential Electrical Systems for Nursing Homes and Limited Care Facilites.

The Nursing Home buildings (Y-buildings) have an indoor mounted KATO 133 kW emergency power generator installed in the mid 1970's and appears to be at its end of useful life.

An existing indoor 250 kW Caterpillar generator and transfer equipment provides emergency power to the Activities Building (Bldg 27).

The Administration Building (Bldg 65) is provided Standby Power by an outdoor mounted 200 kW Kohler Generator with indoor mounted transfer equipment.

Assuming a new Nursing Home facility will have clients that may need to be sustained by electrical life support, NEC 517 will require (3) three branches of emergency power with power served by a generator or fuel cells. A generator specific to the facility will be required.

Lighting

Existing lighting on the campus consists primarily of older lighting fixtures either incandescent style ceiling mounted fixture re-lamped to fluorescent or fluorescent linear fixtures. Though well maintained, most would not meet the standards or criteria required by the 2015 Washington State Energy Code.

As fixtures require replacement, they are replaced with LED style light fixtures.

Egress and exit lighting fixtures are provided using unitary battery equipment.

Site lighting fixtures are using LED lamps in the central core area with a few fixtures at the edges of the campus still using metal halide or high pressure sodium lamps. Site lighting fixtures appear old and approaching end of life.

Lighting control in the buildings' is accomplished using local switching. It appears occupancy sensors are in minimal use. Site lighting is controlled using photocells and timeclocks distributed across campus.

Pow r Distribution

Individual building power panels serve lighting, receptacles, HVAC connections, kitchen equipment connections and miscellaneous equipment connections. Most panels appear to be older equipment, some by manufacturers no longer in business, making replacement parts difficult to obtain. It is unlikely these panels will meet current code requirements for wire bending space and separation. It is also likely many of the circuit breakers have not undergone periodic exercising and will likely no longer function to the manufacturers listed specifications.

T l communications

Campus telecommunications main distribution facility (MDF) is located mid campus in the 200 Building (Bldg 66). A Telecommunications IDF facility is located south of the Aspen building in a small wooden shed. A Fiber distribution loop serves the entire campus for Fire Alarm, Phone, Data and the Energy Management system. It is reported the fiber network is at capacity with no spare capacity available.

Most local data cabling appears to be using Cat 5e cables.

Fir Alarm

The Fire alarm system consists of local fire alarm panels in each separate building reporting back to a central campus panel located in the Administration building (Bldg 65). The sysem is reported to be a Siemen's Pyrotronics system with a few older local Notifier and Edwards panels reporting back to the central station. The fire alarm system was completed in 2002.

Typical building systems include area smoke detection in portions but not all of the buildings and fire alarm pull stations at selected exit doors. Fire alarm horn/strobes

provide notification of alarms throughout the buildings.

S curity

Security is reported to include some intrusion detection, card readers for access control and security cameras.

Intrusion Detection is provided in buildings not occupied 24/7. These systems use an IP address to report back to the Duty Office.

Access control is provided using card readers to access the Pharmacy.

A few security video cameras are in use, all are standalone systems.

Nurs Call

Nurse Call is being used in the Y-Building Nursing Homes. The system is manufactured by Nurse Call NW and is a wireless system installed in 2007.

200 Building (Bldg 66)

Normal power electric service to the building is served from a 225 kVA outdoor pad mount transformer with underground feeders to an indoor switchboard located at the south end of the ground floor. The electrical system is split into 4 quadrants on each floor and each quadrant has an electrical closet to house panels, and other equipment such data/voice and fire alarm. Normal power is distributed to each floor through the panels in these quadrants.

Standby power is served from a 25 kVA outdoor pad mount transformer with underground feeders serving a panel in the main electric room. This panel serves standby power loads throughout the building.

Emergency lighting is provided by batteries.

Lighting throughout the building uses a mixture of florescent, metal halide and high-pressure sodium sources.

The campus main distribution facility (MDF) is located in this building. Telephone is distributed throughout the facility from this room. Data connections are limited inside the building.

Fire alarm was installed in 2002 throughout the building. Devices consist of smoke detectors, pull stations and horn/strobe notification appliances.

Security systems for intrusion detection, access control and security video have not been installed in the building.

Nurse call systems have not been installed in the building.

In general the electrical systems installed in this building will not be reusable for a Nursing Home conversion. The change of use to the building will require all systems to meet current codes. The electrical service will likely be too small, the emergency power systems are not code compliant for a Nursing Home use. Telecommunications devices will not be located convenient for the new use and they will not be able to accept todays technology. The fire alarm system will need to be upgraded. Security access control and security video will likely be wanted. Nurse call will be required.

ATP Building (Bldg 85-90)

Normal power electric service to the building is served from a 225 kVA outdoor pad mount transformer with underground feeders to (6) service entrance panels inside the building. These panels distribute power to each area of the building.

Standby power is not provided to the building.

Emergency lighting is provided by batteries.

Lighting throughout the building is accomplished using fluorescent lamps.

The building has a small telecom closet in the building. Telephone and data connections are distributed throughout the building from this closet.

Fire alarm was installed in 2002 throughout the building. Devices consist of smoke detectors, pull stations and horn/strobe notification appliances.

Security systems for intrusion detection, access control and security video have not been installed in the building.

Nurse call systems have not been installed in the building.

In general the electrical systems installed in this building will not be reusable for a Nursing Home conversion. The change of use to the building will require all systems to meet current codes. The electrical service is not code compliant with contemporary codes and is too small a service. Emergency power systems do not exist. Telecommunications devices will not be located convenient for the new use and they are not capable of accepting todays technology. The fire alarm system will need to be upgraded. Security access control and security video will likely be wanted. Nurse Call will be required.

Form r Madrona Sit

No electrical or low voltage services are present at the Madrona site.

Normal power is available across the road in front of the Aspen building however the medium voltage feeder is a radial feed and should be upgraded to a loop feed for reliability. This will require new pad mount switches at the Madrona site and additional feeders from approximately the dministration building (Bldg 65) to the Madrona site.

A small telecom IDF shed is located adjacent to the building location housing intermediate facilities for fiber, fire alarm, telephone and data. If this site is developed the shed will need to be incorporated into the new building.

Security systems for access control and security video will likely be wanted.

Nurse Call will be required.

BUILDI G E VELOPE

Building 66

The building envelope appears to be original, and currently does not meet WSE envelope requirements. Vertical walls are masonary units with either exterior face brick with plaster or face brick interior. The roof surface was not inspected, drawings indicate only minimal rigid insulation on top of the concrete deck with built-up roofing. The concrete roof deck extends beyond the walls, and therefore acts a fin, radiating heat from the space below. Drawings indicate the foundation and below-grade walls are not insulated. Windows are single-pane glass or plexi-glass with metal frame. Doors are metal with metal frames. urrently the perimeter quardants of the building are open to an exterior courtyard, with a glazed roof structure overhead. The proposed rehab plan would enclose this space, shifting the exterior air/thermal boundary to only the perimeter walls. Despite the use of masonry and concrete walls/roof, building air leakage is likely significant through unsealed penetrations, windows, and doors.

Exterior Wall at Roof Overhang

Existing Walls/Glazing

To meet code, exterior insulation is recommended, as this covers intermediate floor edges and mitgates concern of condensation and/or freeze-thaw damage that can occure when adding insulation to the interior of masonry walls. The roof structure would require new or additional rigid insulation, and to make this insulation effective, the thermal control layer would need to wrap around the roof overhangs, and be integrated into the exterior wall insulation system. Extending the exterior wall insulation system down, below-grade for at least two feet would also address the foundation insulation requirements. Windows will require upgrade to have double-pane insulated glazing units and non-metal (fiberglass) or thermally broken metal frames. To meet the durability requirements, tempered laminated glass, or or possibly custom interior plexi-glass inserts may be required.

RE EWABLE E ERGY

The Fircrest School currently has no renewable energy systems. For cost and

simplicity, photovoltatic (PV) panels are likely the most common on-site renewable energy system used to achieve net-zero energy. For this reason, a qualitative assessment of each building site for photovoltaics was made during the site visit.

Building 66 (Alternate 1)

With the exception of trees on a rising slope to the west, the solar exposure of the existing building is good. Panels mounted on the south façade, either vertical or as window shades, would increase the available are array area, however, these solutions are generally much more expensive than roof mounted panels. The proposed 1-story addition to the north would generally have poor solar access primarily due to shading from the existing building, and then by trees to the west. ombined with the fact that the three story existing structure has less available roof area than a single-story structure, this alternate is believed to have the lowest available potential for annual energy generation using PV.

ACP/Laundry Building Sites (Alternate 2)

With the exception of trees on a rising slope to the east, the solar exposure of both the Alternate 2 sites is good. Of all of the possible building sites, the site on the south side of the Kitchen/Dining facility appears to have the most potential for PV energy generation.

Madrona Site (Alternate 3)

The Madrona site has mature evergreen trees to the north, east, and west, and even a few large trees in the middle of the building site that may need to remain. For this reason, low-slope roofs, oriented as much to the south as possible are recommended so PV panels can be mounted flush to the roof surface with minimal structure.

APPENDIX J - PREFERRED ALTERNATIVE TECHNICAL REPORTS

CIVIL A UMPTION

S orm Sys ems (General)

Storm drainage requirements for the Fircrest property are guided by the *2012 St rmwater Management Manual f r Western Washingt n amended in 2014* as adopted by and ammended by the City of Shoreline. The City of Shoreline has mapped the Fircrest site within a basin that includes more than 40% impervious surface coverage before 1986. Development within this basin is required to match post-development stormwater durations to the pre-development stormwater durations for the existing surface coverage.

Flow control will typically be required for any vegetated area that is converted to impervious surface at an approximate rate of 28,000 CF per acre of new impervious surface. Any area that is impervious surface in the existing coniditions will not require additional volume for flow control. Flow control options include below grade concrete vaults, large diameter corrugated metal pipes, or plastic arch pipe surrounded in porous aggregate.

Onsite Stormwater Management is required for all new and replaced impervious surface. Onsite Stormwater Management typically consists of pervious pavement, bioretention cells, vegetated roofs, and rainwater harvesting. Typically bioretention cells are the preferred option as they can serve as both onsite stormwater mangement and water quality treatment as well as provide a reduction in flow control volume. Bioretention cells are required at a rate of 5% of impervious surfaces and 2% of pervious surfaces.

Water Quality for any surface runoff from pollution generating surfaces (road, parking lots, etc) are required to provide Enhanced Water Quality Treatment since the downstream system, Thornton Creek, is fish bearing. Examples of water quality treatment systems that meet the enhanced treament standard include bioretention cells, silva cells, or modular wetlands. Bioretention cells and silva cells should be provided at the same rate as Onsite Stormwater Management.

Wa er Sys ems (General)

The water system on the Fircrest property is a private Class A system. The Water District is not involved with the Fircrest water system except for where the system connects to the Water District systems on 15th Avenue and 150th Street.

It is anticipated that the existing 6 and 8 inch diamter water mains and hydrants on the campus will be replaced with roughly 7,000 linear feet of 12 inch diameter ductile iron pipe to allow the onsite water mains to be owned by North City Water District. Meters and/or backflow preventors are required at all domestic, irrigation and fire sprinkler services.

It is estimated that two water storage tanks for fire flow will be necessary at the NW corner of the property (highest elevation). It is unknown how large of tanks will be required until the water district performs hydraulic modeling to confirm the deficit of water required for fighting a fire. At this time, we recommend assuming a total of 300,000 gallons. Pumps and backflow preventors

will be required at the water service to the tanks. These tanks will be owned by North City Water District.

S eam Sys ems (General)

Existing steam is in proximity to all three of the studied alternaves for the new Skilled Nursing Building.

It has been determined that the use of steam for the new building will likely not be used due to the efficiency of the proposed mechanical and electrical systems.

Fron age Improvemen s (General)

Frontage improvements will likely be required as per the Master Plan. It is our understanding that the Master Plan will distribute the cost of frontage improvements evenly across the site for the planned growth. The Skilled Nursing Facility, no matter where it is located on the site, will likely be required to provide some value of the total required frontage improvements. We are estimating the value of frontage improvements to be the improvements from NE 155th Street to the NE property corner (roughly 1,350 linear feet). Frontage improvements will require the following:

- Removing the abandoned driveway,
- Replacing the existing driveway at NE 155th St,
- Grind and overlay to centerline of road,
- Replace curb and gutter,
- Provide 5.5 foot amenity zone (landscaping),
- 8 foot wide concrete sidewalk,
- Tree removal and replacement,
- and a 4 foot maximum retaining wall.

Madrona Site

The Madrona site is located south of the Aspen and Birch "Y" Buildings. This site consists of two levels with the northerly level being approximately 5 feet higher than the southerly level.

Earthwork

The northerly level previously contained a building that has been demolished and according to Fircrest staff, the easterly 1/3 of the building area still contains concrete foundations and possibly hazardous meterials such as asbestos containing materials (assumed 2 foot depth of possible contaminated material for 4,000 BCY). Our understanding is that the building area was backfilled with uncontrolled fill (assumed to be 2 feet under proposed building slab). The southerly (lower) level was formerly a tennis court and is currently concrete surfaced and will require demolition and filling with structural fill to create a uniform finished floor elevation. Estimated quanity of excavation and export of existing fill 6,500 BCY that may not be suitable for reuse onsite. Estimate quanity of earthwork for improvements is 30,000 BCY of excavation used onsite as fill (includes excavation for flow control vaults).

Storm

Proposed storm drainage will include a series of catch basins and pipes that will collect drainage from the proposed improvements and convey to flow control facilities. Flow control facilities will include three underground concrete detention vaults for a total of approximately 160,000 cubic feet of volume. Water quality treatment is required for all road and parking lot facilities and will include roughly 4,850 square feet of either bioretention or silva cells. All other impervious areas, including pedestrian and roof area, should have bioretention cells provided to the maximum extent feasible. Assuming that half the roof and pedestrian improvements have space feasible for accomodating bioretention cells, this equates to roughly 7,500 square feet of additional bioretention cells. If pervious pavement is considered for pedestrian improvements, it can be provided in lieu of 3,300 square feet of bioretention area. Vegetated roofs and rainwater harvesting will reduce the quantity of flow control and bioretention cells required; however, these systems tend not be as cost effective for the value of stormwater mitigation.

Water

It may be possible to construct the Skilled Nursing Facility without a full upgrade to the Fircrest water system. The existing system could be upgraded up to, and around, the proposed building, then a meter and backflow preventor could be placed between the new system and the existing system to provide adequate backflow prevention. For planning purposes, should assume three connections to the existing water system with backflow preventor and meters. Domestic and fire sprinkler services would connect to this new system.

Sewer

Records indicate that sanitary sewer of unknown size divides the north (upper) and south (lower) areas flowing east toward the Chapel Building.

Steam

Steam utilities are located on the west side of the proposed building area. The steam utility will require relocation to allow for the building.

Gas

New gas service will likely need to come from 15th Avenue as typically existing systems are unable to support proposed improvements. Gas will be designed and constructed by PSE with trenching and surface restoration by a contractor. Existing gas will need to be relocated to avoid the proposed building.

ASSUMPTIONS

The following narratives for each mechanical system are described by the following headings as follow:

- Mechanical Code Analysis
- Net Zero Energy Mechanical Systems
- New Construction Madrona Site
  - Net Zero Energy Equipment Sizes
- Laundry Building Mechanical Systems

MECHANICALICODEIANALYSIS

Applicable codes and standards shall include, but not necessarily be limited to:

- 2018 FGI Guidelines for Design and Construction of Residential Health Care, and Support Facilities.
- 2015 Health Care Facilities Code (NFPA 99)
- 2015 Washington State Energy Code
- Uniform Plumbing Code, by International Association of Plumbing and Mechanical Officials.
- International Mechanical Code, by International Code Council.
- International Building Code, by International Code Council.
- Requirements of OSHA, EPA and WISHA.
- National Fire Protection Association Codes.
- ASME codes for boiler and pressure vessels.
- SMACNA HVAC Duct Construction Standards, latest edition.
- All local and state amendments.
- Requirements of all agencies have jurisdictional authority over installation of mechanical systems.

NETIZEROIENERGY MECHANICALISYSTEMS

Fire P otection

Fire protection system will be a wet sprinkler system and will provide coverage to all spaces. The fire protection system will include the following, but not necessarily be limited to:

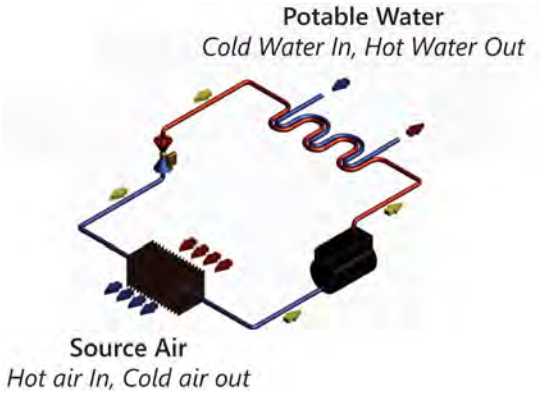
- Belowground fire service to building
- Backflow preventer (double check valve assembly)
- Wet sprinkler piping
- Wet pipe alarm check valve
- Fire Department inlet connection
- Supervisory (tamper) switches
- Water flow switches
- Zone control valves
- Isolation and check valves
- Inspector's test connection
- Sprinkler heads
- Seismic restraints
- In new construction, crawl space will not be sprinkled.

Plumbing System

Domestic cold water service to the building will be connected to the campus water distribution loop with water meter and backflow preventer at the building service connection. The backflow preventer will be installed in the mechanical room with floor drain.

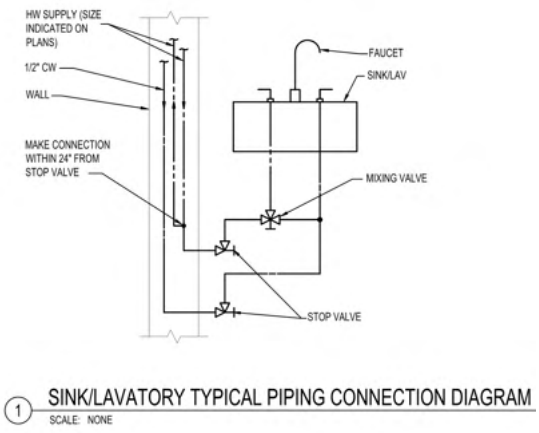
Domestic hot water system will be based on an air source heat pump water heater. The hot water heater will be similar to Colmac Waterheat model HPA7 Propeller Fan with hot water storage tank. The hot water will be circulated through the system by circulated pump to maintain constant temperature in the piping. The hot water heater will maintain minimum of 145 deg F to minimize the potential growth of

legionella and 125 deg F water will be distributed through the building through thermostatic mixing valve. 125 deg F hot water will be further reduced to 110 deg F at the sink by the local thermostatic mixing valve. The plumbing system will be designed to include the consideration of Legionella response per 2018 FGI Guideline Section A2.5-2.2.3. The hot water system will be connected to the adjacent hot water system to provide back up in the event of the hot water heater failure or the maintenance service shut down. The inter connecting piping will be normally closed and opened during backup.



Air Source Heat Pump Water Heater

Cold & Hot Water design will include consideration to minimize piping dead legs to prevent any growth within the piping system. In addition, hot water piping loop will be routed in the wall from the ceiling to plumbing fixture stop valve within 12 inches, so that each fixture will receive hot water immediately to minimize water waste. Each faucet will have laminar flow type low flow discharge tips (non-aerated). All hand washing sink including wall mounted lavatory will be selected without an over flow outlet.



1 SINK/LAVATORY TYPICAL PIPING CONNECTION DIAGRAM
SCALE: NONE

Hot water temperature to laundry washing machine will be raised to 165 deg F for proper sanitization of the soiled materials.

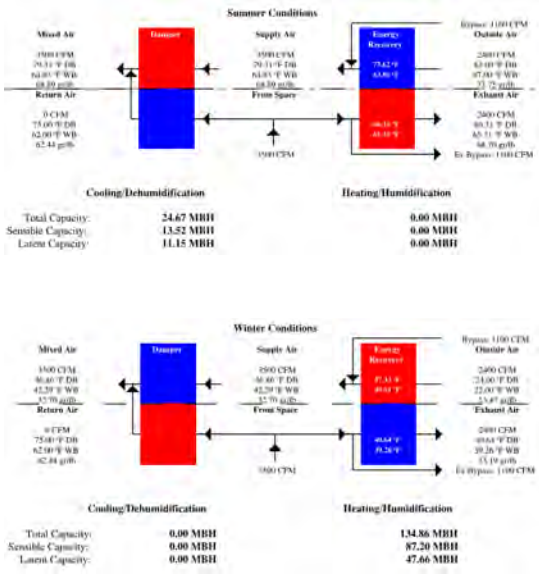
The plumbing system will include the following, but not necessarily be limited to:

- Domestic Water Service Meter
- Belowground domestic water service to the building
- Backflow Preventers
- Air Source Heat Pump Hot Water Heater
- Hot Water Storage Tank
- Electric Booster Hot Water Heater for laundry washing machine
- Roof Drainage, Waste and Vent Piping
- Indirect Waste Piping
- Hot and Cold Water Piping
- Hot Water Recirculation Piping and Circulating Pump
- Seismic Restraints
- Isolation Valves
- Hose Bibbs/Wall Hydrants
- Plumbing Fixtures and Trim
- Sewer Connection to Street
- Storm Connection to Street

HVAC

HVAC system will be based on a Variable Flow Refrigeration (VRF) system with Dedicated Outside Air System (DOAS).

DOAS system will be 100% outside air (OA) with energy recovery wheel and sized to provide required airflow and air changes per hour requirement per 2018 FGI Guidelines for Design and Construction of Residential Health Care, and Support Facilities. DOAS unit will be a heat pump type packaged roof top unit similar to AAON RN Roof Top Unit with Energy Recovery System. DOAS OA air intake will be minimum of 36 inches above finished roof elevation as required by FGI Guidelines.



Typical DOAS RTU with Energy Recover System Diagram

100% conditioned outside air will be distributed to each space through insulated ductwork.

Each space will be heated and cooled by VRF fan coil unit (FCU). Wall mounted type will be used for bedrooms and ceiling cassette type will be used for Living Rooms, Activity Rooms, TV Rooms, and other support rooms. Wall or ceiling mounted units will be used and will not require closet or floor space for installation and minimizes the total building square foot requirements. Air cooled outdoor unit will be located on the roof within the sloped roof well. The installation of the roof top equipment will include the review of the noise and the vibration to minimize any transmission to the occupied space below.

Wall Mounted Unit

Ceiling Cassette Unit

Exhaust will be provided to shower rooms, toilet rooms, and soiled rooms and collected through the ductwork. Exhaust fan will be located on the roof and will

discharge air minimum of 25 feet away from DOAS air intake.

The building Direct Digital Control (DDC) system will be connected to the campus control system and all major equipment will be monitored through the DDC system operator's work station in the maintenance building.

The HVAC system will include the following, but not necessarily be limited to:

- VRF Air Cooled Condenser
- VRF Room Air Conditioner
- Refrigeration Piping
- Condensate drain piping
- DOAS Roof Top Unit
- Energy Recovery System
- Self-Contained Unitary Air Conditioner/Heat Pump
- Heat Recovery Equipment
- Ductwork
- Diffusers, Registers and Grilles
- Electric Infrared Unit Heaters for covered court yard
- HVAC Control Systems
- Seismic Restraints

NEW CONSTRUCTION MADRONAISITE

93,200 SF new building – 100 Beds

Net Ze o Ene gy Equipment Sizes – 100 Beds

- Domestic Cold Water Service to Building – 4"
- Five Air Source Heat Pump Domestic Hot Water Heaters – each 80 MBH heating capacity, 1.2 GPM and nine sets of two 200-gallon storage tanks.
- Six DOAS RTU, each at 3,500 CFM.
- Six 15-ton VRF Air Cooled Condensers.
- One hundred eighty VRF fan coil units.
- Six Energy Recovery Systems, each at 3,500 CFM.

LAUNDRY BUILDING MECHANICALISYSTEMS

Fire P otection

Fire protection system will be a wet sprinkler system and will provide coverage to all spaces. The fire protection system will include the following, but not necessarily be limited to:

- Belowground fire service to building
- Backflow preventer (double check valve assembly)
- Wet sprinkler piping
- Wet pipe alarm check valve
- Fire Department inlet connection
- Supervisory (tamper) switches
- Water flow switches
- Zone control valves
- Isolation and check valves
- Inspector's test connection
- Sprinkler heads
- High temperature rated sprinkler head in the laundry equipment area.
- Seismic restraints
- In new construction, crawl space will not be sprinkled.

Plumbing System

4" Domestic cold water service to the building will be connected to the campus water distribution loop with water meter and backflow preventer at the building service connection. The backflow preventer will be installed in the mechanical room with floor drain. Additional backflow preventers will be provided for laundry equipment cold water

& hot water systems and steam boiler makeup water system.

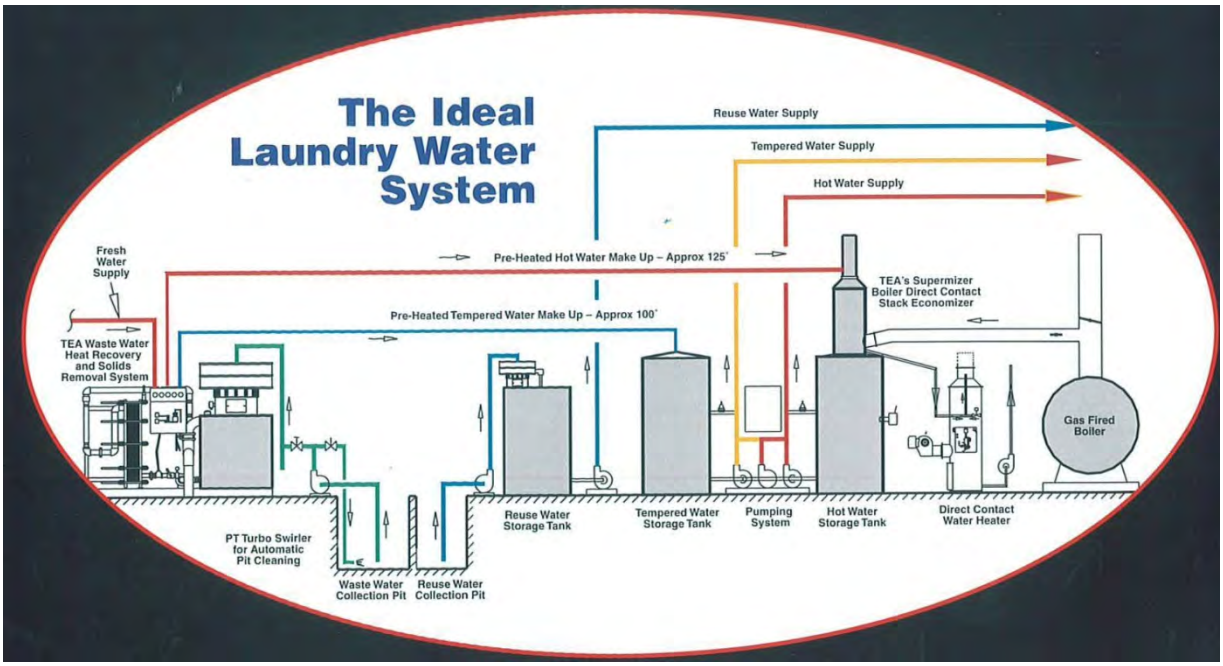
Domestic hot water system for toilet rooms will be based on the single point of use tankless electric water heater similar to Rheem RTEX-04. Laundry equipment hot water heater will be generated from the steam immersion water heating system. The hot water will be stored in stainless steel storage tank. The hot water will be circulated through the system by circulated pump to maintain constant temperature in the piping. The hot water temperature will be based on the laundry equipment requirements. The plumbing system will be designed to include the consideration of Legionella response per 2018 FGI Guideline Section A2.5-2.2.3.

Cold & Hot Water design will include consideration to minimize piping dead legs to prevent any growth within the piping system. In addition, hot water piping loop will be routed in the wall from the ceiling to plumbing fixture stop valve and the laundry equipment within 12 inches, so that each fixture and equipment will receive hot water immediately to minimize water waste.

The waste water heat recovery system will recover heat from the waste water and the system will temper cold water that will be used for the laundry process. Tempered water will be stored in the tempered water storage tank. It is estimated to recover approximately 30% to 40% of heat (energy) from the waste water. The waste water heat recovery will consist of plate heat exchanger, shaker screen to remove suspended solids, and associated control system to optimize the energy recovery.

The plumbing system will include the following, but no necessarily be limited to:

- Domestic Water Service Meter
- Belowground domestic water service to the building
- Backflow Preventers for building service entrance and additional backflow preventers for laundry equipment water supply connections.



- Single point of use tankless electric water heater for toilets.
- Steam boiler vent.
- 90 to 100 hp Steam Boiler System*
- Direct Contact Stack Economizer*
- Steam immersion water heater*
- Steel Tempered Water Storage Tank*
- S.S. Hot Water Storage Tank*
- Pumping package*
- Gas Fired Dryer*
- Steam heated ironer*
- Washer*
- Dryer*
- Air compressor*
- Waste water heat recovery system*
- Roof Drainage, Waste and Vent Piping
- Indirect Waste Piping
- Hot and Cold Water Piping
- Hot Water Recirculation Piping and Circulating Pump
- Seismic Restraints
- Isolation Valves
- Hose Bibbs/Wall Hydrants
- Plumbing Fixtures and Trim
- Sewer Connection to Street
- Storm Connection to Street

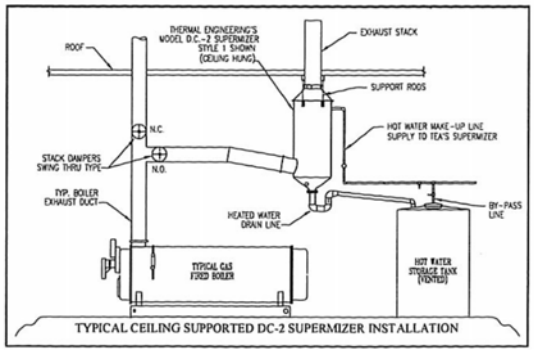
"*" indicates the equipment/system that are part of the laundry equipment which are not furnished by the plumbing/mechanical contractor. The required piping connections will be provided by the plumbing/mechanical contractor.

HVAC

HVAC system will be based on a split DX heat pump, wall mounted indoor unit and outdoor unit for office room and a support room. Each unit will be sized for 6,000 btuh (200 cfm each). Outside air will be provided from the Dedicated Outside Air System (DOAS) unit with plate heat exchanger with supply fan & exhaust fan (100 cfm system).

The laundry area will be conditioned by three (3) packaged DX heat pump roof top units, each sized for 20 ton or 240 mbh. The supply air will be distributed through the exposed ductwork in the space. The return and exhaust air openings will be located to capture the heat from the equipment and will be exhausted to outdoor and/or returned to the units.

Gas fired steam boiler serving the laundry equipment will be equipped with Direct Contact Stack Economizer to re-claim energy from the flue gas and will temper the cold and hot water used for laundry equipment. It is estimated to recover approximately 30% to 40% of heat (energy) from the flue gas. The flue gas energy recovery system will consist of heat exchanger, dampers, actuators, and associated control system to optimize the energy recovery.



Direct Contact Stack Economizer Diagram

The building Direct Digital Control (DDC) system will be connected to the campus control system and all major equipment will be monitored through the DDC system operator's work station in the maintenance building.

The HVAC system will include the following, but not necessarily be limited to:

- Split DX heat pump wall mounted indoor and outdoor unit for Office and support rooms
- Refrigeration Piping
- Condensate drain piping
- DOAS plate heat exchanger energy recovery ceiling mounted unit.
- Packaged DX Unitary Air Conditioner/Heat Pump Roof Top Unit for laundry area conditioning
- Ductwork
- Diffusers, Registers and Grilles
- HVAC Control Systems
- Seismic Restraints
- Miscellaneous exhaust system and fans for laundry equipment
- Steam boiler vent.
- 90 to 100 hp Steam Boiler System*
- Direct Contact Stack Economizer*
- Steam immersion water heater*
- Steel Tempered Water Storage Tank*
- S.S. Hot Water Storage Tank*
- Pumping package*
- Gas Fired Dryer*
- Steam heated ironer*
- Washer*
- Dryer*
- Air compressor*
- Waste water heat recovery system*

"*" indicates the equipment/system that are part of the laundry equipment which are not furnished by the plumbing/mechanical contractor. The required piping, venting, and duct connections will be provided by the plumbing/mechanical contractor.

ELECTRICAL CODE ANALYSIS

2017 National Electric Code (NFPA 70)

2018 FGI Guidelines for Design and Construction of Residential Health Care, and Support Facilities.

2015 Health Care Facilities Code (NFPA 99)

2015 Washington State Energy Code

2012 Life Safety Code (NFPA 101)

EXISTING ELECTRICAL CONDITIONS

General

Fircrest School is an 82-acre campus with over 40 buildings serving approximately 200 developmentally challenged persons and almost 700 staff.

Electrical Service

Electrical Service is provided by Seattle City Light. Current planning will change the location of the incoming electrical power service to come from the corner of NE 150th St. and 20th Ave. NE and will separate the Department of Health Public Health lab electric service from the Fircrest School service.

Service voltage to the campus is provided at 4,160 volts and distributed underground to all buildings on campus. All buildings have oil filled outdoor transformers delivering power to the buildings at distribution voltages of 120/208 or 277/480.

Standby Power

The Campus is served by one (1) 565 kW Caterpillar standby generator and fuel is provided from a 22,000-gallon diesel tank with a 5000-gallon allotment reserved for the generator.

The generator supplies standby power to the campus feeding partial power to the buildings across the Campus.

Telecommunications

Campus telecommunications main distribution facility (MDF) is located mid campus in the 200 Building (Bldg. 66). A telecommunications IDF facility is located south of the Aspen building in a small wooden shed. A Fiber distribution loop serves the entire campus for Fire Alarm, Phone, Data and the Energy Management system.

Fire Alarm

The fire alarm system consists of local fire alarm panels in each separate building reporting back to a central campus panel located in the Administration building (bldg. 65). The main system is reported to be a Siemen's pyrotronics system completed in 2002.

Typical building systems include area smoke detection in portions but not all the buildings and fire alarm pull stations at selected exit doors. Fire alarm horn/strobes provide notification of alarms throughout the buildings.

Security

Security is reported to include some intrusion detection (reporting back to the Duty Office), card readers for access control to the Pharmacy and a few local stand-alone security cameras.

120-BED MADRONA SITE LEED SILVER

Electrical Service

Normal power electric service to the building will be served from (6) 200 kVA indoor unit substations located one per neighborhood. Each substation will receive campus medium voltage power and convert to 120/208-volt, three-phase power to serve the neighborhood. Outdoor main service entrance rated disconnect switches will be utilized to tie the new facility to the existing campus power distribution.

Normal power will be distributed to electric rooms in each neighborhood and branch circuits will supply power to all electrical fixtures and devices from these electric rooms.

Essential Power

The nursing home will be served by an essential service power generator locally positioned to serve power directly and exclusively to this building. Two branches of essential power will be delivered, life safety power and equipment power. Each branch will be served by a dedicated automatic transfer switch to switch between the normal power service and the essential power branch served from the Nurse Home generator. This generator will have a 96-hour fuel supply local to the generator.

The campus generator system may indirectly serve the building by taking over the normal power service feed in a power outage if electrical demand power will allow for this service.

From each essential branch transfer switch, Life Safety and Equipment Power will be distributed through the building by a series of transformers and panels dedicated to the essential branch of service they provide power for.

The Life Safety Branch will serve power for the Illumination of Means of Egress, Exit Signs, the Fire Alarm system, Non-flammable medical gas alarm systems, communications systems used for issuing instructions during emergency conditions, dining and recreation areas (for illumination to exit ways), generator set locations lights and receptacles and (if equipped) elevator lights and controls.

The equipment power branch will provide for delayed automatic connection and will serve:

- Task illumination and select receptacles for patient care areas, medication preparation spaces, pharmacy dispensing areas and nurse Stations.
- Supply, return, and exhaust ventilating systems for airborne infectious isolation rooms.
- Sump pumps and other equipment for major apparatus.
- Smoke control and stair pressurization if required.
- Kitchen hood supply and exhaust.
- Nurse call system.
- Heating equipment for patient rooms.
- Elevator service (if equipped).

Power Distribution

Individual building power panels will be provided to serve lighting, receptacles, HVAC connections, kitchen equipment connections and miscellaneous equipment connections and loads on the floor the loads occur. All distribution panels will be of door-in-door construction.

Lighting

Lighting will be accomplished using LED lighting fixtures with features that allow dimming and tunability for light color. Fixtures will be a mixture of recessed and surface mounting, wall and ceiling located, linear and

round sources as best selected for the purpose and location.

Exterior lighting fixtures will be a mix of pedestrian oriented poles, bollards and wall sconces. Parking site lighting will be provided by pole mounted lighting fixtures.

Lighting controls will vary from fully automatic lighting in public spaces using occupancy sensors and daylighting controls to manual lighting control in patient rooms. All controls will be localized to the area of use.

Site lighting controls will be based on photocells and lighting intensity variation based on occupant sensing controls. Some controls will likely include time of day control.

T l communications

Campus telecommunications will be brought to a main distribution facility (MDF) in the ground floor of the nursing home. The MDF will serve as a secondary hub for campus telecommunications facilities since the current secondary hub will have to relocate to accommodate this project.

Intermediate distribution facilities located in each neighborhood will distribute telecommunications throughout the facility. Fiber optic cable will be used for distribution. Copper cable will be based on CAT6A cabling.

Telecommunications will consist of a telephone outlet, data outlet and television outlet per patient bed. Additional data outlets will be provided at all telephone, computer, printer, monitor and elevator locations as well as all equipment reporting locations such as medical refrigerator alarms.

Fir Alarm

A new Fire Alarm system will consist of a local main fire alarm panel in the building reporting back to the central campus fire alarm monitoring location over fiber optic cable. The main panel will be in the MDF room.

Initiation devices will consist of smoke detectors in corridors, electric rooms, data rooms, and other sensitive areas where smoke detection warnings would be beneficial to the resident and staff population. Manual pull stations will be provided at each Nursing Station. Duct smoke detectors will be provided if required. Heat detectors will be provided in specific areas where having a high heat alarm signal before the sprinkler heads activate is advantageous, such as cooking and laundry areas. The sprinkler system will be fully monitored.

Notification appliances will consist of voice alarm speakers and visual alerting devices (speaker/strobes). Voice alarm is not required but considering the patient population, voice will be more calming. Visual devices will need to be carefully coordinated to not be disruptive in the environment.

It is likely the fire alarm system will need to be closely coordinated with the local Fire Marshall's office to provide a system that provides for a safe environment and is the least disruptive to the residents and staff.

S curity

Security will include intrusion detection, access control, security video, panic alarms and wander control. Security features for lockdown may also be anticipated.

Intrusion detection will be provided at all exterior doors and will likely be used to monitor door activity during non-peak hours such as late at night allowing reporting at nurse stations of door activity. This type of system could be (but is not planned for) used in monitoring window activity of operable windows. Additional monitoring could be

accomplished with motion sensors to monitor traffic in specific hallways.

Access control using card or badge readers will be used at specific staff entry points to the building during non-peak hours such as late at night. Readers will also be provided in high security areas such as medication preparation rooms, pharmacy and data rooms. Additional readers will be provided in areas that need restricted access.

Security video will be provided in select public areas such as parking lots and outside staff entrances.

Security Staff Assistance (panic) alarms will be provided in Nurse Station and Reception areas. Portable, on staff alerting and alarming systems can be provided as part of the nurse call system.

Wander control will be provided at select doors to keep residents from leaving the premises without staff knowledge. Some systems will alert staff when a door is opened, some systems will sound an alarm and hold the door closed for a short period of time to allow for staff response. Portable on resident reporting systems can be provided as part of the nurse call system.

Nurs Call

A nurse call system will be provided to allow for two-way voice communications between each patient bed and the nurse station serving the bed. The system will be interactive between all nursing stations, so the system can allow transfer of calls to additional locations. Each patient bed will have a nurse call station and a staff assist pushbutton. Bath, shower and toilet rooms will have assistance call cords that will need to be coordinated with staff for type and location. Medication preparation, clean and soil rooms, break rooms and other heavily trafficked staff rooms will have staff duty stations.

The nurse call system can provide (but is not budgeted for) portable staff monitoring devices that allow the staff to receive Nurse calls while away from the nurse stations.

Other possible features (not budgeted for) include staff locaters, equipment locaters, and resident wandering devices.

Solar Pow r – N t Z ro Alt rnat

Solar power that would allow for 100% of the calculated demand load for the building to be served will be planned as an alternate for the nursing home. Lighting will be made 20% more efficient than the base. Connection to the building electrical system for distribution back to the electric utility will be provided. Controls to shut down the photovoltaic array when the local or campus generators are running will be provided.

To assist in accomplishing the net zero goal, an electrical functional program outlining what types of cord and plug connected equipment will be allowed for use will be created during the project design phase. This program will outline the need for devices such as energy star rated equipment, devices that are to be connected to controlled outlets, cord and plug connected equipment allowed for staff and patients.

BUILDING ENVELOPE

For both renovation and new construction options, the LEED Silver building envelope can be assumed to be an envelope that minimally complies with the 2015 Washington State Energy Code (WSEC). The proposed building envelope information described in this report is anticipated to meet this threshold. It should be anticipated the component performance method for will be used to show compliance; for reference, the component target building requirements are defined in WSEC Table C402.1.4, 'All Other' column. The 2018 WSEC, which is currently in development, is expected to become effective July 1, 2020. Therefore, if the project is permitted after this date, the building envelope requirements will likely become more stringent.

N w Construction Alt rnat s

The general envelope requirements for LEED Silver and LEED Silver + Net-zero renovations are described in Table 1. The LEED Silver air leakage target complies with the 2015 WSEC Section C406.9 reduced air infiltration requirement. This C406 option, combined with the C406.3 Reduced lighting power density described in the electrical requirements, fulfill the two C406 options required for the LEED Silver building to meet this portion of the code.

R novation Alt rnat s

Table 2 describes the requirements for the renovation of the Pine-Fir buildings (Alternates 1 and 2). For existing buildings, WSEC Section C505 allows for the proposed building envelope to be up to 110% of the target UA and still comply. Like new construction, C406.9 reduced air leakage is assumed. If these requirements can't ultimately be met, the performance (energy modeling) approach for WSEC compliance, described in Section C407, may be utilized. Similar to the component method, the annual modeled energy used of the proposed building may be up to 110% of the C407 threshold.

Table . Building Envelope Requirments for New Construction Alternates

Component	LEED Silver	LEED Silver + Net-Zero
Roof	Vented wood truss, R-49 loose-fill	Vented wood truss, R-60, loose-fill
Walls	2x6 wood, intermediate framing with R-21 fiberglass insulation Sheet WRB on exterior sheathing, vented (rainscreen) cladding attachment	2x6 wood, intermediate framing with R-21 fiberglass insulation + 2" mineral wool continuous exterior insulation attached with fiberglass clips or Z-girts Fluid-applied WRB on exterior sheathing, vented (rainscreen) cladding attachment
Slab-On-Grade Floor	R-10 rigid insulation, vertical down to top of footing on either interior or exterior. If interior, R-5 minimum thermal break at slab perimeter (chamfer OK)	R-10 rigid insulation continuous under the slab and R-10 on exterior down to top of footing.
Windows	Fiberglass frame with double-pane LowE glass and argon fill NFRC rated U-0.26-0.28	Fiberglass frame with triple-pane LowE glass and argon fill NFRC rated U-0.18-0.20
Glazed Entrance Doors	Aluminum frame with double-pane LowE glass and argon fill NFRC rated U-0.65	Aluminum frame with double-pane LowE glass and argon fill NFRC rated U-0.45
Opaque Doors	Steel, NFRC rated U-0.37	Steel, NFRC rated U-0.37
Building Air Leakage	0.25 cfm/ft2 @ 75 Pa or better	0.15 cfm/ft2 @ 75 Pa or better

Table 2. Building Envelope Requirments for Renovation Alternates

Component	LEED Silver	LEED Silver + Net-Zero
Roof	Flat concrete roof, R-38 continuous rigid insulation on top of deck.	Flat concrete roof, R-38 continuous rigid insulation on top of deck. Concrete overhand encased in 3" 2lb closed-cell (R-21) sprayfoam
Walls	EIFS with 3"(R-15) EPS insulation over drainage plane Fluid-applied WRB on exterior of concrete wall Metal stud furring @ 24" O.C. on interior with no insulation in cavity	EIFS with 3"(R-15) EPS insulation over drainage plane Fluid-applied WRB on exterior of concrete wall Metal stud furring @ 24" O.C. on interior with R-13 fiberglass insulation in cavity
Below-grade Walls	2" rigid insulation with metal stud furring @ 24" O.C. on interior with no insulation in cavity	2" rigid insulation with metal stud furring @ 24" O.C. on interior with R-13 insulation in cavity
Slab-On-Grade Floor	No insulation added to under the floor or on the exterior of the foundation.	Excavate exterior and install R-15 rigid insulation down to top of footing or for 2' minimum.
Windows	Fiberglass frame with double-pane LowE glass and argon fill NFRC rated U-0.26-0.28	Fiberglass frame with triple-pane LowE glass and argon fill NFRC rated U-0.18-0.20
Glazed Entrance Doors	Aluminum frame with double-pane LowE glass and argon fill. NFRC rated U-0.65	Aluminum frame with double-pane LowE glass and argon fill. NFRC rated U-0.45
Opaque Doors	Steel, NFRC rated U-0.37	Steel, NFRC rated U-0.37
Building Air Leakage	0.25 cfm/ft2 @ 75 Pa or better	0.15 cfm/ft2 @ 75 Pa or better

ADL	Activities of Daily Living
ANSI	American National Standards Institute
MS	enters for Medicare & Medicaid Services
NA	ertified Nursing Assistant
NS	linical Nurse Specialist
DDA	Developmental Disabilities Administration
DoN	Director of Nursing
DSHS	Department of Social and Health Services
HHS	U.S. Department of Health and Human Services
ICF	Intermediate are Facility
IT	Information Technology
LTC	Long-Term Care
MDS	Minimum Data Set
NA	Nurse Aide or Nursing Assistant
NF	Nursing Facility
NP	Nurse Practitioner
OFM	Washington State Office of Financial Management
PA	Physician Assistant
PAT	Program Area Team
QAPI	Quality Assurance and Performance Improvement standards for compliance, ethics, and nfection control
RoP	Medicare and Medicaid Requirements of Participation
RN	Registered Nurse
SNF	Skilled Nursing Facility
SOLA	State Operated Living Alternatives (contracted community residential services)
USGS	U.S. Geological Survey

EXHIBIT L

Laundry Analysis

ALTERNATE L1- HANDLING LAUNDRY AT RAINIER

Rainier Processing Costs (Red are costs due to transport to Rainier)

1. Driving and Transport

Current truck use based on actual usage of highway miles at 120 miles per day to and from Rainier to FS and back. Operated by one personnel both ways M-F only. National Average of the life expectancy for a Mitsubishi Diesel Box Truck based on highway miles is 250K to 300K before replacement is needed. For sake of this exercise, we are using our actual mileage based on a ten- ear use at 288K miles. The vehicle we purchased is already at 64K miles so our life expectancy equals to 8 solidy ears before replacement needs to occur.

Truck expense includes:

Initial purchase and setup (Truck $35K, lift gate $7K, and winter tires $2.7K..... $44,700

Quarterly Preventative Maintenance (PM) consisting of an oil change, fluid top offs, and quick inspections $11 every 90 days.. $ 352

Annual PM of fuel filter, wiper blades, ABS fluid refresh, and fluid top offs $60 for remaining 8y ears..... $ 480

Tranny Flush Required every 80K miles, based on end of life, 3 changes left ..... $ 30

Brakes Required every 50K miles, based on end of life, 5 changes left ..... $ 1,000

Tires All Season every 60K miles at $1200/EA, Snow tires, 3 ears of life at $2900 ..... $14,400

Batteries Required every 5y ears $150, based on end of life, changed twice ..... $ 300

Diesel Fluid and DEF Fluids 6 month operation based on Diesel averaging $2.96/gallon $51,200

Total vehicle expense not counting the unforeseen end of life breakdowns of components and the unknowns ----------$112,462

Depreciation and expense for operation based on the National average for the truck we have minus the already used miles before purchase, we have approx. 224K miles left to use before replacement is needed. This would work for us over the next 8y ears at an **annual c st f $14,058**

Transportation Driver This position includes dropping off clean linen at the facility to laundry staff, and reloading the truck for the next day delivery to Rainier This position is full time. 1 staff x $4010 a month..... Produces an **annual c sts f $48125**

Vehicle travel of laundry personnel to and from Rainier and Fircrest : 360 miles x $.55 x 4.34 wk/mo = 198.00 an **annual c st f $ 2376**

Labor only for Laundry staff to Rainier 3 x per week of 3 staff Based on below .....**an annual c st f $29135**

2 staff x19.55/hr x 3 hr/day x 3 days/wk x 4.34wk/mo = $1527.25/mo

1 staff x 23.06/hr x 3 hr/day x 3 day/wk x 4.34 wk/mo = $900.72/mo

Laundry Processing within Fircrest School and Rainier School

There is currently 10 positions within the Fircrest Laundry Department. This equates to the following;

Laundry Operations Supervisor 1 (Qty 1) Located at Fircrest, transports to Rainier 3 days a week

Laundry Worker 3 (Qty 1) Stationed at Rainier School

Seamstress 2 (Qty 1) Stationed at Fircrest School

Laundry Worker 1 (Qty 2) Stationed at Fircrest School

Laundry Worker 1 (Qty 3) Stationed at Rainier School

Laundry Worker 1 (Qty 2) Located at Fircrest, transports to Rainier 3 days a week

Cost salaries, including benefits package, breakdown will be provided in the following manner based on permanent placement or roving status;

Permanent monthly and annual total based on permanent location (either Rainier or Fircrest)

Laundry Worker 3 Monthly expense at $4010, ……..**annual expense at $48,125**

Seamstress 2 Monthly expense at $4104, ……..**annual expense at $49,248**

Laundry Worker 1 Monthly expenses at $3400, Qty 5 Rainier and Fircrest ……**annual expense at $204,048**

Roving Worker hourly and annual total base on roving to and from Rainier and Fircrest (laundry labor hours only)

Laundry Operation Supervisor (Qty 1) and Laundry Worker 1 (Qty 2) ……**total annual expense $100,368**

2 staff x19.55/hr x 7 hr/day x 3 days/wk x 4.34wk/mo = $3564/mo

2 staff x19.55/hr x 10 hr/day x 1 day/wk x 4.34 wk/mo = $1697/mo

1 staff x 23.06/hr x 3 hr/day x 3 day/wk x 4.34 wk/mo = $2102/mo

1 staff x 23.06/hr x 10 hr/day x 1 day/wk x 4.34 wk/mo = $1001/mo

Laundry Processing at Rainier School for Fircrest Laundry

Utility and Machine

Price per pound was calculated in November 2017 based on the utilities and usage logs of the machines at the facility of Fircrest linen. It was agreed, as we already expense the labor side of this, Rainier School was to provide us a total daily and monthly pound of linen processed every month. Based on above pricing, it was calculated we pay $.069 per pound of laundry processed which covered the utilities cost for the machines and soap and disinfectants used for processing. At first, we were short on linen and was running from 45,000 lbs. to 49,000 pounds. Currently today, we are back up near the 61,000 to 63,000 lbs. we once produced. For this exercise, I will use the 63,000 lb. number for final calculations.

Monthly use of 63,000 lbs x $.069 = $4347 a month …….. **an annual c st f $52,164**

Machine breakdowns, repairs and preventative maintenance work. It was suggested that Fircrest pay 50% of the labor and the materials on this work completed by a Rainier School Maintenance mechanic. This started in late November as the facility did not track there expenses on the machine when we started in August. With the fact we have not completed an entire month at this point andy ou are in need of responses, I am imputing the repair and maintenance cost for an entirey ear at approx. $13,400……. **an annual c st f $13,400**

S f r final numbers

Delivery and Transportation of workers and linen …….. $ 93,694

Laundry processing labor (dirty at Rainier, Clean at Fircrest) …….. $401,789

Machine utilities, repair and maintenance at Rainier …… $ 65,564

Annual Expense …….. $561,047

Alterati ns, which c uld change the c st f this annually

Machine replacement

Vehicle replacement

Utility price hikes or curtailments

Facility failure at Rainier

Emergency Disaster

10/ 18/ 2018
Quote from North City Cleaners, 17721 15th Avenue NE, Shoreline.

Hello Eric,

Please p ovide you p ice fo the following:

63,000 pounds of laund y pe month $2.50 / lb = $157,500

Wash and Fold only:

- towels,
- bath towels,
- pillow cases,
- bath blankets,
- diape s,
- incontinent pads,
- bibs.
- The est goes into a sepa ate bin fo items such as esident clothing, mending and ma king items, wash cloths, mops, di ty linen bags, and clean linen bags

P essing equi ed fo :

- sheets we e 4299 pieces,
- bed sp eads 915 pieces,
- small flat fitted sheets 729 pieces
- blankets, 2553 pieces
- bath blankets at 3721 pieces.

Total 12,217 pieces x $15.00 per item = $183,255.

Grand Total = $340,755/ month

Thank ou.

Valerie Thiel

206-694-3441

LAUNDRY PRODUCTION LOG

5-31-17

	WEEK #1	WEEK #2	WEEK #3	WEEK #4	TOTAL
SHEETS	1083	995	1185	1036	4299
PILLOW CASES	0	0	45	0	45
SPREADS	230	160	285	250	915
SMALL FLAT	320	130	110	169	729
BLANKETS	593	535	583	842	2553
BATH TOWELS	1610	1460	1362	2131	6563
HAND TOWELS	270	1130	360	315	1375
WASH CLOTHS	540	385	553	736	2214
BATH BLANKETS	515	845	1039	1772	3721
DIAPERS	387	485	516	770	2152
BIBS	1095	1018	1082	1247	4442
MENDING & MARKING	832	496	422	838	2588
CLOTHING	990	2082	1615	2216	6903
HB & NYLON BAGS	1339	1576	1559	2389	6863
MOPS	520	670	708	631	2529
MISC.	770	368	395	609	2142
PADS	1755	1795	1895	2680	8125
FOOD LIFELINE					
MAIN KITCHEN	230	160	150	335	875
~~DENTAL~~ ATP FOLDER	1090	940	850	1457	4337
	14159	14580	14708	19923	63370

MAY 2017 - 63370

IND INDUSTRIES INC. dba
IND
LAUNDRY SYSTEMS

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September 17, 2018

Sage Architectural Alliance
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Conceptual Laundry Fircrest School Shoreline, WA

Task – 70,000 pounds a month to be processed in a 40-hour work week.

70,000 lbs./month ÷ 4.33 weeks= 16,167 lbs. per week
16,167 lbs. ÷ 40 hour per week = 404 lbs. per hour to be produced.

Laundry equipment

QTY	Equipment/Description (See Attachments for Additional Detail)	Unit Price	Total Price
2	Braun Medicare Top-Side Loading Washer/Extractor	$113,194.00	$226,388.00
1	Braun Natural Gas Fired Dryer	$123,906.00	$123,906.00
1	Braun Precision Series® 2-Roll, 32in. Ø Steam-Heated Ironer	$189,244.00	$189,244.00
1	Braun Precision Series® 4 Lane 2 Fold Primary/1 Lane 3 Fold Cross Folder	$81,098.00	$91,098.00
1	Braun Precision Series® Small Piece Folder	$47,606.00	$47,606.00
1	125 lbs. Unimac Washer	$38,432.00	$38,432.00
1	170 lbs Unimac Dryer	$16,884.00	$16,884.00
2	Platform Scales with Printers		$7,793.00
2	Electric Hoists		$4,992.00
1	5 hp Air Compressor System		$4,836.00
40	Landry Carts & Slings (about 40 each)		$26,000.00
1	Soil Sorting System		$125,000.00

LIND INDUSTRIES INC. dba
LIND
LAUNDRY SYSTEMS

September 17, 2018

Water System

QTY	Equipment/Description (See Attachments for Additional Detail)	Unit Price	Total Price
1	TEA TR-2 Wastewater Heat Recovery System	$66,035.00	$66,035.00
1	TEA 800 GAL Stainless Steel Hot Water Storage Tank	$8,913.00	$8,913.00
1	TEA Steam Immersion Water Heating System	$9,386.00	$9,386.00
1	TEA Steam Steel Tempered Water Storage Tank	$8,527.00	$8,527.00
1	TEA Triple Pumping Package - 5 HP	$19,651.00	$19,651.00
1	TEA DC-2 Direct Contac Stack Economizer	$18,100.00	$18,100.00

100 HP Steam Boiler System

QTY	Equipment/Description (See Attachments for Additional Detail)	Unit Price	Total Price
1	90 to 100 hp Steam Boiler System	$99,788.00	$99,788.00

Estimated figures do not include allowances for freight or installation.

Thank You,

Neil Lind
Lind Industries, Inc ***d.b.a.***
Lind Laundry Systems
9615 STONE AVE N
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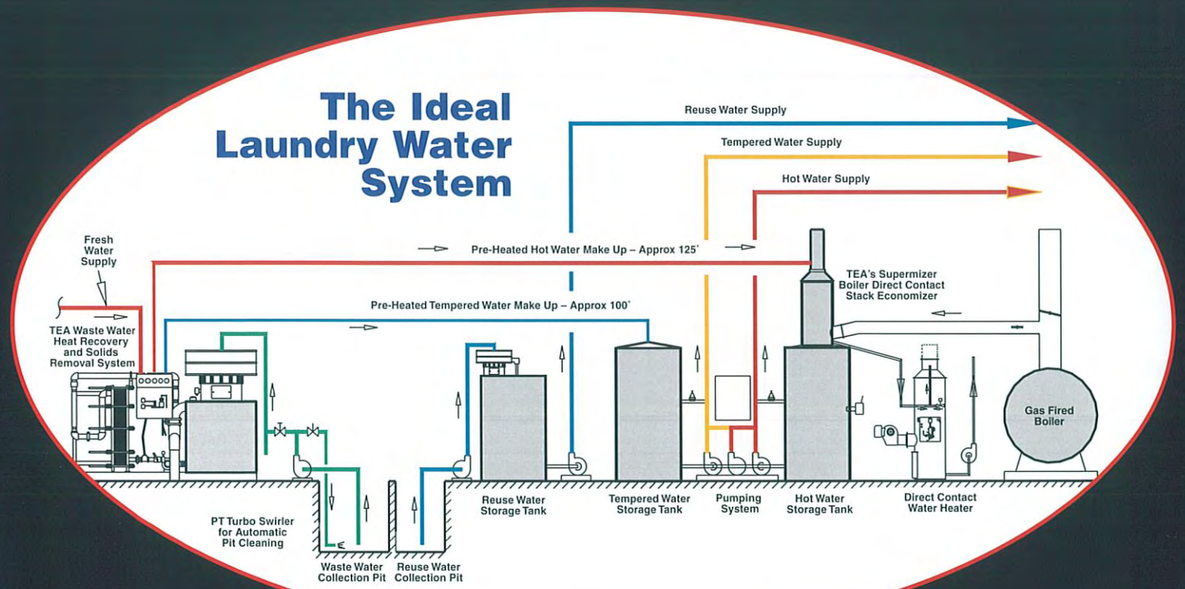
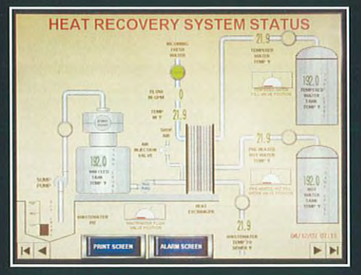
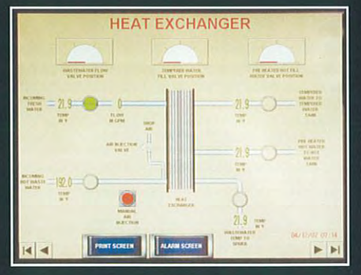
e-mail: neil@lindindustries.com www.lindindustries.com

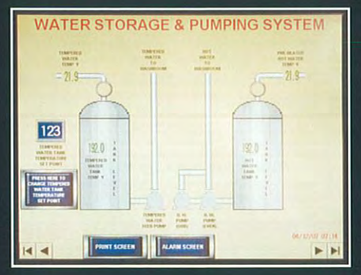
The Ideal Laundry Water System

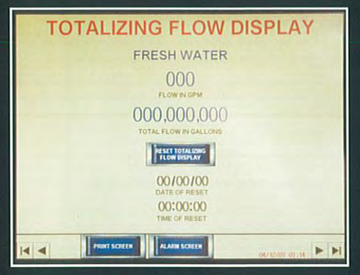


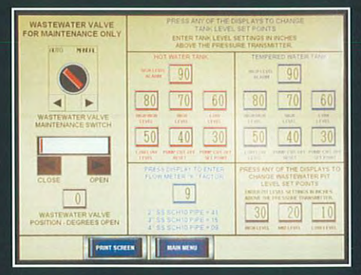
Examples of SMART TOUCH Screens











THERMAL ENGINEERING AND WHAT WE DO:

- WASTE WATER HEAT RECOVERY SYSTEM
- DIRECT CONTACT WATER HEATERS
- STAINLESS STEEL WATER STORAGE TANKS
- STEAM WATER HEATING SYSTEMS
- CONDENSATE COOLING SYSTEMS
- DIRECT CONTACT STACK ECONOMIZERS
- WET TYPE LINT COLLECTORS
- DRY TYPE LINT COLLECTORS
- SHAKER SCREENS FOR WASTE WATER CLEANUP
- WATER PUMPING SYSTEMS
- CUSTOM WATER SYSTEM PLANT DESIGNS
- CONCRETE WASTE WATER PLANT DESIGNS
- WATER REUSE AND RECLAIMATION SYSTEMS
- ENERGY MONITORING SYSTEMS

THERMAL ENGINEERING of ARIZONA

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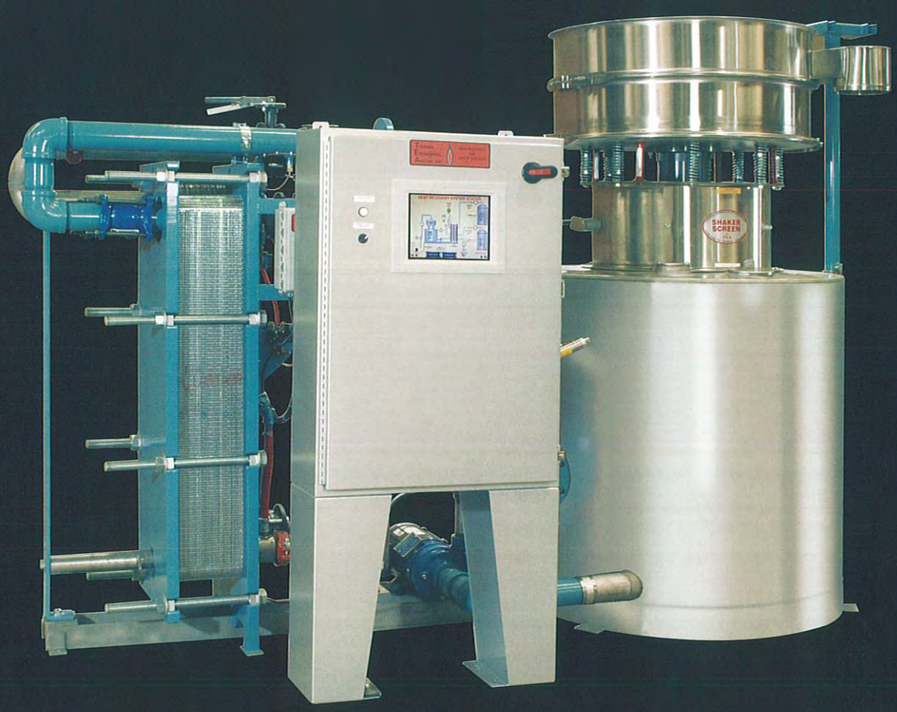
Email: sales@teatucson.com
www.teatucson.com

WATER HEATERS

WASTE WATER CLEAN-UP

S.S. STORAGE TANKS & PUMPING SYSTEMS



DIRECT CONTACT WATER HEATERS

SYSTEM 2000

HEAT RECOVERY FOR THE NEW MILLENNIUM

THERMAL ENGINEERING of ARIZONA

HEAT RECOVERY SYSTEMS

SYSTEM 2000

WITH THERMAL ENGINEERING'S SYSTEM YOU HAVE A FACTORY-BUILT, SERVICE PROVEN, COMPLETE PACKAGE. ENGINEERED FOR MAXIMUM WASTE WATER HEAT RECOVERY.

THERMAL HEAT PLATE EXCHANGER

PERFORMANCE
300% more efficient than continuous tube type heat exchangers.

EXPANDABLE
Just add plates for additional capacity – a one-hour job.

NON-FOULING
Highly turbulent corrugated and electro-polished heat transfer surfaces easily release soap scum build-ups

SERVICEABILITY
Simply remove compression bolts and spread plates apart for a full internal inspection of both the waste and fresh water heat transfer surfaces.

HEAT LOSS
Practically none – No insulation is needed.

COMPACT
Entire system occupies 25 to 35% of floor space compared to 30-foot long continuous tube type heat reclaimers.

TEA SMART-THERM
Automatically controls waste and fresh water flows to extract the maximum waste energy for pre-heating hot and tempered make-up waters to the highest levels ever achieved.

1 SHAKER SCREEN
Automatically removes suspended solids above 175 micron to reduce TSS to acceptable levels.

7 AUTOMATIC SOLIDS COLLECTION
Suspended solids filtered from wastewater are collected in dewatering container for easy disposal with plant solid waste.

6 HOT FILTERED WASTE WATER FEED TANK
Stores filtered hot wastewater for immediate delivery to heat exchanger. No heat recovery lag for lack of hot waste-water when needed.

2 EXCLUSIVE PRE-PIPING AND WIRING STANDARD
Assembly includes all isolation and control valves. Stainless steel fresh water piping for lifetime service.

5 EXCLUSIVE PUSH BUTTON HEAT EXCHANGER CLEANING
Automatic 160-degree hot water circulation cleaning cycle maintains "as new" performance in any kind of laundry. No dangerous hot caustic cleaning ever needed.

SMART TOUCH CONTROL SYSTEM

This stand-alone control console includes an advanced color touch screen interface for all control functions. This touch screen has the ability to completely operate and monitor the entire system operation. These functions will include the ability to start and stop all system components from the central control console. This system is standard at no extra cost.

3 PNEUMATIC INJECTION CLEANING (PATENTED)
Automatically air blasts wastewater heat transfer surfaces every few minutes. Violent air/water agitation breaks loose any fouling, which can impede heat transfer.

4 SAFETY FILTER
Basket strainer prevents solids from plugging plate exchanger if screen failure occurs

A HISTORY OF EFFICIENCY

The energy crisis of the 70's resulted in demands for the best laundry waste water reclaimers possible. Existing shell and tube units developed in the 30's and 40's, while adequate for those times, just did not have the performance capabilities needed when energy costs rose to 10 times previous costs.

In 1978, Thermal Engineering of Arizona (TEA) introduced its patented Thermal Heat Recovery System to the laundry industry. The exclusive corrugated heat transfer surfaces produce water flow turbulences which resulted in 300% more heat transfer efficiency than even the best existing continuous tube reclaimers.

Combined with its integral Shaker Screen for automatic wastewater Clean up, TEA's prepackaged, wired and piped Heat Recovery Systems quickly gained a position as the technological leader in the laundry industry.

In 1980, TEA introduced its patented hot and tempered water pre-heating wastewater heat recovery system – the greatest single improvement in laundry heat recovery ever. Today, fully 90% of all plants being built are using TEA's concept of heat reclaimed tempered water preheating.

And the results are spectacular. TEA systems are today achieving the highest levels of laundry wastewater heat recovery ever achieved. Plants are normally designed to recover 75% and more of the total heat contained in the wastewater before discharge to the sewer.

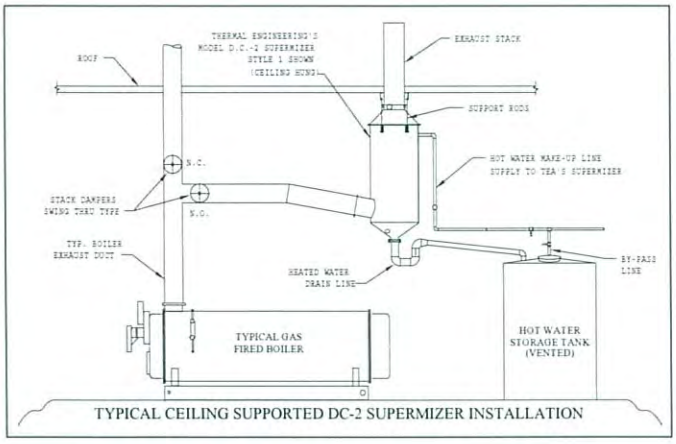
THERMAL ENGINEERING of ARIZONA

SUPERMIZER

DIRECT CONTACT
STACK ECONOMIZER

The biggest heat loss in a steam boiler is what goes up the stack.

Recovering this heat loss is what Thermal Engineering's Supermizer Direct Contact Stack Economizer does. When large volumes of hot boiler exhaust gases are discharged to the atmosphere, substantial quantities of valuable heat are needlessly lost. This heat can be easily re-captured and added to the incoming fresh water make-up as pre-heating. The hot exhaust boiler gases are directed by way of a damper on the boiler stack and enters into the lower heat transfer chamber and starts moving upward through the "packed mass" heat exchanger. When plant make-up water is needed, automatic controls start the regulated flow of water into the Supermizer. The incoming water enters the flow distributor where it is evenly spread out over the Packed Mass heat exchanger. It now starts to flow downward through the torturous path of the Packed Mass heat exchanger. The large surface area of the packing causes the water to spread out into a very thin film. The hot gases traveling upward through the packing readily releases its heat to the water film, rapidly raising the water temperature. Just as quickly, the hot gases cool. The efficiency of the heat transfer is dramatic – at full power and maximum water flow rates, the hot exhaust gases are normally cooled to within 10 to 20 degrees of the incoming water temperature before discharge to the exhaust stack. In a well-tuned boiler, this can amount to about a 20% energy recovery of the on-line boiler load.



TYPICAL CEILING SUPPORTED DC-2 SUPERMIZER INSTALLATION

TEA Stack Economizer gravity feeding a TEA DC-1 Direct Contact Water Heater. A TEA exclusive feature.

THERMAL ENGINEERING OF ARIZONA

2250 W. WETMORE RD • TUCSON, AZ 85705

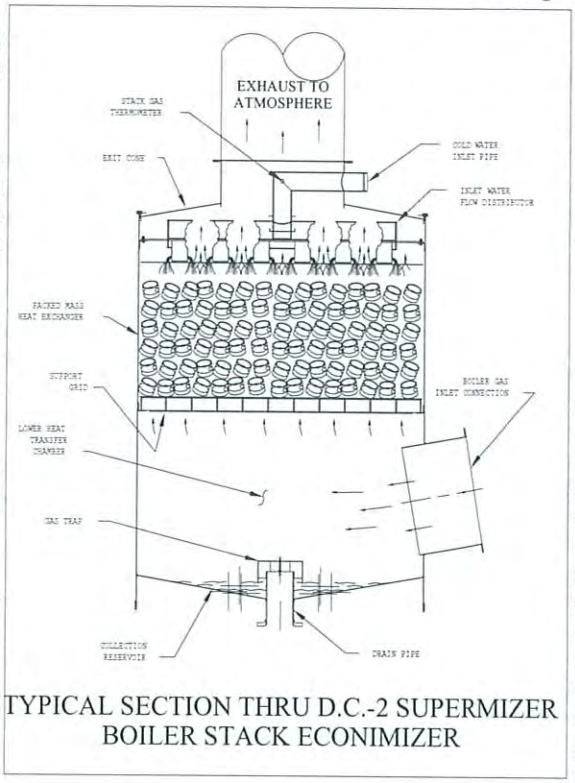
PHONE: 520-888-4000 E-MAIL: sales@teatucson.com FAX: 520-888-4457

How The SUPERMIZER Works

Thermal Engineering's SUPERMIZER Direct Contact Stack Economizer is a high temperature atmospheric type water heater. The unique packed mass heat exchanger has proven itself in hundreds of installations to be safe, efficient and requires a minimum of maintenance.

The heater itself is a vertical stainless steel vessel, which consists of the following:

- The exit cone, which discharges the cooled boiler gases to the exhaust stack and then to the atmosphere after releasing its heat to the water.
- An inlet water flow distributor, which spreads the incoming water evenly over the packed mass heat exchanger.
- The "Packed Mass" heat exchanger, where heat is scrubbed from the boiler exhaust gasses.
- A lower heat transfer zone, where the hot boiler gases make initial contact with the water droplets falling through.
- A bottom heated water collection and transfer reservoir.



TYPICAL SECTION THRU D.C.-2 SUPERMIZER BOILER STACK ECONIMIZER

TEA'S Supermizer is a very simple piece of machinery. Unlike other units, which have troublesome spray nozzles, the Supermizer has a flow distributor. This uses the leveling effect of water and dozens of flow orifices to insure equal distribution of water over the heat exchanger regardless of the incoming flow rate or pressure fluctuations.

The heated incoming water flowing downward through the Packed Mass heat exchanger keeps it cool and protects it from the high temperatures of the boiler exhaust gases. The water then falls through the lower heat transfer chamber where it picks up even more heat and then is collected in the reservoir. This heated water is then supplied to the water storage tank either by pump or gravity feed.

THE ENERGY BONUS

The normal combustion process of natural gas combines hydrogen and oxygen chemically to form water, which is instantly vaporized by the heat of combustion. This process absorbs about 12% of the total heat released by the fuel and it is normally lost to the atmosphere with the boiler exhaust gases. The Supermizer ends this loss. As the hot exhaust pass through the Packed Mass heat exchanger, the gases cool so much that the water vapor in the combustion gases condense out releasing the heat it took to vaporize it initially.

Thermal Engineering's DC-2 SUPERMIZERS can be installed either hanging from the ceiling, mounted on the roof or on the floor. The following describes each option:

Style 1 – Ceiling Hung. Support lugs are provided for customer's supplied rods to hang the unit from. Pre-heated water gravity flows to the water storage tank or Direct Contact Water Heater.

Style 2 – Roof Mounted. Identical shape to Style 1 except support legs are supplied for mounting. Pre-heated water gravity flows to water storage tank. Unit and services must be protected from freezing.

Style 3 – Floor Mounted. Water transfer pump is supplied. Pre-heated water is transferred from the internal reservoir to the hot water storage tank by a transfer pump.

Installation of a DC-2-500 SUPERMIZER servicing a 500 H.P. boiler.

Installation of a DC-2-300 SUPERMIZER servicing a 300 HP. Fulton Hot Oil Boiler. Note simple support frame eliminates structural roof support members

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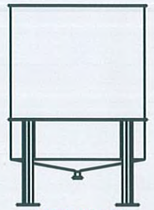
Some "TEA Tank" Styles

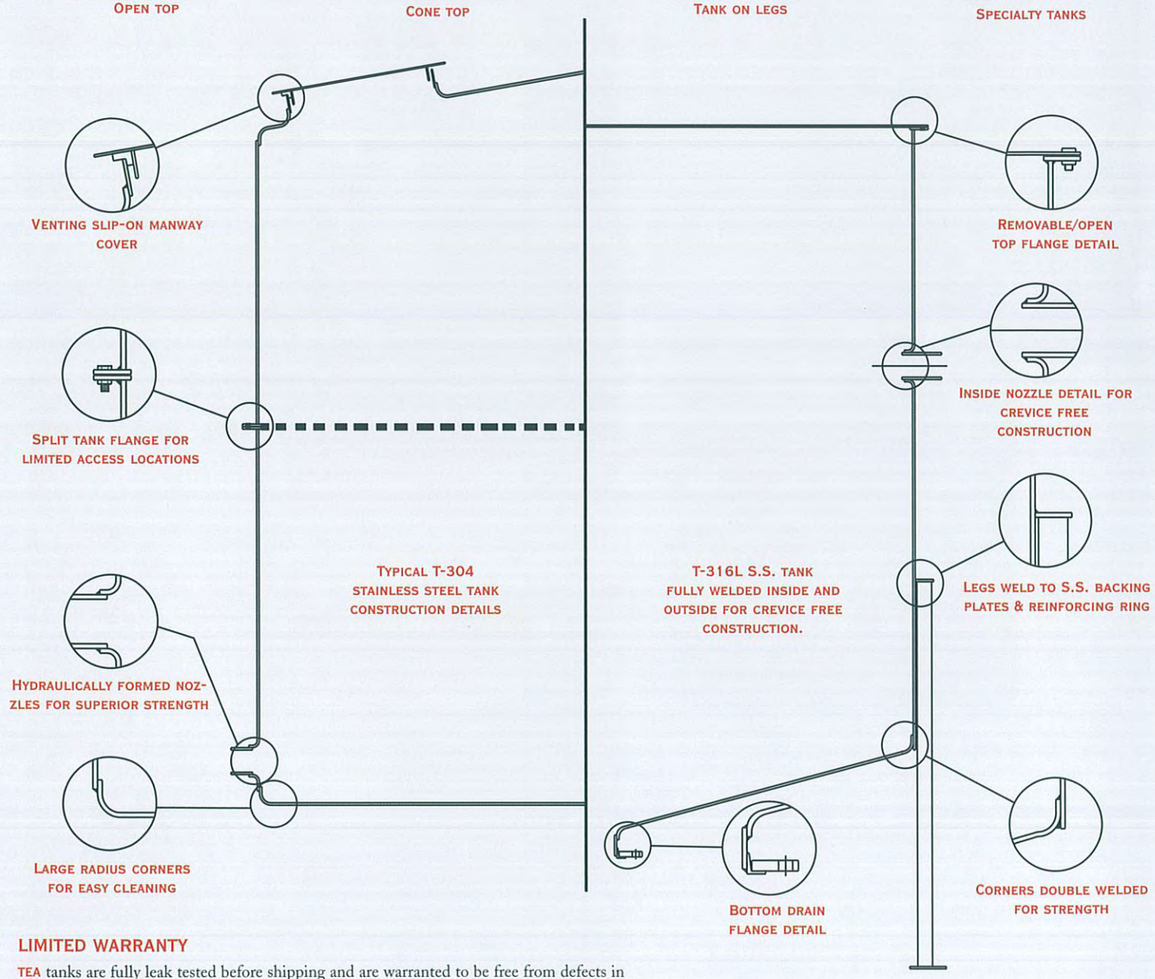
Open top

Cone top



Tank on legs

Specialty tanks



LIMITED WARRANTY

TEA tanks are fully leak tested before shipping and are warranted to be free from defects in workmanship and material up to the time of initial installation and test only. In the event of a claim, TEA's obligation and liability are strictly limited to the repair of replacement, at TEA's discretion, at its plant of manufacture. All shipping costs to be by purchaser. It is the users responsibility to determine the suitability of the tank being considered for the final use.

Represented By

Thermal Engineering of Arizona, inc.
2250 W. Wetmore
Tucson, Arizona 85705 U.S.A.
(520)888-4000
Fax (520) 888-4457
email: sales@teatucson.com

SAXDF002 2/00

STAINLESS STEEL TANKS

from

T.E.A.

Thermal Engineering of Arizona, inc.

TEA's STAINLESS STEEL TANKS

TEA TANKS are specifically manufactured to commercial standards to meet the storage and processing needs of most industrial applications. Unique forming and welding techniques result in finished tanks which have excellent functionality when compared to purchased cost.

Tanks are quickly available in either T-304 or T-316L Stainless Steel. They are either flat bottomed or coned bottom on legs. Tops can be open, flat, cone, or with removable covers.

Standard finish is #2b mill. Other mill finishes available on special order. Outside welds cleaned of scale and discoloration. For most applications, T-304 is TEA's standard tank material. These tanks will have internal crevices and should not be used for sensitive processing where cleaning and/or cross contamination can be a problem.

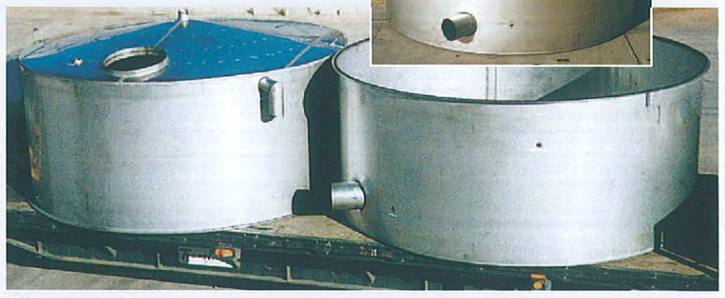
T-316L stainless steel offers higher corrosion resistance to most products. Double thickness overlapping joints are fully welded both inside and out. This no-crevice construction allows for easy cleaning, preventing product cross contamination. This construction will exceed the most demanding application requirements.

TEA TANKS are designed to hold liquid or solid materials up to a specific gravity of 1.2 at atmospheric pressure.

TEA is well qualified to fabricate custom designed tanks of up to 1/2" thick stainless steel, up to 12 feet in diameter, and to 24 feet high. Please contact TEA directly.

Four of sixteen 12,000 gallon T-316L stainless steel tanks for acidic leach solution in mining operations for Bechtel Corp.

Bottoms and tops have full radius rolled corners for reduced weld distortion and ease of cleaning.

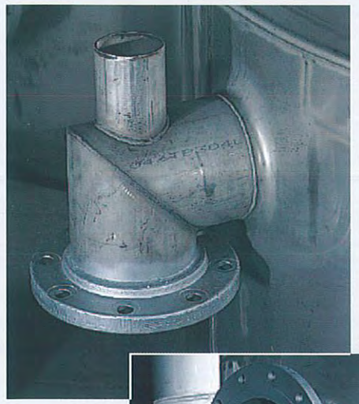


Split sectioned tanks.

Tanks can be manufactured in a split design for limited access installations. Each section will be flanged and all that is required for assembly is to apply the supplied Gortex seal and bolt the sections together. These tanks can be custom engineered for special requirements.

ACCESSORIES AND OPTIONAL EQUIPMENT

- Fittings — couplings, nipples and groove lock.
- Flanges — up to 12" stainless steel lap type with galvanized back-up flanges. Stainless steel slip on flanges optional.
- Bolted side manways.
- Top cover manways — either bolted, slip-on or lockable.
- Bolted on ladders and top railings.
- Immersion heating coil mounting flanges
- Sight Tubes — ridged acrylic standard.
- Support Rails — for top mounted agitator.
- Internal Baffles — for effective top to bottom mixing.
- Tank overflows/vents per request.

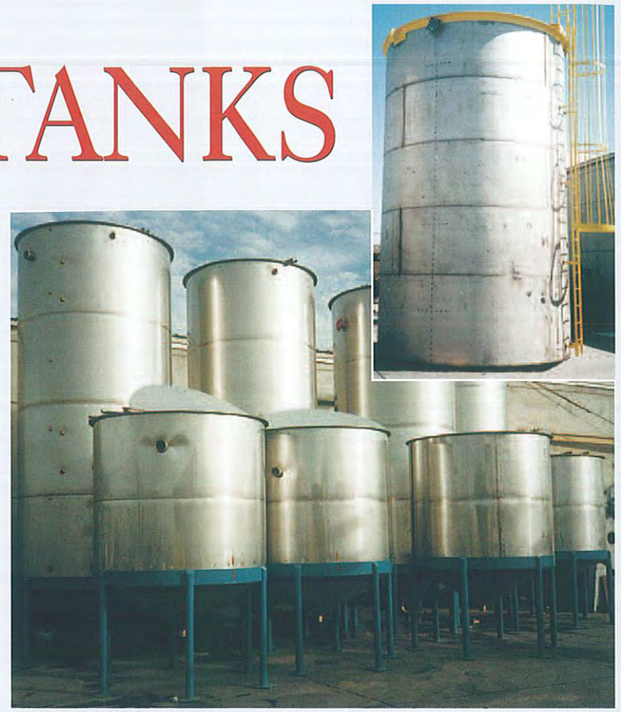


All fittings are mounted in hydraulically extruded nozzles for strength.

Nozzles are extruded outward on T-304 S.S. tanks and inward on T-316L S.S. tanks for crevice elimination.

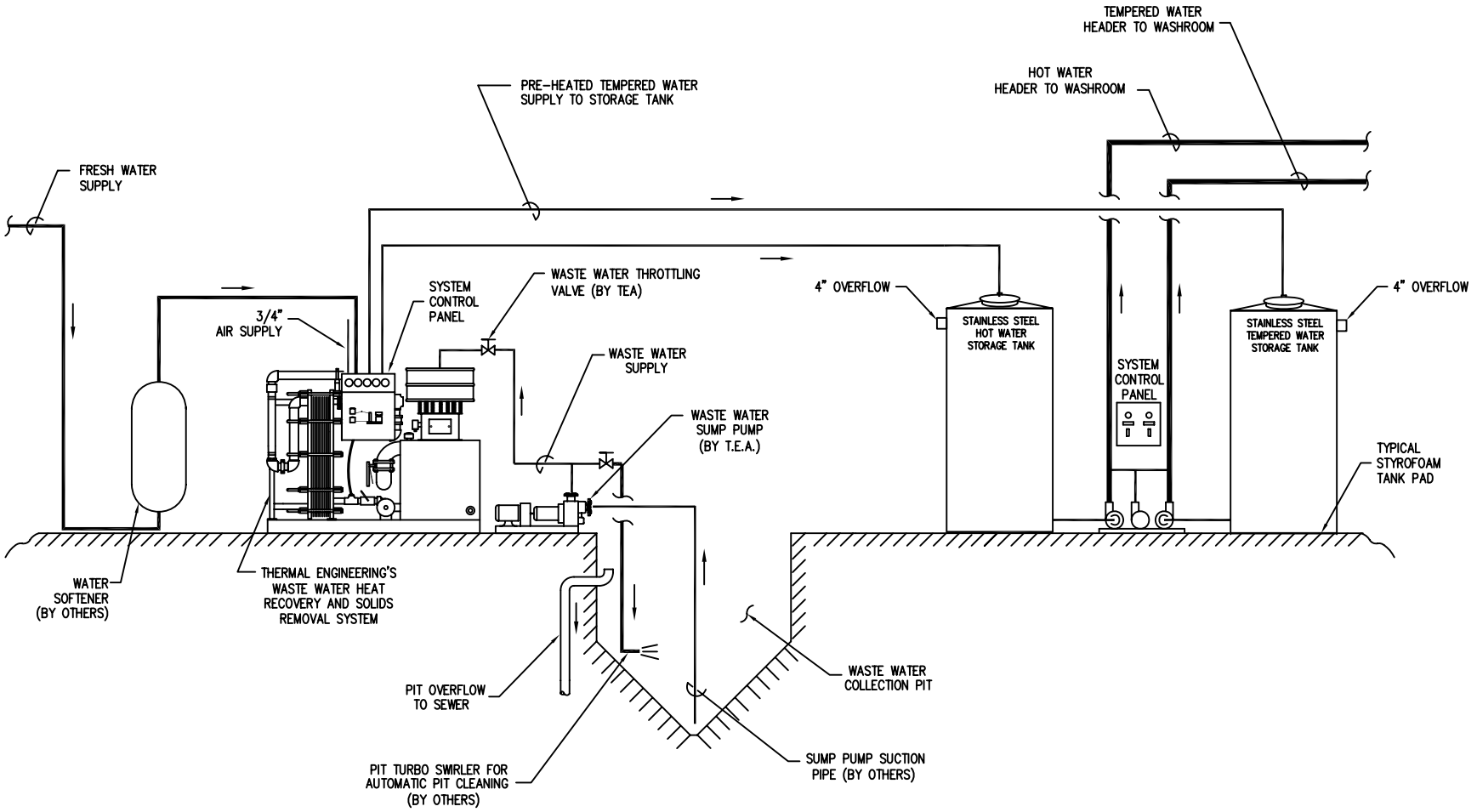
Four fittings up to 2 inch in diameter are standard. Larger fittings and greater quantities are available.

Standard tank components are pre-fabricated and stocked for rapid assembly. Standard tanks can be shipped in two weeks after ordering. Special requirements may require longer lead times.



Ladders, working platforms, equipment mounts and other structural attachments available.

T.E.A.



TOLERANCES	REVISIONS	BY	DATE
FRACTIONS=±1/16" ANGLES=±3°	⚠11/21/03	ROC	11/21/03
0.X=± 0.0X=± 0.00X= ±		ISSUED	DATE
MAT.–		DEPT. HEAD	DATE
STOCK P/N		FOREMAN	DATE
FINISH–		OTHER	DATE

Thermal Engineering of Arizona, Inc.
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2250 W. Wetmore Tucson Arizona 85705 U.S.A. FAX: 520-888-4457

TYPICAL FLOW DIAGRAM

TR-SYSTEM

–

TAKEN FROM	SO #	SCALE	DWG #	SHEET	REV
–	–	NTS	TB-1083	1 OF 1	A

LIND INDUSTRIES INC. dba
LIND
LAUNDRY SYSTEMS

(206) 517-5463
FAX (206) 517-5493

April 9, 2018

Washington State DSHS
Larry Covey - Capital Project Manager
Operations Support and Services Division
PO BOX 45848
MS: 45848
OLYMPIA, WA 98597 Email: Larry.Covey@dshs.wa.gov

Conceptual Laundry Fircrest School Shoreline, WA

Task – 70,000 pounds a month to be processed in a 40-hour work week.

70,000 lbs./month ÷ 4.33 weeks= 16,167 lbs. per week
16,167 lbs. ÷ 40 hour per week = 404 lbs. per hour to be produced.

Laundry equipment

QTY	Equipment/Description (See Attachments for Additional Detail)	Unit Price	Total Price
2	Braun Medicare Top-Side Loading Washer/Extractor	$108,840.00	$217,680.00
1	Braun Natural Gas Fired Dryer	$119,140.00	$119,140.00
1	Braun Precision Series® 2-Roll, 32in. Ø Steam-Heated Ironer	$181,965.00	$181,965.00
1	Braun Precision Series® 4 Lane 2 Fold Primary/1 Lane 3 Fold Cross Folder	$77,978.40	$77,978.40
1	Braun Precision Series® Small Piece Folder	$45,775.00	$45,775.00
1	125 lbs. Unimac Washer	$36,953.00	$36,953.00
1	170 lbs Unimac Dryer	$16,234.00	$16,234.00
2	Platform Scales with Printers		$7,494.00
2	Electric Hoists		$4,800.00
1	5 hp Air Compressor System		$4,650.00
40	Landry Carts & Slings (about 40 each)		$25,000.00

LIND INDUSTRIES INC. dba
LIND
LAUNDRY SYSTEMS

April 9, 2018

Water System

QTY	Equipment/Description (See Attachments for Additional Detail)	Unit Price	Total Price
1	TEA TR-2 Wastewater Heat Recovery System	$63,495.00	$63,495.00
1	TEA 800 GAL Stainless Steel Hot Water Storage Tank	$8,570.00	$8,570.00
1	TEA Steam Immersion Water Heating System	$9,025.00	$9,025.00
1	TEA Steam Steel Tempered Water Storage Tank	$8,199.00	$8,199.00
1	TEA Triple Pumping Package - 5 HP	$18,895.00	$18,895.00

100 HP Steam Boiler System

QTY	Equipment/Description (See Attachments for Additional Detail)	Unit Price	Total Price
1	90 to 100 hp Steam Boiler System	$95,950.00	$95,950.00

Estimated figures do not include allowances for freight or installation.

Thank You,

Neil Lind
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LAUNDRY SYSTEMS

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October 1, 2018

Sage Architectural Alliance
Valerie Thiel
Tel: 206-694-3441
Email: Val@SageArchAlliance.com

Conceptual Laundry Fircrest School Shoreline, WA

Task – 70,000 pounds a month to be processed in a 40-hour work week.

70,000 lbs./month ÷ 4.33 weeks= 16,167 lbs. per week
16,167 lbs. ÷ 40 hour per week = 404 lbs. per hour to be produced.

Hours each piece of equipment will operate per shift to accomplish the task.

Laundry equipment

1	Braun Precision Series® 2-Roll, 32in. Ø Steam-Heated Ironer	6 hours
1	Braun Precision Series® 4 Lane 2 Fold Primary/1 Lane 3 Fold Cross Folder	6 hours
1	Braun Precision Series® Small Piece Folder	4 hours
1	125 lbs. Unimac Washer	4 hours
1	170 lbs Unimac Dryer	4 hours
2	Platform Scales with Printers	1 hour each
2	Electric Hoists	2 hours each
1	5 hp Air Compressor System	4 hours
40	Landry Carts & Slings (about 40 each)	
1	Soil Sorting System - 1 hp	6 hours

LIND INDUSTRIES INC. dba
LIND
LAUNDRY SYSTEMS

September 17, 2018

Water System

QTY	*Equipment/Description (See Attachments for Additional Detail)*	
1	TEA TR-2 Wastewater Heat Recovery System	7 hours
1	TEA 800 GAL Stainless Steel Hot Water Storage Tank	no req
1	TEA Steam Immersion Water Heating System	no req
1	TEA Steam Steel Tempered Water Storage Tank	no req
1	TEA Triple Pumping Package - 5 HP	4 hours
1	TEA DC-2 Direct Contac Stack Economizer	no req

100 HP Steam Boiler System

QTY	*Equipment/Description (See Attachments for Additional Detail)*	
1	90 to 100 hp Steam Boiler System	8 hours

Thank You,

Neil Lind
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ASSUMPTIONS

The following narratives for each mechanical system are described by the following headings as follow:

- Mechanical Code Analysis
- Net Zero Energy Mechanical Systems
- New Construction Madrona Site
  - Net Zero Energy Equipment Sizes
- Laundry Building Mechanical Systems

MECHANICALICODEIANALYSIS

Applicable codes and standards shall include, but not necessarily beXimited to:

- 2018 FGI Guidelines for Design and Construction of Residential Health Care, and Support Facilities.
- 2015 Health Care Facilities Code (NFPA 99)
- 2015 Washington State Energy Code
- Uniform Plumbing Code, by International Association of Plumbing and Mechanical Officials.
- International Mechanical Code, by International Code Council.
- International Building Code, by International Code Council.
- Requirements of OSHA, EPA and WISHA.
- National Fire Protection Association Codes.
- ASME codes for boiler and pressure vessels.
- SMACNAXHVAC Duct Construction Standards, latest edition.
- All local and state amendments.
- Requirements of all agencies have jurisdictional authority over installation of mechanical systems.

NETIZEROIENERGY MECHANICALISYSTEMS

Fire P otection

Fire protection system will be a wet sprinkler system and will provide coverage to all spaces. The fire protection system will include the following, but not necessarily be limited to:

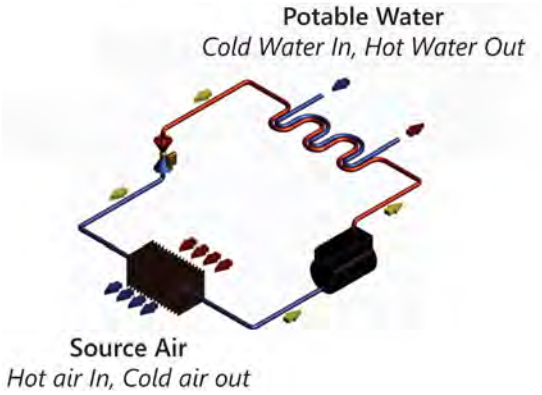
- Belowground fire service to building
- Backflow preventer (double check valve assembly)
- Wet sprinkler piping
- Wet pipe alarm check valve
- Fire Department inlet connection
- Supervisory (tamper) switches
- Water flow switches
- Zone control valves
- Isolation and check valves
- Inspector's test connection
- Sprinkler heads
- Seismic restraints
- In new construction, crawl space will not be sprinkled.

Plumbing System

Domestic cold water service to the building will be connected to the campus water distribution loop with water meter and backflow preventer at the building service connection. The backflow preventer will be installed in the mechanical room with floor drain.

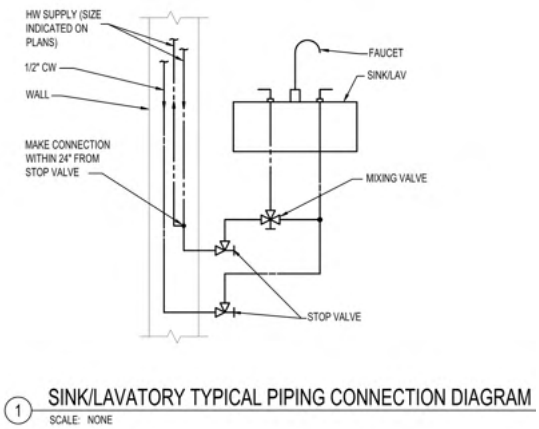
Domestic hot water system will be based on an air source heat pump water heater. The hot water heater will be similar to Colmac Waterheat model HPA7 Propeller Fan with hot water storage tank. The hot water will be circulated through the system by circulated pump to maintain constant temperature in the piping. The hot water heater will maintain minimum of 145 deg F to minimize the potential growth of

legionella and 125 deg F water will be distributed through the building through thermostatic mixing valve. 125 deg F hot water will be further reduced to 110 deg F at the sink by the local thermostatic mixing valve. The plumbing system will be designed to include the consideration of Legionella response per 2018 FGI Guideline Section A2.5-2.2.3. The hot water system will be connected to the adjacent hot water system to provide back up in the event of the hot water heater failure or the maintenance service shut down. The inter connecting piping will be normally closed and opened during backup.



Air Source Heat Pump Water Heater

Cold & Hot Water design will include consideration to minimize piping dead legs to prevent any growth within the piping system. In addition, hot water piping loop will be routed in the wall from the ceiling to plumbing fixture stop valve within 12 inches, so that each fixture will receive hot water immediately to minimize water waste. Each faucet will have laminar flow type low flow discharge tips (non-aerated). All hand washing sink including wall mounted lavatory will be selected without an over flow outlet.



1 SINK/LAVATORY TYPICAL PIPING CONNECTION DIAGRAM
SCALE: NONE

Hot water temperature to laundry washing machine will be raised to 165 deg F for proper sanitization of the soiled materials.

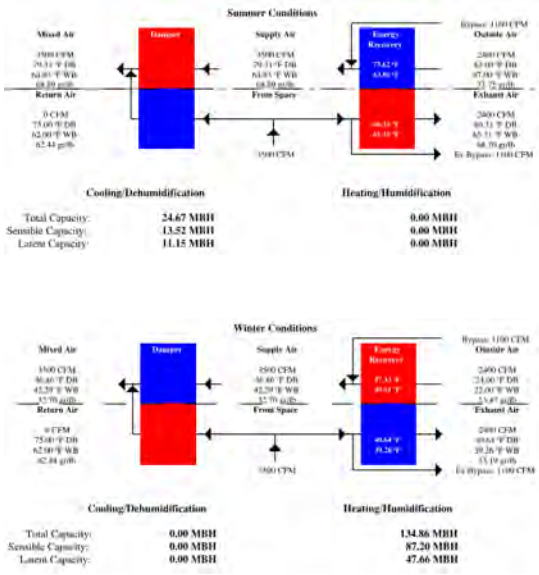
The plumbing system will include the following, but not necessarily be limited to:

- Domestic Water Service Meter
- Belowground domestic water service to the building
- Backflow Preventers
- Air Source Heat Pump Hot Water Heater
- Hot Water Storage Tank
- Electric Booster Hot Water Heater for laundry washing machine
- Roof Drainage, Waste and Vent Piping
- Indirect Waste Piping
- Hot and Cold Water Piping
- Hot Water Recirculation Piping and Circulating Pump
- Seismic Restraints
- Isolation Valves
- Hose Bibbs/Wall Hydrants
- Plumbing Fixtures and Trim
- Sewer Connection to Street
- Storm Connection to Street

HVAC

HVAC system will be based on a Variable Flow Refrigeration (VRF) system with Dedicated Outside Air System (DOAS).

DOAS system will be 100% outside air (OA) with energy recovery wheel and sized to provide required airflow and air changes per hour requirement per 2018 FGI Guidelines for Design and Construction of Residential Health Care, and Support Facilities. DOAS unit will be a heat pump type packaged roof top unit similar to AAON RN Roof Top Unit with Energy Recovery System. DOAS OA air intake will be minimum of 36 inches above finished roof elevation as required by FGI Guidelines.



Typical DOAS RTU with Energy Recover System Diagram

100% conditioned outside air will be distributed to each space through insulated ductwork.

Each space will be heated and cooled by VRF fan coil unit (FCU). Wall mounted type will be used for bedrooms and ceiling cassette type will be used for Living Rooms, Activity Rooms, TV Rooms, and other support rooms. Wall or ceiling mounted units will be used and will not require closet or floor space for installation and minimizes the total building square foot requirements. Air cooled outdoor unit will be located on the roof within the sloped roof well. The installation of the roof top equipment will include the review of the noise and the vibration to minimize any transmission to the occupied space below.

Wall Mounted Unit

Ceiling Cassette Unit

Exhaust will be provided to shower rooms, toilet rooms, and soiled rooms and collected through the ductwork. Exhaust fan will be located on the roof and will

discharge air minimum of 25 feet away from DOAS air intake.

The building Direct Digital Control (DDC) system will be connected to the campus control system and all major equipment will be monitored through the DDC system operator's work station in the maintenance building.

The HVAC system will include the following, but not necessarily be limited to:

- VRF Air Cooled Condenser
- VRF Room Air Conditioner
- Refrigeration Piping
- Condensate drain piping
- DOAS Roof Top Unit
- Energy Recovery System
- Self-Contained Unitary Air Conditioner/Heat Pump
- Heat Recovery Equipment
- Ductwork
- Diffusers, Registers and Grilles
- Electric Infrared Unit Heaters for covered court yard
- HVAC Control Systems
- Seismic Restraints

LAUNDRY BUILDING MECHANICALISYSTEMS

Fire P otection

Fire protection system will be a wet sprinkler system and will provide coverage to all spaces. The fire protection system will include the following, but not necessarily be limited to:

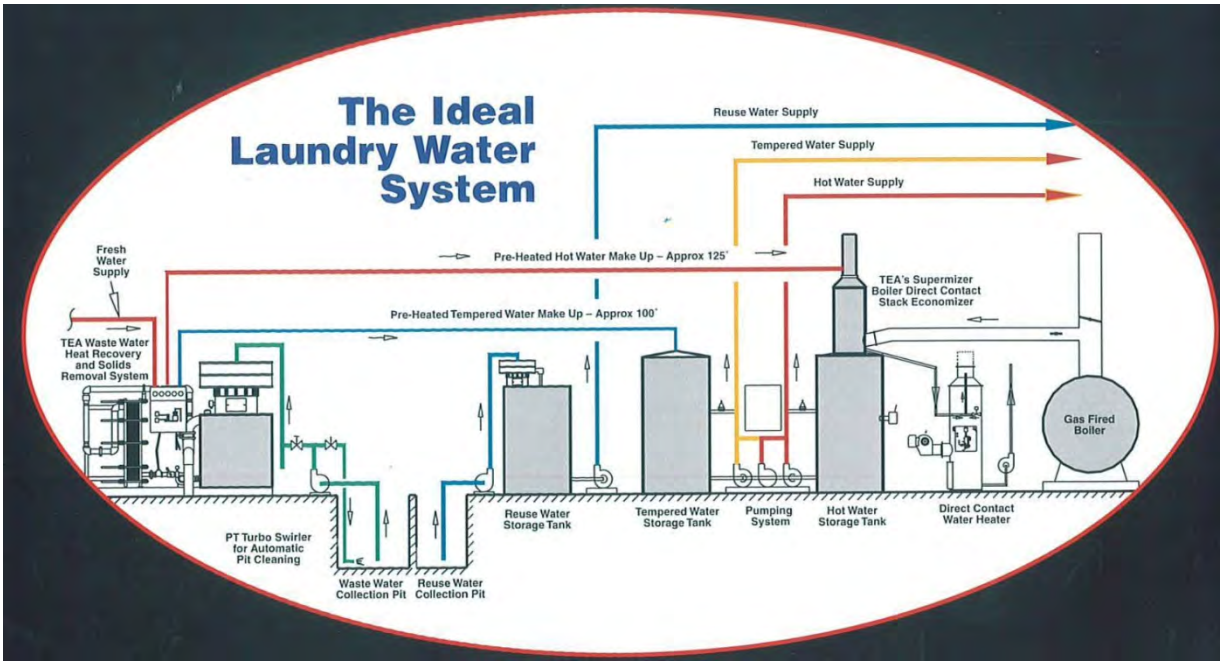
- Belowground fire service to building
- Backflow preventer (double check valve assembly)
- Wet sprinkler piping
- Wet pipe alarm check valve
- Fire Department inlet connection
- Supervisory (tamper) switches
- Water flow switches
- Zone control valves
- Isolation and check valves
- Inspector's test connection
- Sprinkler heads
- High temperature rated sprinkler head in the laundry equipment area.
- Seismic restraints
- In new construction, crawl space will not be sprinkled.

Plumbing System

4" Domestic cold water service to the building will be connected to the campus water distribution loop with water meter and backflow preventer at the building service connection. The backflow preventer will be installed in the mechanical room with floor drain. Additional backflow preventers will be provided for laundry equipment cold water & hot water systems and steam boiler makeup water system.

Domestic hot water system for toilet rooms will be based on the single point of use tankless electric water heater similar to Rheem RTEX-04. Laundry equipment hot water heater will be generated from the steam immersion water heating system. The hot water will be stored in stainless steel storage tank. The hot water will be circulated through the system by circulated pump to maintain constant temperature in the piping. The hot water temperature will be based on the laundry equipment requirements. The plumbing system will be designed to include the consideration of Legionella response per 2018 FGI Guideline Section A2.5-2.2.3.

Cold & Hot Water design will include consideration to minimize piping dead legs to prevent any growth within the piping system. In addition, hot water piping loop will be routed in the wall from the ceiling to plumbing fixture stop valve and the laundry equipment within 12 inches, so that each fixture and equipment will receive hot water immediately to minimize water waste.



The waste water heat recovery system will recover heat from the waste water and the system will temper cold water that will be used for the laundry process. Tempered water will be stored in the tempered water storage tank. It is estimated to recover approximately 30% to 40% of heat (energy) from the waste water. The waste water heat recovery will consist of plate heat exchanger, shaker screen to remove suspended solids, and associated control system to optimize the energy recovery.

The plumbing system will include the following, but no necessarily be limited to:

- Domestic Water Service Meter
- Belowground domestic water service to the building
- Backflow Preventers for building service entrance and additional backflow preventers for laundry equipment water supply connections.
- Single point of use tankless electric water heater for toilets.
- Steam boiler vent.
- 90 to 100 hp Steam Boiler System*
- Direct Contact Stack Economizer*
- Steam immersion water heater*
- Steel Tempered Water Storage Tank*
- S.S. Hot Water Storage Tank*
- Pumping package*
- Gas Fired Dryer*
- Steam heated ironer*
- Washer*
- Dryer*
- Air compressor*
- Waste water heat recovery system*
- Roof Drainage, Waste and Vent Piping
- Indirect Waste Piping
- Hot and Cold Water Piping

- Hot Water Recirculation Piping and Circulating Pump
- Seismic Restraints
- Isolation Valves
- Hose Bibbs/Wall Hydrants
- Plumbing Fixtures and Trim
- Sewer Connection to Street
- Storm Connection to Street

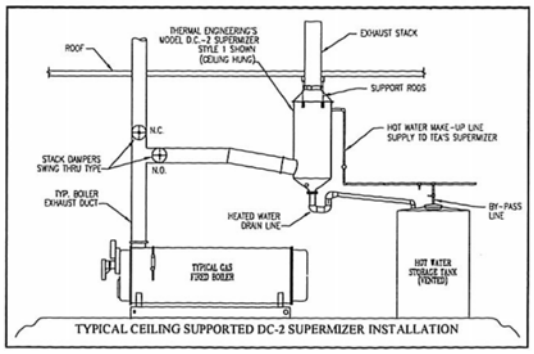
"*" indicates the equipment/system that are part of the laundry equipment which are not furnished by the plumbing/mechanical contractor. The required piping connections will be provided by the plumbing/mechanical contractor.

HVAC

HVAC system will be based on a split DX heat pump, wall mounted indoor unit and outdoor unit for office room and a support room. Each unit will be sized for 6,000 btuh (200 cfm each). Outside air will be provided from the Dedicated Outside Air System (DOAS) unit with plate heat exchanger with supply fan & exhaust fan (100 cfm system).

The laundry area will be conditioned by three (3) packaged DX heat pump roof top units, each sized for 20 ton or 240 mbh. The supply air will be distributed through the exposed ductwork in the space. The return and exhaust air openings will be located to capture the heat from the equipment and will be exhausted to outdoor and/or returned to the units.

Gas fired steam boiler serving the laundry equipment will be equipped with Direct Contact Stack Economizer to re-claim energy from the flue gas and will temper the cold and hot water used for laundry equipment. It is estimated to recover approximately 30% to 40% of heat (energy) from the flue gas. The flue gas energy recovery system will consist of heat exchanger, dampers, actuators, and associated control system to optimize the energy recovery.



Direct Contact Stack Economizer Diagram

The building Direct Digital Control (DDC) system will be connected to the campus control system and all major equipment will be monitored through the DDC system operator's work station in the maintenance building.

The HVAC system will include the following, but not necessarily be limited to:

- Split DX heat pump wall mounted indoor and outdoor unit for Office and support rooms
- Refrigeration Piping
- Condensate drain piping
- DOAS plate heat exchanger energy recovery ceiling mounted unit.
- Packaged DX Unitary Air Conditioner/Heat Pump Roof Top Unit for laundry area conditioning
- Ductwork
- Diffusers, Registers and Grilles
- HVAC Control Systems
- Seismic Restraints
- Miscellaneous exhaust system and fans for laundry equipment
- Steam boiler vent.

- 90 to 100 hp Steam Boiler System*
- Direct Contact Stack Economizer*
- Steam immersion water heater*
- Steel Tempered Water Storage Tank*
- S.S. Hot Water Storage Tank*
- Pumping package*
- Gas Fired Dryer*
- Steam heated ironer*
- Washer*
- Dryer*
- Air compressor*
- Waste water heat recovery system*

"*" indicates the equipment/system that are part of the laundry equipment which are not furnished by the plumbing/mechanical contractor. The required piping, venting, and duct connections will be provided by the plumbing/mechanical contractor.

ELECTRICAL CODE ANALYSIS

2017 National Electric Code (NFPA 70)

2018 FGI Guidelines for Design and Construction of Residential Health Care, and Support Facilities.

2015 Health Care Facilities Code (NFPA 99)

2015 Washington State Energy Code

2012 Life Safety Code (NFPA 101)

Laundry

An approximate 6000 square foot Laundry will be provided to serve the Fircrest campus. Electric service will be provided from an approximate 500 kVA outdoor, oil filled, pad mount transformer separate from the Nursing Home electric service. A main service entrance disconnect will be provided inside the laundry facility and power distributed to equipment through electrical panels. Electrical panels will have door-in-door construction. Much of the laundry equipment will be gas fired or steam supplied. Lighting will be LED. Essential power will be provided only to allow for egress of the building, not to allow continued use of the facility. The facility will be air conditioned. Telecommunications will be provided from the campus fiber system and a small Main Distribution Facility (MDF) will be provided in the facility. The building will have an analog addressable fire alarm system with full space smoke detection and the building is assumed to be fully sprinklered. Fire alarm notification will use voice/strobe appliances. Security will consist of a stand alone security system with intrusion detection at all exterior doors, card access to the staff entrance door, and security video cameras at select locations. The system will be monitored at the campus security office. This building is not considered to be part of the Net Zero alternate as power consumption and the varying utilities required for service do not make Net Zero a viable concept.

Energy Cost Budget / PRM Summary

By WOOD HARBINGER INC.

Project Name: Fircrest and Rainier School Nursing Fac	Date: October 09, 2018
City: Buckley WA	Weather Data: Seattle, Washington

Note: The percentage displayed for the "Proposed/ Base %" column of the base case is actually the percentage of the total energy consumption.

* Denotes the base alternative for the ECB study.

		* Alt-1 Utility Bldg Costs		
		Energy 10^6 Btu/yr	Proposed / Base %	Peak kBtuh
Lighting - Conditioned	Electricity	99.4	4	21
Space Heating	Electricity	12.2	0	4
	Gas	1,301.3	51	533
Space Cooling	Electricity	83.6	3	146
Pumps	Electricity	56.3	2	17
Heat Rejection	Electricity	7.0	0	12
Fans - Conditioned	Electricity	365.8	14	149
Receptacles - Conditioned	Electricity	375.6	15	292
	Gas	236.2	9	200
Total Building Consumption		**2,537.4**		

		* Alt-1 Utility Bldg Costs
Total	**Number of hours heating load not met**	0
	Number of hours cooling load not met	0

	* Alt-1 Utility Bldg Costs	
	Energy 10^6 Btu/yr	Cost/yr $/yr
Electricity	999.8	33,877
Gas	1,537.6	41,045
Total	**2,537**	**74,922**

THE ROBINSON COMPANY

PROJECT: NURSING FACILITY AT FIRCREST SCHOOL - LAUNDRY
LOCATION: SHORELINE, WA
BLDG SF: 7,000
ESTIMATE: 2018096
EST TYPE: COST MODEL

DIVISION	DESCRIPTION		TOTAL	$/SF
A10	FOUNDATIONS		140,000	20.00
B10	SUPERSTRUCTURE		126,000	18.00
B20	EXTERIOR CLOSURE		583,645	83.38
B30	ROOFING		160,050	22.86
C10	INTERIOR CONSTRUCTION		216,584	30.94
C30	INTERIOR FINISHES		158,705	22.67
D20	PLUMBING		491,000	70.14
D30	HVAC		556,000	79.43
D40	FIRE PROTECTION		64,500	9.21
D50	ELECTRICAL		744,100	106.30
E10	EQUIPMENT		1,290,079	184.30
E20	FURNISHINGS		7,500	1.07
G10	SITE PREPARATION		89,556	12.79
G20	SITE IMPROVEMENTS		42,000	6.00
G30	SITE CIVIL / MECHANICAL UTILITIES		159,800	22.83
G40	SITE ELECTRICAL UTILITIES		25,000	3.57
Z10	GENERAL REQUIREMENTS		250,000	35.71
	ESTIMATE SUBTOTAL		**5,104,519**	**729.22**
	DESIGN CONTINGENCY @	10.00%	510,452	
	SUBTOTAL		5,614,970	
	GENERAL CONTRACTOR'S OH & P @	8.00%	449,198	
	TOTAL		**6,064,168**	**866.31**

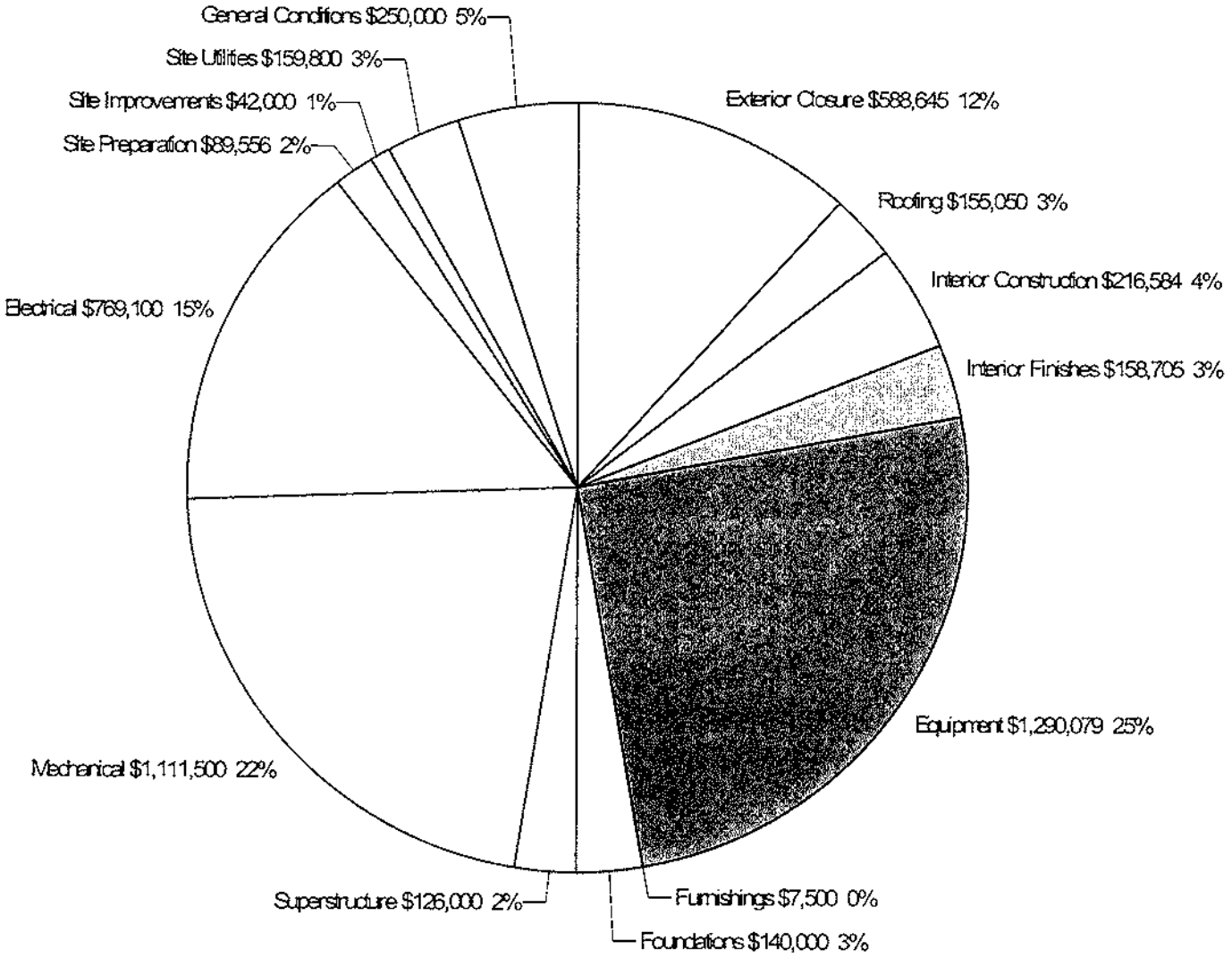
EXCLUSIONS:
SEE ESTIMATE SUMMARY

PROJECT: NURSING FACILITY AT FIRCREST SCHOOL - LAUNDRY
LOCATION: SHORELINE, WA
BLDG SF: 7,000
ESTIMATE: 2018096
EST TYPE: COST MODEL

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL	$/SF
A10	**FOUNDATIONS**					
03300	SLAB ON GRADE	7,000	SF	8.00	56,000	
03310	FOUNDATIONS	7,000	SFA	12.00	84,000	
A10	**FOUNDATIONS**			**DIVISION TOTAL**	**140,000**	**20.00**
06110	WOOD ROOF FRAMING	7,000	SFA	18.00	126,000	
6110	EXTERIOR WALL W/O INT FACE	6970	SF	$19.00		
6110	MISC FRAMING @ GLAZING	1530	SF	$10.00		
7450	HARDI REVEAL	6970	SF	$24.00		
7450	MISC FLASHING/TRIM	8500	SFA	$2.00		
8110	EXT DOORS/FRM/HRDWRE	3	EA	$2,500.00		
8110	OVERHEAD DOORS	3	EA	$4,000.00		
8500	EXT GLAZING-ALLOW 18% DOUBLE GLAZED	1530	SF	$72.00		
9260	WATER RESISTANT BOARD/EPOXY PAINT	6970	SF	$15.00		
9910	EXTERIOR PAINTING/SEALING	6970	SFA	$2.50		
7210	R-60 BLOWN-IN INSULATION	7000	SF	$3.65		
7500	MEMBRANE ROOF SYSTEM	7000	SF	$15.00		
7620	MISC FLASHING/SHEET METAL	7000	SF	$2.50		
7710	FALL PROTECTION ALLOWANCE	7000	SFA	$1.00		
7720	ROOF HATCH W/LADDER	1	EA	$5,000.00		
8200	INT. DR/FRM/HRDWRE	14	EA	$1,750.00		
8500	INTERIOR RELITES/SIDE LITES ALLOWANCE	120	SF	$50.00		
9260	INTERIOR WALLS	5782	SF	$12.00		
9260	PREMIUM FOR WR BOARD AND EPOXY PAINT	5780	SF	$15.00		
10000	MISC SPECIALTIES/SIGNAGE	7000	SFA	$3.00		
10000	TOILET PARTITIONS/ACCESSORIES	1	LS	$9,000.00		
6250	FINISH/ROUGH CARPENTRY ALLOWANCE	7000	SFA	$3.00		
9300	TILE AT RESTROOMS	910	SF	$18.00		
9500	WASHABLE CEILING TILES/GWB MIX	7000	SF	$6.50		
9600	POLISHED/STAINED CONCRETE FLOOR	6000	SF	$8.50		
9600	TILE AT RESTROOM FLOORS	300	SF	$18.00		
9680	CARPET AT OFFICE	700	SF	$5.25		
9700	INTERIOR PAINTING	7000	SFA	$2.25		
15410	PLUMBING	1	LS	$491,000.00		
	PER A/E					
15700	HEATING/VENTILATION	1	LS	$556,000.00		
	PER A/E					
15300	SPRINKLERS	1	LS	$64,500.00		
	PER A/E					
16000	ELECTRICAL	7000	SFA	$83.00		
	PER A/E					
16400	LOW VOLTAGE WORK	7000	SFA	$8.60		
	PER A/E					
16700	LIFE SAFETY	7000	SFA	$14.70		
	PER A/E					
11000	MISC EQUIPMENT/APPLIANCES	1	LS	$7,500.00		
11440	COMMERCIAL LAUNDRY EQUIPEMT	1	LS	###########		
	PER LIND					

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL	$/SF
11440	DELIVERY AND INSTALLATION-ALLOWANCE	1	LS	$150,000.00		
12000	CABINETS @ MEETING ROOM	1	LS	$7,500.00		
2220	DEMO/FILL STEAM TUNNELS-ALLOWANCE	1	LS	$25,000.00		
2220	FINE GRADING	12250	SF	$0.35		
2220	SITE DEMO/STRIPPING	12500	SFA	$1.00		
2220	UTILITY DEMO/ABANDON/RELOCATE	1	LS	$5,000.00		
2315	EXCAVATE AND PLACE ONSITE-ALLOW	486	CY	$18.00		
2315	EXCAVATE/HAUL/IMPORT-TRUCK YARDS	486	CY	$70.00		
2740	NEW PARKING AREA	5000	SF	$4.00		
2900	LANDSCAPING/LAWN/FURNISHINGS-ALLOWANCE	1	LS	$2,000.00		
3300	SIDEWALK ALLOWANCE	2500	SF	$8.00		
2510	BACKFLOW PREVENTORS/OTHER	1	LS	$25,000.00		
2510	FIRE HYDRANTS-ALLOW	1	EA	$5,000.00		
2510	WATER LINE-12"	200	LF	$85.00		
2530	GREASE INTERCEPTOR	1	LS	$35,000.00		
2530	SEWER LINE	200	LF	$45.00		
2550	GAS LINE	100	LF	$120.00		
2630	FOOTING DRAINS	340	LF	$20.00		
2630	STORM COLLECTION ALLOWANCE	1	LS	$50,000.00		
16520	SITE LIGHTING	1	LS	25,000	25,000	
01000	GENERAL CONDITIONS	1	LS	250,000	250,000	
				ESTIMATE SUBTOTAL	**478,000**	**68.29**

THE ROBINSON COMPANY



STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY

Agency	Department of Social and Health Services	
roject Name	New Laundry Building	
OFM roject Number		

Contact Information		
Name	Sage Architectural Alliance/The Robinson Company	
hone Number	206 556-4181/206 441-8872	
Email		

Statistics			
Gross Square Feet	7,000	MACC per Square Foot	$866
Usable Square Feet	6,850	Escalated MACC per Square Foot	$966
Space Efficiency	97.9%	A/E Fee Class	B
Construction Type	Nursing homes	A/E Fee ercentage	8.53%
Remodel	No	rojected Life of Asset (Years)	
Additional Project Details			
Alternative ublic Works roject	No	Art Requirement Applies	
Inflation Rate	3.12%	Higher Ed Institution	
Sales Tax Rate %	10.10%	Location Used for Tax Rate	
Contingency Rate	5%		
Base Month	June-18		
roject Administered By	Agency		

Schedule			
redesign Start	June-18	redesign End	October-18
Design Start	November-19	Design End	February-21
Construction Start	April-21	Construction End	October-22
Construction Duration	18 Months		

Green cells must be filled in by user

Project Cost Estimate

Total roject	**$8,705,785**	Total roject Escalated	**$9,660,761**
		Rounded Escalated Total	**$9,661,000**

STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY

Agency	Department of Social and Health Services	
roject Name	New Laundry Building	
OFM roject Number		

Cost Estimate Summary

Acquisition			
Acquisition Subtotal	**$0**	**Acquisition Subtotal Escalated**	**$0**

Consultant Services			
redesign Services	$0		
A/E Basic Design Services	$374,761		
Extra Services	$473,000		
Other Services	$228,371		
Design Services Contingency	$53,807		
Consultant Services Subtotal	**$1,129,939**	**Consultant Services Subtotal Escalated**	**$1,217,835**

Construction			
Construction Contingencies	$303,205	Construction Contingencies Escalated	$338,529
Maximum Allowable Construction Cost (MACC)	$6,064,109	Maximum Allowable Construction Cost (MACC) Escalated	$6,760,995
Sales Tax	$643,099	Sales Tax Escalated	$717,052
Construction Subtotal	**$7,010,413**	**Construction Subtotal Escalated**	**$7,816,576**

Equipment			
Equipment	$91,000		
Sales Tax	$9,191		
Non-Taxable Items	$0		
Equipment Subtotal	**$100,191**	**Equipment Subtotal Escalated**	**$111,864**

Artwork			
Artwork Subtotal	**$33,805**	**Artwork Subtotal Escalated**	**$33,805**

Agency Project Administration			
Agency roject Administration Subtotal	$341,438		
DES Additional Services Subtotal	$0		
Other roject Admin Costs	$0		
Project Administration Subtotal	**$391,438**	**Project Administation Subtotal Escalated**	**$437,041**

Other Costs			
Other Costs Subtotal	**$40,000**	**Other Costs Subtotal Escalated**	**$43,640**

Project Cost Estimate

Total roject	**$8,705,785**	Total roject Escalated	**$9,660,761**
		Rounded Escalated Total	**$9,661,000**

Cost Estimate Details

Acquisition Costs					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
urchase/Lease					
Appraisal and Closing					
Right of Way					
Demolition					
re-Site Development					
Other					
Insert Row Here					
ACQUISITION TOTAL	**$0**		**NA**	**$0**	

Green cells must be filled in by user

Cost Estimate Details

Consultant Services				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
1) Pre-Schematic Design Services				
rogramming/Site Analysis				
Environmental Analysis				
redesign Study				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.0446**	**$0**	Escalated to Design Start
2) Construction Documents				
A/E Basic Design Services	$374,761			69% of A/E Basic Services
Other				
Insert Row Here				
Sub TOTAL	**$374,761**	**1.0649**	**$39 ,084**	Escalated to Mid-Design
3) Extra Services				
Civil Design (Above Basic Svcs)	$25,000			
Geotechnical Investigation	$15,000			
Commissioning	$20,000			
Site Survey	$15,000			
Testing	$40,000			
LEED Services	$25,000			
Voice/Data Consultant	$15,000			
Value Engineering	$25,000			
Constructability Review	$15,000			
Environmental Mitigation (EIS)	$30,000			
Landscape Consultant	$25,000			
ELCCA	$15,000			
LCCT	$15,000			
Reimburseables incl Reprographics prior to bid	$20,000			
Advertising	$3,000			
Traffic analysis	$7,500			
Envelope Consultant	$15,000			
Interior Design	$2,500			
Acoustic Design	$5,000			
Security Consultant	$10,000			
Audio Visual Consultant	$5,000			
Cost and Scheduling	$25,000			
Value Engineering articipation	$25,000			
Constructability Review articipation	$25,000			
Environmental Graphics/Signage	$10,000			
Lighting Consultant	$10,000			
Heatlhcare Services Consultant	$5,000			
Door Hardware Consultant	$5,000			
SEPA/Land Use	$20,000			
Sub TOTAL	**$473,000**	**1.0649**	**$503,698**	Escalated to Mid-Design

4) Other Services				
Bid/Construction/Closeout	$168,371			31% of A/E Basic Services
HVAC Balancing				
Staffing				
Commissioning and Training	$25,000			
Reimburseables/Reprographics for bid and construction	$15,000			
Construction Materials Testing	$20,000			
Insert Row Here				
Sub TOTAL	**$228,371**	**1.1165**	**$254,977**	Escalated to Mid-Const.
5) Design Services Contingency				
Design Services Contingency	$53,807			
Other				
Insert Row Here				
Sub TOTAL	**$53,807**	**1.1165**	**$60,076**	Escalated to Mid-Const.
CONSULTANT SERVICES TOTAL	**$1,129,939**		**$1,217,835**	

Green cells must be filled in by user

Cost Estimate Details

Construction Contracts				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
1) Site Work				
G10 - Site reparation	$106,393			
G20 - Site Improvements	$49,896			
G30 - Site Mechanical Utilities	$189,842			
G40 - Site Electrical Utilities	$29,700			
G60 - Other Site Construction				
Other				
Insert Row Here				
Sub TOTAL	**$375,831**	**1.0910**	**$410,032**	
2) Related Project Costs				
Offsite Improvements				
City Utilities Relocation				
arking Mitigation				
Stormwater Retention/Detention				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.0910**	**$0**	
3) Facility Construction				
A10 - Foundations	$166,320			
A20 - Basement Construction				
B10 - Superstructure	$149,688			
B20 - Exterior Closure	$693,370			
B30 - Roofing	$190,080			
C10 - Interior Construction	$1,798,826			
C20 - Stairs				
C30 - Interior Finishes	$188,542			
D10 - Conveying				
D20 - lumbing Systems	$583,308			
D30 - HVAC Systems	$660,528			
D40 - Fire rotection Systems	$76,626			
D50 - Electrical Systems	$883,991			
F10 - Special Construction				
F20 - Selective Demolition				
General Conditions	$297,000			
Other				
Insert Row Here				
Sub TOTAL	**$5,688,278**	**1.1165**	**$6,350,963**	
4) Maximum Allowable Construction Cost				
MACC Sub TOTAL	**$6,064,109**		**$6,760,9 5**	

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7) Construction Contingency				
Allowance for Change Orders	$303,205			
Other				
Insert Row Here				
Sub TOTAL	**$303,205**	**1.1165**	**$338,529**	
8) Non-Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.1165**	**$0**	
Sales Tax				
Sub TOTAL	**$643,09**		**$717,052**	
CONSTRUCTION CONTRACTS TOTAL	**$7,010,413**		**$7,816,576**	

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Cost Estimate Details

Equipment				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
E10 - Equipment	$35,000			
E20 - Furnishings	$35,000			
F10 - Special Construction				
IT Equip/computers/printers	$21,000			
Insert Row Here				
Sub TOTAL	**$91,000**	**1.1165**	**$101,602**	
1) Non Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.1165**	**$0**	
Sales Tax				
Sub TOTAL	**$9,191**		**$10,262**	
EQUIPMENT TOTAL	**$100,191**		**$111,864**	

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Cost Estimate Details

Artwork					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
roject Artwork	$33,805				0.5% of Escalated MACC for new construction
Higher Ed Artwork	$0				0.5% of Escalated MACC for new and renewal construction
Other					
Insert Row Here					
ARTWORK TOTAL	**$33,805**		**NA**	**$33,805**	

Green cells must be filled in by user

Cost Estimate Details

Project Management				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
Agency roject Management	$341,438			
Additional Services				
Additional Management/Administration	$50,000			
Insert Row Here				
PROJECT MANAGEMENT TOTAL	**$391,438**	**1.1165**	**$437,041**	

Green cells must be filled in by user

Cost Estimate Details

Other Costs					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
Mitigation Costs					
Hazardous Material Remediation/Removal	$15,000				
Historic and Archeological Mitigation					
ermit and lan Review Fees	$25,000				
Insert Row Here					
OTHER COSTS TOTAL	**$40,000**		**1.0910**	**$43,640**	

Green cells must be filled in by user

Life Cycle Cost Analysis - Project Summary

Agency	
Project Title	

Existing Description	

Lease Option 1 Description	

Lease Option 2 Description	

Ownership Option 1 Description	Fircrest Laundry

Ownership Option 2 Description	

Ownership Option 3 Description	

Lease Options Information	**Existing Lease**	**Lease Option 1**	**Lease Option 2**
Total Rentable Square Feet	-	-	-
Annual Lease Cost (Initial Term of Lease)	$ -	$ -	$ -
Full Service Cost/SF (Initial Term of Lease)	$ -	1/15/2023	$ -
Occupancy Date	n/a		
Project Initial Costs	n/a	$ -	$ -
Persons Relocating	-	-	-
RSF/Person Calculated			

Ownership Information	**Ownership 1**	**Ownership 2**	**Ownership 3**
Total Gross Square Feet	7,000	-	-
Total Rentable Square Feet	6,850	-	-
Occupancy Date	1/15/2023	3/15/2022	3/15/2022
Initial Project Costs	$ -	$ -	$ -
Est Construction TPC ($/GSF)	$ 1,406	$ -	$ -
RSF/Person Calculated	-	-	-

Financial Anal sis of Options

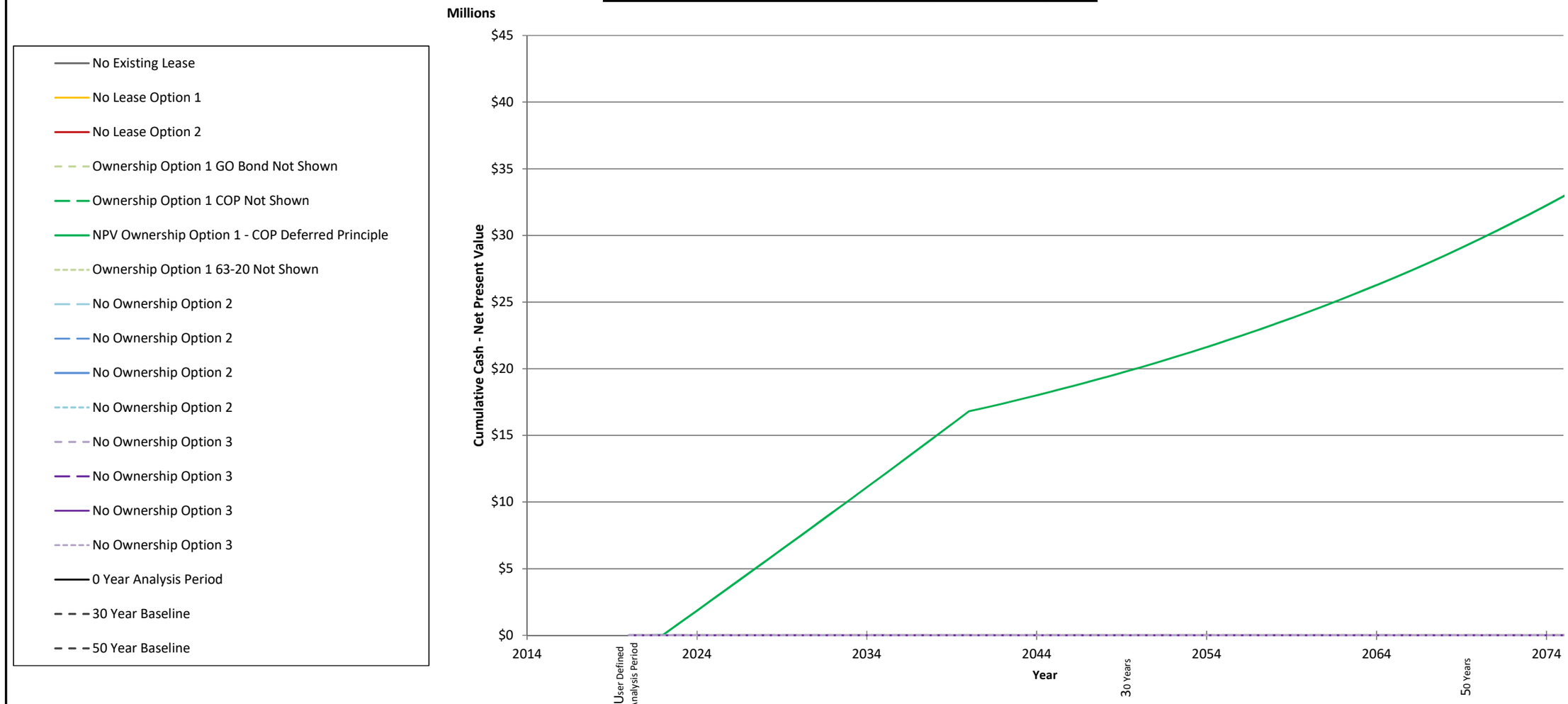
	Display Option?	Yes	Yes	Yes	No	No	Yes	No	No	No	Yes	No	No	No	Yes	No
	Financial Comparisons	**Existing Lease**	**Lease 1**	**Lease 2**	**Ownership 1**				**Ownership 2**				**Ownership 3**			
Years	**Financing Means**	**Current**	**Current**	**Current**	**GO Bond**	**COP**	**COP Deferred ***	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**
0	0 Year Cumulative Cash	$ -	$ -	$ -			$ -				$ -				$ -	
	0 Year Net Present Value	$ -	$ -	$ -			$ -				$ -				$ -	
	Lowest Cost Option (Anal sis Period)															

	Financial Comparisons	**Existing Lease**	**Lease 1**	**Lease 2**	**Ownership 1**				**Ownership 2**				**Ownership 3**			
Years	**Financing Means**	**Current**	**Current**	**Current**	**GO Bond**	**COP**	**COP Deferred ***	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**
30	30 Year Cumulative Cash	$ -	$ -	$ -			$ 20,973,563				$ -				$ -	
	30 Year Net Present Value	$ -	#VALUE!	#VALUE!			$ 19,704,984				$ -				$ -	
	Lowest Cost Option (30 Years)															

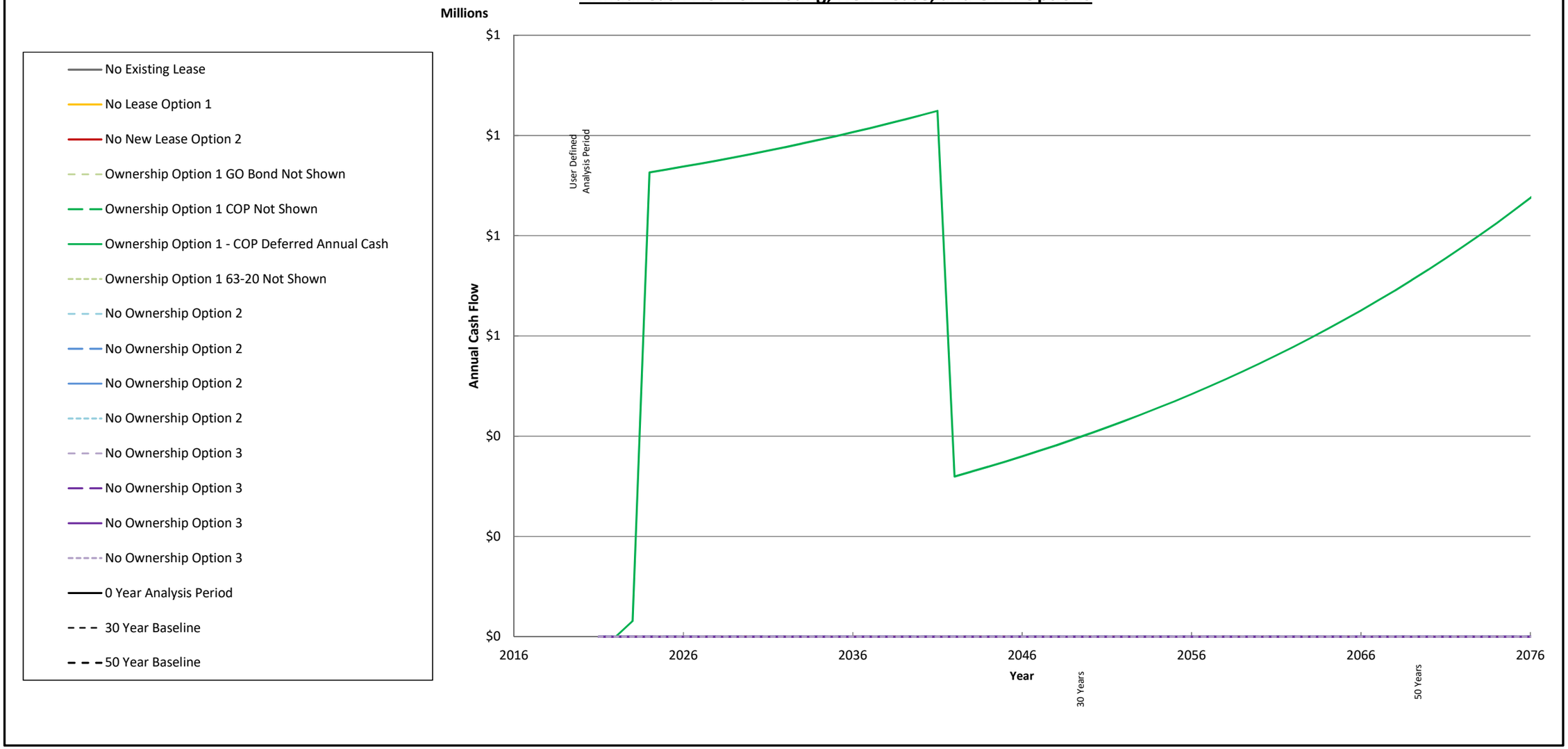
	Financial Comparisons	**Existing Lease**	**Lease 1**	**Lease 2**	**Ownership 1**				**Ownership 2**				**Ownership 3**			
Years	**Financing Means**	**Current**	**Current**	**Current**	**GO Bond**	**COP**	**COP Deferred ***	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**
50	50 Year Cumulative Cash	$ -	$ -	$ -			$ 32,197,946				$ -				$ -	
	50 Year Net Present Value	$ -	#VALUE!	#VALUE!			$ 29,079,387				$ -				$ -	
	Lowest Cost Option (50 Years)															

** - Defers payment on principle for 2 ears while the building is being constructed. See instructions on Capitalized Interest.*

Cumulative Cash - NPV of Exist, Lease, and Own Options



Annual Cash Flow of Existing, New Lease, and Own Options



Financial Assumptions

Date of Life Cycle Cost Analysis:	
Analysis Period Start Date	3/15/2020
User Input Years of Analysis	0

All assumptions subject to change to reflect updated costs and conditions.

	Lease Options			Ownership Option 1			Ownership Option 2			Ownership Option 3		
	Existing Lease	**Lease Option 1**	**Lease Option 2**	**GO Bond**	**COP**	**63-20**	**GO Bond**	**COP**	**63-20**	**GO Bond**	**COP**	**63-20**
Inflation / Interest Rate	3.006%	3.006%	3.006%	3.160%	3.510%	3.710%	3.160%	3.510%	3.710%	3.160%	3.510%	3.710%
Discount Rate	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%
Length of Financing	N/A	N/A	N/A	20	20	20	20	20	20	20	20	20

See Financial Assumptions tab for more detailed information

COP Deferred and 63-20 Financing defer the payment on principle until construction completion.

New Lease Assumptions

Real Estate Transaction fees are 2.5% of the lease for the first 5 ears and 1.25% for each ear thereafter in the initial term of the lease.

Tenant Improvements are typically estimated at $15 per rentable square foot.

IT infrastructure is typically estimated at $350 per person.

Furniture costs are typically estimated at $500 per person and do not include new workstations.

Moving Vendor and Supplies are typically estimated at $205 per person.

Default Ownership Options Assumptions

Assumes a 2 month lease to move-in overlap period for outfitting building and relocation.

Assumes surface parking.

The floor plate of the construction option office building is 25,000 gross square feet.

The estimated total project cost for construction is $420.00 per square foot.

See the Capital Construction Defaults tab for more construction assumptions.

Ownership Option 1 Information Sheet

*	***Requires a user input***	*Green Cell*	*= Value can be entered by user.*	*Yellow Cell*	*= Calculated value.*

*	**Project Description**	Fircrest Laundry
*	**Construction or Purchase/Remodel**	Construction
*	**Project Location**	Shoreline — Market Area = King-North

	Statistics	
*	Gross Sq Ft	7,000
*	Usable Sq Ft	6,850
	Space Efficiency	98%
	Estimated Acres Needed	1.00
	MACC Cost per Sq Ft	$866.30
	Estimated Total Project Costs per Sq Ft	$1,212.82
	Escalated MACC Cost per Sq Ft	$1,004.57
	Escalated Total Project Costs per Sq Ft	$1,406.40

*	**Move In Date**	1/15/2023

Interim Lease Information	**Start Date**
Lease Start Date	
Length of Lease (in months)	
Square Feet (holdover/temp lease)	
Lease Rate- Full Serviced ($/SF/Year)	
One Time Costs (if double move)	

	Construction Cost Estimates (See Capital Budget System For Detail)			
		Known Costs	Estimated Costs	Cost to Use
	Acquisition Costs Total		$ 250,000	$ 250,000
A & E	**Consultant Services**			
	A & E Fee Percentage (if services not specified)		8.4% Std	8.40%
	Pre-Schematic Design services			
	Construction Documents	$ 374,761		
	Extra Services	$ 473,000		
	Other Services	$ 228,371		
	Design Services Contingency	$ 53,807		
	Consultant Services Total	$ 1,129,939	$ 758,014	$ 1,129,939
MACC	**Construction Contracts**			
	Site Work	$ 375,831		
	Related Project Costs			
	Facility Construction	$ 5,688,278		
	MACC SubTotal	$ 6,064,109	$ 2,100,000	$ 6,064,109
	Construction Contingency (5% default)	$ 303,205	$ 303,205	$ 303,205
	Non Taxable Items			$ -
	Sales Tax	$ 643,099		$ 643,099
	Construction Additional Items Total	$ 946,304	$ 303,205	$ 946,304
	Equipment			
	Equipment	$ 91,000		
	Non Taxable Items			
	Sales Tax	$ 9,191		
	Equipment Total	$ 100,191		$ 100,191
	Art Work Total	$ 33,076	$ 30,321	$ 33,076
	Other Costs			
	Hazardous Material Removal	$ 15,000		
	Permit/Plan Review/Misc.	$ 25,000		
	Other Costs Total	$ 40,000		$ 40,000
	Project Management Total	$ 391,438		$ 391,438
	Grand Total Project Cost	**$ 8,705,057**	**$ 3,441,540**	**$ 8,955,057**

Construction One Time Project Costs			
One Time Costs	Estimate	Calculated	
Moving Vendor and Supplies		$ -	*$205 / Person in FY09*
Other (not covered in construction)			
Total	$ -	$ -	

	Ongoing Building Costs				
Added Services	New Building Operating Costs	Known Cost /GSF/ 2023	Estimated Cost /GSF/ 2023	Total Cost / Year	Cost / Month
☑	Energ (Electricit . Natural Gas)	$ 15.37	$ 1.25	$ 107,590	$ 8,966
☑	Janitorial Services	$ -	$ 1.56	$ 10,912	$ 909
☑	Utilities (Water, Sewer, & Garbage)	$ -	$ 1.66	$ 11,622	$ 968
☑	Grounds	$ -	$ 0.16	$ 1,153	$ 96
☐	Pest Control	$ -	$0.00	$ -	$ -
☑	Securit	$ -	$ 0.13	$ 887	$ 74
☑	Maintenance and Repair	$ -	$ 6.60	$ 46,221	$ 3,852
☑	Management	$ -	$ 0.77	$ 5,412	$ 451
☐	Road Clearance	$ -	$0.00	$ -	$ -
☑	Telecom	$ 0.35	$ -	$ 2,450	$ 204
	Additional Parking	$ -	$ -	$ -	$ -
	Other	$ -	$ -	$ -	$ -
	Total Operating Costs	**$ 15.72**	**$ 12.14**	**$ 186,246**	**$ 15,521**

A.4 BEHAVIORAL HEALTH: COMMUNITY CIVIL 48 BED CAPACITY – PRELIMINARY PREDESIGN REPORT

Washington State Department of Social & Health Services

bcra

BWBR

PRELIMINARY
Behavioral Health: Community Civil 48 Bed Capacity

STATE OWNED, MIXED USE - PRE-DESIGN REPORT MULTIPLE SITES

12.31.2019

SW- BH Community 48 Bed Capacity
Community Based Behavioral Health Facilities

DES PROJECT No. 2020 -401

Agency: Department of Social and Health Services (DSHS)
Prepared by: BCRA/BWBR

DSHS Project Manager

Larry Covey, Capital Project Manager
Department of Social and Health Services (DSHS)
Phone: (360) 664-6181
Email: coveylg@dshs.wa.gov

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BWBR, Behavior Health Planning Architect
AHBL, Civil Engineers
BCRA, Civil Engineers
BCE Engineers, Mechanical Engineers
Sazan Group, Electrical Engineers, Net Zero Planning
Lund Opsahl, Structural Engineers
ARC Cost Group, Cost Estimators
Telecare Corporation, Behavioral Health Operators and Staffing Consultants

Acknowledgments

Visioning Workshop Team

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Table of Contents

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Executive Summary

48-BED STATE-OWNED COMMUNITY CIVIL FACILITY

Summarize the Problem

Governor Inslee laid out his vision to provide mental health services in local communities for people with acute mental illness in the 2019 Legislative Session. Serving people in their home communities is essential to this plan. The transformation requires development of a continuum of services that can prevent or divert people from being committed to the state hospitals and can support people in their recovery after treatment in a hospital is complete.

Governor Inslee and the Legislature is spurred by Washington's rank of 47th in the nation in capacity for appropriate mental health services. Compared to the rest of the country, Washington has a high prevalence of mental illness and low access to care. Within two years, the state will need almost 370 more civil beds than our current capacity.

The state is at the beginning of a major reform of the entire behavioral health service delivery model. The large state hospitals will evolve into a Center of Forensic Excellence through phased renovation and the construction of new hospitals designed with a new model for mental health care.

Other state agencies and the University of Washington have also been funded and charged with the responsibility to increase the number of psychiatric services such as housing.

DSHS' Commitment to Community-Based Treatment

The Legislature supported Governor Inslee's concept and, in the 2019 Session, enacted a budget and provided direction to the Department of Social and Health Services to begin development of three small community-based/behavioral health residential treatment facilities.

These facilities would provide a range of services to people as they move through the treatment regimen: evaluation and treatment, 90-day to 180-day intensive treatment, and a step-down program to ready people for their return to home and work. The department is required to submit to the Legislature a "preliminary predesign" for one of the 48-bed facilities by December 31, 2019.

Current State of Civil Commitment At Western State Hospital

Western State Hospital was budgeted for 527 civil commitment beds through July 2019. In August 2019, 60 civil commitment beds were taken off line for conversion to forensic capacity. Now only 487 beds remain available for civil commitments.

Projected Need for Civil Commitment Beds in Washington

Based on the report submitted to the Legislature in December 2018, the projected need for civil capacity beds that provide services for people who have 90-180 day commitments is 934 in 2021 and increases to 980 in 2025. Refer to Appendix G, "Report to the Legislature: Predicting Referrals for Competency, 12/1/18" for a copy of the full report.

Future State of Civil Commitment At Western State Hospital

The expectation of the governor and the legislature is that there will be a gradual decrease in the number of civil commitments at WSH as additional resources are introduced through community-based facilities.

Decentralization of civil commitments also supports the goals set by the governor and the legislature to create additional forensic psychiatric capacity on the grounds of WSH. This includes the design and building of a new forensic hospital and the establishment of a program that supports a forensic center of excellence.

Future State of Community-Based Civil Commitments in Washington

Within this project there will be a state-operated 16-bed program for civil commitment, a privately-operated 16-bed program for civil commitment, and a privately-operated step-down transition program for those needing additional support prior to returning to the community.

Other investments made by the legislature to create civil commitment capacity include operating funds that were provided to the Health Care Authority and a directive to contract for civil commitment beds. These legislative investments are projected to result in 275 beds for long term (90 and 180 days) commitments by 2023.

Location of new facilities will be made in part based on regional need. While all western Washington regions need capacity, the recent closure of the only residential treatment facility in Clark County has resulted in no access to civil care in the Southwest Region. This is the only Western Washington Region without any civil capacity.

Alternatives Considered

This predesign report studies six potential Western Washington locations as options for the 48-bed capacity community facility. The sites are distributed throughout the I-5 Corridor to address local communities needs and partnerships with other local behavioral health facilities.

Four potential sites are on or near existing State-owned campuses: Fircrest School in Shoreline, Echo Glen in Snoqualmie, Western State Hospital in Lakewood, and Maple Lane in Centralia. The remaining two sites are in communities where property has been identified as available and would require to be purchased. The intent is to identify sites where the use is permitted outright or as necessary conditional use as a less desirable alternative.

Alternative 1 - No Action-No New 48-bed Facility

Alternative 2 - Fircrest School
Two locations studied for location on Fircrest School Campus for a new 48-bed facility.

Alternative 3- Western State Hospital
Location south of existing Buildings 28 and 29 on Cottage Row for a new 48-bed facility.

Alternative 4 - Echo Glen
Location southwest of existing Administration Building for a new 48-bed facility.

Alternative 5 - Maple Lane
Location southwest of existing Administration Building for a new 48-bed facility.

Alternative 6 - Clark County
Locations evaluated include four in the City of Vancouver for a new 48-bed facility.

Alternative 7 - Snohomish County
8 locations reviewed for a new 48-bed facility.

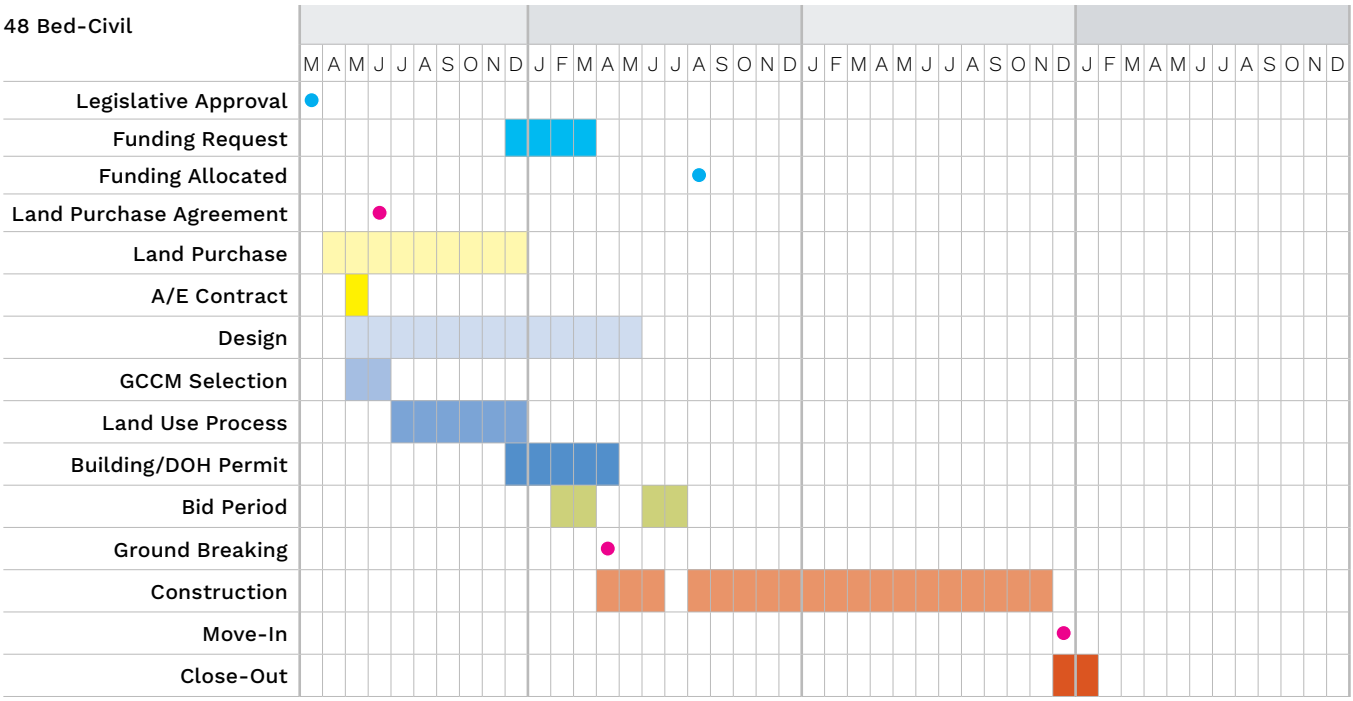
Preferred Alternate

Alternative 6 - Clark County

The Clark County site alternative is centrally located in Vancouver, WA was selected for the following reasons:

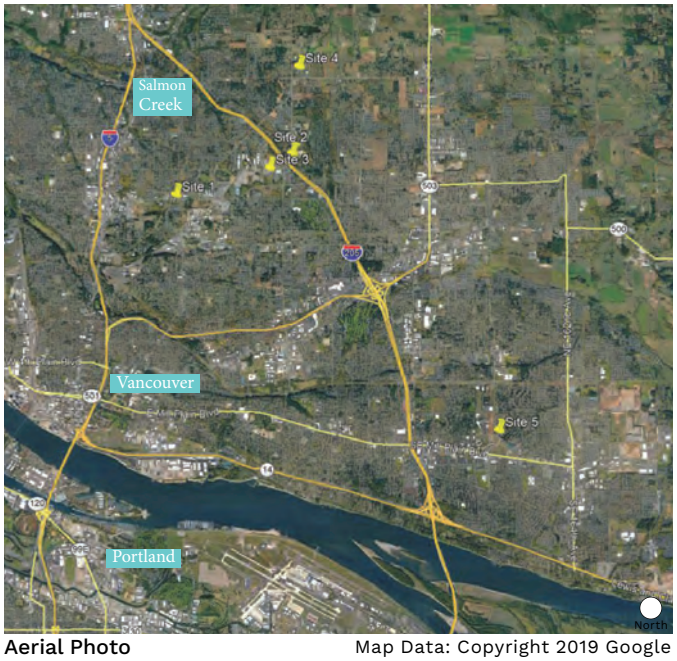
- Southwest Washington is currently under served by existing behavioral health assets. There is limited in-patient mental health resources in the greater Clark County area.
- Land use approvals can be obtained in a reasonable time frame.
- County officials appear to be accepting of the new service to be added to their community.
- Close to public transportation allowing family members to participate in the treatment/transitional process.
- Ability to draw staff from the metropolitan Portland area.
- The site is flat and has access to utilities. As opposed to state-owned sites, the utility connections shouldn't require major infrastructure upgrades.
- Access to parking is nearby.
- Ability to create a behavioral health center with community partners.
- Low-income housing is located in the area. This collection of services provides an environment for mental health patients to recover and live independently.

Typical Project Schedule



Cost Summary

The estimated total project cost for Preferred Alternative #6 Clark County: 48-bed, LEED Silver plus Net-Zero, in 2021 dollars, is approximately $50 million depending on site and property purchase.



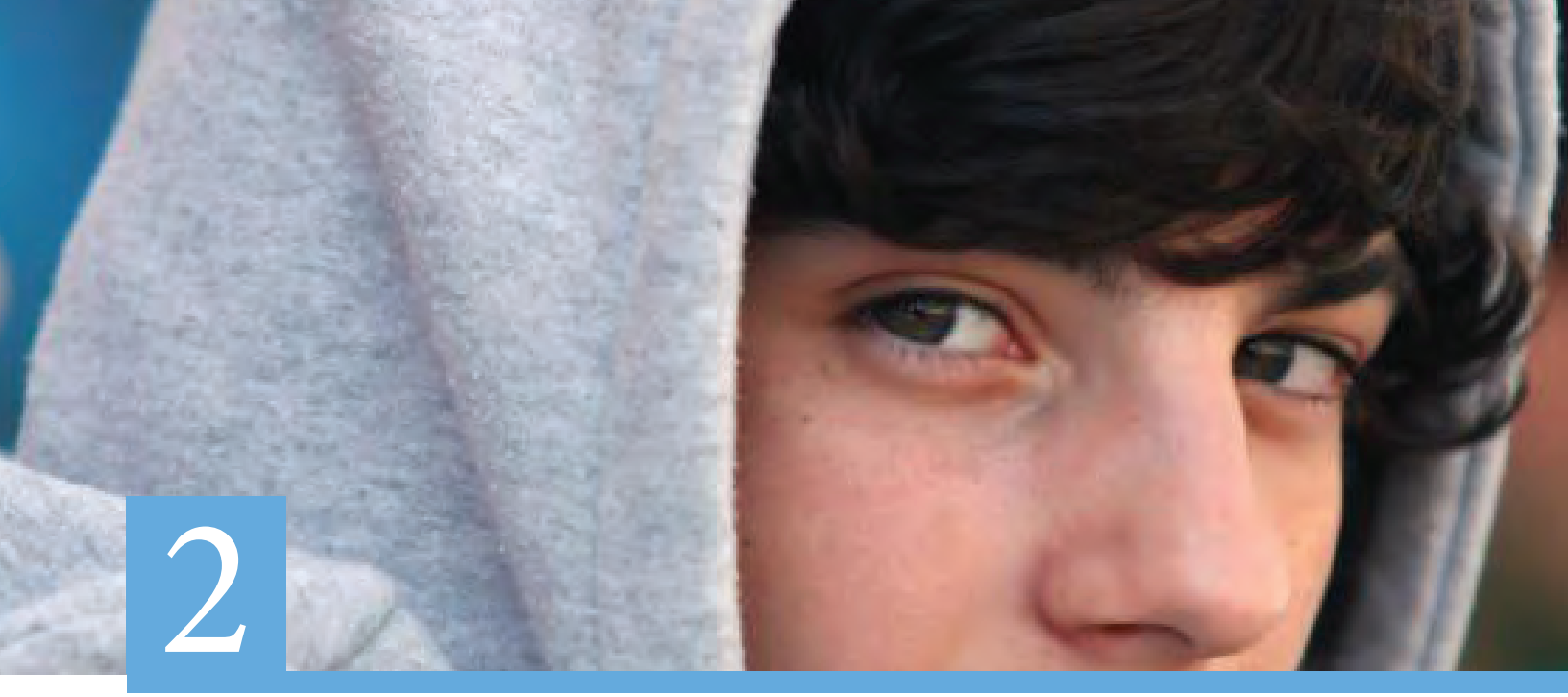
Aerial Photo Map Data: Copyright 2019 Google

Conclusion

In recent years, the legislature has increased investment to support people who have been in the state hospitals and are in need of significant support to remain stable and transition back to their community. Investments have included facilities and programs operated by the Aging and Long Term Supports Administration, the Developmental Disabilities Administration, and the Health Care Authority. There are several goals for these investments:

- Provide quick access to mental health treatment to improve recovery outcomes.
- Decrease the number of people who become unstable in the community and need inpatient care.
- Provide discharge options for people in the hospital who have specialized needs to return to the community.

The Clark County site offers the best option to make an immediate impact to the shortage of 90/180 day beds. With its nearby community partners, this site offers an exciting pathway for patients to recover and return to the community.



2

Problem Statement

48-BED STATE-OWNED COMMUNITY CIVIL FACILITY

Approach Summary

In September of 2019, DSHS and the BCRA/BWBR design team convened a series of meetings to develop programming and concept design for 16 and 48-bed community-based facilities. These facilities will provide inpatient residential treatment for civilly-committed patients. The 48-bed campus will be comprised of three 16-bed facilities.

The design team was asked to evaluate six areas in Western Washington as possible sites for the new facilities. Three types of program offerings were discussed:

Evaluation and Treatment Facility (E&T) - the E&T facility is an involuntary inpatient facility for individuals who have been civilly committed to receive mental health treatment in a secure acute environment for a period of 14 to 30 days. Patients often have significant psychiatric issues like active psychosis and suicidal ideation.

90 to 180 Day Facility the 90 to 180-day facility is an involuntary in-patient facility for individuals who have been civilly committed to receive mental health treatment in a secure acute care environment for a period of 90 to 180 days. These individuals may have completed treatment in an E&T but require further treatment prior to being returned to their community.

In contrast to the E&T, the 90 to 180 day will have large spaces for activity/life skills/exercise space to keep patients engaged for the longer stay and to help teach life skills that will help transition patients back into the community. These services are not currently provided outside of the State Hospitals.

Step Down Facility - the Step-Down facility is a voluntary in-patient facility for individuals who have been civilly committed to receive mental health treatment in a secure acute environment. These individuals may have completed treatment in an E&T and a 90 to 180 day but require further treatment prior to being returned to the community. These individuals can leave to go to medical appointments or leave the facility to receive additional off-site services but would return to the facility after their appointment.

The step-down facility, similar to the 90 to 180 day will have large spaces for activity/life skills /exercise space to keep patients engaged for the longer stay. This program is designed to transition the recovered civilly committed patient to the community.

Definition of Problems and Opportunities

The State of Washington has a unique opportunity to not only improve access to behavioral health services by providing more capacity, but to reduce the stigma associated with mental illness by creating a more effective treatment model.

The design team and key DSHS stakeholders researched industry best practices. One area of focus was looking at how the built environment impacts levels of aggression and acts of violence within behavioral health facilities. In a review of 122 studies conducted in 11 countries, researchers found that up to one-third of patients admitted to a behavioral health facility will engage in some form of aggressive or violent behavior during their stay. Often, this aggression or violence results in injuries to staff or other patients. Recent research by environmental psychologists have started to reveal strong correlations between the physical environment and the aggressive or violent behaviors.

Design Strategies proven to reduce patient aggression or violence:

Improved sight-lines

- Community spaces and patient room doors observable from central location
- Removal of hiding places/alcoves
- Visual connections between staff within facility

Positive distractions that reduce stress

- Outdoor areas accessible to patients
- Views to nature or nature-based artwork
- Access to natural daylight

Reduction of environmental stressors

- Elimination/reduction of environmental clutter, harsh noise and artificial lighting
- Design for control within patient rooms (music, lighting color/intensity, etc.)

Design for low spatial/social density

- Single patient rooms with private toilets
- Minimize bottle-necks/areas of constriction
- Smaller community spaces designed for individuals in crisis
- Ample movable furniture in community spaces to allow patients to regulate relationships with others

Program Needs

The design team conducted an interactive workshop with key DSHS stakeholders to discuss:

- Unique patient characteristics and needs
- Staffing
- Space needs
- Key flows and adjacencies

During this workshop the design team reviewed several behavioral health archetypes and reviewed the pros/cons of each option, which became the basis for the concept plan.

Images from project team workshops held at BCRA Tacoma office

Development of Guiding Principles

The development of the Guiding Principles was a result of Visioning Session #2. The design team presented the DSHS stakeholders with examples of what other similar facilities use as their Guiding Principles, as well as how they have utilized them in the design process and beyond. The DSHS stakeholders agreed that Guiding Principles would help them stay on course with their vision and support them in their decision making. Throughout the day, key words, phrases and ideas were collected that resonated with the stakeholders. The design team took those ideas and generated the following Guiding Principles for this design process.

PATIENTS

Warm, residential environment that supports patient recovery and progress in their treatment.
A healing environment with a goal of zero injuries, where patients and staff are integrated in partnership.

FAMILIES

Families are welcomed and included. They are comfortable with the safety of their loved ones and themselves.

STAFF

The employer of choice where staff are supported, empowered, high-performing, and inspired. Staff are integrated with patients, safe from harm and confident in the protection of their privacy.

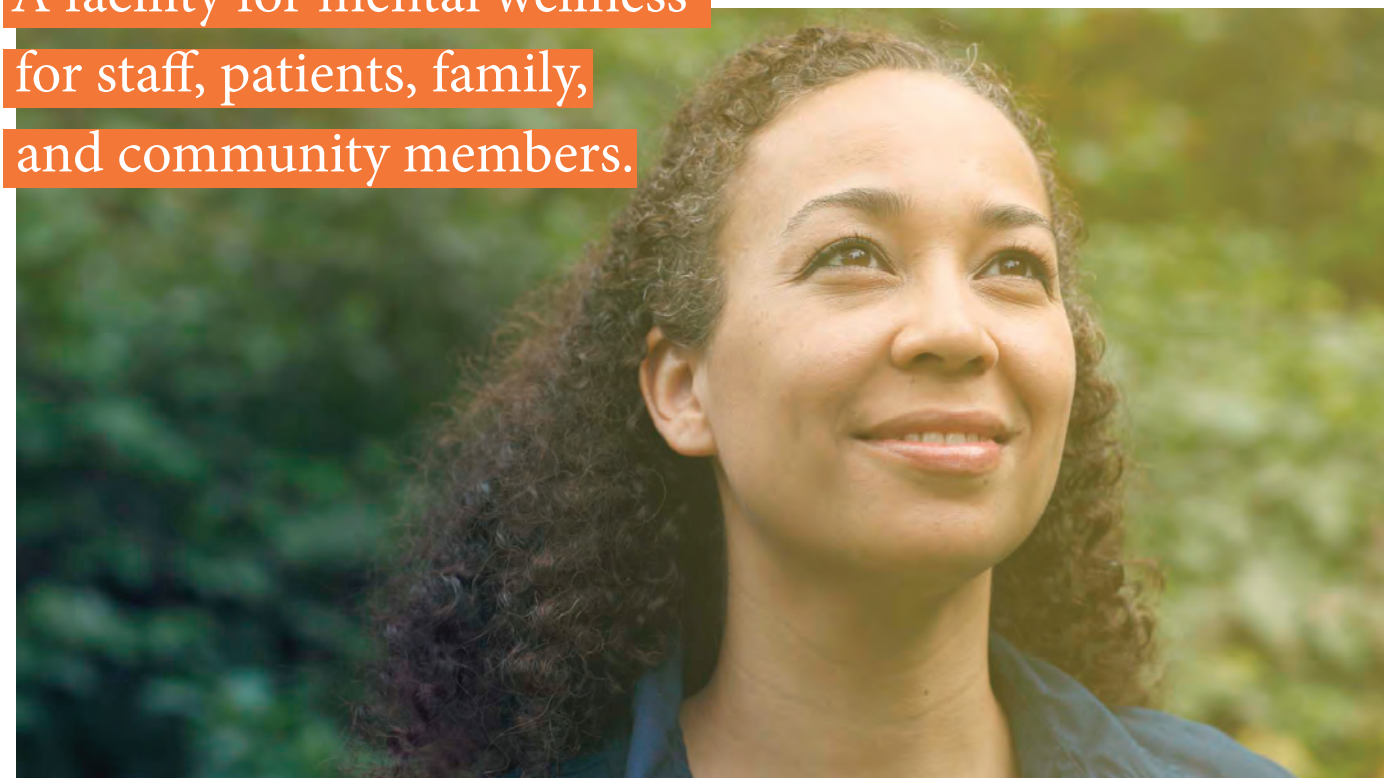
COMMUNITY

A Community Asset / Center of Wellness that invites community members into the facility to break down barriers and create partnerships while maintaining patient privacy.

STEWARDSHIP

Flexible, adaptable facilities intentionally designed to work today and into the future. Net-Zero energy capable for environmental stewardship.

A facility for mental wellness for staff, patients, family, and community members.

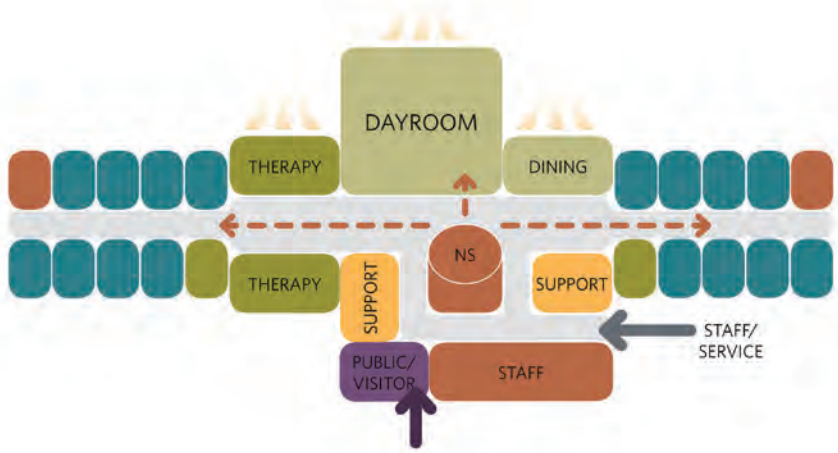


Floor Plan Diagram Options

During the visioning sessions, the project team looked through several prototypical adjacency diagrams to discover desired layout options.

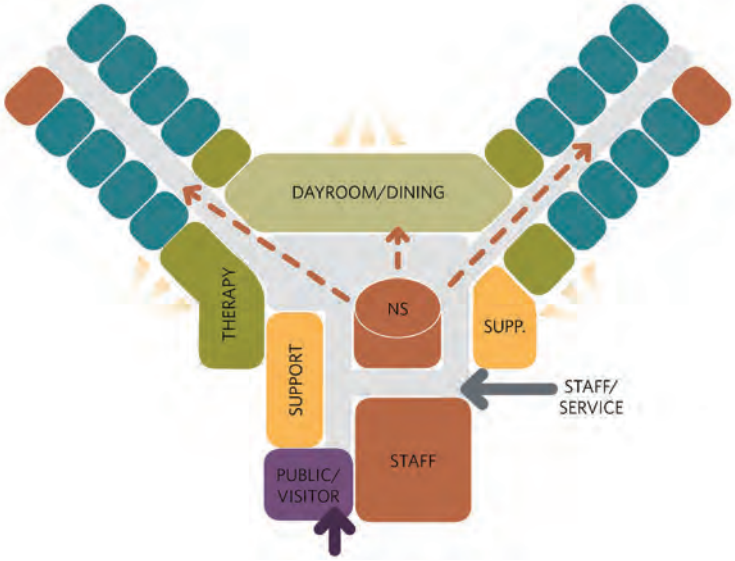
Option A

(+) Good sightlines from nurse station
(+) Access to daylight
(-) Long straight corridor
(+) Offices on the unit



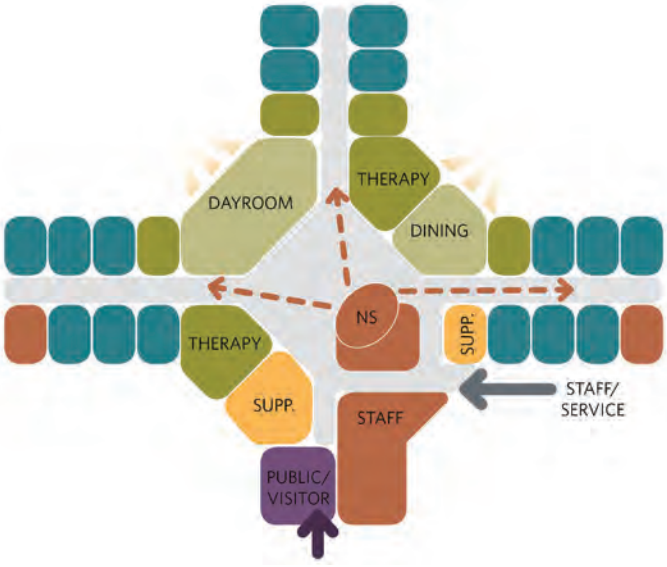
Option B

(+) Sightlines from nurse station
(-) Not able to see whole unit
(+) Offices on the unit



Option C

(-) Not able to see whole unit
(+) Offices on the unit
(+) Multiple therapy areas



Floor Plan Diagram Options

Option D

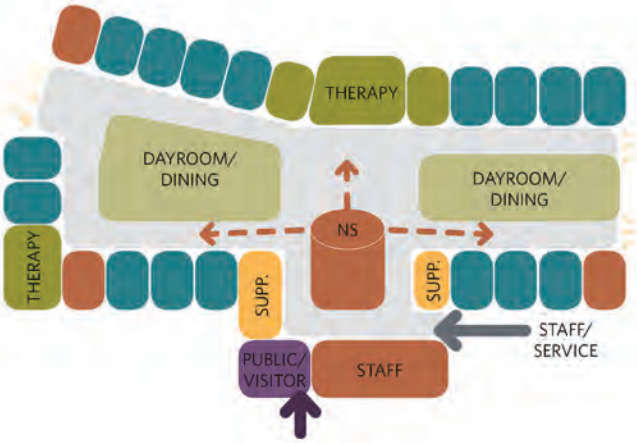
(+) Able to always see whole unit
(-) Limited access to daylight
(-) Nurse station not as integrated
(-) Large open floor plan
(-) Offices located off the unit

Option E

(-) Nurse station not as integrated
(+) Able to always see whole unit
(-) Offices located off the unit

Option F (Preferred Option)

(+) Good sightlines from nurse station
(+) Able to always see whole unit
(+) Multiple dayroom/dining spaces which can allow for different group sizes
(-) Rooms that open directly onto the community spaces
(+) Offices on the unit
(+) Geometry that breaks up long corridors



Prototypical Space Plan

Concept Plan

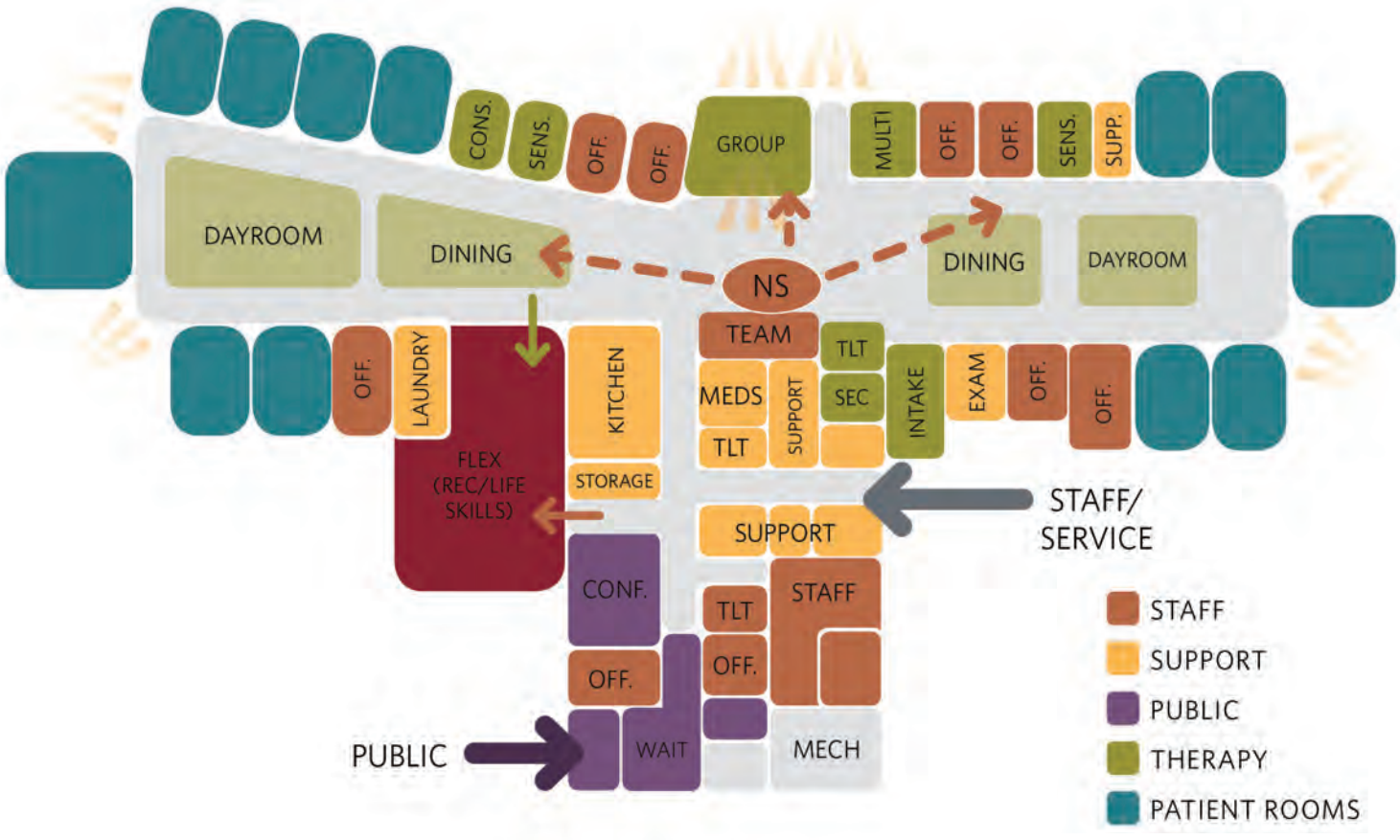
The goal is to create a prototypical plan that would work well for each of the three treatment facilities: Evaluation and Treatment, 90-180, and Step-Down. Facilities will be highly flexible, allowing them to be easily adaptable to any other of these programs in the future. The proposed concept plan breaks the 16-bed facility down into two areas that allow staff to manage the patients' environment.

Other planning strategies include:

- Clear sight-lines to community spaces and patient room doors from central staff team area
- Creating multiple opportunities to bring natural light and views to the outdoors into the central community spaces
- Locating provider/therapist offices and private consult rooms centrally for improved staff efficiency
- Off-stage entry/circulation for staff and support functions (laundry, food service, etc.)

Pros	Cons
• Provides the most flexibility for future expansion or growth • Less concern with vertical security • More appealing to private operators • Less operational infrastructure to support and maintain • More roof surface area for solar panel system	• More land required which adds restrictions to potential site locations

Adjacency Diagram - single story



Two-Story Building Analysis

Concept Plan – 2 Story Option

As some of the potential building sites have a smaller footprint, a two-story building option was also developed. Currently federal requirements limit reimbursements for facilities with more than 16 licensed beds (IMD). The 90-180 day and Step-down facilities are licensed differently so these facilities could potentially be stacked rather than be separate, one-story buildings.

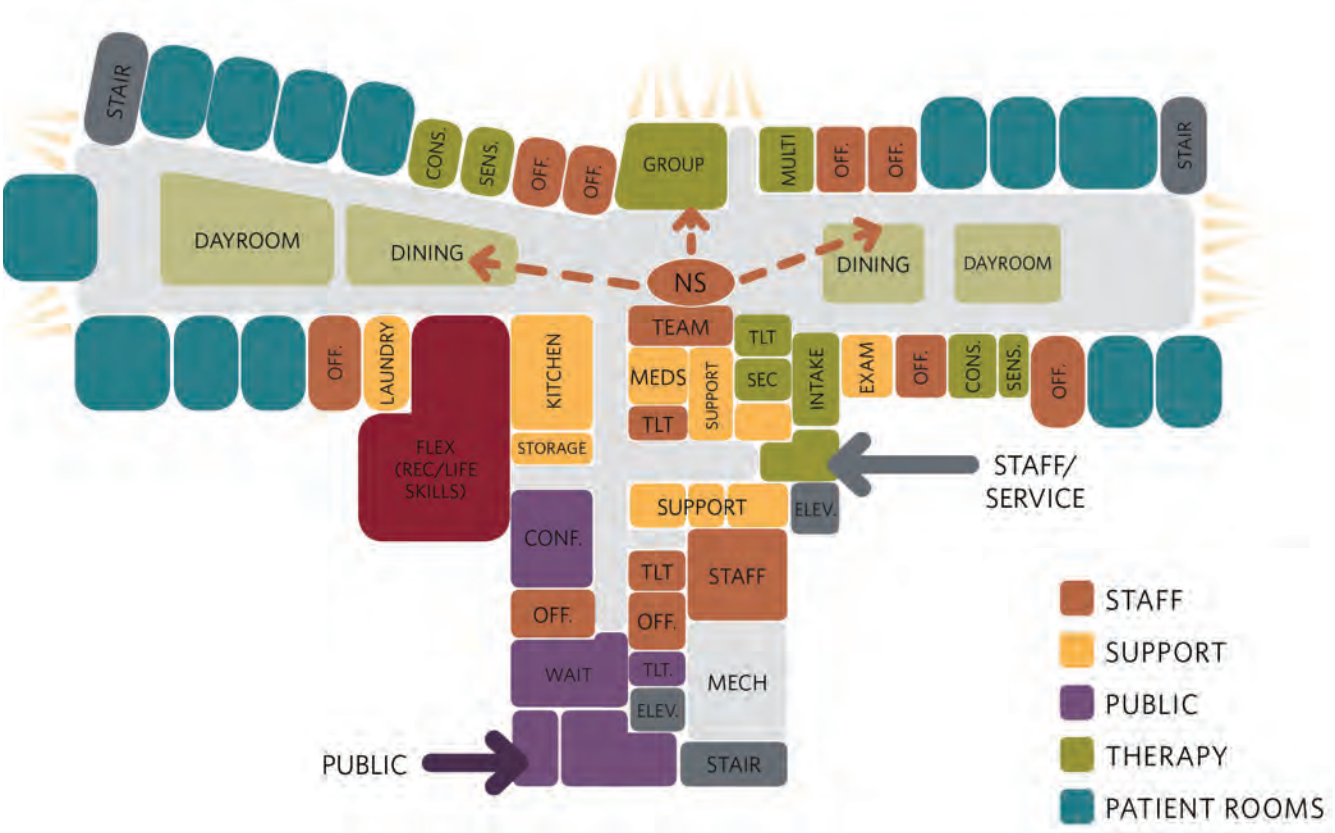
Pros

- Reduced building footprint accommodates smaller sites
- Potential to share Mechanical/Electrical systems
- Smaller roof surface reduces heating/cooling loss
- Properties greater than 1 acre are difficult to locate in urban areas.
- Communities are interested in efficient design to maximize available land.
- Staff familiarity between floors. If each floor is operated by the same organization, then staff can float between floors seamlessly.
- Greater views to outdoors

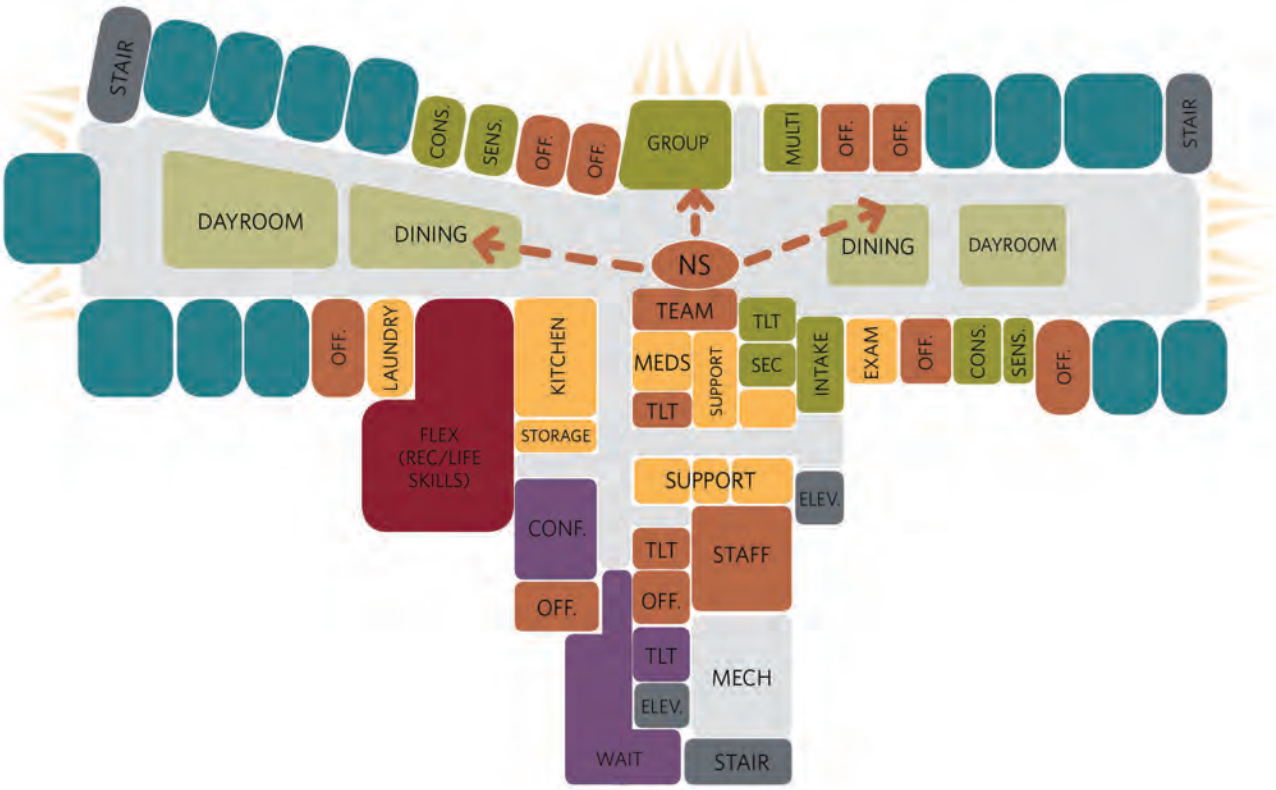
Cons

- The addition of stairs, elevators and shafts increase the overall building area – 38,000sf, 1350sf add per program
- Assume 2 elevators (one for visitors & one for service)
- Increased cost for elevators
- Increased construction costs
- Increased maintenance cost
- Potential staffing challenges escorting upper level patients to outdoor activity area
- Potential sightline/privacy concerns of upper patient outdoor area from ground level patient spaces
- Need to verify that the combined facility doesn't create an IMD
- Potential triggering more restrictive building code requirements – IBC construction type due to larger area
- Reduced roof area will impact solar array sizing

Adjacency Diagram Two Story option - Level One



Adjacency Diagram Two Story option - Level Two



90-180 Day Civil Commitment & Step-Down

State of Washington DSHS Community 48/16

SPACE PROGRAM

Room/Area	FGI Guidelines Reference	Safety Risk Level	Unit	Requested NSF	NSF	Comments
Reception/Public Areas					***430***	
Vestibule		1	1	120	120	
Greeting Area/Family Lounge		1	1	180	180	Seating for 6-8. Includes space for family lockers.
Family Toilet		1	2	65	130	ADA accessible.
Patient Intake Area					***695***	
Patient Intake		5	1	140	140	Assumes shelving for patient gowns & extra clothing. Should be located near central nurse/staff station.
Patient Belongings		1	1	200	200	Locker/cabinet for each patient & area for luggage/oversized items.
Laundry		5	1	80	80	Alcove located between Intake area & Patient Belongings. Includes space for handwash sink, washer, dryer & bed bug oven
Seclusion Room	2.1-2.4.3	5	1	100	100	
Ante Room		5	1	100	100	Space to store restraint chair/bed
Seclusion Toilet/Shower		5	1	75	75	Accessible for intake without going through Seclusion room. Also used for urine collection - need water shut-off.
Patient Lodging/Care Area					***3,975***	
Patient Room, Private	2.5-2.2.2.2	4	10	160	1,600	Includes platform bed, desk w/ chair, wardrobe and patient storage
Patient Room, Semi-Private	2.5-2.2.2.2	4	3	240	720	Includes platform bed, desk w/ chair, wardrobe and patient storage
Toilet/Shower Room		4	13	75	975	
Phone Alcove		3	3	10	30	1 phone + 2 video/app-based alcoves - observable from NS
Medications		1	1	120	120	Includes space for medication dispensing units, medication cart, computer, small refrigerator, cabinet storage and countertop w/sink.
Patient Laundry		3	1	150	150	Large laundry sink, 2 washers & dryers & folding counter.
Exam Room	2.1.3.2.2.1	2	1	140	140	Exam/treatment table, sink, lockable storage cabinets, provider desk
Quiet/Sensory Room	2.5-2.2.4.3	3	2	120	240	Assume 1 room located in each wing.
Community/Program Areas					***2,470***	
Consultation	2.5-2.2.6.13	3	1	120	120	Multi-purpose room used as 2nd Consult room.
Multi Purpose		3	1	120	120	Used for visitation & consults
Group Room, Large		2 or 3	1	300	300	Multi-purpose space used for group/rec therapy, noisy activities & visitation. Assume counter w/ sink & cabinets for storage.
Dayroom - Large		2 or 3	1	600	600	Assume 2 separate spaces to reduce number of patients within a single space.
Dayroom - Small		2 or 3	1	300	300	
Dining Area	2.5-2.2.8.2(b)	2 or 3	2	250	500	Assume Dining areas are co-located with Dayrooms.
Re-heat Kitchen		1	1	320	320	
Kitchen Storage		1	1	80	80	
Toilet Room		4	2	65	130	ADA accessible.
Recreation/Life Skills					***1,400***	
Yoga/Exercise		3	1	640	640	
Storage		3	1	60	60	
Teaching Kitchen		2	1	160	160	
Common Area		2	1	320	320	Table & Chairs for 8
Office Skills		2	1	120	120	3-4 computers
Laundry		2	1	100	100	Washer, dryer, sorting & ironing
Support Areas					***480***	
Clean Supply/Linen		1	1	100	100	Shelving for clean linen & personal hygiene supplies.
Soiled Holding		1	1	100	100	No hopper sink required.
Red Bag Waste		1	1	50	50	
Housekeeping Closet		1	1	80	80	
Equipment Storage		1	2	75	150	Mobility equipment, recreational equipment & etc.
Staff Areas					***2,380***	All offices to be on unit except Business office
Nursing/Staff Desk		2 or 3	1	140	140	Space for 2-3
Team Workroom		1	1	200	200	4 workstations to chart, right sized to encourage staff to be on uni
Office, Administrator		1	1	140	140	
Office, Private		1	4	120	480	Program director, Nursing director, Clinical director, Business office
Office, Provider		2	1	120	120	MD or NP
Medical Records		1	1	150	150	Tech workstation + shelving for records
Office, Flex		1	1	100	100	
Office, Shared		1	1	150	150	2-3 desks for Rehab/Recreation & Social Services
Staff Toilet & Shower		1	2	80	160	
Conference Room		1	1	300	300	Used for Treatment Planning & Staff Meetings. Sized for 12 people
Respite/Lactation		1	1	120	120	Small space w/ comfortable chair, dimmable light, small counter w/ sink & undercounter refrig
Staff Break		1	1	240	240	Assumes space for table/chairs, full size refrig, microwave, coffee
Staff Lockers		1	1	80	80	8-10 staff during day. 6 evening. 4 overnight. Half sized lockers, not assigned.
Mechanical					***350***	
Subtotal					***12,180***	
					1.45	*Multiplier ranges from 1.40 - 1.50*
Total					**17,661**	**GSF**

END OF SPACE PROGRAM — **90-180 Day Civil Commitment & Step-Down**

Engineering Summary - Prototype Building

Introduction

There are a series of design elements that will be consistent regardless of knowing which final site is to be chosen for these facilities. The following are brief descriptions of the design approaches as they relate to the site, sustainability, mechanical, electrical, and plumbing designs.

Electrical Service

Each 16 Bed facility will be treated as an independent facility. Each 16 Bed will have its own utility service entrances for utility power, emergency power, telecommunications, cable television, internet, etc. Normal power will be distributed to electric rooms in each building and branch circuits will supply power to all electrical fixtures and devices from these electric rooms.

Essential Power

An optional power generator will be provided to pick up select building loads. The generator will be locally positioned to serve power directly and exclusively to this building. This generator will have a 96 hour fuel supply local to the generator.

Emergency Power (NEC Article 700) for egress and communications will be provided by a central battery inverter.

An optional power branch will be provided by the local generator through an automatic transfer switch and will serve total redundant power to the building.

Lighting

Lighting will be accomplished using LED lighting fixtures with features that allow dimming and in specific locations will be tunable for light color.

Ligature resistant lighting fixtures will be provided in all Patient accessible areas.

Tunable lighting will be provided in Sensory and Seclusion Rooms. Amber night lights will be provided in Patient bedrooms.

Exterior lighting will be LED fixtures

Lighting controls will vary from fully automatic lighting in public spaces using occupancy sensors and daylighting controls to (manual dimming) lighting control in patient rooms. All controls will be localized to the area of use. Patient Rooms will have Staff override switching for lighting, whether it is to be global or local per room will be determined during building design.

Power Distribution

Individual building power panels will be provided. Building level metering will be provided to achieve LEED Energy and Atmosphere Prerequisit 3 for Building Level Metering, as well as net zero energy requirements. Patient Rooms and Seclusion rooms will not have receptacles installed.

Telecommunications

Each building will have a main distribution facility (MDF). Intermediate Distribution Facilities may be needed in the facility if the MDF is more than 200 feet from any location in the building. Cable will be based on CAT-6A cabling.

Wireless connectivity will be available to Patients, Staff, External Providers (Doctors) and Visitors over multiple wireless networks.

Television

- Television (TV) outlets will be provided in common areas, not in Patient Rooms in the E&T and 90-180 facilities.

Audio/Visual

- Patient rooms will be provided with music and ambient sound generators.
- The Multi-Purpose room will be provided with an Audio Visual (A/V) system including music and ambient sound generators.

Telecourt

- E&T facilities will have a Telecourt including cameras, televisions, data/voice and A/V systems.

Solar Power - Net-Zero Alternate

Solar photovoltaic (PV) power that would allow for 100% offset of the building's annual energy consumption will be planned as an alternate for the facilities. Lighting will be made 20% more efficient than the base. Connection to the building electrical system for distribution back to the electric utility will be provided.

Engineering Summary- Prototype Building

Fire Alarm

The Fire Alarm system will consist of a local main fire alarm panel in each building reporting back to the central campus fire alarm monitoring location over fiber for all DSHS campus facilities. Other locations will have full fire alarm systems with requirements determined for the specific facility during the building design.

Initiation devices will consist of smoke detectors located in strategic areas.

Notification appliances will consist of voice alarm speakers and visual alerting devices (Speaker/strobes).

The fire alarm system will need to be closely coordinated with the local Fire Marshal's office to provide a system that provides for a safe environment and is the least disruptive to the residents and staff.

E&T and 90-180 facility exterior doors will not unlock on Fire Alarm but will unlock on Fire Sprinkler Flow. Step-down facility exterior doors will not be locked.

Security

Security will include intrusion detection, access control, security video, panic alarms, and wander control. Security features for lockdown may also be anticipated. Panic Alarms will be provided in Nurse Station areas. Portable, worn on Staff, alerting and alarming systems will be provided as part of the Nurse Call system.

Nurse Call

Nurse Call will be provided to allow for two way voice communications between each Patient bed and the Nurse Station serving the bed. Each Patient bed will have a ligature resistant nurse call station including a staff assist pushbutton. Bath, Shower and Toilet rooms will have ligature resistant assistance call cords.

The nurse call system will provide portable Staff devices that will allow the staff to receive nurse calls while away from the Nurse Stations.

Wearable Staff duress alarms will be provided as part of the nurse call system.

Heating, Ventilation and Air Conditioning

The mechanical system will be comprised of a Variable Refrigerant Flow (VRF) system with a Dedicated Outdoor Air System (DOAS) for ventilation air. There will be three DOAS units serving the building delivering tempered ventilation air to individual Variable Air Volume (VAV) dampers at each space. This system provides for individual control in patient rooms and staff control in staff offices and common spaces. Ligature resistant supply and return grilles will be provided in all patient rooms.

Plumbing

Behavioral healthcare ligature resistant plumbing fixtures and floor drains are to be utilized for all areas throughout the building including Staff/ Service areas. Lavatories and water closets will be provided with low flow fixtures. Shower heads will utilize limited flow cartridges.

Sustainability

The facility will strive to provide an environmentally sensitive impact in keeping with the mission of this project to provide a safe, restorative and healing environment for those in need.

LEED V4 Silver minimum will be achieved for this project. The LEED items targeted are strategically selected to be minimal cost and highest benefit to the environment and building occupants.
Accountability to the executive order 18-01 will be achieved.

- Site selection to reduce carbon impacts – accounted for in this document
- Have a strategic technical consultant on the project
- Durable envelope design, efficient HVAC system with submetering and graphic dashboards is incorporated into 18-01 cost premiums
- Target low Embodied Carbon through project design and construction strategies
- Design for renewables and energy storage using solar photovoltaics (PV) to offset annual operational energy use, achieving net zero energy.

Site Design

The area around each building' will be designed to provide adequate storm water treatment and/or retention. The topography will be modified as minimally as required to provide proper drainage and natural landscaping elements.

Criteria to Evaluate Site for Project Implementation

Site Development/Permitting

Permitting

- Land Use Requirements - It is ideal if the site allows the 90-180 use outright. Second choice would be if a use permit process is required. Public Processes can be risky.
- Timeline to Achieve Building Permit
- Ability/Timeline for Jurisdiction to approve plans
- Master Plan Status - on site where it applies

Land Size and Configuration

- Evaluate if property shape and topography support desired building configuration and site circulation

Off Site Development Requirements

- Work with Authority Having Jurisdiction (AHJ) to determine extent of off-site improvements. This includes Jurisdiction-required right-of-way (ROW) improvements for items such as sidewalks, landscaping, curb, and gutter. Understand preliminary cost implications.

Utility Availability / Stormwater

- Study available utilities, electricity, water, sewer, gas, and communications. Determine preliminary connections, routing, and possible obstructions. Understand preliminary cost implications.
- Stormwater strategy - creating preliminary strategy for dealing with stormwater.

Site Amenities

Shared Facilities

- Is there an on-site kitchen or laundry that would provide services?

Transportation / Location

- How close is the site to I-5 or other major highways?
- Is the site accessible for families?
- Is public transportation available to the site?
- What is the distance from the site to Western State Hospital?

Vocation / Recreation space

- Are there existing vocational programs nearby?
- Is there adequate space for recreation activities?

Healing Environment

- Does the environment have access to nature?
- What is the feel of the adjoining neighborhood?

Purchased Services

- Are contracted food services available?
- Are contracted laundry services available?

Community Assets

Regional Need

- Does this location fit into the State's larger plan to provide community-based facilities?
- Would the location be near where there is a noted, significant need?

Access to Healthcare

- Can patients obtain dental, optical, and other healthcare services nearby?

Access to other Mental Health services

- What is the distance to the nearest E&T Facility?

Staff Availability

- Does the area around the chosen site have an adequate supply of potential employees?
- Would that availability serve the anticipated capacity?

Community Receptiveness

- Has the surrounding community communicated desire for this type of facility?
- Is the local leadership supportive of the project?

Decision Matrix

In order to solidify the final chosen site for these facilities, the previously-described Site Criteria has been utilized to rank each location based on a scale of 1-5 from lowest to highest where:

1 - describes a poor, or potentially problematic site, condition, or process (such as land-use or permitting)

5 - describes a highly-desired site based on the potential layout or utility solutions, adjacency to supportive entities, or the receptiveness of the surrounding community.

	Fircrest School	Western State	Echo Glen	Maple Lane	Clark County	Snohomish County
Site Development / Permitting						
Permit (Complexity and Duration)	2	2	3	3	3	3
Off-Site Development Requirements	3	3	3	5	3	3
Utilities Available	2	2	2	3	4	3
Land Size and Configuration	3	3	3	4	3	3

The preferred option in Clark County for a land purchase is supported by obtaining parcels with utilities available and purchasing appropriate sized parcels. State-owned sites have complex master plans that must be approved prior to a conditional or special use permit, hence the low rating. Also, an aging infrastructure that will either need to be replaced or improved for a new program. The Clark County sites studied have a moderate to low risk of utility infrastructure or off-site frontage upgrades.

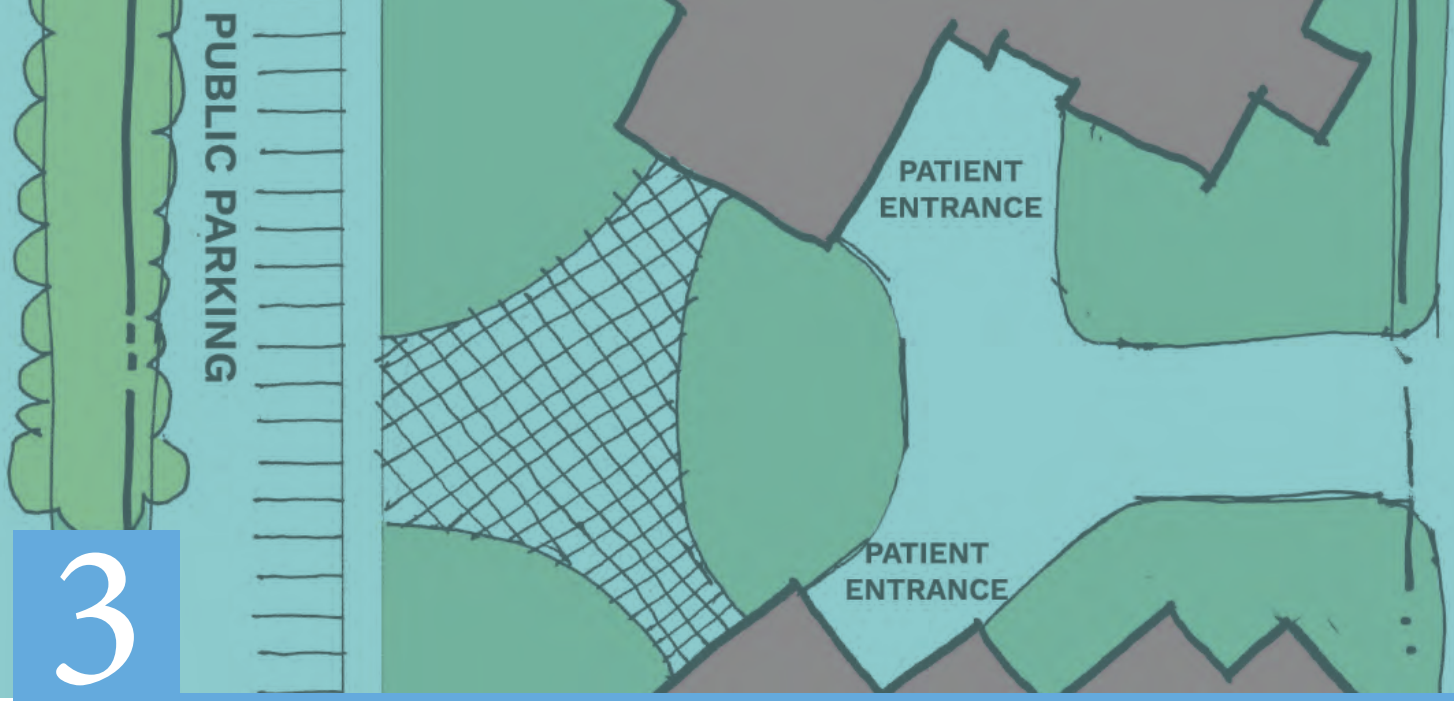
Site Amenities						
Shared Facilities	4	3	3	3	2	3
Transportation	4	4	3	3	4	3
Vocation / Recreation Space	2	3	3	2	3	3
Healing Environment	5	2	5	3	3	3

The sites at Fircrest and Echo Glen have high ratings for the healing environment due to the quality of the campus environment. It is unclear if having on-site food and laundry is a benefit versus outsourcing those services.

Community Assets						
Regional Need	3	1	3	3	5	3
Healthcare facilities nearby	5	4	5	3	4	3
Access to other Mental Health	3	5	4	3	4	3
Staff Availability	4	4	3	2	4	3
Community Receptiveness	3	2	3	3	5	4

Clark County has a significant need and desire for behavioral health services, both 90 to 180 day civil commitment and evaluation and treatment. A high score in staff availability indicates the availability of psychiatric staff nearby.

TOTAL SCORE:	**43**	**38**	**43**	**40**	**47**	**40**



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Analysis of Alternatives

48-BED STATE-OWNED COMMUNITY CIVIL FACILITY

Considered Alternates

Alternative 1 - No Action - No New 48-bed Facility

Alternative 2 - Fircrest School
Two locations studied for locations on Fircrest School Campus for a new 48-bed facility.

Alternative 3- Western State Hospital
Location south of existing buildings 28 and 29 on Cottage Row for a new 48-bed facility.

Alternative 4 – Echo Glen
Location southwest of existing Administration Building for a new 48-bed facility.

Alternative 5 – Maple Lane
Two locations studied for location of existing campus for a new 48-bed facility.

Alternative 6 – Clark County
Locations evaluated include four in the City of Vancouver for a new 48-bed facility.

Alternative 7 – Snohomish County
Eight locations reviewed for a new 48-bed facility.

NA No Action Alternative #1

Alternate 1 - No Action-No new 48-bed Facility

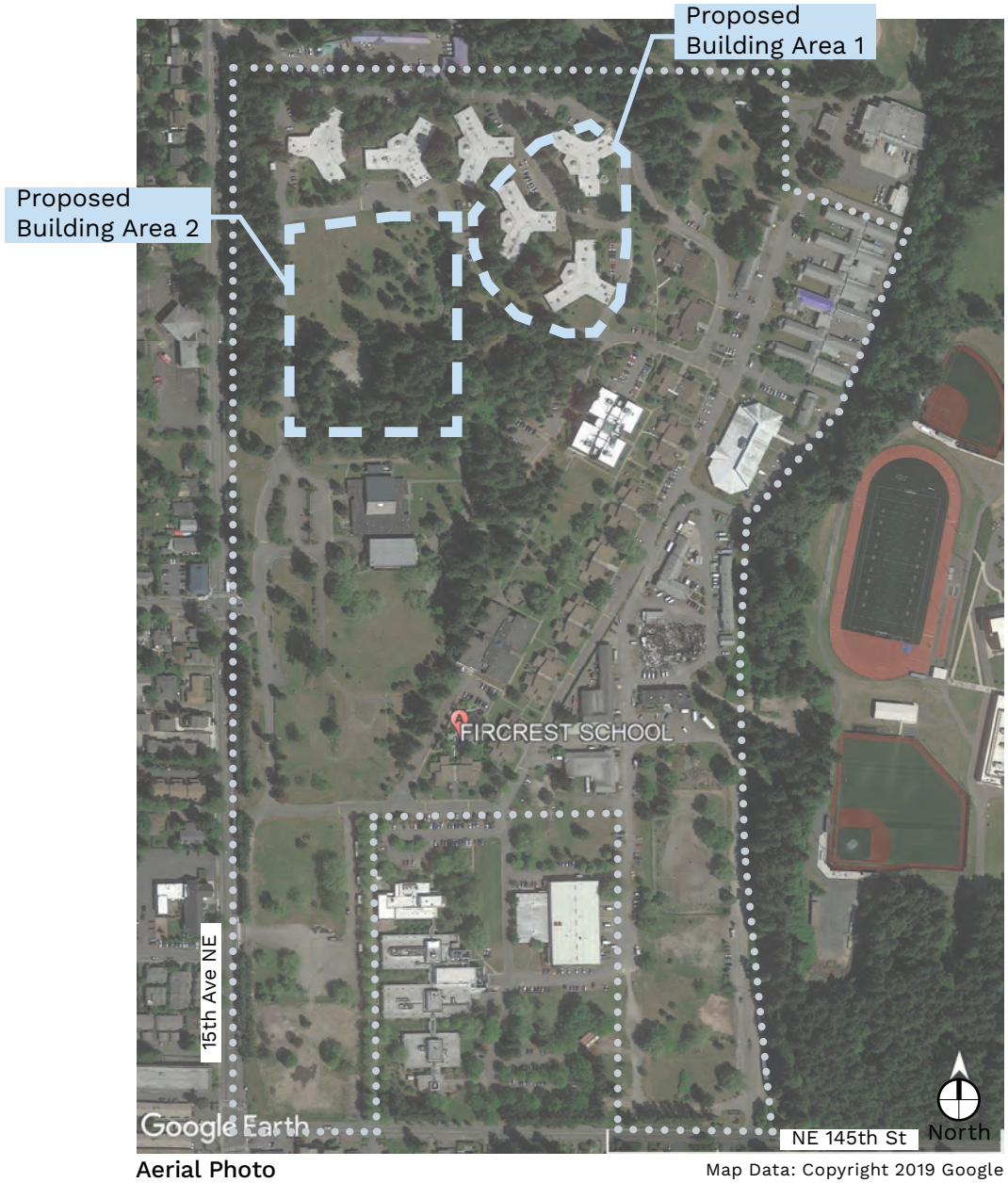
The state will continue to provide treatment with the current number of beds that remains well below the need, while the need continues to increase. This current configuration does not well serve the current model of care to effectively provide a safe and healing environment.

Additional costs on the current number of beds will be incurred due to housing a low acuity population in a hospital facility rather than a residential setting. For the population that does not have access to these or the existing civil beds, costs will be incurred in other settings around the state.

FS Fircrest School Campus Alternative #2

Site Overview:

Fircrest School Campus is a 88-acre State-owned property in Shoreline, WA just north of Seattle. The Fircrest School provides support to approximately 200 individuals with intellectual disabilities in a residential setting. The school programs include (i) long term nursing care for individuals with intellectual disabilities, (ii) intermediate care for individuals with an intellectual disability, and (iii) an on-campus Adult Training Program (ATP) for individuals with intellectual disabilities. The campus includes several DSHS accessory operational buildings to support school functions such as dietary, commisary, recreation, laundry, and maintenance. The campus has a large number of mature trees and several forested areas. DSHS is exploring the potential location of a new 48-bed behavioral health facility at two locations on the campus.



Aerial Photo

Map Data: Copyright 2019 Google

FS Preliminary Site Layout - Fircrest School Campus

Building Area 1: North

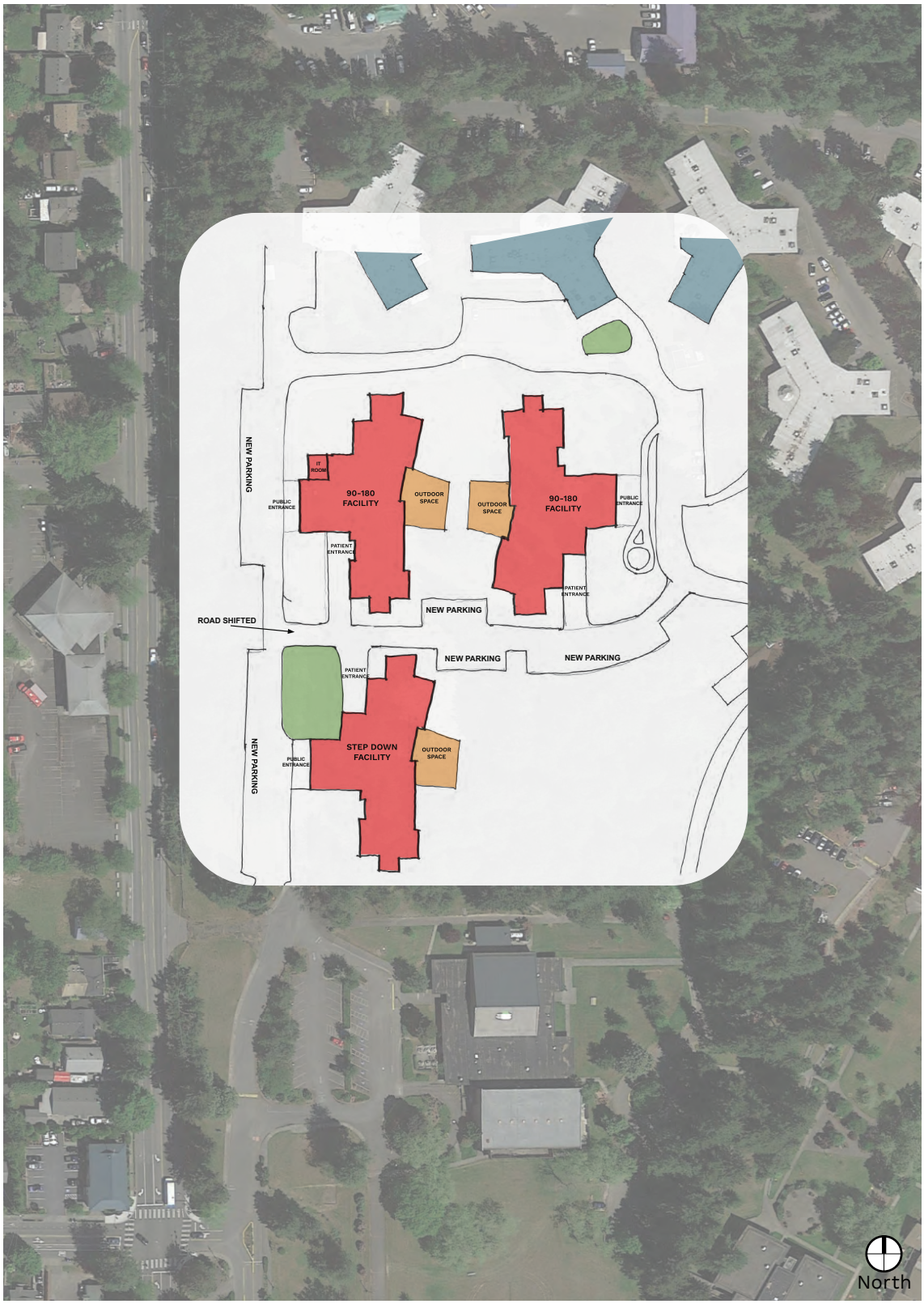
Building Area 1 has three existing nursing buildings that would need to be demolished in order to make room for the new program. The area's topography is the biggest challenge with a variety of large slopes and existing underground utilities.

Enlarged Site Plan with prototype building layout

Map Data: Copyright 2019 Google

Building Area 2: Northwest

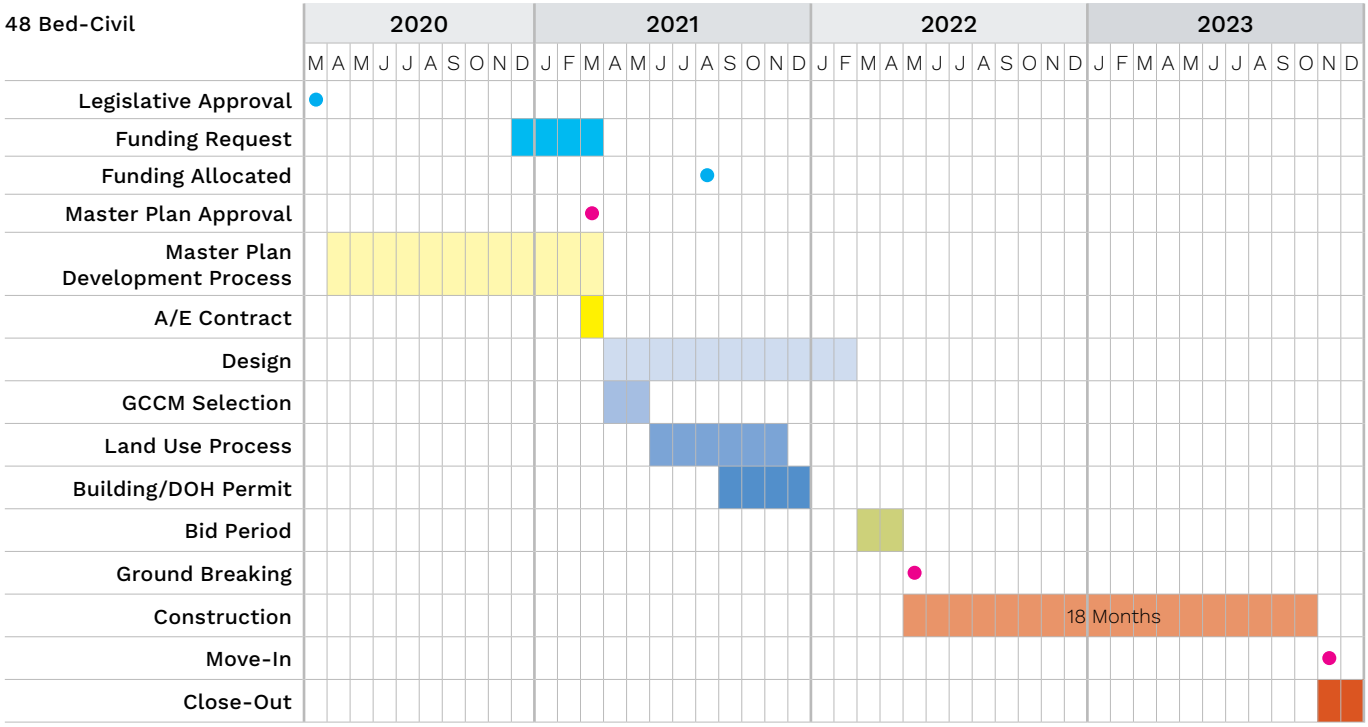
The land in Building Area 2 has been cleared from the previous building and has a slight topography change that would be adjusted to provide an additional access road. This is the current preferred option to construct a 120 bed nursing facility to serve those at Fircrest.



Enlarged Site Plan with prototype building layout

Map Data: Copyright 2019 Google

FS Project Schedule - Fircrest School Campus



Cost Summary

The estimated total project cost for Preferred Alternative #2 Fircrest: 48-bed, LEED Silver plus Net-Zero, in 2021 dollars, is approximately $50 million depending on building area available and required site infrastructure upgrades.

Ownership

Both the North site and the Northwest (Madrona) site at Fircrest School are owned by the Department of Natural Resources (DNR) and leased by DSHS. Next steps will include a discussion with DNR to determine additional steps to modify the lease to incorporate the new buildings.

Site Topography
The site is located on the Fircrest Residential Habilitation Center campus in Shoreline, Washington. The site is flat with approximate elevations ranging between 345 and 349, sloping to the south.

Storm Drainage
The site does not currently have any water quality or flow control facilities. Per the National Resources Conservation Service (NRCS), the site soils are very gravelly sandy loam and are moderately well drained. The City of Shoreline currently uses the 2012 Stormwater Manual for Western Washington, as Amended in December 2014 for storm drainage design. This site will trigger requirements for a redevelopment, including stormwater flow control and water quality treatment. This manual requires that stormwater discharges match pre-developed discharge rates from 50% of the 2-year peak flow up to the full 50-year peak flow to meet flow control requirements. The pre-developed condition is defined as forested land cover. An open detention pond or underground detention pipes meet flow control requirements. Enhanced treatment will likely be required for the pollution generating impervious surfaces. We anticipate that the treatment facility will be an above ground bioretention or a mechanical system such as a Filterra.

Water Systems
Existing water lines onsite are all demolished, capped, in poor condition, and not available for reuse. The project cannot tap into the campus water system for this site. Existing water lines onsite for the campus are undersized and do not provide adequate fire flow. Public water lines are located along 15th Avenue NE and NE 150th Street. New fire service and domestic water could be provided from the public right-of-way. A fire main loop around the building is anticipated to meet fire hydrant spacing requirements. The campus water system will need to be studied to determine which water mains must be repaired or replaced to serve new buildings. Providing fire storage tanks may be an option to provide sufficient fire protection, but an estimated cost of this has not been included in this study. Fire tanks will need to be included within the study of the campus water system.

Sanitary Sewer
Sewer lines along the east side of the site are new and are available for connection.

Power and Gas Availability
Power lines are in good condition and are located to the east. The gas line to the west of the site is capped. According records obtained by AHBL, a gas line runs along the west side of 15th Ave NE.

Offsite Improvements
Public transit is located on 15th Avenue NE. The site has easy access for the residents and the public from 15th Avenue NE or NE 150th Street. Because of its proximity to the street, the City would likely require frontage improvements along NE 150th Street, 15th Avenue NE, and their intersection. We anticipate these improvements will consist of concrete sidewalk, landscape strip, and intersection ADA ramp improvements at a minimum..

Electrical Systems
Normal power electric service to each building will be served from a new 500 kVA outdoor pad mounted transformer. This transformer will be connected to the campus power system. If feasible, the three buildings will be combined and served from a single transformer.

New underground feeders will provide service to a new indoor switchboard located in each facility.

The existing site electrical infrastructure will be extended to serve these new facilities. A new exterior pad mount switch will be provided to allow for the extension of new power to each facility

Campus-supplied standby power will not be provided to these facilities.

The campus telecommunication fiber network will be extended to these facilities from Building 66 main site distribution facility.

FS Review of Laws, Regulations, and Permitting - Fircrest School Campus

WAC State Requirements

The project will be required to be licensed as a Residential Treatment Facility by the Washington State Department of Health. The project will be secure and locked complying with WAC 246-337 Residential Treatment Facility code section.

Other codes the project will comply with include:

- 2018 International Building Code
- 2018 International Mechanical Code
- 2020 National Electric Code (NFPA 70)
- 2018 FGI Guidelines for Design and Construction of Residential Health Care, and Support Facilities.
- 2018 Washington State Energy Code
- 2015 Health Care Facilities Code (NFPA 99)
- 2012 Life Safety Code (NFPA 101)
- Behavioral Health Design Guide – Edition 9.0

Energy Requirements

The Governor's Office Executive order 18-01 states that "...all newly constructed state-owned buildings shall be designed to be zero energy or zero energy-capable, and include consideration of net- embodied carbon. In unique situations where a cost effective zero-energy building is not yet technically feasible, buildings shall be designed to exceed the current state building code for energy efficiency to the greatest extent possible."

Accessibility

Americans with Disabilities Act (ADA) accessibility for all spaces is critical not only for Behavioral Health patients, but for any staff, volunteers and visitors who require accessibility and all who are deaf, hard-of-hearing, blind, wheelchair users, people with mobility challenges, etc.

Centers for Medicare and Medicaid Services

The Joint Commission's Environment of Care Standard EC.02.06.05 states the Joint Commission expects organizations to assess building design and construction requirements based on local, state, and federal regulations and codes.

Typically, the state health department licensing entity is the authority having jurisdiction (AHJ), and health care organizations must comply with the AHJ's licensing rules to obtain approvals to operate. When state regulations are silent on a specific design criterion, the Joint Commission recognizes the 2014 Facility Guidelines Institute (FGI) Guidelines for Design and Construction of Hospitals and Outpatient Facilities for new construction and renovation.

Participation in the Centers for Medicare and Medicaid (CMS) programs requires that the facility also be designed to comply with the requirements of the National Fire Protection Associations' Life Safety Code 101 (2012 Edition) and all referenced codes. When a conflict exists between the Federal requirement and the State building code, the most restrictive provision of code shall be implemented. The design team will work with the various AHJ's (planning, building, and fire) to proactively resolve code related conflicts in advance of completing the design.

Permitting

The Fircrest School is subject to the City of Shoreline's Municipal Code. A MDP and a special use permit will be required. Currently the city is re-writing its Master Development Plan requirements and there is a moratorium on MDP submittals. It is our understanding that the moratorium will be lifted by mid-2020, at which time a master development permit and a special use permit can be applied for concurrently. The review process for the MDP and Special Use permit could take between six to nine months.

Existing Site Photos - Fircrest School Campus

Building Area 1: North

Area 2: Northwest

Pros and Cons

Pros	Cons
• Availability of professional staff • Access to I-5 and other main arterial roads • Relationship with UW Medical School • Campus support from Fircrest (maintenance, food services, etc) • Healing environment	• Small parcels of land • Premium pay for professional staff • Close to park and high school • Would require master plan update

WS Western State Hospital Alternative #3

Site Overview:

Western State Hospital (WSH) in Lakewood, WA is a 288 acre, State-owned campus. The Governor's 2019-21 Biennial Budget proposed evolving the state psychiatric hospitals into Forensic Center of Excellence and closing the hospitals to civil commitment admissions by the end of 2023. The 2019-21 Enacted Budget supported his vision and provided funding for predesign of a 250-350 bed new forensic hospital, and the study of community based civilly committed beds.

The Department of Social and Health Services is also studying the addition of a new 48-bed civil commitment facility on the WSH campus as part of Governor Inslee's 5-year plan. The WSH campus offers advantages of existing staff, services and infrastructure to keep operational costs of that facility low.

Aerial Photo

Map Data: Copyright 2019 Google

Preliminary Site Layout - Western State Hospital

Layout Description:

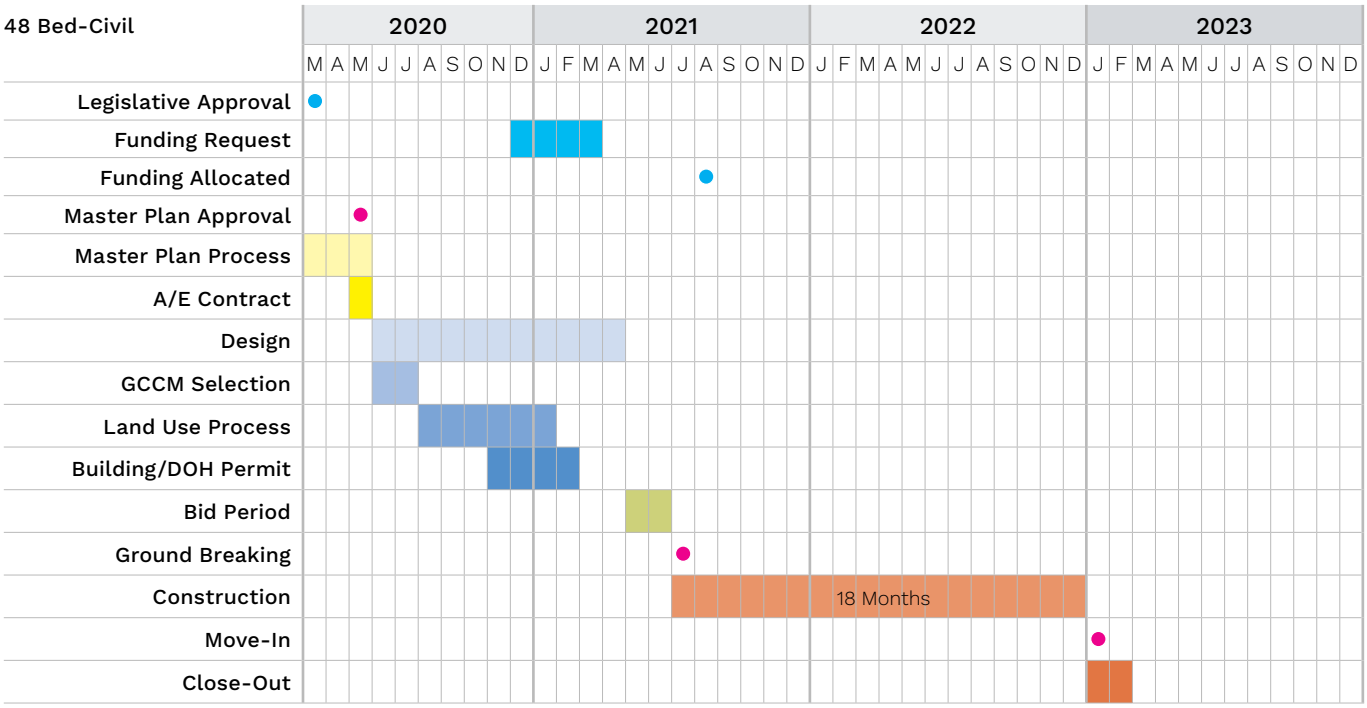
Siting of the 48-bed facility is in coordination with the development of the updated Western State Hospital Campus master plan and forensic building design. The targeted location directly abuts Child Study and Treatment Center and the historic Fort Steilacoom along Steilacoom Boulevard. The site currently has offices quarters and a storm pond. The office quarters will be removed prior to development. The storm pond will also need to be relocated as part of the work.

Enlarged Site Plan with prototype building layout

Map Data: Copyright 2019 Google

Project Schedule - Western State Hospital

Master Plan



Cost Summary

The estimated total project cost for Preferred Alternative #3 Western State: 48-bed, LEED Silver plus Net-Zero, in 2021 dollars, is approximately $50 million depending on building area available and required site infrastructure upgrades.

Topography

The project site is within the DSHS campus containing Western State Hospital and is currently developed with several buildings and supporting infrastructure. The proposed site is near the center of the general campus. Specifically, the site is bordered by the existing Forensic Hospital to the north, the access drive serving the existing Forensic Hospital to the east, Fort Street to the south and the Historic Fort Steilacoom area to the west.

The site has a local low spot in the northern portion of the subject area which appears to be an infiltration pond that serves the existing Forensic Hospital. There is roughly a 30-foot elevation change based on Pierce County GIS data. The site is generally flatter in the southern half. It is anticipated that there will be some grading necessary to develop the building pad and parking lot.

Storm Drainage

The existing storm drainage system consists of a network of pipes and catch basins. There appears to be some above ground infiltration facilities to dispose of stormwater.

The project will comply with the applicable edition of the Department of Ecology Stormwater Management Manual for Western Washington as amended by the City of Lakewood. The National Resources Conservation Service (NRCS) classifies the onsite soils as Spanaway gravelly sandy loam (0-3% slopes) which are generally favorable to infiltration. Given this information as well past experience, it is assumed that the project will provide flow control through onsite infiltration. Water quality facilities to treat stormwater runoff from areas subject to vehicular traffic will be designed in accordance with the Stormwater Management Manual.

There appears to be an infiltration pond that serves the existing Forensic Hospital located on the subject site. At least the majority, but more likely all of the pond will need to be filled and replaced with commensurate underground storage and infiltration system. This will be in addition to the stormwater infiltration facility needed for the project.

Water Systems

The Western State Hospital makes its own water with its wells and reservoirs. There are existing mains within the subject site. The project will connect to the existing mains. Depending on the exact siting of the building and associated improvements, relocating a portion of the existing mains might be required. Further coordination to determine exact requirements will be needed during the final design of the project.

Sanitary Sewer

The existing site is served by sewer. The Town of Steilacoom is the sewer purveyor for the site. There is an existing main within the subject site. The project will connect to the existing main. Depending on the exact siting of the building and associated improvements, relocating a portion of the existing main might be required. Further coordination to determine exact requirements will be needed during the final design of the project.

Power and Gas Availability

Tacoma Power is the purveyor for power and Puget Sound Energy (PSE) is the purveyor for gas. The site currently has both power and gas service. Further coordination will be needed to determine if the current infrastructure has capacity to serve the proposed project.

Offsite Improvements

The City of Lakewood classifies Steilacoom Blvd SW as a principal arterial. The 2018 City of Lakewood standard street section for a principal arterial street shows an 80-foot right-of-way with five vehicle lanes and a planter and sidewalk. Currently, Steilacoom Blvd SW has a 60-foot right of way with four vehicle lanes and no sidewalk on the project side of the street. Improvements may not be needed with this project since it is within the greater DSHS campus. Coordination with City of Lakewood will be required to determine if any frontage improvements will be required.

Electrical Systems

Normal power electric service to each building will be served from a new 500 kVA outdoor pad mounted transformer. This transformer will be connected to the campus power system. If feasible, the three buildings will be combined and served from a single transformer.

New underground feeders will provide service to a new indoor switchboard located in each facility.

The existing site electrical infrastructure will be extended to serve these new facilities. A new electrical cut-out switch will be provided on site that will monitor the power company utility power and will disconnect the new facilities from the campus power source in the event of a power outage as it is assumed the site generator is not large enough to pick up the new facilities. A new exterior pad mount switch will be provided to allow for the extension of new power to each facility. Refer to General Electrical Conditions for distribution inside each building.

Site supplied standby power will not be supplied to these facilities at this time as the existing site generator is assumed to not be large enough to accept the new loads. Refer to General Electrical Conditions for essential power distribution throughout each building.

The campus telecommunication fiber network will be extended to these facilities from the main site distribution facility. Refer to General Electrical Conditions for telecommunications distribution inside each building.

Refer to General Electrical Conditions for lighting, power, equipment connections, fire alarm, security, nurse call, and solar power for each building.

WAC State Requirements

The project will be required to be licensed as a Residential Treatment Facility by the Washington State Department of Health. The project will be secure and locked complying with WAC 246-337 Residential Treatment Facility code section.

Other codes the project will comply with include:

- 2018 International Building Code
- 2018 International Mechanical Code
- 2020 National Electric Code (NFPA 70)
- 2018 FGI Guidelines for Design and Construction of Residential Health Care and Support Facilities.
- 2018 Washington State Energy Code
- 2015 Health Care Facilities Code (NFPA 99)
- 2012 Life Safety Code (NFPA 101)
- Behavioral Health Design Guide – Edition 9.0

Energy Requirements

The Governor's Office Executive order 18-01 states that "...all newly constructed state-owned buildings shall be designed to be zero energy or zero energy-capable, and include consideration of net- embodied carbon. In unique situations where a cost effective zero-energy building is not yet technically feasible, buildings shall be designed to exceed the current state building code for energy efficiency to the greatest extent possible."

Accessibility

Americans with Disabilities Act (ADA) accessibility for all spaces is critical not only for Behavioral Health patients, but for any staff, volunteers and visitors who require accessibility and all who are deaf, hard-of-hearing, blind, wheelchair users, people with mobility challenges, etc.

Centers for Medicare and Medicaid Services

The Joint Commission's Environment of Care Standard EC.02.06.05 states the Joint Commission expects organizations to assess building design and construction requirements based on local, state, and federal regulations and codes.

Typically, the state health department licensing entity is the authority having jurisdiction (AHJ), and health care organizations must comply with the AHJ's licensing rules to obtain approvals to operate. When state regulations are silent on a specific design criterion, the Joint Commission recognizes the 2014 Facility Guidelines Institute (FGI) Guidelines for Design and Construction of Hospitals and Outpatient Facilities for new construction and renovation.

Participation in the Centers for Medicare and Medicaid (CMS) programs requires that the facility also be designed to comply with the requirements of the National Fire Protection Associations' Life Safety Code 101 (2012 Edition) and all referenced codes. When a conflict exists between the Federal requirement and the State building code, the most restrictive provision of code shall be implemented. The design team will work with the various AHJ's (planning, building, and fire) to proactively resolve code related conflicts in advance of completing the design.

Permitting

Western State Hospital is located in the city of Lakewood. DSHS is in the process of updating the master plan for the campus. The city will not allow DSHS to develop a new program facility, such as a 16-bed or 48-bed civil commitment facility without approving the updated master plan. This requirement makes the timeline of implementation of this project uncertain. Land use approvals for a project as complex as the Hospital Master Plan update could take as long as twelve months after submittal.

WS Existing Site Photos - Western State Hospital

View looking North

Map Data: Copyright 2019 Google

View looking Northwest

Map Data: Copyright 2019 Google

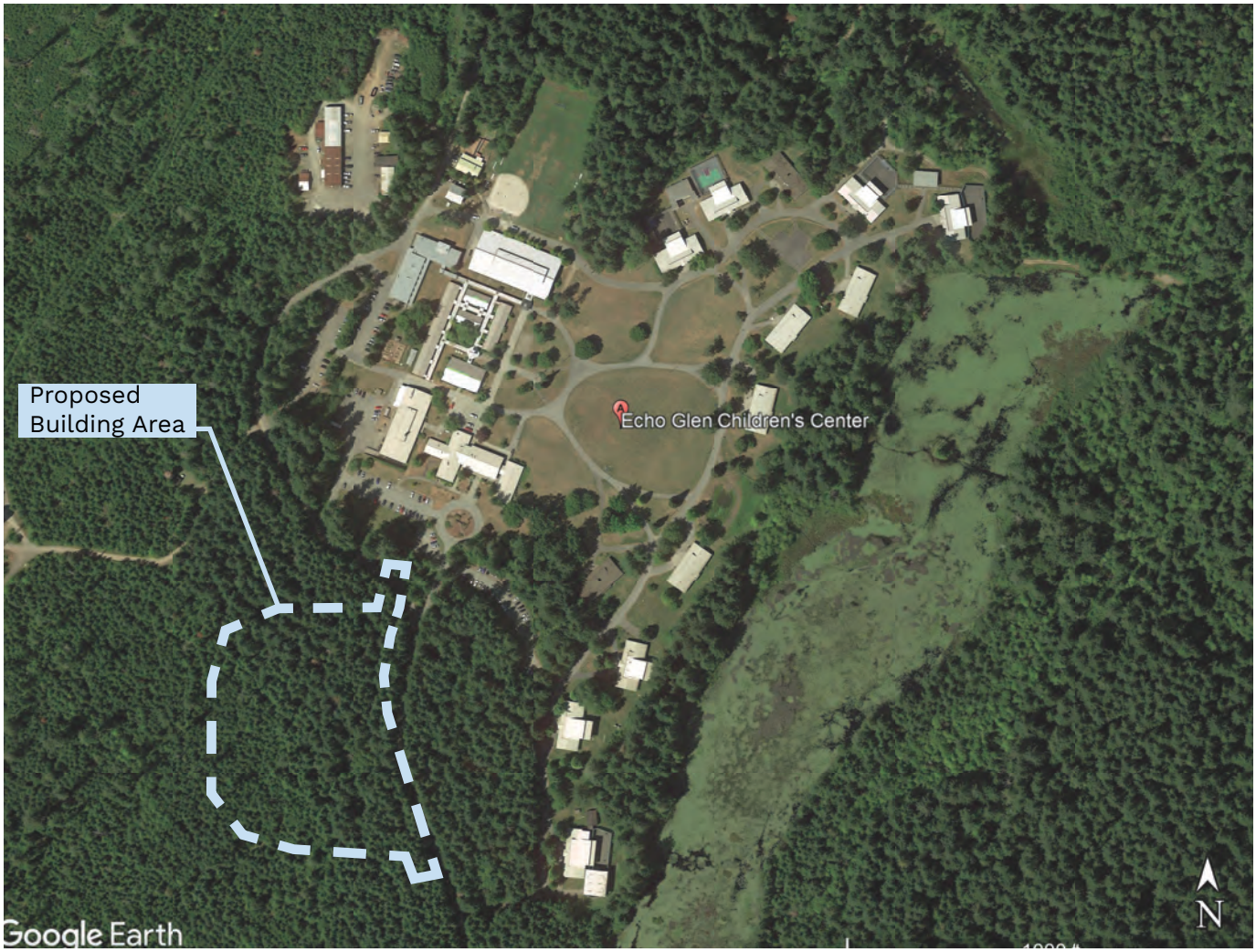
Pros and Cons

Pros	Cons
• Site already owned by the State • Centrally-located in Western WA along I-5 corridor • New kitchen that can be used for new facilities • Concentration of expertise • Longtime community presence	• Building demolition required • A concentrated collection of existing utilities would need to be addressed • Unforeseen underground challenges (dumps, foundations, archaeological significance) • Civil patient programs may be more successful if located off of Western State Campus • Community resistance to expansion of programs at WSH

EG Echo Glen Alternative #4

Site Overview:

Echo Glen Children's Center near Snoqualmie is a medium/maximum security facility that is bordered by natural wetlands. It provides treatment services for younger male offenders and is the only institution for female offenders. Echo Glen provides educational services for a wide range of youth with varying needs. The proposed site evaluated for a new 48-bed adult civilly-committed facility is located southwest of the existing campus.



Aerial Photo

Map Data: Copyright 2019 Google

EG Preliminary Site Layout - Echo Glen

Layout Description:

The location of the layout is southwest of the existing administration building. The plan groups the three new buildings around a central parking area. The goal is to minimize the development footprint and maintain the wooded perimeter. The area of the development is relatively flat. The site would be fenced to prevent access from youths who have eloped from the unfenced or unsecured facility.

Enlarged Site Plan with prototype building layout

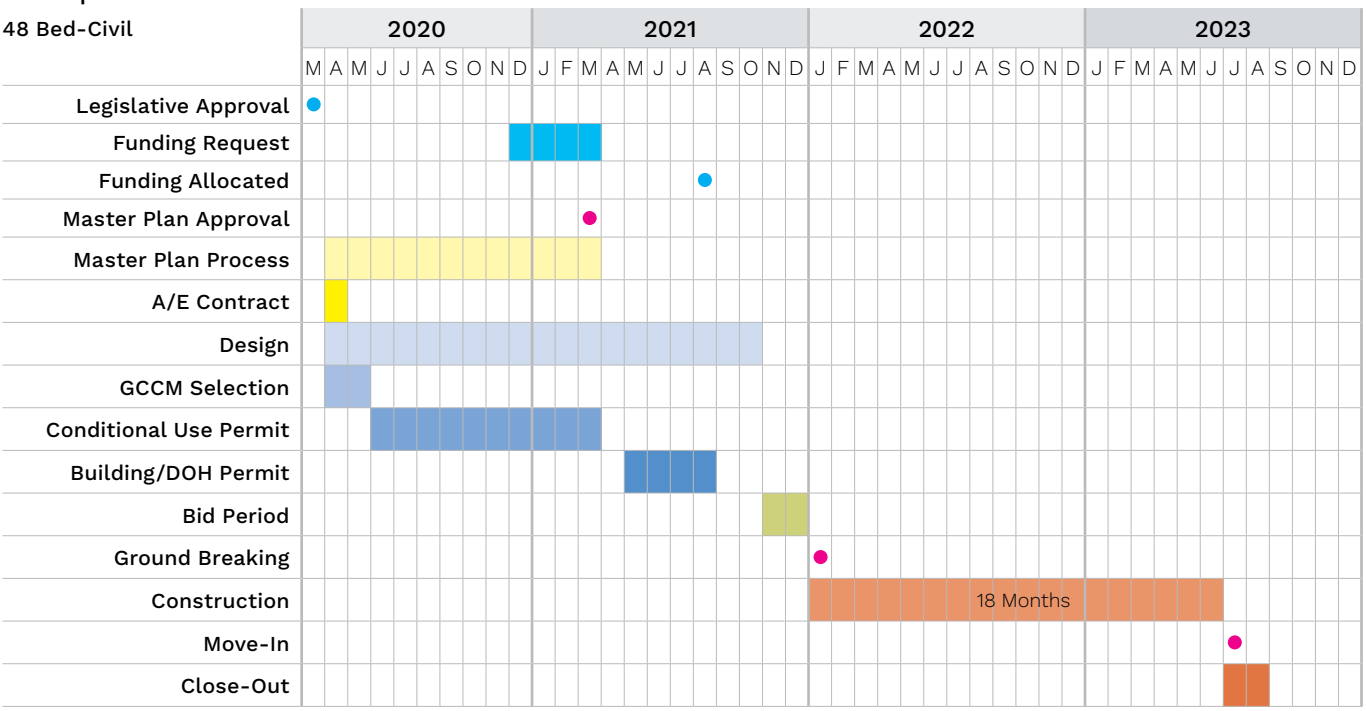
Map Data: Copyright 2019 Google

Project Schedule - Echo Glen

EG

Masterplan

48 Bed-Civil



Cost Summary

The estimated total project cost for Preferred Alternative #4 Echo Glen: 48-bed, LEED Silver plus Net-Zero, in 2021 dollars, is approximately $50 million depending on required site utility infrastructure upgrades.

Ownership

The property at Echo Glen is owned by the Department of Natural Resources (DNR) and leased by the Department of Children, Youth and Families (DCYF). Next steps will include a discussion with DNR and DCYF to determine additional steps to modify the lease to incorporate the new buildings.

EG Engineering Narratives - Echo Glen

Topography

The project site is located on the same parcel as a juvenile rehabilitation center, Echo Glen Children's Center, near Snoqualmie, Washington. Specifically, it is located in the southwest corner of the campus, bounded by Echo Glen's maintenance access road to the east and north, and wooded area to the south and west. The parcel is owned by the Department of Natural Resources, and leased to the Department of Children, Youth, and Families. The site is currently completely wooded. The site has extensive grade change, with an approximate elevation change from 985-feet to 950-feet sloping from northwest to southeast, according to King County GIS.

Storm Drainage

There are no existing storm drainage facilities or structures within the project site. The existing Echo Glen buildings utilize a detention pond for flow control before discharging into Lake Kittyprince to the east. It is anticipated that this site will have a similar storm management system by utilizing a storm water quality and detention system before discharging to Lake Kittyprince. This site will trigger requirements for stormwater flow control and water quality treatment. The City of Snoqualmie currently uses the 2016 King County Surface Water Design Manual for storm drainage design, along with the 2016 City of Snoqualmie Addendum to the SWDM. According to the National Resources Conservation Service (NRCS), the onsite soils are classified as Tokul gravelly medial loam (8-15% slopes), which are moderately well drained.

Water Systems

There are two existing wells on the parcel; both are located just north of the project site. The Well 1 pump outfalls to a 72,000 gallon fire protection storage tank. The Well 2 pump outfalls to a 72,000 gallon tank and a 375,000 gallon tank. The wells and storage tanks provide domestic water and fire water to the site. We understand the existing water system does not have adequate capacity for the proposed project. It is anticipated that another well and additional storage tanks will need to be constructed to serve a new building. Alternatively, a connection can be made to the City of Snoqualmie water system at the Snoqualmie Valley Hospital located to the east of the project site. This requires approximately a half-mile of water main extension along Echo Glen's access road to the project site. Water main installation can be done concurrently with the trenching required to provide power to the project site. A fire main loop around the building is anticipated to meet fire hydrant spacing requirements.

Sanitary Sewer

All sanitary sewage from The Echo Glen Center buildings currently outfalls to a pump station located to the northwest of Echo Glen. Then it is pumped to the north and to the east along a sanitary sewer easement before leaving the parcel, and outfalling to the City of Snoqualmie's sanitary sewer system. Due to anticipated future growth of the Echo Glen Children's Center, this pump station may have to be increased to serve a new building. Alternatively, a sewer connection can be made to the Snoqualmie Valley Hospital's sewer lift station located to the east of the project site. Trenching for the sewer main extension could be done concurrently with the water main and electricity trenching, as previously mentioned.

Power and Gas Availability

It is our understanding that a power line will have to be constructed to serve a new building. The underground power line will be installed along the half-mile access road between the Snoqualmie Valley Hospital and the new building. To our knowledge, gas service is not available to the site.

Offsite Improvements

No offsite improvements are anticipated other than repairs to the access road as needed to install the power lines and other possible trenching.

Engineering Narratives, cont. - Echo Glen

Electrical Systems

Normal power electric service to the building will be served from a new 500 kVA indoor dry type transformer substation to match other installations on the campus. This transformer will be connected to the campus power system.

The Main Switch for the building will be contained in the substation.

The existing site electrical infrastructure will be extended to serve these new facilities, likely to come from an existing spare switch located in the campus main electric room. Refer to General Electrical Conditions for distribution inside each building.

Site supplied standby power will be supplied to this facility as the existing site generator appears large enough to accept the new loads. Refer to General Electrical Conditions for essential power distribution throughout each building

Telecommunication fiber network and cable TV will be extended to this facility along the entry road, will originate off campus and be brought on to the site.

EG Review of Laws, Regulations, and Permitting - Echo Glen Campus

WAC State Requirements

The project will be required to be licensed as a Residential Treatment Facility by the Washington State Department of Health. The project will be secure and locked complying with WAC 246-337 Residential Treatment Facility code section.

Other codes the project will comply with include:

- 2018 International Building Code
- 2018 International Mechanical Code
- 2020 National Electric Code (NFPA 70)
- 2018 FGI Guidelines for Design and Construction of Residential Health Care, and Support Facilities.
- 2018 Washington State Energy Code
- 2015 Health Care Facilities Code (NFPA 99)
- 2012 Life Safety Code (NFPA 101)
- Behavioral Health Design Guide – Edition 9.0

Energy Requirements

The Governor's Office Executive order 18-01 states that "...all newly constructed state-owned buildings shall be designed to be zero energy or zero energy-capable, and include consideration of net- embodied carbon. In unique situations where a cost effective zero-energy building is not yet technically feasible, buildings shall be designed to exceed the current state building code for energy efficiency to the greatest extent possible."

Accessibility

Americans with Disabilities Act (ADA) accessibility for all spaces is critical not only for Behavioral Health patients, but for any staff, volunteers and visitors who require accessibility and all who are deaf, hard-of-hearing, blind, wheelchair users, people with mobility challenges, etc.

Centers for Medicare and Medicaid Services

The Joint Commission's Environment of Care Standard EC.02.06.05 states the Joint Commission expects organizations to assess building design and construction requirements based on local, state, and federal regulations and codes.

Typically, the state health department licensing entity is the authority having jurisdiction (AHJ), and health care organizations must comply with the AHJ's licensing rules to obtain approvals to operate. When state regulations are silent on a specific design criterion, the Joint Commission recognizes the 2014 Facility Guidelines Institute (FGI) Guidelines for Design and Construction of Hospitals and Outpatient Facilities for new construction and renovation.

Participation in the Centers for Medicare and Medicaid (CMS) programs requires that the facility also be designed to comply with the requirements of the National Fire Protection Associations' Life Safety Code 101 (2012 Edition) and all referenced codes. When a conflict exists between the Federal requirement and the State building code, the most restrictive provision of code shall be implemented. The design team will work with the various AHJ's (planning, building, and fire) to proactively resolve code related conflicts in advance of completing the design.

Permitting

The Echo Glen Campus is currently leased to the Department of Children, Youth and Families. In order to place a Behavioral Health facility at the site, a Conditional Use permit will need to be completed once DCYF has completed their Master Planning and Academic Building pre-design efforts funded in Fiscal Year 19-21 have been completed. Completion anticipated June 2021.

The project will likely require expanding the area that is covered by the existing master plan. The property is zoned RA-5 and has limits to the size of behavioral health facilities it allows (10 adults or less). This information will need to be confirmed with King county prior to proceeding with design on this project.

Existing Site Photos - Echo Glen Campus

EG

Existing buildings

Main entry

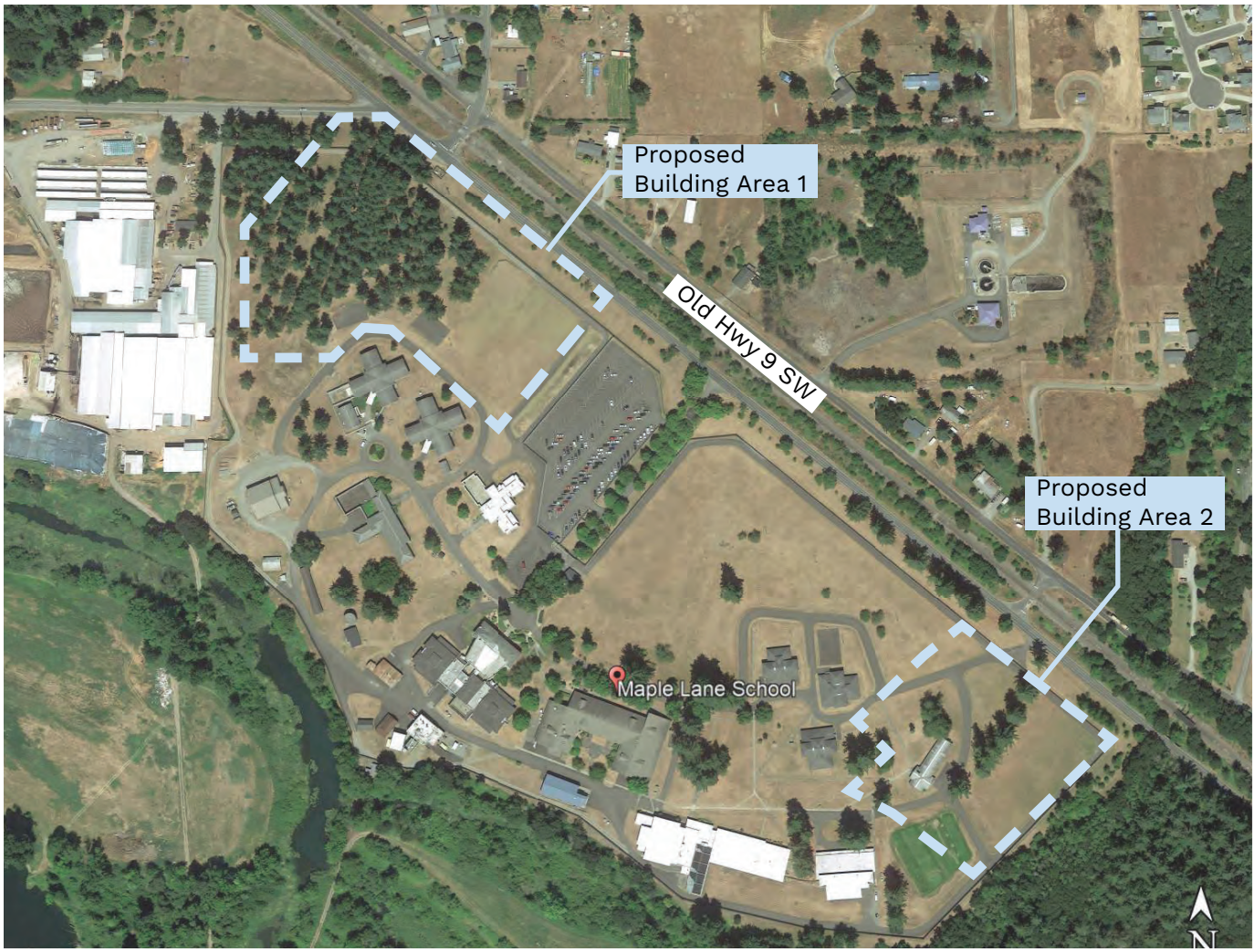
Pros and Cons

Pros	Cons
• Lots of undeveloped land around Echo Glen • Close to Seattle and Bellevue • Convenient access to I-90 and I-5 • Relationship with UW Medical School • Close to 25-bed community hospital • Close to medical services in Issaquah	• Access to site is one way in and out along long drive • Lack of utilities • Topography contains hills and swamps along with required clear-cutting • Requires a master plan update • More inclement weather likely due to mountain range

ML Maple Lane Campus Alternative #5

Site Overview:

Located within minutes of the I-5 Corridor, Maple Lane Campus is approximately 20 miles south of Olympia, WA and 100 miles north of Portland, OR. The campus is owned by the Department of Corrections, the DOC also has some operations on site with plans for additional/future inmate housing currently used as a DSHS Competency Restoration facility in partnership with Wellpath.



Aerial Photo

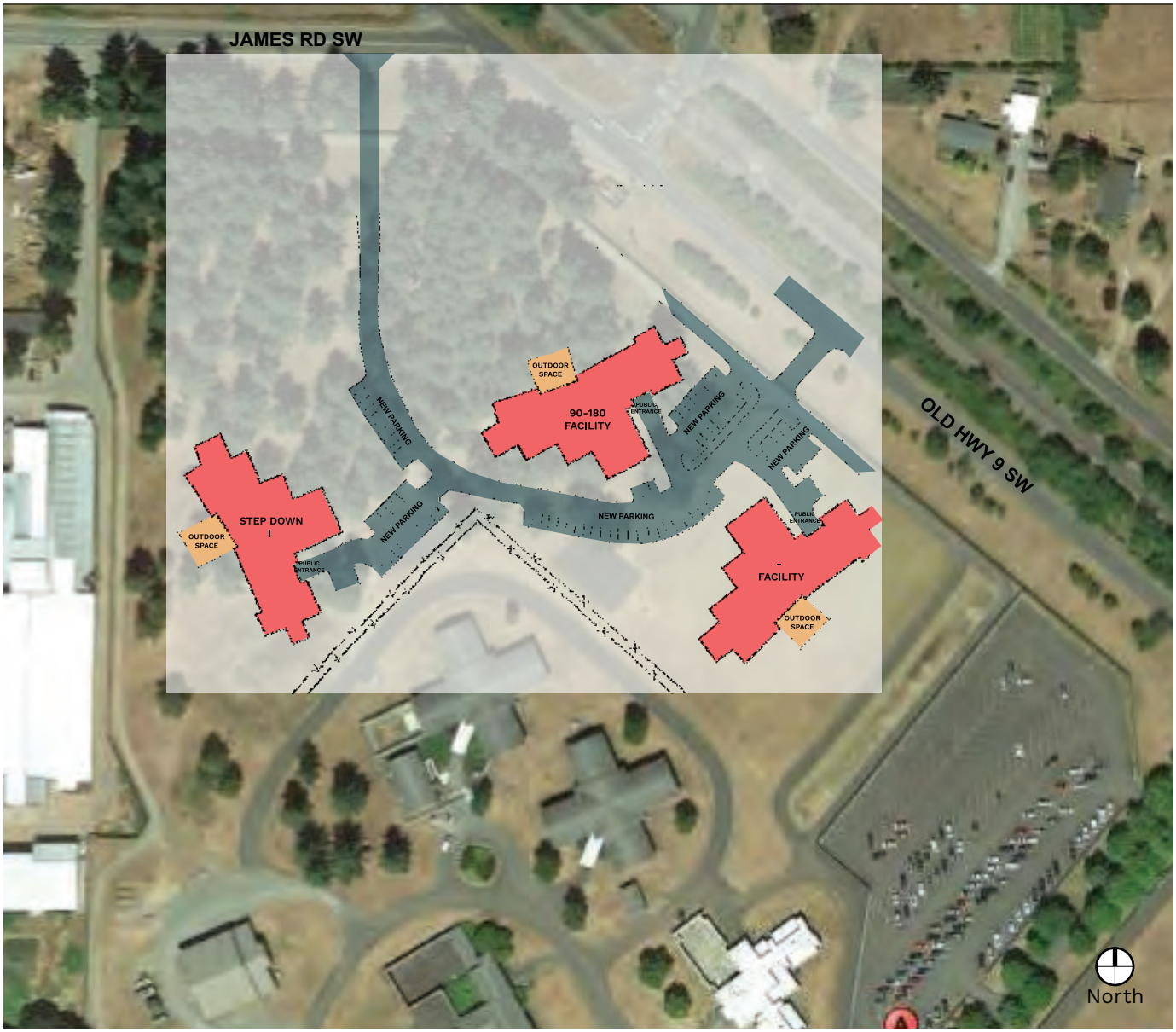
Map Data: Copyright 2019 Google

Preliminary Site Layout - Maple Lane

ML

Building Area 1:

Located on the northwest portion of campus adjacent to the neighboring dairy. Access to the facilities are shown from both James Rd SW and Old Hwy 9 SW. This area will encroach on an existing grove of mature fir trees. Relocation of the exterior perimeter fencing will be required.



Aerial Photo

Map Data: Copyright 2019 Google

ML Preliminary Site Layout - Maple Lane

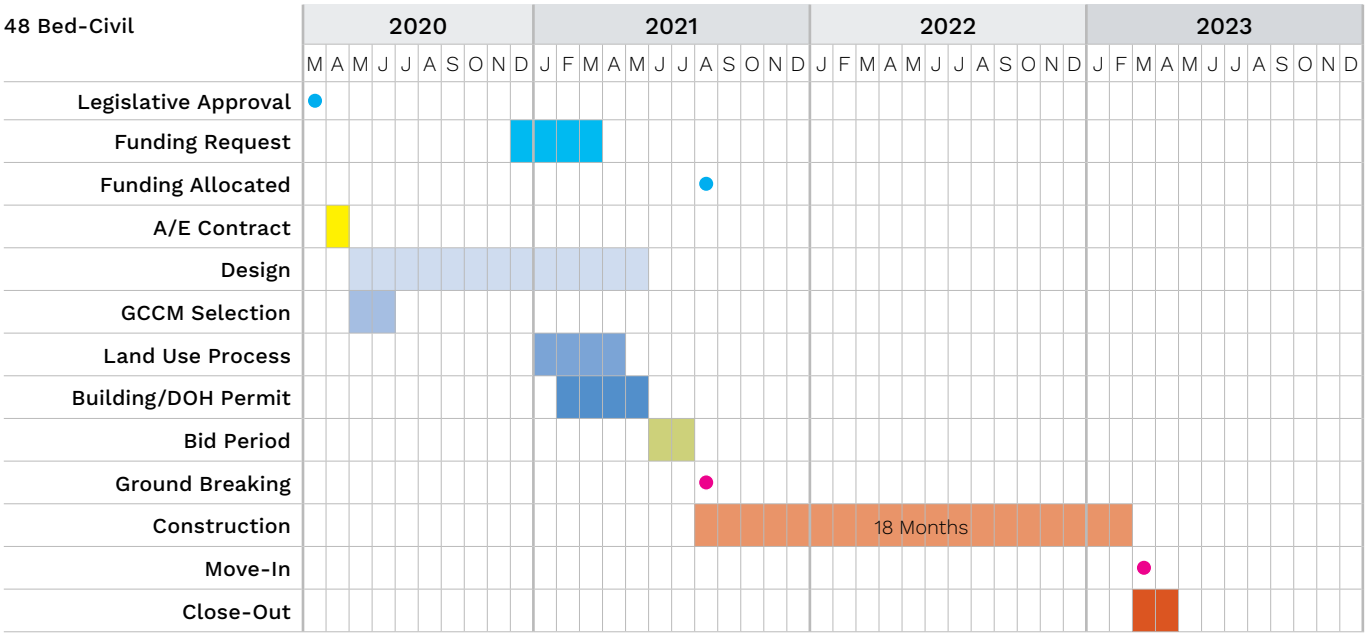
Building Area 2:

Located on the Southeast portion of campus. A new access to the facility is shown from Old Hwy 9 SW. The site has a few mature trees. Relocation of the exterior perimeter fencing will be required. A new and relocated secure gate and roadway will be required to access the main campus.

Enlarged Site Plan at Proposed Building Area 2 with prototype building outline

Map Data: Copyright 2019 Google

Project Schedule - Maple Lane



Cost Summary

The estimated total project cost for Preferred Alternative #5 Maple Lane: 48-bed, LEED Silver plus Net-Zero, in 2021 dollars, is approximately $50 million depending on building area available and required site infrastructure upgrades.

ML Engineering Narratives - Maple Lane

Topography

The project site is within the former campus of the Maple Lane School Facility which is currently developed with several building and supporting infrastructure. Within the campus there are two possible locations to site the project.

Storm Drainage

The existing storm drainage system consists of a network of pipes and catch basins. There are some above ground infiltration facilities as well as some pipe outfalls to the south to dispose of stormwater.

The project will comply with the applicable edition of the Thurston County Drainage Design and Erosion Control Manual. The National Resources Conservation Service (NRCS) classifies the onsite soils as Spanaway gravelly sandy loam (0-3% slopes) which are generally favorable to infiltration. Given this information as well as the presence of what appear to be existing infiltration facilities, it is assumed that the project will provide flow control through onsite infiltration. Water quality facilities to treat stormwater runoff from areas subject to vehicular traffic will be designed in accordance with the Drainage Design and Erosion Control Manual.

Water Systems

There is at least one existing well onsite to serve the existing campus. Thurston County is the water utility purveyor for the site. The Capital Project Predesign Report for the Prison Capacity Expansion dated August 2016 states that the expansion project may be required to build a connection to the existing water main infrastructure. If this proposed project is built after the prison expansion, water service should be available at the project site in Old Highway 9. If this project is built before the prison expansion further investigation will be needed to determine if the existing water supply system has adequate capacity. If it doesn't, coordination with Thurston County will be required to determine the scope of infrastructure extension that will be required.

Sanitary Sewer

The existing site is served by sewer. Thurston County is the sewer purveyor for the site. The campus sewer is collected locally by gravity lines, then conveyed north by a pressure main to the north. The Capital Project Predesign Report for the Prison Capacity Expansion dated August 2016 states that the expansion project may be required to improve the capacity of the existing sewer infrastructure. If this proposed project is built after the prison expansion, there should be sewer capacity available for the project. If this project is built before the prison expansion further investigation will be needed to determine if the existing sewer system has adequate capacity. If it doesn't, coordination with Thurston County will be required to determine the scope of infrastructure upgrades that will be required.

Engineering Narratives, cont. - Maple Lane

Power and Gas Availability

Puget Sound Energy (PSE) is the purveyor for both power and gas. The site currently has both power and gas service. Further coordination will be needed to determine if the current infrastructure has capacity to serve the proposed project.

Offsite Improvements

The proposed project may require frontage improvements. The Capital Project Predesign Report for the Prison Capacity Expansion dated August 2016 states that the expansion project may be required to build frontage improvements for Old Highway 9 up to the existing concrete bridge crossing Prairie Creek. If this proposed project is built after the prison expansion, the frontage improvements may already be complete.

If this project is built before the prison expansion, it's likely that frontage improvements will be required for at least a portion of Old Highway 9. Thurston County classifies Old Highway 9 as a County Collector. Based on the 2017 Thurston County Road Standards, that classification would require half street improvements including a bike lane, curb, gutter, planter strip, sidewalk, and street lighting.

Electrical Systems

Normal power electric service to each building will be served from a new 500 kVA indoor dry type transformer substation to match other installations on the campus. This transformer will be connected to the campus power system.

The Main Switch for the building will be contained in the substation.

The existing site electrical infrastructure will be extended to serve these new facilities. Utility power comes on to the campus at the Northeast corner of the campus near Old Highway 9 SW and Tea St. SW. Tie-ins to the existing utility power will be determined during building design but it is assumed campus primary power is sufficient to accommodate the new buildings. Refer to General Electrical Conditions for distribution inside each building.

Site supplied standby power will be supplied to this facility as it is assumed the existing site generator is large enough to accept the new loads. Refer to General Electrical Conditions for essential power distribution throughout each building.

Telecommunication fiber network and cable TV will be extended to these buildings from the existing campus facilities. Refer to General Electrical Conditions for telecommunications distribution inside each building.

Refer to General Electrical Conditions for lighting, power, equipment connections, fire alarm, security, nurse call, and solar power for each building.

ML Review of Laws, Regulations, and Permitting - Maple Lane

WAC State Requirements

The project will be required to be licensed as a Residential Treatment Facility by the Washington State Department of Health. The project will be secure and locked complying with WAC 246-337 Residential Treatment Facility code section.

Other codes the project will comply with include:

- 2018 International Building Code
- 2018 International Mechanical Code
- 2020 National Electric Code (NFPA 70)
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- 2018 Washington State Energy Code
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Energy Requirements

The Governor's Office Executive order 18-01 states that "...all newly constructed state-owned buildings shall be designed to be zero energy or zero energy-capable, and include consideration of net- embodied carbon. In unique situations where a cost effective zero-energy building is not yet technically feasible, buildings shall be designed to exceed the current state building code for energy efficiency to the greatest extent possible."

Accessibility

Americans with Disabilities Act (ADA) accessibility for all spaces is critical not only for Behavioral Health patients, but for any staff, volunteers and visitors who require accessibility and all who are deaf, hard-of-hearing, blind, wheelchair users, people with mobility challenges, etc.

Centers for Medicare and Medicaid Services

The Joint Commission's Environment of Care Standard EC.02.06.05 states the Joint Commission expects organizations to assess building design and construction requirements based on local, state, and federal regulations and codes.

Typically, the state health department licensing entity is the authority having jurisdiction (AHJ), and health care organizations must comply with the AHJ's licensing rules to obtain approvals to operate. When state regulations are silent on a specific design criterion, the Joint Commission recognizes the 2014 Facility Guidelines Institute (FGI) Guidelines for Design and Construction of Hospitals and Outpatient Facilities for new construction and renovation.

Participation in the Centers for Medicare and Medicaid (CMS) programs requires that the facility also be designed to comply with the requirements of the National Fire Protection Associations' Life Safety Code 101 (2012 Edition) and all referenced codes. When a conflict exists between the Federal requirement and the State building code, the most restrictive provision of code shall be implemented. The design team will work with the various AHJ's (planning, building, and fire) to proactively resolve code related conflicts in advance of completing the design.

Permitting

The Maple Lane Campus is currently a Department of Corrections facility. In order to place a Behavioral Health facility at the site, a Special Use permit through Thurston county is likely required. We recommend allowing six to nine months for this use permit. It will likely require a hearing examiner decision.

Existing Site Photos - Maple Lane School

View from SE

View from NE

Pros and Cons

Pros	Cons
• Large parcels • Close to I-5 • Close to Olympia • Closer to Clark County • Property prices are lower	• Staffing may be challenging as there are several private E&T facilities in Thurston County • Need to develop staffing plan to provide maintenance, dietary, and laundry facilities

CC Clark County Preferred Option-Alternative #6

Summary of Approach

Clark County was selected as the preferred alternate due to the lack of local 90 to 180-day civil commitment beds and Evaluation and Treatment facilities. While other regions have projects planned, or are in the process of development, the Clark County region is still lacking adequate beds. The project will provide necessary resources to address that need. One item that should be addressed soon is the absence of local Evaluation and Treatment facilities in Clark County. Currently these patients are transported up the I-5 corridor to Kirkland to treatment. This creates a hardship for families wanting to visit their loved ones during the treatment. Research has shown that individuals that have access to their family members, have better outcomes following treatment.

Land Acquisition

DSHS is exploring the option of purchasing property as a method to reach out to additional communities where longer stay behavioral health facilities may provide the highest use. While DSHS currently operates campuses statewide, expansion of services at existing sites to inlude 90- to 180-day civil commitment facilities is proving more challenging than anticipated. For example, at Western State Hospital and Fircrest School, a complex and difficult Master Plan must be approved prior to this use being accepted by the local cities.

DSHS has studied several sites that follow in this section. While the demand is high for 90- to 180-day civil commitment facilities and Evaluation and Treatment facilities, these developments are susceptible to unanticipated local community resistance so the property purchase must be approached strategically.

Once a suitable piece of property is found, a due diligence period is established with the land owner. It is ideal if a six-month period can be established so that land use approvals can be obtained prior to closing on the property. During the due diligence stage zoning is confirmed, environmental reports, Alta surveys, and a title report are completed. Often the land purchaser will have a backup property online as well. This helps ensure a timeline can be maintained, if an issue comes up that blocks the approval for a specific site or land transaction.

Community engagement is important in the land purchase option. It is recommended that community meeting be held with local residents prior to land use submittals to identify and mitigate community concerns. The behavioral health services are not understood by the general public. It is good to inform them of the actual services provided, and the profile of individuals who will be treated at these facilities. It is best if the city or county government leaders where the site is located are on board with the location as well.

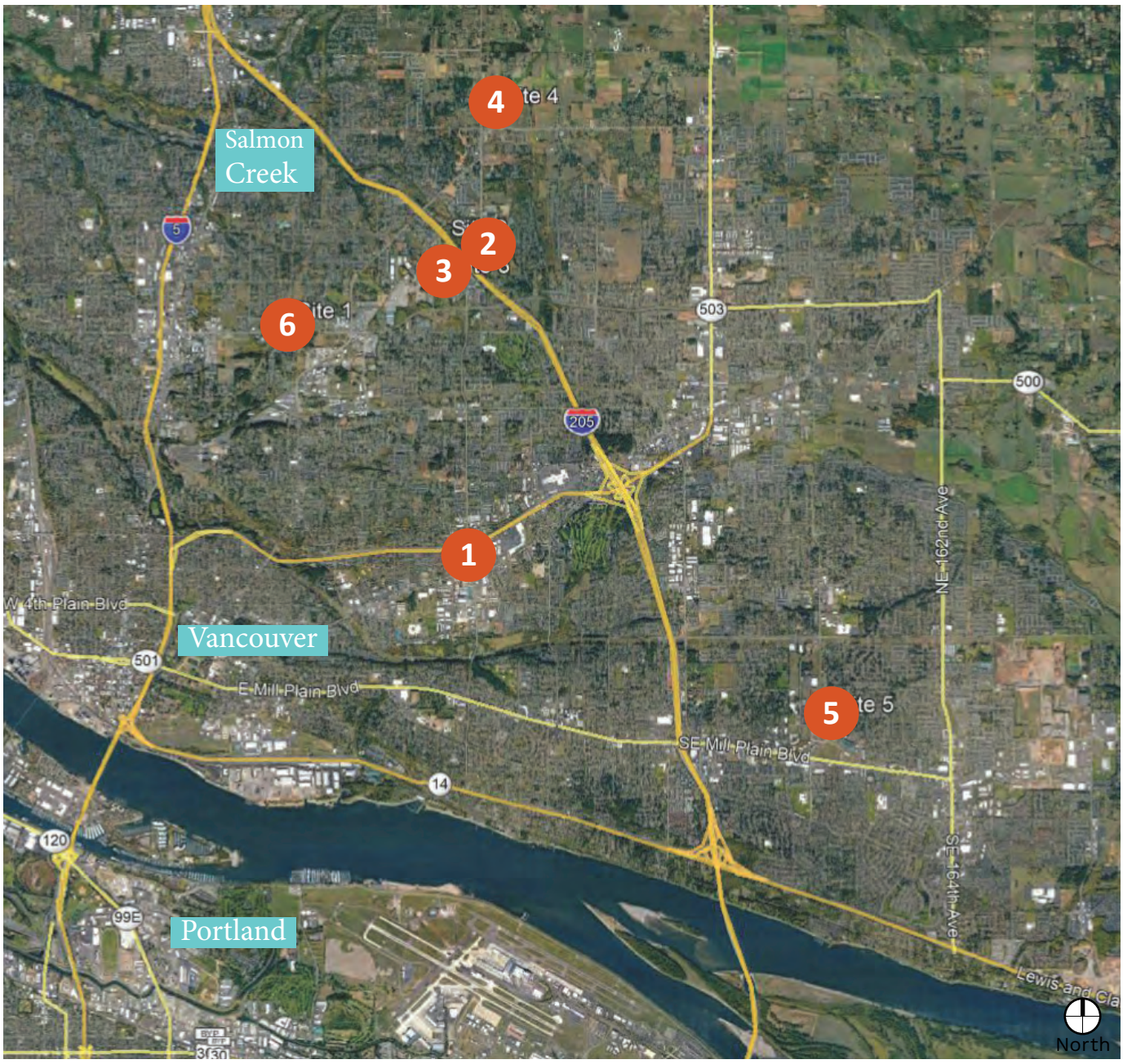
Properties studied were prioritized that had good access to major transportation networks, such as freeways and major arterials and within a three-mile radius of local hospitals.

Site Options - Clark County

CC

Overview:

The sites shown below have been reviewed within the county for potential locations. See Appendix for full site specifications and additional photos.



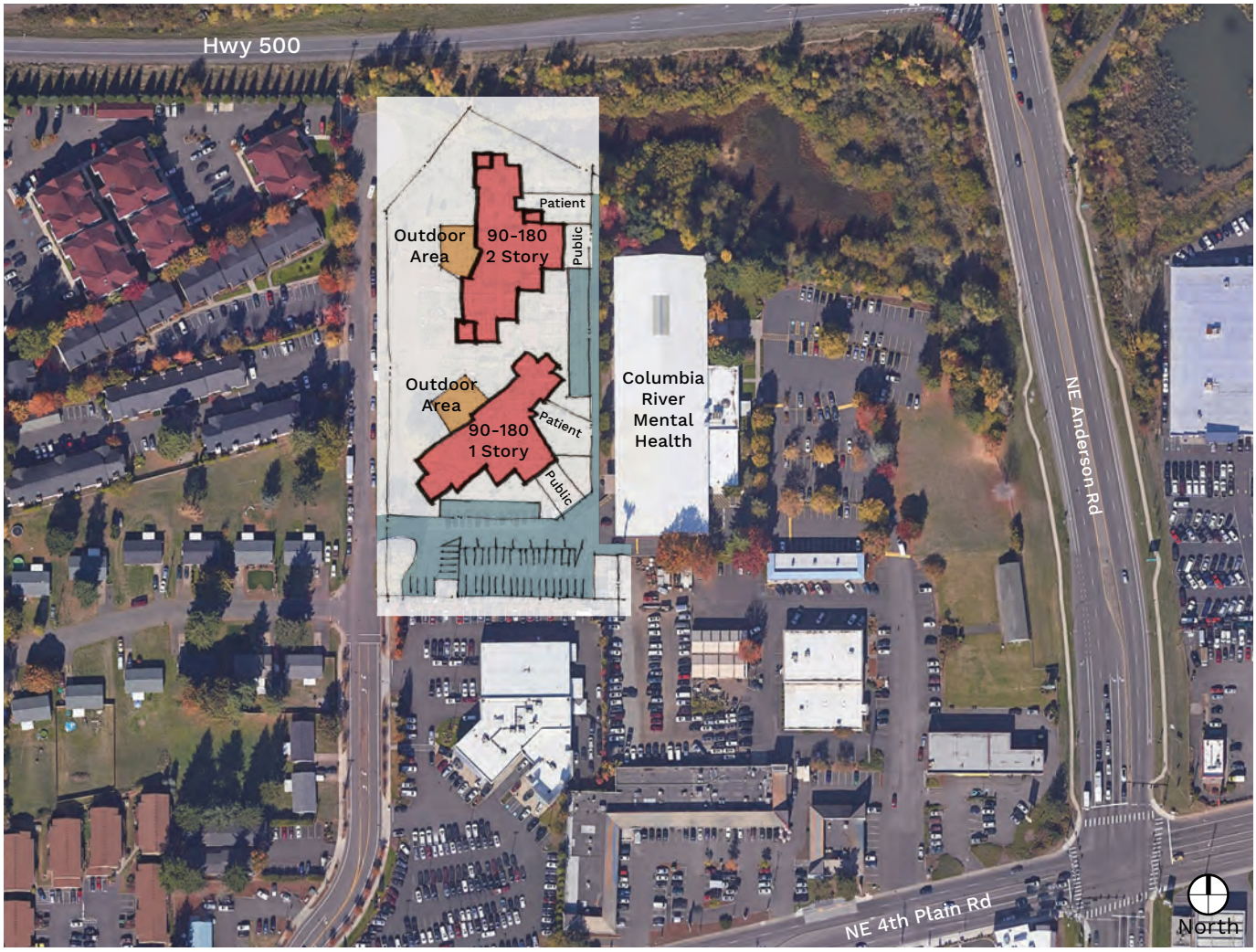
Aerial Photo

Map Data: Copyright 2019 Google

CC Site Options - Clark County

Site One: NE 4th Plain Blvd

This layout assumes that Columbia River Mental Health subdivides their existing parcel and makes 2.7 acres available for DSHS to purchase. This is the west side of the site adjacent to NE 66th Avenue. Approximately 30 new parking stalls would be created and an existing 45 stalls would be re-purposed for the new 48-bed facility. The north building would be two-story, containing two 16 bed units, 38,000 SF 90-180 day facility and the south building would be a 17,661 SF, 16 bed step-down facility. There is an adjacent property for sale that contains several buildings with private buildings with leases. A partial purchase of this property may allow for additional program flexibility.



Aerial Photo

Map Data: Copyright 2019 Google

Pros and Cons

Pros	Cons
• Opportunity to create a behavioral health campus with a range of in-patient and out-patient services. • Housing nearby creates a unique pathway for mental patients to return to the community • Ability to work with community partners • Near Highway 500, which gives access to three area hospitals nearby	• Tight site requires 2-story construction of 90/180 • Limited outdoor space • Parcel split required

Site Options - Clark County

Site Two: 9013 NE 72nd Avenue

The listed price for this property is $1,900,000 with 10.95 Gross Acres and 8.95 Net Usable Acres. The site has a level topography and is zoned for Light Industrial (LI) use. Permitted uses include Commercial, Industrial, and Retail. Gas and electrical utilities are available on site with Sewer/Water in close proximity.

While this property has several advantages, a good location, access to transportation, it is zoned light industrial which does not allow for the behavioral health use. It also has significant wetlands which limit development but do provide a nice amenity.

Aerial Photo

Pros and Cons

Pros	Cons
• Easy freeway access to I-205 • Existing wetlands create a nice buffer to the south • Adjacent neighbors on only two sides	• 7 miles from downtown Vancouver • Requires a re-zone • Wetlands limit access points to site

CC Site Options - Clark County

Site Three: NE 88th and NE 62nd

The site consists of approximately 5.71 Acres at an undisclosed price. The zoning is for General Commercial which includes uses such as Industrial, Retail, and Commerical. There is no on-site utility information listed in the public listing literature.

The size and location are good for a 48 bed facility. However, the property configuration may result in parking being separated by a roadway. Adjacency to a future Catholic High School is also not desirable.

Aerial Photo

Map Data: Copyright 2019 Google

Pros and Cons

Pros	Cons
• Within 2 minutes of I-205 • Approximately 4 miles to I-5 Freeway • Sufficient acreage	• Configuration of site is challenging; north parcel would likely only work for parking • Existing road separating property is not desirable • Close to Seton High School

Site Options - Clark County

Site Four: NE 119th and 72nd Ave

This site is listed at $6,821,000 with approximately 8.71 Acres. The topography is flat and zoned for Community Commercial use. Available utilities on site include public water, sewer, stormwater, and power.

This is overall a great piece of property that seems well suited for the behavioral health use. The property is larger than needed, so it would need to be subdivided.

Aerial Photo

Map Data: Copyright 2019 Google

Pros and Cons

Pros	Cons
• 4-way intersection recently upgraded • Recent pedestrian sidewalk and ramp improvements to East and South • Close proximity to I-205 Freeway • Ability to develop before adjacent neighbors could simiplify the land-use process • Flat site well-suited for development	• Parcel is larger than needed • Parcel seems expensive compared to other potential properties • Furthest from other healthcare facilities

CC Site Options - Clark County

Site Five: SE 1st and SE Olympia Dr

This property was purchased and is no longer available but was selected for comparison purposes.
The combined sites were listed at $2,100,000 and consist of a total of 4.99 Acres. The topography is flat and is zoned for Light Industrial and would require a re-zone. The permitted uses are Light Industrial, Commercial, and Medical. Available utilities include public water, sewer, sotrmwater, and power.

Aerial Photo

Map Data: Copyright 2019 Google

Pros and Cons

Pros	Cons
• Adjacency to commercial and retail services • Less than quarter-mile to I-205 Freeway • Closer to new developments in Camas, WA • Flat site well-suited for development	• Zoning doesn't work for Behavioral Health • Not currently available

Site Options - Clark County

Site Six: NE 78th St and NE 30th Ave
This site is listed at $2,875,000 and consists of 6.71 Gross Acres with 5.5 Net Usable Acres. The topography is flat and is zoned for Community Commerical use. Available utilities were not listed on public literature.

This property is across the street from a school and has a large amount of single family residential directly adjacent, which makes this property challenging from a community-acceptance perspective.

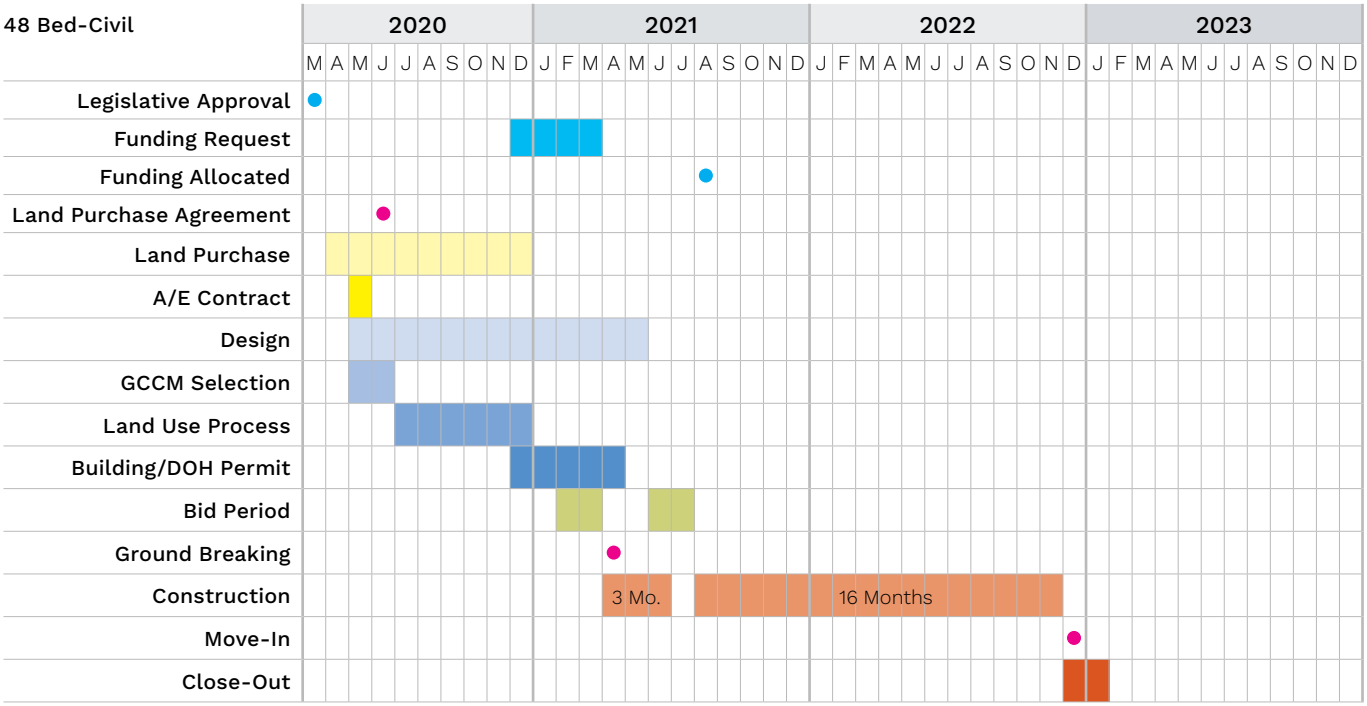
Aerial Photo

Pros and Cons

Pros	Cons
• Corner of a new, signalized intersection • Recent sidewalk, signalization, and pedestrian improvements • Close proximity to I-5 Freeway • Flat site well-suited for development	• Community acceptance may be more difficult • Extensive single-family homes directly located south of property

CC Project Schedule - Clark County

Land Purchase



Cost Summary

The estimated total project cost for Preferred Alternative #6 Clark County: 48-bed, LEED Silver plus Net-Zero, in 2021 dollars, is approximately $50 million depending on chosen site and required site infrastructure upgrades.

Engineering Narratives - Clark County

CC

Will be provided when site is chosen.

CC Review of Laws, Regulations, and Permitting

WAC State Requirements

The project will be required to be licensed as a Residential Treatment Facility by the Washington State Department of Health. The project will be secure and locked complying with WAC 246-337 Residential Treatment Facility code section.

Other codes the project will comply with include:

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Energy Requirements

The Governor's Office Executive order 18-01 states that "...all newly constructed state-owned buildings shall be designed to be zero energy or zero energy-capable, and include consideration of net- embodied carbon. In unique situations where a cost effective zero-energy building is not yet technically feasible, buildings shall be designed to exceed the current state building code for energy efficiency to the greatest extent possible."

Accessibility

Americans with Disabilities Act (ADA) accessibility for all spaces is critical not only for Behavioral Health patients, but for any staff, volunteers and visitors who require accessibility and all who are deaf, hard-of-hearing, blind, wheelchair users, people with mobility challenges, etc.

Centers for Medicare and Medicaid Services

The Joint Commission's Environment of Care Standard EC.02.06.05 states the Joint Commission expects organizations to assess building design and construction requirements based on local, state, and federal regulations and codes.

Typically, the state health department licensing entity is the authority having jurisdiction (AHJ), and health care organizations must comply with the AHJ's licensing rules to obtain approvals to operate. When state regulations are silent on a specific design criterion, the Joint Commission recognizes the 2014 Facility Guidelines Institute (FGI) Guidelines for Design and Construction of Hospitals and Outpatient Facilities for new construction and renovation.

Participation in the Centers for Medicare and Medicaid (CMS) programs requires that the facility also be designed to comply with the requirements of the National Fire Protection Associations' Life Safety Code 101 (2012 Edition) and all referenced codes. When a conflict exists between the Federal requirement and the State building code, the most restrictive provision of code shall be implemented. The design team will work with the various AHJ's (planning, building, and fire) to proactively resolve code related conflicts in advance of completing the design.

Permitting

In Vancouver, the use is to be classified as a Secure Community Transition Facility and subject to the criteria contained in VMC 20.855 Essential Public Facilities. The use classifications section (VMC 20.160) of the City's Development Code does not contain the Secure Community Transition Facility use language so a determination has been made that the use would be most similar to a "Medical Center" use. A "Medical Center" use is classified in the City's Development Code as the following: Facilities providing inpatient, outpatient, emergency, and related ancillary services to the sick and infirm, including drug and alcohol treatment. Usually developed in campus settings, accessory uses may include diagnostic and treatment facilities; laboratories; surgical suites; kitchen/food service facilities; laundry; housekeeping and maintenance facilities; administrative offices; and parking. Medical centers may also include free-standing offices for hospital-based and/or private-practice physicians and other allied health care professionals; these medical office buildings are regulated as offices. Such a facility that has regional or state-wide significance is classified as an Essential Public Facility by the provisions of the Growth Management Act.

Since the use is also considered an essential public facility it would require a conditional use permit in zones in which the medical center use was permitted or permitted through a conditional use permit. The use would be permitted by a conditional use permit in the following zones: R-18, R-22, R-30, R-35, CC, CG, CX and OCI.

SC Snohomish County Alternative #7

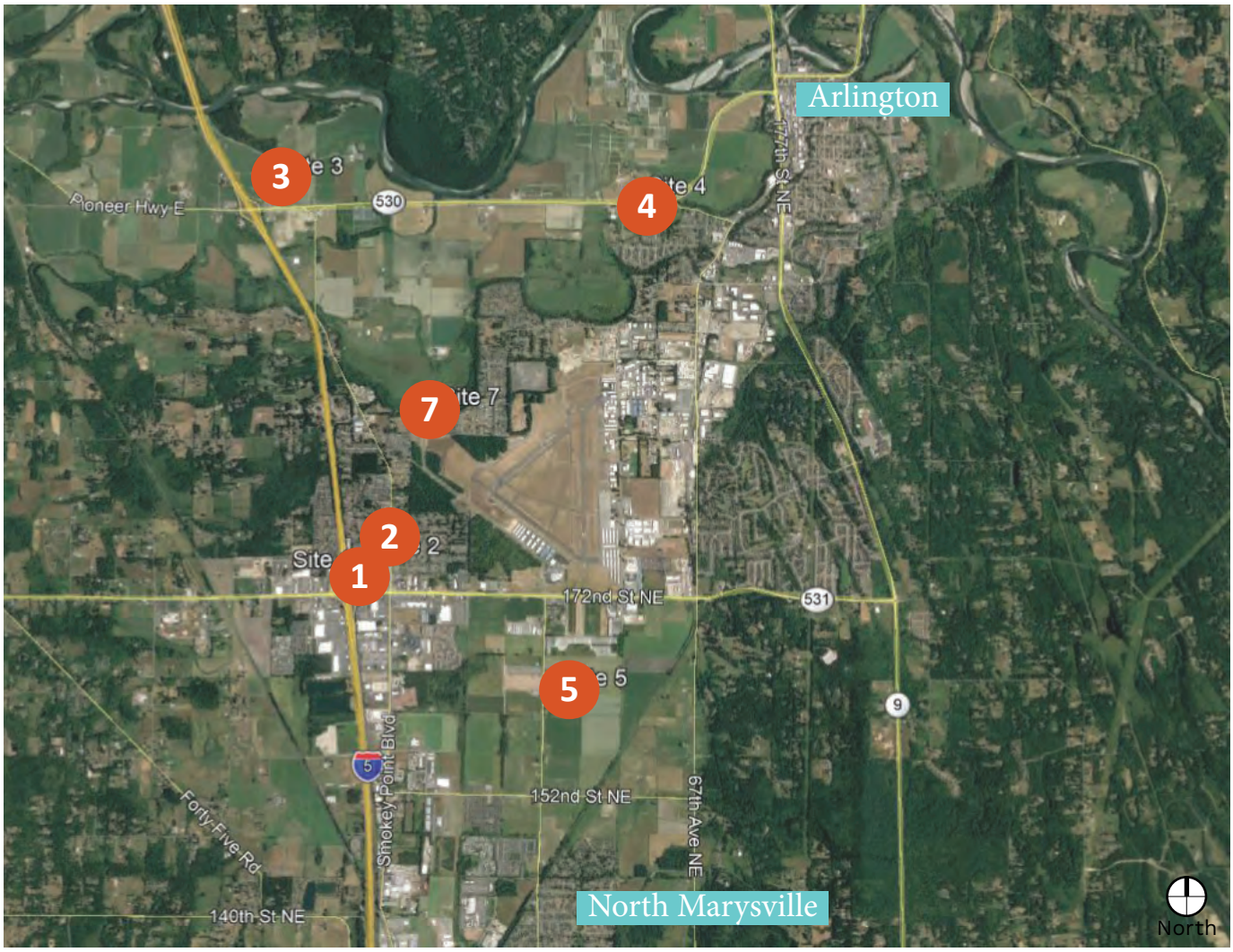
Site Overview:

At the time of the Preliminary Pre-Design, Snohomish County has not been fully reviewed like the options included. We see that the county has a need for longer-term civil commitment beds but we do not have sufficient information on which communities should be invested in this round of funding.

The Department of Social and Health Services (DSHS) met with several entities including the Cities of Arlington and Marysville, associated elected officials, and community partners. Generally, officials felt that there is a need for longer term mental health inpatient services. These officials provided great context and candid responses to the need for their community's at this moment in time.

Officials indicated that individuals presenting a mental health crisis are transported to Providence Hospital in Everett WA to be assessed in their Behavioral Health Urgent Care facility. Patients are transported to community based programs, Western State Hospital, or retained at the Hospital until an option is determined once assessed.

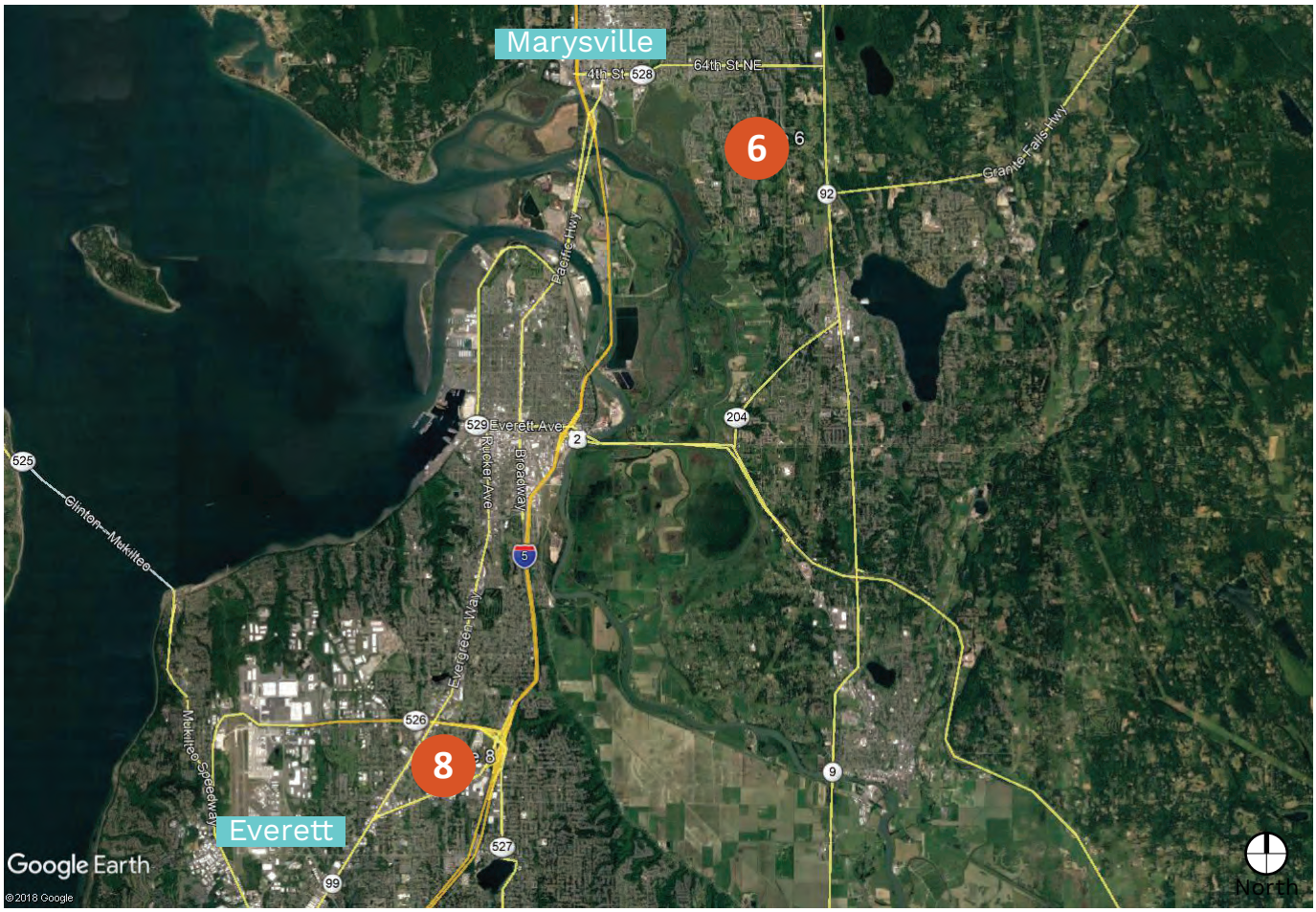
There are several projects opening shortly or are planned in the greater Everett area for short term mental health services. This leaves longer stay options limited.



Aerial Photo

Map Data: Copyright 2019 Google

Site Options - Snohomish County



Aerial Photo

Map Data: Copyright 2019 Google

Site Options - Snohomish County

The City Arlington provided several options of properties that were either for sale, may be for sale, or potentially could be for sale do to city action. Arlington officials acknowledge the need for mental health services. Arlington officials provided properties zoned for commercial or city development. Both zones will need a conditional use permit to allow a behavioral health facility to move forward. The City of Arlington is not unique in their desire to improve mental health services in their community. Additional outreach to surrounding communities is needed to ensure the solution meets the needs of the larger community.

Table below indicates properties presented as options by third-parties. The final pre-design document will explore these options in further detail.

Table 3-1

Site #	Address	City	Acres	Market Value	For Sale (Y/N)	Utilities	Public Transportation
1	17216 SMOKEY POINT DR	Arlington	0.81	$1,517,000	Y	E/W/S	Yes
2	17329 SMOKEY POINT DR	Arlington	1.4	$4,443,000	N	E/W/S	Yes
3	2127 STATE ROUTE 530 NE	Arlington	5	$337,300	U	E/W/S	Limited
4	21117 59TH AVE NE	Arlington	9.6	$1,881,800	N		Limited
5	16001 51st AVE NE	Marysville	184.13	$8,995,000	Y		Limited
6	4205-4315 71st AVE	Marysville	7.17	$1,406,000	Y	E/W/S	Limited
7	3811 188th St Ne	Arlington	3.64	$995,000	Y	E/W/S	No
8	9506 7th AVE SE	Everett	6.77	$5,100,200	Y	E/W/S	Yes

*E/W/S = Electricity, Water, and Sewer

SC Engineering Narratives - Snohomish County

Will be provided when site is chosen

Review of Laws, Regulations, and Permitting - Snohomish County

SC

WAC State Requirements

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Permitting

To be determined.

4

Detail Analysis

48-BED STATE-OWNED COMMUNITY CIVIL FACILITY

Delivery Method

The state of Washington is studying different delivery methods for this project. The following is a summary of options.

Design-Bid-Build Method

This is the traditional delivery method for public works projects. The designers develop and estimate a project design and the project is bid to multiple contractors. This method usually achieves a lower first cost than other methods, but change orders are usually higher because the contractor has little time to familiarize themselves with the project. This creates a risk for the owner and tends to create opportunities for conflict over scope. There is also the risk that the low-bidder failed to account for a significant item, which can also put stress on the project. These challenges can be mitigated by high quality bidding documents.

General Contractor/Construction Manager (GC/CM) Alternative Method

The GC/CM method selects the contractor during schematic design, which allows the owner to have a direct contract with the design team and a direct contract with the contractor. The owner selects both the architect and contractor directly. The contractor is selected based on qualifications and overhead pricing. The contractor has an extended time period to plan construction and provide input into the design on constructibility issues. This method promotes risk mitigation with active budget management by the contractor during the design phase. The contractor can provide feedback to design as it is being developed. CPARB (Capital Projects Advisory Review Board) approval is required for this method.

Design/Build Alternative Method

This model creates a single contract for design and construction, as the design team is under contract to the contractor. Using the progressive design build model, the contractor/design team are selected together at the beginning of the project based on qualifications, overhead pricing, and experience. The Design/Builder responds to a Request for Qualifications and participates in proprietary meetings and interviews. This method inserts the contractor into the process from the beginning and gives the owner greater price certainty as the project develops. A MACC is set at design development and adhered to for the duration of the project. This method promotes teamwork between the owner, contractor and architect. CPARB (Capital Projects Advisory Review Board) approval is required for this method.

Recommendation

The GC/CM delivery method is recommended for this project. This process improves cost control, enables the contractor to provide design input as the design is developing, and mitigates construction risk for the owner. GC/CM will enable DSHS to implement the 48-bed project quicker than Design-Bid-Build and Design-Build by utilizing the current design team and performing the contractor selection during schematic design. This would save **3-4 months from a design bid build method and 4-6 months from a design /build schedule**.

Sustainability Approach - LEED Checklist

Summary of goals:

- Attain a minimum LEED v4 Silver (50-59 credit points).
- Comply with Executive order 18-01 State Efficiency and Environmental Performance

Summary of Executive Order:

- Site selection to reduce carbon impacts
- Use strategic technical consultants
- Durable envelope design, efficient HVAC system with submetering and graphic dashboards
- Target low-Embodied Carbon
- Design for renewables and energy storage

Pre-Design Process to Comply with Executive Order:

- Include one Zero Net Energy (ZNE) requirement in budget packages
  - On-site solar generation
- Identify one team ZNE champion‘
  - Sazan Group, Jack Newman
- Develop and refine Owners Project Requirements (OPR) to reflect ZNE
- Review contract structures and include ZNE
- Include ZNE goal in architect advertisement. Select Qualified team
  - Completed
- Set building energy performance target (EUI)
  - Pending
- Hold design Charrettes
  - Charette – Nov 11, 2019
- Conduct early design phase energy modeling

Image from first Sustainability Design Meeting

LEED v4 Executive Order 18-01 Alignment:

- Incorporate ‘grid-optimized’ building strategies with demand response capabilities
- Leverage energy resilience strategies for select, critical electrical loads
- Prioritize low energy use intensity (EUI) to minimize solar PV array capacity
  - Design solar PV array to maintain net energy metering, if feasible
  - Ensure solar Photo Voltaic (PV) array is optimized for project location

Implement solar PV and energy efficiency strategies to align with LEED v4 requirements:

- EAp2 - Minimum Energy Performance
- EAp3 - Building Level Energy Metering
- EAc2 - Optimize Energy Performance
- EAc3 - Advanced Energy Metering
- EAc4 - Demand Response
- EAc5 - Renewable Energy Production
- Regional Priority (RP) - Demand Response
  - One additional point is available for projects that incorporate building and equipment for participation in demand response programs through load shedding or shifting. On-site electricity generation does not meet the intent of this credit.
  - Credit requirements vary for projects located in a utility’s service territory based on a Demand Response program’s availability.
- Regional Priority - Renewable Energy Production
  - One additional point is available under EAc5. For a LEED v4 BD+C project, this additional point is achieved by implementing a renewable energy generation system, such as a solar PV array, that offsets 10% of the total building’s annual energy cost.

Attendees at meeting:

DSHS - Larry Covey, Aaron Martinez, Tim Byrne, Steve Hardy

BCRA - Laura Jacobson, Jim Wolch, Lorraine Jack, Justin Goroch

Lund Opsahl - Owen Bower

Sazan - Neils Fallisgaard, Jack Newman

BCE - Joe Snyder

AHBL - Bill Fierst

Sustainability Approach - LEED v4 Project Checklist

Resulting project table for intended point achievement:

LEED v4 for BD+C: New Construction and Major Renovation

Project Checklist

Project Name: SW-BH Community 16/48 Bed Capacity
Date: Nov-19

Y	?	N			
1			Credit	Integrative Process	1

5	10	1			
			Credit	LEED for Neighborhood Development Location	16
			Credit	Sensitive Land Protection	1
			Credit	High Priority Site	2
			Credit	Surrounding Density and Diverse Uses	5
			Credit	Access to Quality Transit	5
			Credit	Bicycle Facilities	1
			Credit	Reduced Parking Footprint	1
			Credit	Green Vehicles	1

3	6	1	**Sustainable Sites**		**10**
Y			Prereq	Construction Activity Pollution Prevention	Required
1			Credit	Site Assessment	1
	2		Credit	Site Development - Protect or Restore Habitat	2
	1		Credit	Open Space	1
1	1	1	Credit	Rainwater Management	3
1	1		Credit	Heat Island Reduction	2
	1		Credit	Light Pollution Reduction	1

6	0	5	**Water Efficiency**		**11**
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
2			Credit	Outdoor Water Use Reduction	2
3		3	Credit	Indoor Water Use Reduction	6
		2	Credit	Cooling Tower Water Use	2
1			Credit	Water Metering	1

17	16	0	**Energy and Atmosphere**		**33**
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
4	2		Credit	Enhanced Commissioning	6
7	11		Credit	Optimize Energy Performance	18
1			Credit	Advanced Energy Metering	1
1	1		Credit	Demand Response	2
3			Credit	Renewable Energy Production	3
1			Credit	Enhanced Refrigerant Management	1
	2		Credit	Green Power and Carbon Offsets	2

7	6	0	**Materials and Resources**		**13**
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
2	3		Credit	Building Life-Cycle Impact Reduction	5
1	1		Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
1	1		Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
1	1		Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

11	3	2	**Indoor Environmental Quality**		**16**
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
		2	Credit	Enhanced Indoor Air Quality Strategies	2
3			Credit	Low-Emitting Materials	3
1			Credit	Construction Indoor Air Quality Management Plan	1
2			Credit	Indoor Air Quality Assessment	2
1			Credit	Thermal Comfort	1
2			Credit	Interior Lighting	2
1	2		Credit	Daylight	3
	1		Credit	Quality Views	1
1			Credit	Acoustic Performance	1

4	2	0	**Innovation**		**6**
3	2		Credit	Innovation	5
1			Credit	LEED Accredited Professional	1

4	0	0	**Regional Priority**		**4**
1			Credit	Regional Priority: Demand Response	1
1			Credit	Regional Priority: Renewable Energy Production	1
1			Credit	Regional Priority: Building Product Disclosure - Environmental Product Declar.	1
1			Credit	Regional Priority: Building Product Disclosure - Sourcing of Raw Mtls.	1

58	43	9	**TOTALS**	Possible Points:	**110**

Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110

Sustainability Approach - Net-Zero Energy

General Conditions for Net Zero Energy

Achieving net zero energy performance for the Department of Social & Health Services' (DSHS) new Behavioral Health Unit (BHU) facilities is feasible, based on the results of this pre-design study phase. Through an evaluation of estimated energy use, renewable energy system capacity and associated rough order of magnitude costs for the proposed 51,462 square foot 48-bed facilities, the following concept solar PV array design is provided. This 186 kW solar PV system option produces an estimated 201,800 kWh/year to provide a 100% offset of anticipated energy use.

Figure 1: 186 kW Solar PV Array Concept for Maple Lane Site

While six sites are considered for the new facilities, the ability to achieve net zero energy will largely be dictated by building orientation, available roof area or adjacent space for siting solar PV arrays, the targeted energy use intensity (EUI), and potential shading. For the 186 kW array conceptualized in Figure 1, a high-cost estimate of $650,050 is anticipated using a unit cost of $3.50/Watt. This system option features an azimuth of 132°; solar energy production is anticipated to increase, thereby reducing the required capacity if the building and associated rooftop array can be oriented South with a 180° azimuth.

Actual costs may be driven by the specified project location, solar PV system layout, capacity, and products specified. Important considerations include the benefits of producing on-site renewable energy for risk mitigation, and in the case of significant rises in utility costs, to providing significant operational cost savings throughout the PV array's 25-year warrantied lifetime.

Additionally, occupant engagement and educational benefits using an energy dashboard are feasible with the incorporation of on-site renewable energy, as well as potential resiliency outcomes when supplementing the system with energy storage or microgrid infrastructure. Alternative strategies for achieving net zero energy include the development of ground-mount solar PV arrays, or participation in off-site procurement strategies such as Power Purchase Agreements (PPAs) or utility purchasing programs including the 'Green Direct' program with Puget Sound Energy. Based on the results of this pre-design study, investments in energy efficiency and conservation measures are anticipated to reduce the investment in renewable energy required to achieve net zero, increasing the feasibility of this leading energy performance goal.

Site Specific Considerations for Alternatives

Each site identified in the pre-design study phase has been evaluated for solar potential and ranked for prioritization to achieve net zero energy:

Site	Solar	Notes
Fircrest	High	No southern shading, highest priority site for net zero energy
Maple Lane School	High	Partial shading to the South of proposed project location, although potential for adjacent solar PV and microgrid development with DOC
Western State Hospital	Medium	Limited or no shading at project site; prioritized for net zero energy
Echo Glen	Low	Shaded site not suitable for solar; requires tree removal to be coordinated with DNR
Snohomish County	TBD	To be determined
Clark County	TBD	To be determined

Figure 2: Site-Specific Assessment

5

Project Schedule and Budget

48-BED STATE-OWNED COMMUNITY CIVIL FACILITY

6 Appendices

A. Pre-Design Checklist

B. Life Cycle Cost Models - to be provided at later date

C. Visioning Questionnaire Responses

D. Meeting Notes

E. Mechanical Narrative

F. Net-Zero Pre-Design Study

G. Report to the Legislature: Predicting Referrals for Competency, 12.1.18

A

Appendix 1: Predesign checklist and outline

A predesign should include the content detailed here. OFM will approve limited scope predesigns on a case-by-case basis.

- **Executive summary**
- **Problem statement, opportunity or program requirement**
  - ☑ Identify the problem, opportunity or program requirement that the project addresses and how it will be accomplished.
  - ☑ Identify and explain the statutory or other requirements that drive the project's operational programs and how these affect the need for space, location or physical accommodations. Include anticipated caseload projections (growth or decline) and assumptions, if applicable.
  - ☑ Explain the connection between the agency's mission, goals and objectives; statutory requirements; and the problem, opportunity or program requirements.
  - ☑ Describe in general terms what is needed to solve the problem.
  - ☐ Include any relevant history of the project, including previous predesigns or budget funding requests that did not go forward to design or construction.
- **Analysis of alternatives (including the preferred alternative)**
  - ☑ Describe all alternatives that were considered, including the preferred alternative. Include:
    - ☑ A no action alternative.
    - ☑ Advantages and disadvantages of each alternative. Please include a high-level summary table with your analysis that compares the alternatives, including the anticipated cost for each alternative.
    - ☐ Cost estimates for each alternative:
      - ☐ Provide enough information so decision makers have a general understanding of the costs.
      - ☐ Complete OFM's Life Cycle Cost Model (RCW 39.35B.050).
    - ☑ Schedule estimates for each alternative. Estimate the start, midpoint and completion dates.
- **Detailed analysis of preferred alternative**
  - ☑ Nature of space – how much of the proposed space will be used for what purpose (i.e., office, lab, conference, classroom, etc.)
  - ☑ Occupancy numbers.
  - ☑ Basic configuration of the building, including square footage and the number of floors.
  - ☑ Space needs assessment. Identify the guidelines used.
  - ☑ Site analysis:
    - ☑ Identify site studies that are completed or under way.
    - ☑ Location.

- [x] Building footprint and its relationship to adjacent facilities and site features. Provide aerial view, sketches of the building site and basic floorplans.
- [x] Stormwater requirements.
- [x] Ownership of the site and any acquisition issues.
- [ ] Easements and setback requirements.
- [ ] Potential issues with the surrounding neighborhood, during construction and ongoing.
- [x] Utility extension or relocation issues.
- [ ] Potential environmental impacts.
- [ ] Parking and access issues, including improvements required by local ordinances, local road impacts and parking demand.
- [ ] Impact on surroundings and existing development with construction lay-down areas and construction phasing.

- [ ] Consistency with applicable long-term plans (such as the Thurston County and Capitol campus master plans and agency or area master plans) as required by RCW 43.88.110.
- [x] Consistency with other laws and regulations:
  - [x] High-performance public buildings (Chapter 39.35D RCW).
  - [x] State efficiency and environmental performance, if applicable (Executive Order 18-01).
  - [ ] Greenhouse gas emissions reduction policy (RCW 70.235.070).
  - [ ] Archeological and cultural resources (Executive Order 05-05 and Section 106 of the National Historic Preservation Act of 1966).
  - [x] Americans with Disabilities Act (ADA) implementation (Executive Order 96-04).
  - [ ] Compliance with planning under Chapter 36.70A RCW, as required by RCW 43.88.0301.
  - [ ] Information required by RCW 43.88.0301(1).
  - [x] Other codes or regulations.
- [ ] Identify problems that require further study. Evaluate identified problems to establish probable costs and risk.
- [ ] Identify significant or distinguishable components, including major equipment and ADA requirements in excess of existing code.
- [ ] Identify planned technology infrastructure and other related IT investments that affect the building plans.
- [ ] Describe planned commissioning to ensure systems function as designed.
- [ ] Describe any future phases or other facilities that will affect this project.
- [x] Identify and justify the proposed project delivery method. For GC/CM, link to the requirements in RCW 39.10.340.
- [ ] Describe how the project will be managed within the agency.
- [x] Schedule.
  - [x] Provide a high-level milestone schedule for the project, including key dates for budget approval, design, bid, acquisition, construction, equipment installation, testing, occupancy and full operation.
  - [ ] Incorporate value-engineering analysis and constructability review into the project schedule, as required by RCW 43.88.110(5)(c).

- ☐ Describe factors that may delay the project schedule.
- ☑ Describe the permitting or local government ordinances or neighborhood issues (such as location or parking compatibility) that could affect the schedule.
- ☐ Identify when the local jurisdiction will be contacted and whether community stakeholder meetings are a part of the process.

❖ **Project budget analysis for the preferred alternative**

- ☐ Cost estimate.
  - ☐ Major assumptions used in preparing the cost estimate.
  - ☐ Summary table of Uniformat Level II cost estimates.
  - ☐ The C-100.
- ☐ Proposed funding.
  - ☐ Identify the fund sources and expected receipt of the funds.
  - ☐ If alternatively financed, such as through a COP, provide the projected debt service and fund source. Include the assumptions used for calculating finance terms and interest rates.
- ☐ Facility operations and maintenance requirements.
  - ☐ Define the anticipated impact of the proposed project on the operating budget for the agency or institution. Include maintenance and operating assumptions (including FTEs).
  - ☐ Show five biennia of capital and operating costs from the time of occupancy, including an estimate of building repair, replacement and maintenance.
- ☐ Clarify whether furniture, fixtures and equipment are included in the project budget. If not included, explain why.

❖ **Predesign appendices**

- ☐ Completed Life Cycle Cost Model.
- ☐ A letter from DAHP.

B

Life Cycle Cost Models

Will be provided at a later date.

DSHS Program Questionnaire

We are looking for some feedback on assessing the programmatic and functional needs of a new 16/48 bed facilities for DSHS. The following information will help inform our discussions that will be had on October 21st. To prepare for this meeting please fill out the following questionnaire.
Note: Please return the questionnaire to Larry Covey by October 14th .

1. **Name:** Bryan Zolnikov — **Title:** Office of Forensic Mental Health Services Quality Manager

2. **Briefly describe the unique patient population needs and length of stay for the following programs:**

E&T: My impression is very short-term stays (averaging 3-14 days) relative to other patient populations. Many patients will have acute psychiatric issues such as active psychosis and suicidal ideation and intent. The facility will need to be anti-ligature from top to bottom, have clear view of patient living areas (minimal to no "blind spots"), and be friendly to the staff when they are monitoring patients (e.g., line of sight, 1:1). Concur with Dr. Waiblinger regarding the need for a facility that supports recreational and vocational rehabilitation services. Discharge planning is done under a very short time frame.
90-180 day: Concur with Dr. Waiblinger regarding enhanced vocational training. The facility would need to be oriented toward supporting rehabilitation/teaching independent living skills.
Step Down: Concur with Dr. Waiblinger regarding skills-based training. I envision a facility that supports independent living skills (e.g., may have washer and drier for patients to use) and mirrors to the degree possible the type of living situation most residents will experience when in the community. A step-wise community reintegration focus.

3. **Describe any innovations that you would like to incorporate into a new program or design.**

Telemedicine, OT facility that mirrors to the degree possible a real-world work environment (e.g., a café that sells food to patients and staff), therapeutic yard space (e.g., mindfulness garden with soothing feature like a waterfall), high walls instead of chain link, warm residential feel (e.g., natural colors, ACROVYN doors, art work), where needed advanced security features that do not look "hardened" (e.g., windows that appear standard but have high attack-rated window panes, locked ceiling grids that appear standard but have grid locks in the above crawl space), comfort room, exercise/wellness space, plenty of windows for natural light, and plenty of functional program space for group and individual therapy.

For staff, individual offices with natural light, exercise room, adequate locker space for staff who do not have offices, large break room with adequate food storage space and something like an Avanti Market, a wellness room (e.g., for lactation practices, personal medication storage, room for yoga practices), and parking that is adequate and complies with ADA code standards.

4. **List group program spaces that would be needed/desired to support the programs. (i.e. - OT, Music Therapy, Vocational Training, etc.)**

   We could look at the Bill Anthony "treatment mall" concept where each treatment room has a dedicated function (e.g., Music therapy room, illness management room) and is held off the living unit.

5. **List spaces/needs to support exercise and recreation programs.**

   See above. Adequate exercise space and equipment for both patients and staff.

6. **Describe your philosophy on seclusion? What type of spaces besides a seclusion room could be used for de-escalation?**

   Philosophy is to do everything we can to prevent seclusion and hopefully never use it. We could design space that could be used as areas for reduced stimulation for staff to utilize as an area to provide de-escalation. If a seclusion and restraint room is required, keeping it in an obscure area would be ideal so that patients are not constantly reminded of these coercive procedures (trauma-informed care principles).

7. **Please share your ideas for enhancing the patient and family visitation experience.**

   A warm and spacious visitation area. Having an area within the visitation area that has a play area for visits that involve children. Having app-based video conferencing that is easily accessible to families.

8. **Describe the potential role that the community could play into the program and are there are any spaces that could be co-utilized by the community.**

   Large spacious meeting rooms that are accessible from on (for staff) and off (community members) unit. The meeting rooms would have tele-video equipment and televisions with internet capability.

Please return the questionnaire to Larry Covey by October 14th, 2019.

DSHS Program Questionnaire

We are looking for some feedback on assessing the programmatic and functional needs of a new 16/48 bed facilities for DSHS. The following information will help inform our discussions that will be had on October 21st. To prepare for this meeting please fill out the following questionnaire.
Note: Please return the questionnaire to Larry Covey by October 14th .

1. **Name:** Melena Thompson — **Title:** Director, Policy and Legislative Affairs BHA

2. **Briefly describe the unique patient population needs and length of stay for the following programs:**

E&T: **Assuming we are talking about an E&T that is providing "short term stays" this would be limited to individuals who are committed for an initial 72 hour commitment and then potentially a 14 day commitment under RCW 71.05. This can be extended based on a court approval or become an "single bed certification" to provide services for a period longer than 72 hours.** **This population is the most acute population served. Must meet the following criteria** **Diagnosis of a psychiatric illness and a determination that one or more of the following:** **Danger to self or others** **Serious harm to property** **Grave disability due to cognitive impairment** **Often under or unmedicated with significant psychological distress.** **Treatment program often limited to medication interventions, brief intervention counseling and social work to reconnect with community resources and discharge**
90-180 day: **These individuals continue to meet the criteria above for civil commitment and are post the 14 day commitment.** **Due to the length of stay additional resources are needed for long term support including large movement and activity areas, treatment space including areas for group treatment. Out door space.** **Space for skill building and ADL training**
Step Down: Limited yet not secure egress, space for skill building, large movement activities and outdoor space. More of a "home like setting"

3. **Describe any innovations that you would like to incorporate into a new program or design.**

Considerations for options if the population served is DD or Older Adult with specific space and design needs for accessibility, low stimulation, durability (wheel chairs, walkers, hand rails)

DSHS Program Questionnaire

We are looking for some feedback on assessing the programmatic and functional needs of a new 16/48 bed facilities for DSHS. The following information will help inform our discussions that will be had on October 21st. To prepare for this meeting please fill out the following questionnaire.
Note: Please return the questionnaire to Larry Covey by October 14th .

1. **Name:** Brian Waiblinger **Title:** DSHS-CMO

2. **Briefly describe the unique patient population needs and length of stay for the following programs:**

E&T: These individuals are often unmedicated in the community and may have significant psychiatrist symptoms and resulting behavioral problems. They may also have untreated medical needs and need for outpatient referral. They may not have current outpatient treatment and will need to have discharge planners to work on establishing care, restarting benefits if needed, etc. May require a larger personnel space zone in order to feel safe. Tend to be more aggressive in response to psychosis. Recreational therapy can be important as can distraction and relaxation modalities.
90-180 day: These individuals have usually stabilized to some degree and are less likely to have significant violence/aggression in response to psychosis. The may have long-term medical issues secondary medications or poor self-care and will need access to outside appointments (dental, vision, PT, podiatry, etc). These individuals will likely benefit from intensified vocational training. Communication and collaboration with outside agencies is key and they may need to have visits for housing.
Step Down: This tends to be more skills based and so will need more intensified occupational and vocational services. They may benefit from CBT and DBT and other skills based instruction but would likely be the least acute of the three.

3. **Describe any innovations that you would like to incorporate into a new program or design.**

Secure greenspace. Ensuring that all rooms look onto a greenspace and if possible not on chain link fencing, utilities, etc. Dedicated telepsychiatry space. Consider having clubhouse space Additional family meeting rooms/activity rooms Having a secure "office" where patients can have an appointment with their provider to practice. OT facilities to help learn cooking skills, shopping etc.

4. **List group program spaces that would be needed/desired to support the programs. (i.e. - OT, Music Therapy, Vocational Training, etc.)**

See above. OT/RT VT training space Secure green space for gardening/meditation Exercise room Outdoor exercise space

5. **List spaces/needs to support exercise and recreation programs.**

OT space VT space with stove, washer, dishwasher etc. Exercise room Covered outdoor as well as open outdoor area Mixed meditation/gardening space

6. **Describe your philosophy on seclusion? What type of spaces besides a seclusion room could be used for de-escalation?**

De-escalation techniques and time alone either in a separate area/hallway or their own room is usually sufficient rather than actual seclusion/restraint. Two rooms is optimal. Using the mobile bed technique at ESH/FSCRP is preferable to fixed beds.

7. **Please share your ideas for enhancing the patient and family visitation experience.**

More private areas, green spaces, etc. as above. Access for secure skyping

8. **Describe the potential role that the community could play into the program and are there are any spaces that could be co-utilized by the community.**

Clubhouse space Having community assigned case managers with office space in the same facility Medical clinic in same building or nearby

Please return the questionnaire to Larry Covey by October 14th, 2019.

DSHS 16/48
MEETING NOTES

Purpose of Meeting: Scope Discussion
Date: 09/05/19
Time: 1:00pm via In-person

Discussion Items:

1. Stakeholder Group
    a. Larry is working on this
        i. Assistant Secretary DSHS
        ii. Medical Director
        iii. WSH Bldg 27 staff
        iv. Larry Covey
        v. Ken Taylor
        vi. John Hieronymous
        vii. Cheryl Strange (former CEO of WSH)

2. Facility Tours Possibilities

    a. Telecare and Recovery Innovations (E and T)
    b. Park Place Mental Health Facility – CLR operator
    c. Building 27 at Western State Hospital
    d. Lake Burien -Navos

3. Download from Larry/Ken
    a. Visioning Session Dates set
    b. Civil 90/180 discussion
        i. Community based, better success if close to family
        ii. Complicated cases
        iii. Risk of elopement
        iv. Combative
        v. Some harmless, some are preditors
        vi. Need recreation spaces
        vii. OT/PT spaces
        viii. A typical 90/180 3 buildings, (1 E and t, 1 Step down, 1 higher acuity)
        ix. Fair Start, Third runway, Industrial kitchen
        x. Want to understand trends
        xi. Community access to facility, bistro? Meeting spaces
        xii. Need to look at staffing model, discharge path, long term care options
        xiii. Demographics info- Larry is working with DSHS research department data team

4. Sites to Evaluate
    a. WSH site- Lakewood
    b. Fircrest Site-
    c. Echo Glen
    d. Arlington / Snohomish County
    e. Clark County
    f. Maple Lane (Lewis County)
5. Contract Development
    a. Larry needs a proposal

6. Sustainability
    a. LEED Silver base project
    b. Upgrade to net zero thru PV

Meeting Schedule Rough Draft

- **Visioning Meeting Number 1 - Sept 30**
    - Ice Breaker/ Intro Stakeholders
    - All consultants attend Goal setting (MEP, Operator)
    - Goal Setting
    - Facility Tours?
- **Visioning Meeting Number 2 - Oct 21**
    - Visual Programming
    - Space Planning
- **Concept Development Meeting Number 3 – Oct 30**
    - Video Meeting for BWBR
    - Item 2
- **Concept Development Meeting Number 4 – Nov 6**
    - Video Meeting for BWBR
    - Sustainability
    - Systems
    - Estimate
- **Pre-Design Report Development 5 Nov 13**
    - Video Meeting for BWBR
    - Sustainability
    - Systems
    - Estimate

- **Pre-Design Report Development 6 – Nov 20**
  - Video Meeting option
  - Sustainability
  - Systems
  - Estimate

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SW-BH Community 16/48 Capacity

Visioning Meeting #1
September 30, 2019

Meeting started out with an introduction by Larry Covey

- 48-bed Civil commitment/community treatment facilities consisting of three (3) 16-bed units. One of the facilities would be run by DSHS. The other two would be operated by private operators. Each unit will focus on a different aspect of the continuum of care.
    - Evaluation & Treatment (16-bed) – private operator
    - 90-180 day (16-bed) - DSHS
    - 'step-down' facility (16-bed)- private operator
- "The building should be built for the program, not the other way around"
- Pre-Design is a State requirement: A building over $5mil or over 5k SF has to go through a pre-design process
- For this project the state allocated more money than what the pre-design cost which means that we can continue moving forward after they approve a potential site
- End of December timeline for the final report
- "This is a big deal! It's a brand-new project type"

Current state/Future State Exercise – refer to Attachment

- We have an opportunity to do something REALLY good
- The facilities are within the 0's, but the programs are stronger within the 2's. Existing does not have enough beds.
- Barriers to 5 – funding constraints – target 4s for pragmatic reasons

Group Comments from the "WHAT":

- Think about how the longer-term facilities support individuals' need to feel safe, restorative, expel energy, etc. (exercise versus yard work).
- May want to consider individual restrooms for long term facilities
- HMH – Habilitative Mental Health program – 2 years average involvement.
- ID (Intellectual Disability) and DD (Developmentally Disabled) populations would need private rooms space rather than double rooms, and more separate programming elements; vocational rehab space?
- Shared services:
    - Separate contracts for food services with each facility
    - May not need to provide the separate company but if it's a central kitchen/laundry, with separate contracts with each provider.
- Would like to incorporate ten strategies from Sweden Study that improve safety by 50%; single patient room, movable seating, low-social density, high spatial density, variety of acoustics, gardens accessible, nature window rooms, nature art, daylight, communal spaces, etc.

- Meeting spaces in existing facilities for private interactions are insufficient. Need to have safe/secure areas for perhaps 2 at a time
    - Family interactions as well
    - Up to 8 people
- Don't forget that our population may be somewhat larger (obesity) in size than most
- Residential feel as much as possible!
- Ease of maintaining these facilities
- "No force first" approach

How do we see the community partnering/engaging with these facilities?

- If we can address the early-onset of psychosis (typically after high school)
- How do we provide services to assist those individuals who need to learn the basics before they burn all their bridges?
- Is there a way to tell the success stories that occur within the facilities?
- What is the program within the facilities and how is that similar or different from the new hospital?
- Make sure to think about the staff as well!
    - Providing spaces of reprieve and restoration. Staff shortages and turn-over.

Policy Makers Success Measurables

1. Waitlist
    a. Access to bed
2. Length of Stay (through put)
    a. Delay to discharge, placement
3. Quality of Care
    a. Outcomes
4. Safety
    a. Restraint use
    b. Assaults (patient-on-patient and patient-on-staff)
    c. Reduced ligature risks

Public Success Measurables

1. Understand whole system
2. Anti-stigma campaign

Fears

- Siting – ability to build
- Moratorium
- Ability to get qualified staff, staff working multiple jobs
- Physical plant out of date quickly
- Through-put in these facilities
- Program – don't know what we want

- Value-engineering
- Decision making

Virtual Tour – Telecare E&T

Average client path:
72 hour (7 days max) initial assessment at the hospital
Another 14 days if needing further detention
Referred to state hospital
Overall approximately 7-21 days

Floor plan:

- Building features – Visual access to nature, use of natural materials
- 12k SF is the standard for Telecare's prototype (750 SF per patient)
- Administrative staff is essentially the clinical team – offices integrated on the unit
- Sequence of patient intake directly into unit
- Restrooms access from hallway for the shorter-term acute patients versus the longer term would prefer private
- 50% Double rooms – flexibility in the program approaches as well as any gender disparities
- Built ample office space, but still need more
- Staffing challenges? Not currently not an issue as long as it's located within an urban
- There was some concern about sightlines.
- Open Nurse Station with an enclosed staff charting/work area. Telecare is considering elimination of Nurse Station on future facilities.
- Need to verify local requirements for tele-court. Often need office space for prosecuting and defense attorneys. Judge may also have special requirements.
- Small outdoor area, could use double for program – even more if longer stay

Group Discussion

- When we put them in an environment that is like a jail, they will behave like they're in jail!

Hospitals tend to have more violence than at the facilities because of the designed environment.

- Sensory rooms versus seclusion rooms!
- Weighted chairs…cushioned but plastic

Design notes:
Bedrooms, not so much bathrooms tend to get more damage on the walls
Other locations that sees a lot of damage: walls with large expanses of no pictures/elements

Building 27 Site Tour

HMH program guided by Dr Mark Cross

- ID/DD Patients typically have longer stays
- Has library / resource center
- Access occupational activities/resources on campus. Program also includes vocational training like wood shop, java café, lawn service and laundry services.

- Patients could use places in their rooms for personal items: TV, game console. Lockable cabs. Snacks
- Would like Sensory spaces
- Design for cleanability
- Mentioned wanting to have spaces for patients to hang out on the outskirts of a larger group setting.
- Need to have group spaces that can fit all patients on unit as well as staff – need to consider the larger furniture
- Ideally two dayrooms or much larger area
- Would like the ability to dim or switch off night light in patient rooms
- Floors should have coved base
- Would be nice to have computer area for patients

Attachments:

1. 9.30.19 Sign-In Sheet
2. Current-Future State Survey
3. Telecare Floor Plan

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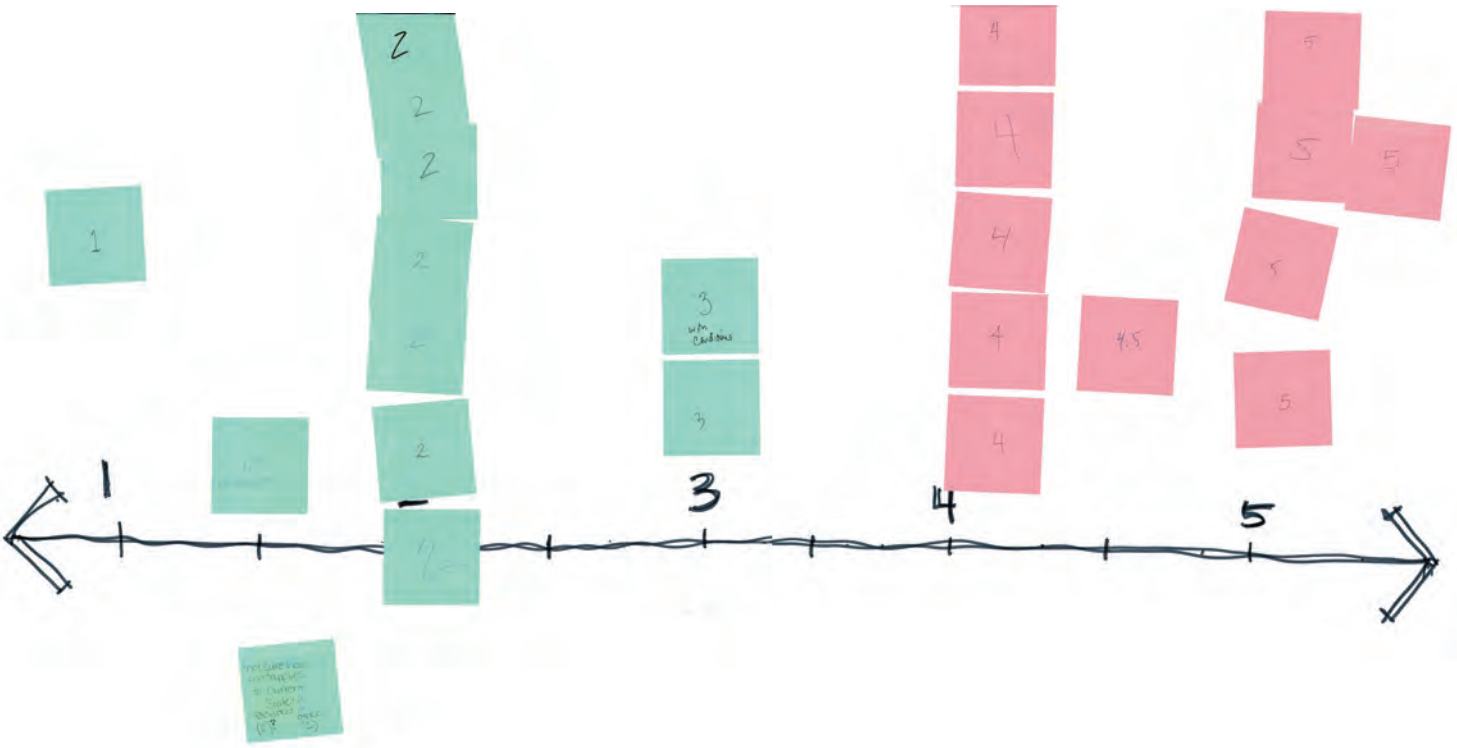
DSHS Civil 16/48
Project # 19093

Visioning Meeting #1
Sign-In Sheet
Date / Time of Meeting: September 30, 2019

Mtg. Attendees	Org.	Cell Number	E-Mail
☐ Steve Hardy	DSHS-Fircrest	360/701-1706	shardysb@dshs.wa.gov.
☐ Cameron Colthorp	Telecare	5107172107	CCOLTHARP@telecarecorp.com
☐ Debbie Roberts	DSHS-DDA HQ		roberdx@dshs.wa.gov
☐ Bryan Zolnikov	DSHS	360 628-4783	zolnibj@dshs.wa.gov
☐ Sean Murphy	DSHS	360-338-5160	
☐ Doug Hieronymus	DSHS	3606645846	doug.hieronymus@dshs.wa.gov.
☐ Brian Waiblinger	DSHS	360-480-9405	waiblbe@dshs.wa.gov
☐ Emma Gracyk	BCRA	916-705-8557	egracyk@bcradesign.com
☐ Laura Jacobsen	BCRA	253.627.4367	ljacobsen@bcradesign.com
☐ Charles Anderson	DSHS	360-764-9638	anderch@dshs.wa.gov
☐ Jenise Geogun	DSHS	3603385005	jgogunjc@dshs.wa.
☐ Larry Covey	DSHS	360-902-8162	coveyle@dshs.wa.gov.
☐ Victoria Nizzoli	BCRA	209.505.3550	vnizzoli@bcradesign.com
☐ Natalie Ngoza	BCRA	253-627-4367	ngoza@bcradesign.com.
☐ JIM WOLCH, BCRA	253.627.4367	JWOLCH@BCRADESIGN.COM	
☐ DEVAN SWIONTKOWSKI, BWBR	651.290.1862	DSWIONTKOWSKI@BWBR.COM	
SCOTT HOLMES, BWBR	651.290.1862	SHOLMES@BWBR.COM	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4.5

TELECARE E&T - FLOOR PLAN

Key:
Patient
Public
Staff
Support

VISIONING MEETING

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SW-BH Community 16/48 Capacity

Visioning Meeting #2
October 21, 2019, 9am-3pm

Recap Discussion – lead by Scott Holmes

- Feelings of safety and restoration (specifically with staff)
- Incorporation of strategies that reduce aggression and enhance safety (private rooms, density, nature, daylighting)
- Provide the facility with tools/approaches where restraint and isolation are last option (quiet rooms, nooks, sensory)

Group Comments:

- ID/DD patients typically have longer stays
- Keep in mind what can we do in the design to attract and retain staff
- Creating a platform that can adjust with ongoing changes in these facility programs/approaches
    - Setting the groundwork for flexibility and adjustment depending on the staff desires and work modes; even populations
- Restrooms desired to be off of a private room versus shared off the hallway
- Note made that the nurses tend to congregate around the station versus inside of it
- What is the desired space per person?
- Vocational training required by patients (ID/DD) can be up to 6 hours a day. Something to keep in mind for programming those services.
    - Wood shop, lawn maintenance, café
    - Another route is learning more career-path related options

Establish and discuss "Guiding Principles" – lead by Melanie Baumhover

Review of DSHS mission and values

- The group brainstormed characterizes that would be appropriate for guiding principles. See attachment
- Review
- Melanie crafted vision statement for the group to review and select those appropriate. See attachment of approved guiding principles.
- Can potentially do focus sessions with previous patients, family members, and staff.
    - Friends of Western State have reached out to offer some perspectives from former patients
    - May not necessarily have a staff-focused on as the culture shift is still in flux

Visual Programming

Melanie documented program space needs and will discuss at next meeting.

- The short-term facilities will be part of the 16-bed facility; medical/dental services would be in-house, not necessarily out; opt for the least amount of transportation
- Group-oriented recreational therapy with less of a "gym" and more outdoor space

- 90-180 day patients tend to be less aggressive/violent; need more outside medical care; focus on rehabilitation and teaching independent living; access to court operations; large movement spaces; OT could be a shared space; are there spaces on the unit for medical/dental care services
    - Would want to verify if OT is something that is provided in-house versus outside. Would want to look at frequency
- Step-down facility is similar to the 90-180 days; would have similar needs but have more access to the community; not in 'custody' or under a civil commitment; step-up from community and step-down from in-patient E&T facility; living skills; they have the ability to leave and attend medical appointments, community events, etc. on their own accord
    - Will want access to public transit?
        - If they are at a point of being able to work, then they likely don't need the step-down services
- Double beds: can assist with socialization with clients; can help with square footage costs; could assist with transitioning into another facility; recommendation of 2/3 single and 1/3 double;
    - Recovery-centered environment
        - How much is the MCO daily rate and how does that come into play
        - The ability to afford these facilities
- Cameron to provide contact for operations - Director of Health Services in San Mateo (example grouped facilities that avoided the IMD rule?
- We have to make sure the E&T if co-located in a building with the other programs is not an "IMD"
- Step-down will be licensed differently and therefore can potentially be in the same building
- It would be good to have spaces to 'separate' from each other (ie: repetitive singing)
    - Think about their habits during recovery (pacing, needing quiet, sleeping)
- Offices desired to be located within audible connection of the center of the facility
- All of these facilities will be "re-thermed" food services.
- Restroom for seclusion area to be accessible off of ante-area versus directly off of seclusion room
- Need to confirm Court procedures/requirements in E&T
    - Court to be shared for all three programs but within the E&T facility due to ease of transporting patients

Massing:

- We set these up as three different cottages, how could they be interconnected in the future?
- Would like to try-out a multi-story with E&T on top (with outdoor patio)
    - IMD roofline requirement is not in the statute
- If we try to build in an urban area, then we will be 'encouraged' to use the land efficiently
- Programs will need Separate entrances and addresses
- Construction type would be needed to take into consideration
    - Fire separation requirements?
- Step-down would have an outdoor space as well that could be utilized with visitors, family, screened with landscaping
- Short-term E&T on its own and then the a two-story 90-180/step-down with a shared lobby and secured outdoor area

- Discussion to make the buildings/program all per the 90-180 model with the intent to provide more flexibility in how the programs may change
  - Find the balance of fixtures/finishes (durability) with environments for healing

Site Review/Site Criteria

Current sites:

1. Snohomish County (near Arlington)
2. Clark County, Peace Health
3. Fircrest
4. Western State
5. Echo Glen
6. Maple Lane

- Kirkland? Fairfax interested in a 90-180 bed facility
  - Providence partnership in Everett
- Example criteria
  - Adjacency to metro area
  - Near major transit
  - Environment supports 'healing'
  - Reception from adjacent properties/entities/community
  - Site access to utilities
  - Site topography
  - Existing services
  - Ability to 'lay-out' on site
  - Adjacent community elements (staffing, health services, hospitals, etc)
  - Permitting requirements
  - Sustainable access
  - Building orientation/space available
  - Transportation/public transit
- Looking at site numerical scoring criteria
  - Need to add some reasoning for the numerical criteria
- Is there an existing map that shows all the existing programs within Washington?
  - Location could help with E&T distribution/feeders into the 90-180s
  - Community/Resource bucket

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Scott leading the group during visual programming

Attachments:

1. 10.21.19 Sign-In Sheet
2. Guiding Principles – Raw Notes
3. Guiding Principles - Statement

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DSHS Civil 16/48
Project # 19093

Visioning Meeting #2
Sign-In Sheet
Date / Time of Meeting: October 21, 2019

Mtg. Attendees	Org.	Cell Number	E-Mail
☐ Doug Hieronymus	DSHS	360 470-8460	doug.hieronymus@dshs.wa.gov
☐ Charles Anderson	DSHS	(509)540-2064	anderch@dshs.wa.gov
☐ Bryan Zolnikov	DSHS	(360) 628-4783	zolnibj@dshs.wa.gov
☐ Katy	DSHS	(360) 870-0868	Kty[illegible]@dshs.wa.gov
☐ Larry Covey	DSHS	360-628-6802	coveylc@dshs.wa.gov
☐ Melena Thompson	DSHS	360-902-7543	thompm16@dshs.wa.gov
☐ Jenise Gogan	DSHS	3603385005	goganjc@dshs.wa.gov
☐ Brian Waibslinger	DSHS	360 902 7799	waiblbe@dshs.wa.gov
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Regionally distributed
Variety of needs – variety of resources

Patient

- Residential like (not hospital like)
- Safe – zero injuries, harm to self, staff safety.
- Healing Environment
    - Access to nature – green space
    - Hopeful
    - Healing
    - Warm atmosphere
- Designed to encourage an environment of care – integrate staff and patients
- Recovery
- Rehabilitation – independent living in the community
- Progress
- Fosters self-choice, decisions for themselves
- Inviting – to both staff and patients, families

Families

- safe & inviting.
- Feel loved one is safe.
- Space to be a family
- Inviting – to both staff and patients, families

Staff

- Employer of Choice (from DSHS Strategic Priorities)
- Recruitment & retention.
- Amenities, parking, break, exercise. T
- Down time (exercise, breaks, respite/restorative spaces)
- Empowerment to do their best work
- Inspire and support staff
- Accountability
- Inviting – to both staff and patients, families
- Protect privacy of staff from patients

Stewardship

- Intentional design
- Create operational efficiencies – staff process, financial operations
- Flexibility/adaptable for future use
- Environmental stewardship – net-zero/net-zero capable

Community

- Community appropriate – fit into neighborhood, 'northwest style'.
- Demonstration facility
- Community asset – invite the community.
- Break down barriers – less scary
- Partnerships
- Wellness Center – center of wellness
- Protect privacy of patients, staff from patients. Photographing not possible of patient areas

A facility for mental wellness of staff, patients, family and community members.

Patients

A. **Warm, residential environment that supports patient recovery and progress** in their treatment. A healing environment with a goal of zero injuries, where patients and staff are integrated in partnership.

Families

B. **Families are welcomed and included.** They are comfortable with the safety of their loved ones and themselves.

Staff

C. **The Employer of choice** where staff are supported, empowered, high-performing and inspired. Staff are integrated with patients, are safe from harm and have staff privacy protected

Community

D. **A Community Asset** / Center of Wellness that invites community members into the facility to break down barriers and create partnerships while maintaining patient privacy.

Stewardship

E. **Flexible, adaptable facilities** that work today and into the future, where design decisions are intentional. Net-Zero energy capable for environmental stewardship

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DSHS Community 16/48
Meeting Agenda
Nov 7, 2019

1. General Questions:
    a. Should the building(s) be designed to keep people inside?
        i. Windows are breakable, or windows are attack resistant to slow down people trying to break out, or break someone out
            1. Patient bedrooms have laminated glass and tempered. Step down from what is put in a jail. Regular window sill heights.
            2. Non-patient areas are basic commercial windows
                a. In the report – have areas identified where there are high-abuse or damage-prone and what products would be used to help with this.
        ii. Concern that patients might try to break through the walls or room? How long (in minutes) do we need to delay a patient?
            1. Will be answered with type of construction when chosen
            2. This could be a homework
        iii. Concern that someone from the outside with power tools could/might break/cut someone out? How long (in minutes) do we need to delay someone from the outside with tools?
            1. This is not a concern.

- Yes, they should all be designed to keep people 'in'. Not all will utilize the system at time of occupation. This will depend on the provider and need.
- Chart the differences between the different programs; identifying elements that would be universal versus specific to the program; write what may be cost impacts too.

    b. Are there any patients/programs that you anticipate will NOT require ligature resistant spaces, even if they are alone? (any program types would not be an option for patients who may be identified as suicidal)

- This is a program question but most, if not all areas will need to be anti-ligature; the Step-down facility may not need this…or there's a zoned area within the design. May want to have all facilities be consistent with hardware/anti-ligature approaches. Allows for flexibility in the long-term.

    c. What level of durability is preferred?
        i. Standard gypsum walls
        ii. Impact resistant gypsum walls
            1. Preferred option
        iii. Concrete masonry units or Burnished block walls
            1. Do not want CMU at all
    d. Will patients be locked in the building by staff?

i. If yes, will doors open on emergency, or will patients be moved by staff to a safer area of the building (for example, smoke compartments and not allowed out of the building?)
    1. Both E&T and 90/180 will be locked but the Step-down will not. The step down would not have a delay either.
ii. If exterior doors are to be locked, will they be unlocked remotely (by a system controlled by security or nursing staff), or manually (by key)
    1. They will be locked remotely

e. Will patients be locked into their bedrooms by staff?
    i. If yes, will unlocking be by key or remote system controlled by staff?
        1. They aren't on E&Ts unless you're in seclusion.
            a. Put this on the report under operation understandings

f. If any locking or unlocking will be done remotely, where will the person be located who is responsible for unlocking?
    i. On the unit?
    ii. In the building but not on unit?
    iii. On campus but not necessarily on unit?

2. Construction materials:
    a. 50 year building versus 20 year building
        1. 50-year building
    ii. Roofing systems preferred or to be avoided? Preferred warranty period?
        1. Nothing to avoid but preference would be to relate to the site location, maintenance requirements, etc.; Metal is fine but thinking about context and relation with neighborhood.
    iii. Exterior wall finish types preferred or to be avoided? \
        1. Siding to be durable and long-lasting; As long as it fits within the budget essentially. There aren't many limitations.
    iv. Wood frame, Metal frame, CMU
        1. Wood frame
3. Mechanical & Plumbing questions
    a. Do you have preferred HVAC system types?
        - VRF systems currently used but ground-source heat pumps would be great to look at. The required boiler would need to be electric
    i. What are the maintenance capabilities of staff?
        1. Simplification and training emphasized
    ii. Equipment location restrictions or preferences? (roof, ground mounted, penthouse, main floor mechanical room, etc)
        1. There would be a ventilation unit and then compressors that could both be located on the ground
    iii. Are there any desired temperature zone requirements? (individual controls per individual bedroom?)
        1. Localized control if possible with a high degree of control – need to do homework on this; With telecare, the zoning would need to look at the

kitchen, nursing/staff areas, and head load factors (so south-facing versus north); thermostats need to be incredibly secure and tamper-proof
- 15% improved energy conservation would be a great option

iv. Desired room temperature setpoints for heating and cooling?
1. Homework

v. Any humidity requirements?
1. No

vi. Any high load electronics?
1. Not known at this time; there will be UPSs in the data room and localized server which will have additional requirements

vii. Acoustic requirements?
1. Design phase

b. Control systems preferences?
1. Not known at this time; The current campus' has a centralized control system which may tied into it but should plan for its own.
2. Since we are going to have two, 16 licenses that will be independently operated, we have to have some way to back-charge those facilities; if it's embedded into the control system, there needs to be a way to pull that information out easily; Would that info need to be provide to the operator in order to get funding from Medicare?
3. Common outdoor areas – does the state pay for irrigation/maintenance costs? Should be looked at during the design phase.

ii. Preferred installing contractors?

c. Will medical gases be required?
i. If so what gases?
ii. Which will be hard piped/ which will be point of use bottle?
- Portable tanks only

d. Assuming patient spaces will require ligature resistant design, is it preferable that staff spaces use the same fixtures for ease of maintenance, or prefer staff spaces do NOT include ligature resistant designed plumbing fixtures?
1. No in the staff spaces; can pull this question into the programming stage

ii. Any other locations without? (public or family spaces?)
1. Public restrooms and business side of spaces

iii. Preferred manufacturers?
1. Homework for Larry

e. Is PEX piping acceptable?
i. Homework for Larry

f. Is PVC sanitary waste and vent pipe acceptable?
i. Homework for Larry

4. ELECTRICAL GENERAL INFORMATION
a. Will the functional program allow for patients that require life support?

i. Ventilators, etc.? This is not foreseen as a requirement as that level of support needed would likely mean they're in a hospital.

b. Will the functional program allow for patients to be medicated to the point they are not ambulatory or incapable of egressing the building without assistance?
   i. Likely not; this will need to be answered by program team.

c. Will piped medical gases be provided in the building?
   i. Need to be answered by program needs; Would this be more of a portable solution versus a standard?

d. Will Interview rooms, court rooms, group rooms or multi-purpose rooms have any special needs such as specialized lighting, ambient audio/ video, room recording, panic buttons, remote shunting of power receptacles, security video, etc.?
   i. Interview room – basic and not anything special;
   ii. Court room (in E&T) – this will have special items such as AV equipment, microphones, monitors, security cameras; program team needs to confirm what they would require
   iii. Group/Multi-purpose rooms – these should be basic rooms
   iv. Larry will be asking about wearable, emergency lanyards/buttons for staff
   v. Remote shunt could be an opportunity to have a switch at the nurse station to have control in case of an emergency
   vi. Ambient audio? Bedrooms would not have music/speakers to help with socialization and encouragement to not be in there; conversation now is to try and provide opportunities for control/decisions for the patients and music could be a privilege
      1. Break this question down by rooms as homework

e. Will Seclusion rooms have specialized lighting (color change LED), external lighting control, audio/video needs, room recording, power receptacles in room (not advised), security video?
   i. External lighting control, audio/video needs, no power

f. Will the facility have built in music system (in patient bedrooms, quiet/sensory rooms, staff respite, or multi purpose rooms)
   i. Yes;

g. Will patient bedrooms, quiet/sensory rooms or staff respite have built in color change LED lighting?
   i. Yes in the sensory rooms, the bedrooms may be on a different color index as a standard; the nightlight could be the amber spectrum to assist with the ability to check on the patient without disrupting their sleep.

h. Will the facility have electronic game rooms or other spaces requiring specialized electrical connections?
   i. May want to keep something in there for the option

i. Should Courtrooms include setup for telecourt, or in person court only
   i. Set up for telecourt

j. Is it desirable to have a "watch tour" system for staff? (key switch or card reader?)
   i. System that records that staff is 'checking' certain places or rooms; this is likely not going to be part of the program

5. STANDBY POWER

a. Are there Standby Power requirements required by the Owner above code minimum:
    i. Lighting in addition to egress and exit lights? (additional task or safety lighting)
    ii. Refrigeration equipment?
    iii. Receptacles needed on emergency power?
    iv. Mechanical Equipment and/or Owner's special equipment that cannot be off in a power outage?
        - Requirement is to keep operations for up to 72 hours; go for 96 hours for right now
        - 100% back up power
        - Diesel tank

b. Is there uninterruptable power source (UPS) requirements needed by the Owner? These would be things that cannot see a power glitch, such as:
    i. Medical Equipment?
    ii. Security Systems?
    iii. Other?
        - Yes to all

6. LIGHTING
    a. Will patient room lighting be controllable from outside the room?
        i. From hallway via key?
        ii. Nurse Station?
        iii. Wirelessly?
            - Clients will have control of the light in their room with anti-ligature fixtures/switches; there should be an override for each room – homework question; the control would be located in the nurse station
7. TELECOMMUNICATIONS
    a. Data/Voice cabling requirements:
        i. Will Patient rooms have telephone jacks or data jacks?
            1. No
        ii. For public area patient phones, do you prefer
            1. Stainless steel fixed phones with staff override shut off?
            2. Cordless checked out from nurse station?
            - Will need to be homework question
        iii. Wireless communication requirements:
            1. Will Patient rooms have wireless capability?
                a. Yes
            2. Will Offices, Nurse Stations, and other staff areas have wireless capability?
                a. Plus hard-wire
            3. Will Patient common areas have wireless capability?
                a. Yes
            4. Will there be separated wireless networks for Visitors? Patients? Staff? Med Records? Other?
                a. Yes; could require a secure, username/password log-in

- Look at providing a check-out space where video-guided therapy within a specific room
- Homework – music in patient rooms or sound generators

8. Television requirements:
    a. Will Patient rooms have provisions for televisions?
        i. No
    b. Will Offices, Nurse Stations or other staff areas have televisions?
        i. Break room only
    c. Will Patient common areas have televisions? Will televisions be provided with override switches for staff control?
        i. Yes; yes
    d. Will television delivery be by cable, internet, OTA?
        i. Yes, yes, maybe
9. Nurse Call System requirements:
    a. Traditional nurse call systems are not required by code. Is it desirable to have a Nurse Call system?
        i. Yes
    b. If so, does the Owner prefer a wired or wireless system?
        i. No preference; nurses have call buttons on them
    c. If a nurse call system is provided, where will the Owner want devices:
        i. Patient Rooms - yes
        ii. Patient Toilet Rooms - yes
        iii. Common areas – no but in the therapy rooms
        iv. Staff toilet rooms - no
    d. Will the facility equip staff with wearable duress alarms?
        i. Yes
10. FIRE ALARM
    a. Will exterior doors unlock in a fire alarm (This will be subject to AHJ approval)?
        i. No, they will only unlock in a sprinkler-flow
11. SECURITY
    a. Will patient room windows be electronically monitored? Where will the alarm report to?
        i. Windows will not be operable, so no
    b. Will patient room doors be monitored? Where will the alarm report to?
        i. No
    c. Will patient room doors be electrically locked? Where will the lock/unlock station(s) be? If so, how will the patient communicate to staff?
        i. No; but we should look at the ability to lock clients out of their room with a key lock
    d. Will patients have tracking devices?
        i. No
    e. How will security be accomplished? DSHS Staff? Private Security?
        i. DSHS Staff or provider staff
    f. Where will Security video be provided:
        i. Exterior Doors?

1. yes

ii. Exterior Perimeter?
1. yes

iii. Interior public areas?
1. yes

iv. Any Patient Rooms?
1. no

v. Where will video be monitored?
1. Yes

vi. Who has access to video?
1. Whoever is on call

g. Where will the facility have wander control? Doors monitored to alert staff if patient breaches specific locations.
i. When traveling interior to exterior through doors?
1. no

ii. When traveling interior to other interior locations?
1. No

h. Will bath and toilet rooms lock electrically? If so, where will the overrides be located and who will have authority to override?
i. No

i. Will the facility use card readers for door opening? If so, Staff only or staff and patient?
i. Yes, exterior only; However, the patients needs to be able to come and go freely in the step-down freely (think about the design of these entries)

j. Will patient doors be locked to allow patient privacy, or passage function
i. No

12. NET ZERO
a. Roofing system type and parapet wall height, if a low-slope roof is planned?
i. Low-slope roof

b. Considerations for rooftop or ground mount solar PV array, any preference?
i. Everything on the roof

Other notes:

- Adequate crawl space to maintain plumbing easily
  - How does this work with our prototypical slab on grade design?
- 7'-0" interstitial space above for ease of access for mechanical ducts

November 26, 2019

Heating Ventilation and Air Conditioning
The mechanical system will be comprised of a Variable Refrigerant Flow (VRF) system with a Dedicated Outdoor Air System (DOAS) for ventilation air.

Ducted VRF fan coils will be utilized to provide space heating and cooling. Air from each fan coil will be ducted directly to each space served to ligature resistant supply and return grilles. All VRF fan coils will be remotely located on a mechanical platform for ease of access and serviceability. Each fan coil will be provided with a filter rack with a MERV-8 filter.

There will be three DOAS units serving the building. Each DOAS unit will be located inside the building on a mechanical platform. There will be one DOAS units serving the Staff/ Service area and two DOAS units serving the Patient areas. The DOAS unit construction will include an enthalpy to capture waste heat from the building to precondition the ventilation air, MERV-13 air filter on the outside air inlet and MERV-8 filter on the return inlet, electric heating coil, and supply and exhaust fans with Variable Frequency Drives (VFD).

The DOAS units will deliver tempered ventilation air to individual Variable Air Volume (VAV) dampers at each space. The VAV dampers will open and close based upon occupancy status in each space with exception to the Dining/ Dayrooms and Conference rooms. The VAV dampers serving the Dining/ Dayrooms and Conference rooms will modulate based upon CO2 levels in the space (demand control ventilation).

Building relief will be accomplished by using air transfer from the smaller patient rooms, offices, and conference spaces to the larger open Dayroom/ Dining areas. There will be one exhaust VAV damper in serving each Dayroom/ Dining area controlled to a common space pressure sensor to maintain a slightly positive space pressure. Relief for the Staff/ Service area will use air transfer to the Waiting Area. The Waiting Area will utilize one exhaust VAV damper and modulate based upon space pressure to maintain a slightly positive space pressure.

The Mechanical and Electrical spaces will be provided with electric unit heaters for space heating and exhaust for ventilation. Both the unit heater and exhaust fan will be thermostatically controlled.

A BACnet direct digital control (DDC) system as provided and installed by Reliable Controls (or Owner approved equivalent) to include connections required for all HVAC components. The building addition will have its own network controller and operator workstation. The system will be capable of optimal start/stop, time and holiday scheduling, and after-hours override. Each zoned area is to be individually controlled through tamper proof temperature sensors located within each zone. The BACnet control system will meter building power, and domestic water consumption.

The DDC system will incorporate monitoring and control points necessary for scheduling and control.

Plumbing

Behavioral healthcare ligature resistant plumbing fixtures and floor drains are to be utilized for all areas throughout the building including Staff/ Service areas. Lavatories will be provided with low flow (0.5 gpm) aerator faucets. Water closets will be low flow 1.28 gallon per flush. Shower heads will utilize 1.5 gpm flow cartridges.

Sanitary waste and vent piping above and below ground will be cast iron. All bathrooms, mechanical room, and fire riser room will be provided with floor drains. All floor drains will have trap primers installed.

The domestic water piping will consist of Type L copper or PEX for all above ground pipe and PVC Type C-900 for below ground cold water pipe.

F

Washington State Department of Social & Health Services

SÄZÄN Environmental Services

BWBR

Net Zero Energy Pre-Design Study

1648 - Behavioral Health Unit

December 2019 (Draft Report)

Leading Energy Performance

Net Zero Energy Pre-Design Study (Draft)

Executive Summary

The Department of Social & Health Services (DSHS) is positioned to demonstrate leadership in net zero energy performance for the new Behavioral Health Unit (BHU), based on the results of this pre-design study phase. This study evaluates the estimated energy use, renewable energy system capacity and associated rough order of magnitude costs for achieving net zero energy in the proposed 17,154 square foot new 16-bed facility and 51,462 square foot 48-bed facility.

The goal of this study is to identify renewable energy system options using solar photovoltaics (PV) to offset annual operational energy use, achieving net zero energy. Cost estimates for the system options evaluated are provided for consideration, using a range of unit costs for solar PV of $2.50 - $3.50/Watt:

			Solar PV Cost Estimates			
16-Bed Facility (Fircrest)	PV Capacity (kW)	Annual Production (kWh)	System Cost ($2.50/Watt)	System Cost ($3.50/Watt)	Percentage Offset (Baseline EUI)	Percentage Offset (Target EUI)
Baseline EUI Option	332.6	363,100	$ 831,500.00	$ 1,164,100.00	100%	181%
Target EUI Option	186.3	201,800	$ 465,750.00	$ 652,050.00	56%	100%
Net Metering Option	99.4	113,500	$ 248,500.00	$ 347,900.00	31%	56%
48-Bed Facility (Fircrest)	PV Capacity (kW)	Annual Production (kWh)	System Cost ($2.50/Watt)	System Cost ($3.00/Watt)	Percentage Offset (Baseline EUI)	Percentage Offset (Target EUI)
Baseline EUI Option	997.8	1,089,300	$ 2,494,500.00	$ 3,492,300.00	100%	181%
Target EUI Option	558.9	605,400	$ 1,397,250.00	$ 1,956,150.00	56%	100%

Figure 1: Cost Estimates for Net Zero Energy BHU Facilities

The approximate range for solar PV array installation costs is representative of current market trends and anticipated future reductions as the solar industry continues to scale. Based on this project's proposed schedule, significant cost reductions may be feasible for installing solar PV. Therefore, a unit cost of $2.50/Watt is used for the low-end cost analysis for each system option proposed. Additional variables, such as utility rate escalation and maintenance costs are factored into this assessment. The results of this analysis highlight renewable energy system options for achieving net zero energy for both the 16- and 48-bed BHU facilities, supporting operational cost savings, carbon emissions reductions, and alignment with Washington State's Executive Order 18-01 for net zero energy facilities.

Energy Use Intensity Analysis

The facility is intended to support occupant health and wellness, prioritizing sustainable design while balancing cost-effective operations and maintainability of all systems and equipment.

Net zero energy building performance is typically a result of maximizing passive, active and renewable energy solutions. This framework identifies passive strategies first, such as building orientation and energy conservation opportunities from glazing, a high-performance building envelope, natural ventilation and other site-specific design strategies to minimize energy demands. Active solutions target high-performance, energy-efficient equipment, including heat pump technology or alternative high-efficiency HVAC equipment, LED lighting, occupancy sensors and energy management systems.

These strategies are intended to result in ultra-low energy use and associated operational cost savings, which can then be offset with on-site renewable energy systems to achieve net zero energy performance. Ideally, the renewable energy system capacity is minimized based on the building's energy efficiency, providing lower installation and maintenance costs. However, a cost premium of 5-10% is anticipated for net zero energy buildings:

	Energy Conservation Measures	Net Zero Energy (Renewables with ECMs)
Office New Construction	1-6%	5-10%
Multifamily New Construction	2-7%	7-12%
Office Renovation	7-12%	14-19%

Figure 2: Cost Premiums for Net Zero Energy Buildings (ILFI, 2013)

DSHS can shield the project from potential risks, safeguarding the ability to meet and expand program needs throughout the building's lifecycle, by accounting for various market signals. Specifically, these signals include, but are not limited to:

- Implementing an all-electric HVAC system to maximize benefits of on-site renewable energy generation and mitigate financial risk in the scenario that a future carbon tax is imposed
- Obtaining net energy metering, ensuring on-site renewable energy generation is used in-building, providing compatibility for a battery energy storage system
- Deploying grid-interactive capabilities, including demand response, advanced energy metering, and energy monitoring system integration

Additionally, first costs for a net zero energy building are often prioritized for the longest lasting systems. In particular, the building envelope typically presents the greatest opportunity for energy efficiency, where increased R-value beyond code requirements or typical design standards may provide the longest enduring benefits.

Using a national energy consumption database for energy use in similar buildings, based on the square footage and use type, we can establish an energy use baseline and target Energy Use Intensity (EUI) for this project. The Commercial Building Energy Consumption Survey (CBECS) database is used as a resource to evaluate energy use for similar Medical Office buildings. While this is not an exact comparison to the DSHS Behavioral Health Unit facility, it does provide a comparative metric for a 'high-end' baseline and a targeted energy efficiency goal for the new project. Included in the comparison are assumptions for 24-hour operations, with 30 full-time staff anticipated. Building on these assumptions, the project team identified a target EUI of 40 kBtu/sf/year during the sustainability:

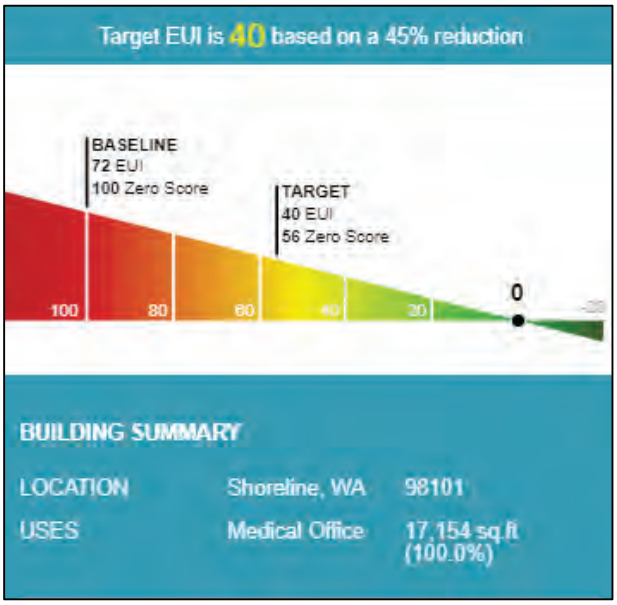


Figure 3: Energy Use Intensity (EUI) Baseline and Target

As shown in Figure 1 above, the baseline and target EUI are used for this study, to assess the approximate range of renewable energy capacity required for achieving net zero energy, where 100% of the building's net annual energy consumption is offset by renewable energy generation.

DSHS has specified a target EUI based on previous successes in energy efficient design and operations, where past projects have exceeded the efficiencies represented by national energy consumption averages. However, both the energy use baseline and target EUI are used for this analysis to identify the optimized strategies for achieving net zero energy on this project.

Renewables & Net Zero Energy

While a variety of renewable energy technologies are available for new construction projects, this report recommends using solar photovoltaics (PV) due to their cost effectiveness, ease of installation, maintenance and operation as an on-site, distributed energy resource.

As discussed in the sustainability charrette, the US solar PV industry has experienced tremendous growth in the past decade, which is fueled by the reduction in installed costs:

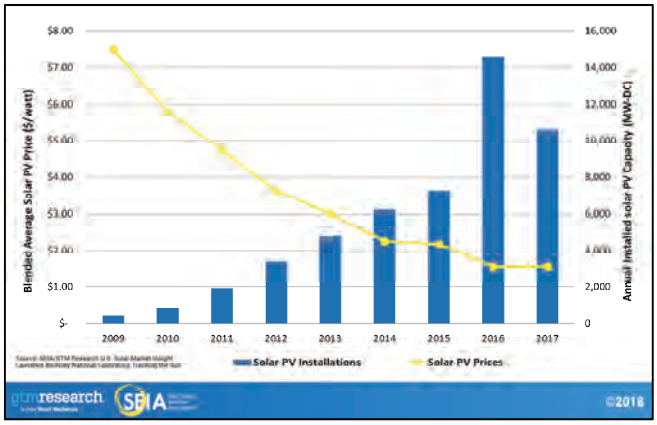


Figure 4: Solar PV Installation Cost & Installed Capacity (SEIA, 2018)

Solar PV array installation costs are typically described using the common denominator of installed cost per Watt of installed capacity (DC-nameplate). The average installation cost per Watt in the United States is now below $2.00, as represented in Figure 2 above. However, this dataset includes utility-scale, multi-megawatt arrays, which benefit from economies of scale and can be implemented at a lower cost per Watt. Therefore, a unit cost of $2.50/Watt is used for this analysis.

Solar irradiance, or available electromagnetic radiation from the sun (measured at earth), helps gauge the potential for installing solar at a given site. While the Pacific Northwest is known for overcast, rainy winter weather, long summer days and diffused light result in a higher irradiance (state-wide) than the country of Germany, which is a national leader in solar adoption. The solar potential varies across Washington State, but can be anticipated within a range of 1,000-1,500 kilowatt hours (kWh) per kilowatt (kW) of installed solar PV per year. The National Renewable Energy Laboratory (NREL) provides a solar irradiance calculator, called 'PV Watts', which can help gauge the solar potential for the Fircrest project location:

RESULTS

Print Results

1,027 kWh/Year*

System output may range from 960 to 1,061 kWh per year near this location. Click HERE for more information.

Month	Solar Radiation (kWh/m² / day)	AC Energy (kWh)	Value ($)
January	1.21	30	3
February	1.99	46	5
March	2.88	72	7
April	4.77	112	12
May	5.63	135	14
June	5.86	134	14
July	6.57	154	16
August	5.61	131	14
September	4.30	98	10
October	2.51	61	6
November	1.23	29	3
December	1.01	25	3
Annual	3.63	1,027	$ 107

Figure 5: PVWatts Estimate for 1 kW of Solar PV in Shoreline, WA

Installation costs are also driven by the install type, which can be broken out into three distinct applications: rooftop, ground-mount, and carport. While the project team specified that a rooftop-mounted PV array is desired, there are proposed project locations which may be suitable for a ground-mount installation.

This option also supports a partnership approach, where adjacent facilities support the development of a larger PV array and potential microgrid infrastructure, promoting resiliency, safety and security. System options proposed in this study include ground-mount, to provide the project team with options for consideration. For a rooftop array, primary considerations include the roof type and proposed racking installation system. While a standing seam metal roof is likely to provide the lowest cost installation due to available seam clamp products that limit any roofing penetrations, a flat roof is proposed for this project. Therefore, a ballasted racking system is proposed for rooftop solar PV, to reduce the risk of water penetration from flashed-in, fixed footings.

Figure 6: Ballasted racking installation system on flat roof

A solar energy monitoring dashboard is also proposed to support occupant education while providing transparency into the system's daily and lifetime operations. Energy monitoring dashboards typically integrate with a solar PV array's inverter, using metering equipment relayed to a dedicated internet connection. The data provided by the inverter can be shared to a website, a dashboard within the building, and integrated into a portfolio of DSHS solar installations over time. Energy performance equivalencies may also be integrated into the dashboard so as to display the equivalent number of homes powered, number of trees planted, or tons of carbon emissions saved:

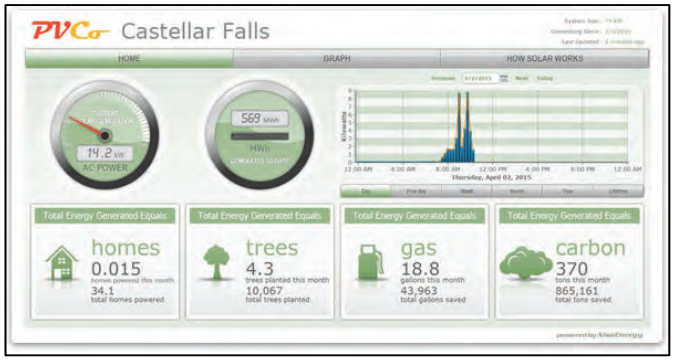


Figure 7: Solar Energy Monitoring Dashboard, Courtesy of AlsoEnergy

Solar energy monitoring is a resource for system maintenance, which can be supported through a production guarantee from the installation contractor. This contract arrangement ensures the system performs as designed, and is often supplemented by a workmanship warranty to cover any necessary repairs within a set time period. As an industry standard, solar PV modules are warrantied for 25 years, meaning that the modules will operate within 80% of their original performance rating at year 25. Also stated, solar PV modules will experience no greater than 20% degradation over a 25-year period. Solar energy monitoring can help a system owner know if and how the array, and even individual modules, are performing. This empowers the owner to enforce the warranty if the array or individual modules are demonstrated to underperform within their warrantied lifetime.

Executive Order 18-01 for State Agencies

DSHS is a Washington State agency that falls under the Executive Order 18-01, which requires owned or leased facilities to be designed to be zero energy or zero energy capable. A zero energy ready building achieves ultra-low energy use while maintaining sufficient space for the future installation of renewable energy systems to achieve net zero energy. The goal of this mandate is to prioritize energy efficiency and renewable energy integration, as well as to achieve the following outcomes:

- Design the building to make as much energy as it uses annually
- Review green building considerations
- Incorporate monitoring-based commissioning

A zero energy, or net zero energy, building can be understood as a performance outcome. Meanwhile, a zero energy-capable building must incorporate prescriptive requirements to enable net zero energy retrofits after the building is constructed.

Specific checklist items for a zero energy-capable building are not available, though the following solar-ready requirements may provide a useful framework for design considerations:

Site Solar Readiness	Yes	No
All installed system components are new and mounted securely	☐	☐
Proposed system location with required setbacks is documented in plan set or roof diagram	☐	☐
Solar resource verification at or above 80% TSRF or by using prescriptive method.	☐	☐
Solar Ready Photovoltaic	**Yes**	**No**
Minimum of 200 square feet un-shaded, unobstructed roof reserved for solar	☐	☐
A 48" x 48" space reserved near electrical panel for inverter and equipment.	☐	☐
¾" or larger non-flexible metal conduit installed per requirements with j-box on both ends	☐	☐
Space for a double-pole breaker reserved in electrical panel opposite the main service feed	☐	☐
Required labeling is present including "Reserved for Solar," "Solar Ready" and code labels	☐	☐

Figure 8: Solar-ready requirements from the Energy Trust of Oregon (ETO)

In addition, the 'Zero Net Energy' (ZNE) project checklist for state buildings includes several requirements for the Pre-Design Process:

- Include ZNE requirement in budget packages
- Identify a team ZNE champion
- Develop and refine Owners Project Requirements (OPR) to reflect ZNE
- Review contract structures and include ZNE
- Include ZNE goal in architect advertisement. Select qualified ZNE team
- Set building energy performance target (EUI)
- Hold design charrettes
- Conduct early design phase energy modeling

This study responds to comments provided during the sustainable design charrette, includes early-phase solar PV modeling, sets an EUI performance target, and provides an understanding of ZNE requirements for the design-phase budget package. An added benefit of this analysis are the connections between net zero energy and LEED v4.

LEED v4 BD+C – Energy & Atmosphere

The proposed Behavioral Health Unit will be required to achieve LEED Silver Certification. Provided the project registers in 2020, the project will remain eligible to pursue LEED Version 4 (v4) Building Design & Construction (BD+C), which has the greatest magnitude of points available in the Energy & Atmosphere (EA) credit category. The net zero energy performance goal for this project therefore has strong alignment with LEED v4 BD+C, including the following credit opportunities:

- EAp2 - Minimum Energy Performance
- EAp3 - Building-Level Energy Metering
- EAc2 - Optimize Energy Performance
- EAc3 - Advanced Energy Metering
- EAc4 - Demand Response
- EAc5 - Renewable Energy Production

Based upon the project's location, additional points are available under the Regional Priority (RP) credit category. The United States Green Building Council (USGBC) outlines regionally specific opportunities that may align with recent initiatives or codes, providing 1 additional LEED point per RP credit when points thresholds are met in the associated credit category.

For example, if a sufficient number of points under EAc4 and EAc5 are achieved for this project, and the building is sited in Shoreline, Washington, then the following location-specific Regional Priority credits would be also achieved, for a total of 2 additional LEED points:

- RP - Demand Response
- RP - Renewable Energy Production

A preliminary LEED scorecard was developed during the sustainability charrette, which may be modified to address the outcomes of this study.

Solar PV Options Analysis

This report presents solar PV array capacity and layout options that are sufficient to offset building energy use at the project's identified baseline EUI and target EUI, respectively, assuming all-electric building performance. These options are modeled, priced, and sized based upon kWh/year metrics that are calculated to be commensurate with the baseline and target EUI:

	Square Footage	EUI Baseline	EUI Target	kWh/Year Baseline	kWh/Year Target
16-Bed	17,154	72	40	361,969	201,094
48-Bed	51,462	72	40	1,085,906	603,281

Figure 9: Energy Use Intensity Analysis for Baseline and Target EUI

All solar PV array options presented are modeled to assess the associated net annual offset from the energy consumption estimates in Figure 9. These options are also vetted against current energy policy, including interconnection requirements with the utility serving the project location. In addition to the PV array capacities required for the baseline and target EUI scenarios, this report provides an array option that leverages net energy metering.

Net Energy Metering in Washington State

Net metering is a key financial resource for recouping investments in the implementation of a renewable energy system. This option responds to RCW 80.60 for 'Net Metering of Electricity', where a renewable energy system such as a solar PV array can be directly interconnected with a building's electric service. In this scenario, the solar energy is first used within the building, and any surplus solar energy beyond the building's real-time needs is exported back onto the utility grid for a credit at the retail electricity rate. For the scope of this study, the Washington State average retail rate of $0.09/kWh is used for electricity costs and associated savings.

Net metering is an important value stream for solar, although it is subject to change. Current net metering requirements allow solar PV arrays up to 100 kW in capacity. Systems that exceed this capacity threshold are still allowed, though a line-side connection may be mandated by the utility. In this scenario, solar energy is sent directly to the utility grid and with a billing credit applied below the retail rate. This interconnection process will typically require a power purchase agreement (PPA) between the project Owner and utility company, which establishes the buy-back rate and term length.

Option 1 – Net Metering Option

- System capacity: 99.4 kW (DC-Nameplate)
- Annual Production Estimate: 113.500 kWh/year
- Cost Estimate Range: $248,500 - $347,900

Starting with a solar PV array that leverages net metering benefits while consolidating the system on the rooftop area of a 17,154 SF footprint, the following concept design is proposed for a 99.4 kW array:

Figure 10: 99.4 kW Solar PV Array Designed for Net Metering

This system option does not achieve net zero energy under either the baseline or target EUI scenario. However, the array design takes into consideration commercial setback requirements for solar PV arrays, as well as inter-row shading constraints from the 10-degree tilt angle of all module rows. While the array layout is subject to change, it is recommended that this system incorporates access walkways for annual maintenance. The array may utilize a ballasted racking installation to limit roofing penetrations. Using the low-end unit cost of $2.50/Watt for this system, a total installation cost of $248,500 is estimated, resulting in a simple payback of 95% of the installation cost over 25 years:

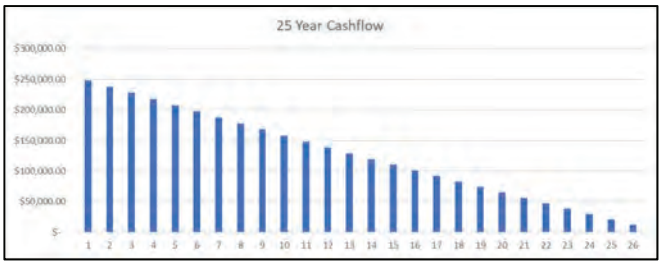


Figure 11: 25 Year Cashflow for 99.4 kW Solar PV Array

This solar PV array option nearly results in the simple payback within the modules' warrantied lifetime, particularly by leveraging net energy metering at the retail utility rate. This simple payback calculation assumes annual maintenance costs of $5/kW-dc and annual utility cost increases of 4%. Additionally, the payback incorporates solar PV module degradation of 20% over 25-years to account for anticipated reduction in output over time. While utility costs will rise on average of 4% annually in Washington State, utility providers reserve the right to increase this rate, as evidenced by PSE's 14% rate increase in 2019. Significant rate increases may be implemented throughout Washington State in coming years, particularly as utility companies transition to carbon-free energy resources under the Clean Energy Transition Act (CETA). On-site solar PV will shield the owner from this volatility, perhaps improving the payback outlook over time.

In order to achieve net zero energy using on-site renewable energy under the target EUI scenario, solar capacity beyond the available roof area may be required.

Option 2 – Net Zero Option for Target EUI

- System capacity: 186.3 kW (DC-Nameplate)
- Annual Production Estimate: 201,800 kWh/year
- Cost Estimate Range: $465,750 - $652,050

DSHS expressed interest in a pursuing a 100% rooftop mounted solar PV array to achieve net zero energy in the 16-bed facility's target EUI scenario. This option is hypothetical and unrealistic, as it does not account for maintenance access or installation challenges. Regardless, this option is included to demonstrate the magnitude of solar PV required for a rooftop installation to achieve net zero energy:

Figure 12: 186.3 kW Rooftop Solar PV Array for Net Zero Energy

This 186.3 kW array uses 540 modules to produce 201,800 kWh per year, providing a 100% net annual offset of all energy consumed in the 16-bed facility's target EUI scenario. While this option does meet commercial setback requirements, this array layout is not feasible for installation, maintenance, or providing adequate space for rooftop HVAC equipment. Therefore, an alternative system layout of the same capacity is considered with the inclusion of ground-mounted solar PV arrays.

Ground-mount solar PV arrays may provide the lowest-cost option for any solar array installation type. Due to the solar PV capacity required to offset this project's anticipated energy demand, ground-mounted arrays, in lieu of substantial building overhangs, may be the most cost-effective option, and the most feasible for installation. However, site preparation costs, including grading, trenching for conduit runs, and security provisions such as fencing, remain unknown and must be taken into consideration when comparing options. Using the target EUI of 40 kBtu/SF/year, net zero energy performance may be achieved for the 16-bed facility with a combination of rooftop and ground-mount solar PV:

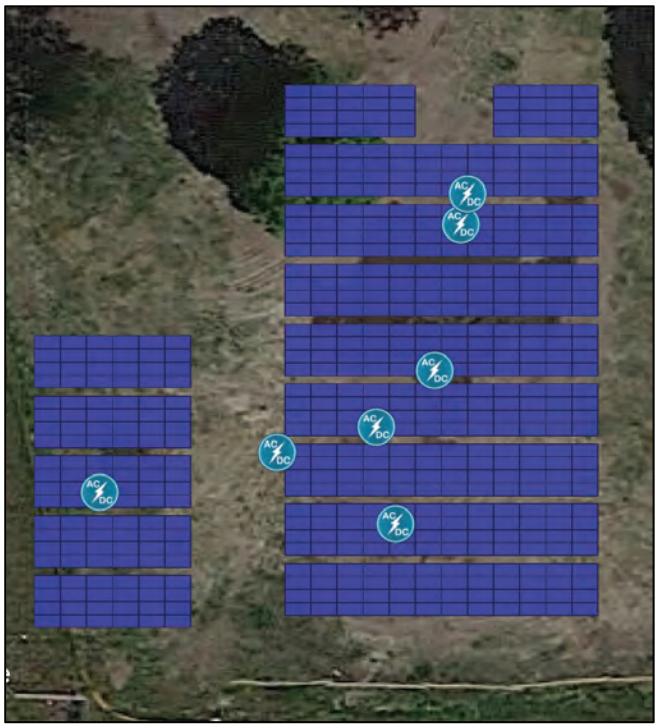


Figure 13: 186.3 kW Rooftop & Ground-mount Solar PV Array

This system configuration includes rows of solar PV stacked with 4-modules per frame at a 10-degree tilt angle, and sufficient space between rows to account for inter-row shading. Using a rough order of magnitude, low-end installation cost of $2.50/Watt and discounted buy-back rate of $0.045/kWh for solar PV arrays that are not receiving net metering at the retail rate, a 25-year cashflow analysis identifies no simple payback within the modules' warrantied lifetime:

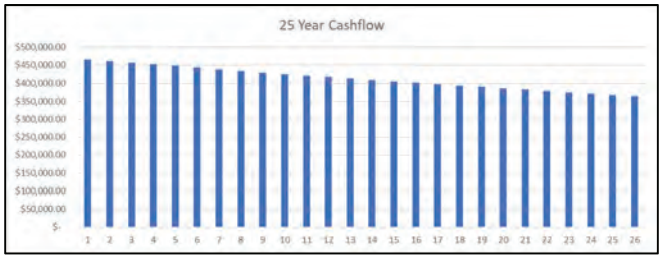


Figure 14: 25 Year Cashflow for 186.3 kW Solar PV Array

The 186.3 kW array anticipates a total installation cost of $465,750, producing an estimated 201,800 kWh/year. While the baseline EUI scenario is not anticipated for this project, primarily due to LEED v4 Silver Certification and associated energy efficiency requirements under Washington State Energy Code, achieving net zero energy under this scenario is still evaluated to demonstrate the first cost benefits of efficient building performance when pursuing net zero energy.

Option 3 – Net Zero Option for Baseline EUI

- System capacity: 332.6.3 kW (DC-Nameplate)
- Annual Production Estimate: 363,100 kWh/year
- Cost Estimate Range: $831,500 - $1,164,100

Providing a 100% net annual offset of all building energy use in baseline EUI scenario, requires a combination of rooftop and ground-mount arrays. A 332.6 kW array, producing 363,100 kW annually is estimated to achieve net zero energy for a 16-bed facility at the Fircrest site:

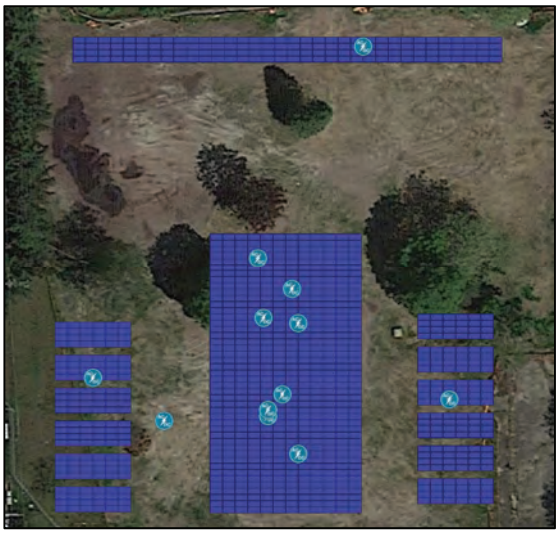


Figure 15: 332.6 kW Solar PV Array

While it may not be feasible to install this magnitude of solar PV capacity at other proposed sites for this project, a 332.6 kW solar PV installation is anticipated to achieve net zero energy under the baseline EUI scenario at the Fircrest site. However, to help gauge the installation cost of a system of this capacity and simple payback analysis from operational cost savings, a 25-year cashflow analysis is provided for consideration using the low-end unit cost of $2.50/Watt:

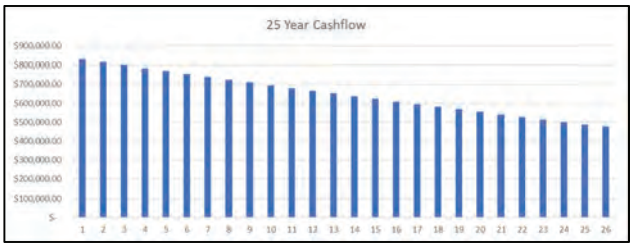


Figure 16: Cashflow Analysis for 332.6 kW Solar PV Array

This system option does not qualify for net energy metering and is anticipated to receive a discounted buy-back rate for all solar energy generated.

A typical rate structuring for power purchase agreements in Washington State is roughly half the retail rate. Using the average state-wide electric utility retail rate of $0.09/kWh, a buy-back rate of $0.045/kWh is applied, which results in a 50% simple payback by year 25.

Each solar PV array option for the 16-bed Behavioral Health Unit located at the Fircrest location, including solar capacity, production, cost and percentage offsets from each scenario, is evaluated for the recommended option:

16-Bed Facility (Fircrest)	PV Capacity (kW)	Annual Production (kWh)	Percentage Offset (Baseline EUI)	Percentage Offset (Target EUI)
Baseline EUI Option	332.6	363,100	100%	181%
Target EUI Option	186.3	201,800	56%	100%
Net Metering Option	99.4	113,500	31%	56%

Figure 17: Solar PV Array Options, Estimated Cost & Performance

Based on these results, the 'Option 1 - Net Metering Option' for a 99.4 kW rooftop-mounted solar PV array is anticipated to achieve a simple payback within the solar modules' 25-year warrantied lifetime. While future expansion of the system is still feasible, this option does not achieve net zero energy. However, if the project is able to achieve a lower EUI, net zero energy performance is attainable for this solar PV array capacity. For example, if an EUI of 23 kBtu/SF/year is achieved for the 16-bed facility, it is feasible that the 99.4 kW array option may provide a 100% offset of annual energy use, resulting in net zero energy performance.

48-Bed Facility Considerations

DSHS may opt to proceed with a 48-bed facility, which is anticipated to be three separately metered 16-bed facilities. At this early stage in the pre-design process, the 48-bed cost estimates and solar PV array capacities to achieve net zero energy are developed using the preceding analysis for a 16-bed facility.

Site constraints for the ground-mounted solar PV array options may limit the feasibility for achieving net zero energy for the 48-bed facility, especially when considering the baseline EUI. However, potential installation cost savings may be realized for the larger solar PV array capacities required to achieve net zero energy for the 48-bed facility, due to economies of scale.

Net zero energy is feasible for DSHS Behavioral Health Units in Washington State, especially with increases in solar PV module power density, decreased installation costs, and the potential for increasing utility rates. Additional programmatic opportunities may be available for DSHS to claim the benefits of off-site renewable energy systems, such as participation in the Green Direct program with Puget Sound Energy:

Figure 19: Puget Sound Energy's Green Direct Program (pse.com)

Looking holistically at the program, function and goal of the Behavioral Health Units and DSHS mission, as well as Executive Order 18-01's mandate, there is strong alignment with net zero energy for these facilities, regardless of the renewable energy procurement method. On-site renewable energy installations provide increased potential for resiliency benefits,

when considering the inclusion of battery storage and microgrid system implementation. However, participating in a program such as Green Direct offers a low risk strategy to save utility costs over time, while achieving net zero energy from a remote installation.

Site Selection & Optimization

The sites identified for the 16- and 48-bed facilities will play an important role in these projects' ability to achieve net zero energy. In particular, the buildings' massing and orientation may dictate the required capacity and system performance of on-site solar PV array. For example, orienting the facility to optimize solar potential includes considerations of current and future shading, as well as the azimuth, where a south-facing roof area provides for optimal solar PV performance. Additional coordination of rooftop equipment, such as HVAC systems may limit the available roof area for solar PV. As the building design, orientation and site selection is finalized, solar PV array capacity, location and system performance may be evaluated to achieve net zero energy. Evaluating the 16-bed facility at the proposed Maple Lane site option, net zero energy is anticipated to be feasible with a 186 kW rooftop solar PV array:

Figure 19: Maple Lane Site Option for 16-Bed Facility

The 48-bed facility is anticipated to replicate the massing and available roof area for the 16-bed facility. Therefore, net zero energy is anticipated to be feasible for both the 16- and 48-bed facilities.

Conclusion

The Washington State Department of Commerce provides a Zero Net Energy Toolkit for state agencies pursuing this performance outcome from the pre-design, design, construction and occupancy phases of a project. Tools and resources are provided to educate and empower project teams to design and develop net zero energy buildings, understand requirements, and prepare materials for funding and compliance:

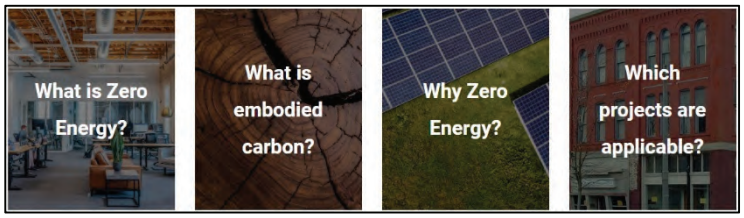


Figure 20: ZNE Toolkit Resources from WA Dept. of Commerce

Pre-design project meetings highlighted potential sites proposed for the Behavioral Health Unit facility. Each site is evaluated for solar potential below:

Site Name	Solar Potential	Notes
Fircrest	High	No southern shading, highest priority site for net zero energy
Maple Lane School	High	Partial shading to the South of proposed project location, although potential for adjacent solar PV and microgrid development with DOC
Western State Hospital	Medium	Limited or no shading at project site, prioritized for net zero energy
Echo Glen	Low	Shaded site not suitable for solar, requires tree removal is coordinated with DNR
Snohomish County Site	TBD	To be determined
Clark County Site	TBD	To be determined

Figure 21: Site Assessment Matrix Ranking Net Zero Energy Potential

Additional analysis is required for each specific site to understand potential shading or space constraints for installing solar PV. The primary focus for solar site assessment is potential shading to the south of the project location, which may obstruct solar access.

The south-west area of the Fircrest site presents no solar obstructions, resulting in 100% of the Total Solar Resource Fraction (TSRF) available for solar PV energy generation at this location. As an industry standard, solar PV installations are not recommended for project locations that present less than 75% of the TSRF at a given site. While site improvements may improve the TSRF at all proposed locations for the new facilities, the Fircrest site is evaluated for net zero energy.

The next steps for this analysis will be to finalize the roof plan during later stages of the design, coordinate HVAC equipment location, and update the solar PV array layout. Net zero energy is presumed to be achievable at the locations identified to have medium or high solar potential, pending an energy model with all specified equipment, solar PV array layout, cost estimates

and bid procurement language.

Emerging technologies such as Vehicle-to-Grid (V2G) applications for 2-way electric vehicle charging, battery energy storage systems (BESS) and demand management applications may further support the achievement of net zero energy performance.

Washington State Department of Social and Health Services

Transforming Lives

REPORT TO THE LEGISLATURE

Predicting Referrals for Competency Evaluation

As required per Engrossed Substitute Senate Bill 6032 (Chapter 299, Laws of 2018)

December 1, 2018

Facilities, Finance, and Analytics Administration
Research and Data Analysis Division
PO Box 45204
Olympia, WA 98504-5204
(360) 902-0707
http://www.dshs.wa.gov/rda

Washington State Department of Social & Health Services
Transforming lives

CONTENTS

Executive Summary

Engrossed Substitute Senate Bill (ESSB) 6032 (Chapter 299, Laws of 2018) directed the Department of Social and Health Services to develop and implement a predictive modeling tool to identify persons with behavioral health needs who are at high risk of future involvement with the criminal justice system. To meet this directive, this report describes a predictive model developed for Medicaid enrollees and the target outcome of a referral for a competency evaluation. This approach reflects several considerations including:

- The predominance of Medicaid beneficiaries in the population of persons with behavioral health needs involved in the criminal justice system;
- The potential for Medicaid-contracted integrated managed care plans and behavioral health organizations to implement behavioral health interventions to reduce the likelihood of arrest for their high-risk enrollees; and
- The urgency to improve outcomes for persons in the Trueblood class who are at risk of involvement in the forensic mental health system.[1]

Our model predicts the target outcome of a referral for competency evaluation within the following 6 months. We calibrated the model using the experience of Medicaid enrollees age 18 to 64. To parallel a risk-scoring process that could provide regularly updated risk information to Medicaid managed care plans, observations used to calibrate the model were derived from "person months" of Medicaid enrollment spanning January 2015 to December 2016. Predictive accuracy was assessed using a validation sample of coverage months spanning January 2017 to October 2017.

In addition to the competency referral outcome used to calibrate the predictive model, we constructed a broader set of outcomes to better understand the experiences of persons identified as high risk by the model. The additional outcomes examined in the six-month follow-up period included: any arrest (whether or not the arrest led to a competency evaluation referral), any psychiatric hospitalization (whether or not that hospitalization was for competency evaluation or restoration services), use of mental health crisis services, homelessness, or death.

While our final statistical model provided a satisfactory level of predictive accuracy based on conventional statistical criteria, we analyzed the validation sample to assess whether the model would be sufficiently predictive to support targeted interventions. Based on this analysis we found:

- Forensic evaluation referrals are rare. Even in the top 10 percent of the risk pool, fewer than one percent experience the outcome of a referral for a competency evaluation within 6 months.
- Extreme risk thresholds such as the top 0.1 percent or 0.01 percent of the adult Medicaid risk pool would be appropriate for intervention targeting. At these

[1] In April 2015, a federal court found in the case of Trueblood v DSHS that the Department was taking too long to provide competency evaluation and restoration services. As a result, the State has been ordered to provide court-ordered competency evaluations within fourteen days and competency restoration services within seven days. The Trueblood class includes individuals detained in local jails awaiting competency evaluation or restoration services, and individuals previously receiving competency evaluation and restoration services who are released and at-risk for re-arrest or re-hospitalization.

thresholds, 20-40 percent of the validation sample experienced a competency evaluation referral in the six-month follow-up period.

On an annual statewide basis, the top 0.1 percent risk threshold would identify about 2,000 unique individuals for intervention, while the top 0.01 percent risk threshold would identify about 300 unique individuals for intervention.

Prior experiences in the forensic mental health system are by far the most important information in predicting future competency evaluation referrals. Rapid-cycle linkage of managed care enrollment with data from the recently implemented Forensic Data System (FDS) offers the most timely opportunity for identifying enrolled Medicaid beneficiaries who are at high risk of a future competency evaluation referral. The DSHS Research and Data Analysis Division is developing processes to link FDS data with ProviderOne managed care enrollment data. It is reasonable to expect that a mechanism for regularly sharing the results of that linkage with MCOs and BHOs for their currently enrolled members could be in production by July 2019. This timeline assumes progress continues to be made to improve FDS identifier quality.

We found that about half of Medicaid beneficiaries with the highest risk of future involvement in the forensic mental health system are homeless or unstably housed. Almost all (about 90 percent) have a substance use disorder. Other important attributes of the high-risk population include:

- A high proportion are from minority groups, reflecting racial disproportionality in the criminal justice system;
- A high proportion reside in urban counties;
- High-risk Medicaid enrollees are likely to experience other adverse outcomes including an arrest or psychiatric hospitalization;
- Some high-risk Medicaid enrollees have significant physical comorbidities (about 30 percent would meet risk criteria for eligibility for the Health Home program);
- A high proportion are enrolled in Medicaid Expansion coverage, presenting favorable intervention financing opportunities due to the higher federal match available for services covered under Medicaid.

Taken together, these attributes point to targeted interventions designed to engage a diverse, complex population with significant rates of homelessness, substance use disorder, and physical condition comorbidities.

We conclude with a discussion of clinical intervention strategies that may be effective in reducing future criminal justice involvement by high-risk patients. We note that the effectiveness of these strategies is dependent on factors such as:

- Developing financing strategies, including strategies for persons who are not enrolled in Medicaid;
- Supporting the readiness of managed care organizations to receive data identifying high-risk Medicaid beneficiaries currently enrolled with them; and
- Building capacity in community behavioral health delivery systems to provide intensive services and supports for high-risk populations.

Scope and Purpose

Engrossed Substitute Senate Bill (ESSB) 6032 (Chapter 299, Laws of 2018) directed the Department of Social and Health Services to develop and implement a predictive modeling tool which identifies persons with behavioral health needs who are at high risk of future involvement with the criminal justice system. To meet this directive, this report describes the development of a predictive risk model using the target outcome of a referral for competency evaluation.

Forensic competency evaluation services are ordered when a court believes a mental disability may prevent a criminal defendant from assisting in their defense.

Competency restoration services are provided when the evaluation finds the defendant is not competent.

ESSB 6032 further directed:

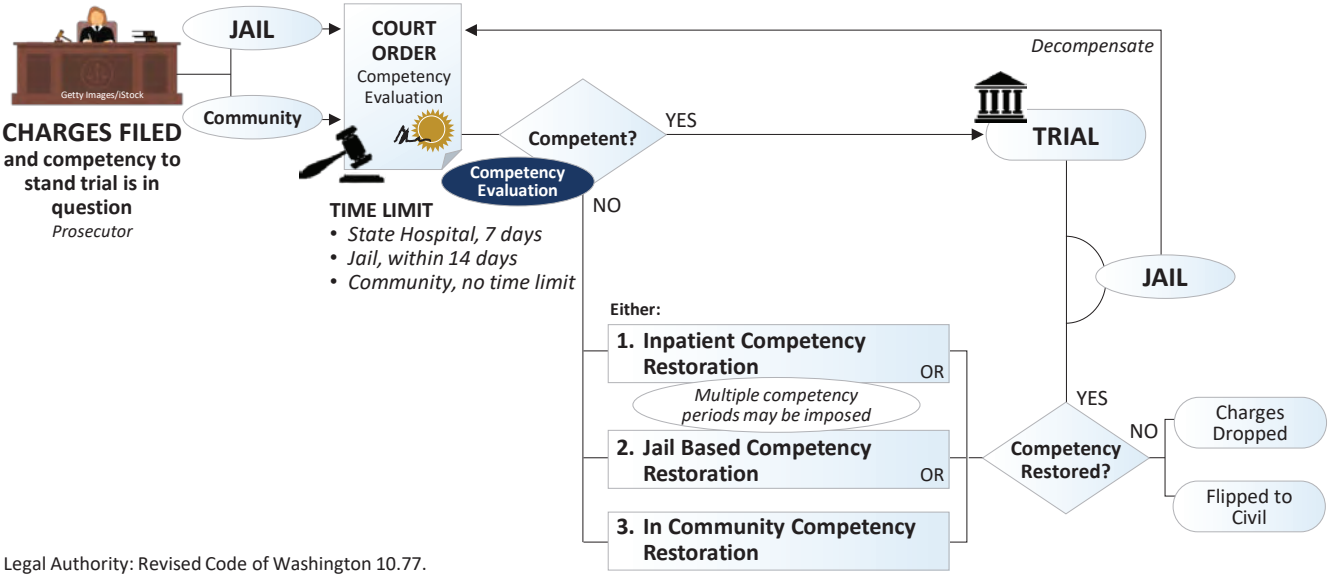
- The predictive modeling tool must be developed to leverage data from a variety of sources and identify factors that are strongly associated with future criminal justice involvement.
- By December 1, 2018, the department must submit a report to the office of financial management and the appropriate committees of the legislature which describes the following:
  - The proposed data sources to be used in the predictive model and how privacy issues will be addressed;
  - Modeling results including a description of measurable factors most strongly predictive of risk of future criminal justice involvement;
  - An assessment of the accuracy, timeliness, and potential effectiveness of the tool;
  - Identification of interventions and strategies that can be effective in reducing future criminal justice involvement of high risk patients; and
  - The timeline for implementing processes to provide monthly lists of high-risk client to contracted managed care organizations and behavioral health organizations.

The first section of this report provides background information about the forensic mental health system and its intersection with the Medicaid-funded community mental health system. The next section describes the development of the predictive modeling tool. The following section assesses the predictive accuracy of the tool, and describes the characteristics of the high-risk populations it identifies. The closing section discusses implementation considerations and evidence-based clinical intervention strategies the tool could support. Detailed predictive modeling results are provided in an appendix.

Background

The forensic mental health system operates at the intersection of the legal and behavioral health care systems, providing competency evaluation services when a court believes a mental disability may prevent a criminal defendant from assisting in their own defense, and treatment for restoration when the evaluation finds the defendant is not competent. The court will then order the defendant to receive mental health treatment to restore competency. Figure 1 provides a high-level overview of the operation of the forensic mental health system.

FIGURE 1.
Competency Evaluation/Restoration Pathway



Legal Authority: Revised Code of Washington 10.77.

In April 2015, a federal court found in the case of Trueblood v DSHS (Trueblood) that the Department was taking too long to provide competency evaluation and restoration services. As a result of the Trueblood case, the State has been ordered to provide court-ordered competency evaluations within fourteen days and competency restoration services within seven days. The Trueblood class includes individuals who are detained in city and county jails awaiting a competency evaluation or restoration services, and individuals who have previously received competency evaluation and restoration services who are released and at-risk for re-arrest or re-hospitalization.

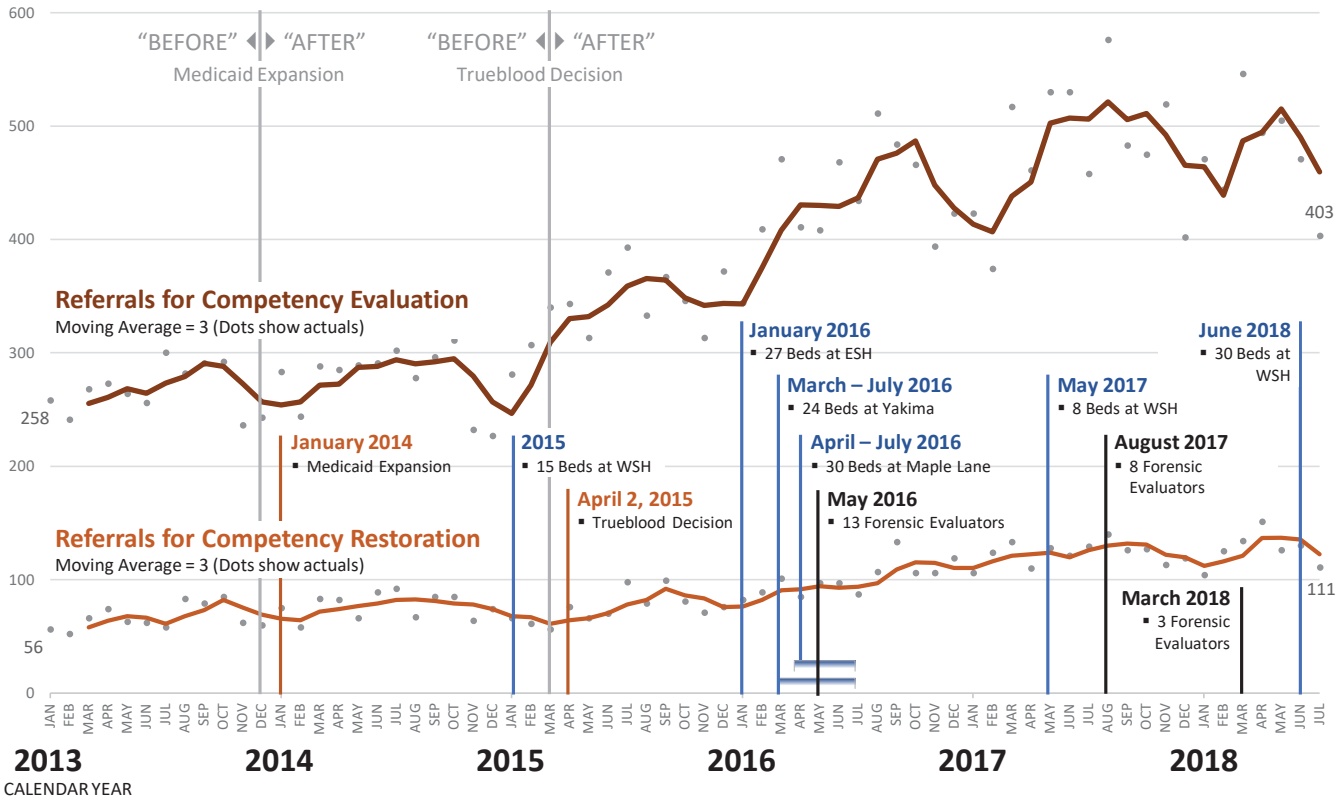
Figures 2 and 3 put recent trends in competency evaluation and restoration referrals into the context of larger trends in arrests and the timing of two changes in the criminal justice and behavioral health care systems affecting the forensic mental health system:

- Announcement of the Trueblood decision in April 2015, and
- Expansion of Medicaid eligibility under the Affordable Care Act in January 2014.

FIGURE 2.

Competency Evaluation/Restoration Referrals in a Policy Context

Washington State



NOTES: 1. Total Competency evaluation referrals includes jail, inpatients, and personal recognizance (PR) based competency evaluations. The data also includes Pierce County Evaluation Panel data from January 2016 to July 2018. **2.** Total Competency restoration referrals includes inpatient admissions to state hospitals and other competency restorations facilities.

DATA SOURCE: Total Competency restoration referrals includes inpatient admissions to state hospitals and other competency restorations facilities, September 2018.

Following the Trueblood decision, referrals for competency evaluation and restoration surged. The timing of the increase in forensic competency evaluation referrals following the Trueblood decision suggests the decision spurred changes in forensic system behavior that have resulted in rapidly rising referral trends.

Meanwhile, Medicaid Expansion has led to a significant increase in the number of persons arrested who both:

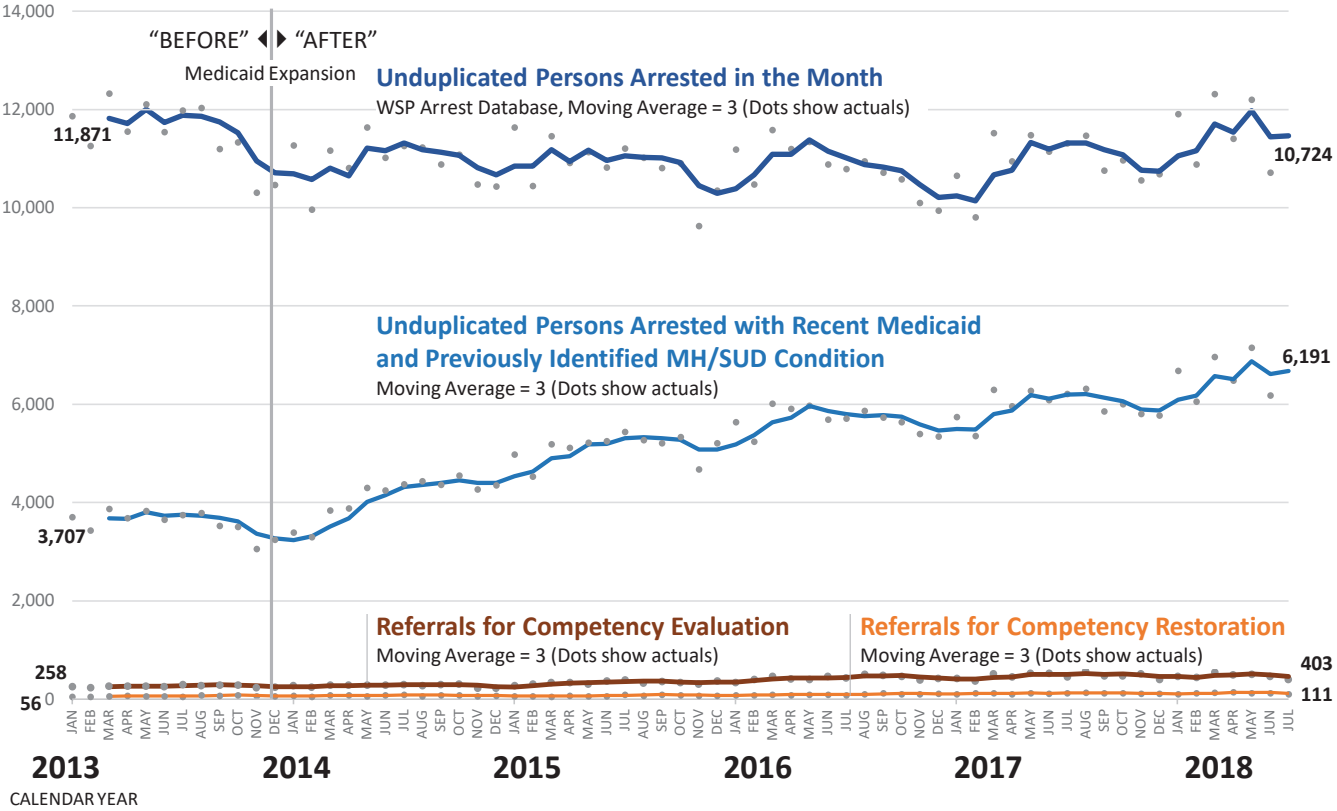
- Are currently enrolled or have recently been enrolled in Medicaid and
- Have a mental illness or substance use disorder identified in their recent Medicaid health service experience.

This phenomenon is illustrated in Figure 3 below. As of 2018, most persons arrested in Washington State are currently (or were very recently) enrolled in Medicaid and have a mental illness and/or substance use disorder identified in their Medicaid service experience (58 percent as of July 2018).

FIGURE 3.

Trend in Arrests and Competency Evaluation/Restoration

Washington State



NOTES: 1. Total Competency evaluation referrals includes jail, inpatients, and personal recognizance (PR) based competency evaluations. The data also includes Pierce County Evaluation Panel data from January 2016 to July 2018. **2.** Total Competency restoration referrals includes inpatient admissions to state hospitals and other competency restorations facilities.

DATA SOURCES: DSHS Research and Data Analysis Division, Client Outcomes Database and Washington State Patrol Arrest Database. Total Competency restoration referrals includes inpatient admissions to state hospitals and other competency restorations facilities, September 2018.

In this context, the primary conclusion we draw from Figure 3 is that reducing rates of arrest in the general population largely requires reducing arrest rates among Medicaid beneficiaries with mental illness and/or substance use disorders. In the predictive model described in the next section, we focus on the Medicaid population and the target outcome of a referral for a competency evaluation. This approach reflects a range of considerations, including:

- The predominance of Medicaid beneficiaries in the population of persons involved in the criminal justice system;
- The potential for Medicaid integrated managed care plans and behavioral health organizations to manage interventions to reduce the likelihood of arrest for their high-risk enrollees; and
- The urgency to improve outcomes for persons in the Trueblood class.

As we show later in this report, the population at high risk of a referral for a competency evaluation is also at high risk of (1) being arrested (whether or not the arrest leads to a

competency evaluation referral) and (2) being hospitalized in a psychiatric facility (whether or not that hospitalization is for competency evaluation or restoration services). In other words, the predictive model described in this report effectively identifies Medicaid beneficiaries who are at high risk of arrest or psychiatric hospitalization, in addition to their risk of a referral for a competency evaluation.

Model Development

Our model predicts the target outcome of a referral for competency evaluation within the following 6 months. We calibrated the model using the experience of Medicaid beneficiaries age 18 to 64. To parallel a monthly risk-scoring process, observations used to calibrate the model were derived from "person-months" of Medicaid enrollment spanning January 2015 to December 2016. We assessed predictive accuracy using a "validation sample" of observations derived from coverage months spanning January 2017 to October 2017.

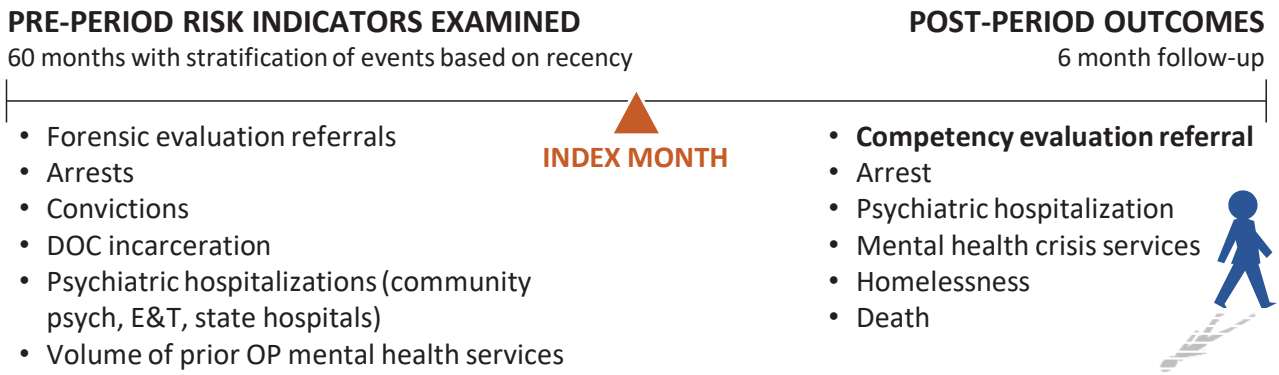
At each monthly observation point, eligible individuals were assessed to determine whether they experienced the outcome of a referral for a competency evaluation within the next six months. For example, a person who was enrolled in Medicaid for all 24 months of the calibration period would contribute 24 observations to the statistical model. In this example, if the person was referred only once for a competency evaluation in July 2016, 6 of the 24 observations used for model calibration would reflect the occurrence of the target outcome (specifically, the six observations spanning January 2016 to June 2016). The predictive model was calibrated using a stepwise logistic regression model.

Figure 4 lists the measurement domains associated with risk factors considered in the model. Most predictive risk factors reflect time-dependent experiences and were measured in time intervals relative to the "index month" associated with the observation. For example, separate indicator variables were developed for the occurrence of a forensic evaluation referral in the month prior to the index month, the second month prior to the index month, and so on. This approach reflects the temporal dimension of the relationship between a potentially predictive prior experiences and the target outcome. For example, recent prior competency evaluation referrals indicate a higher risk of re-referral than events occurring in the more distant past.

In addition to the competency referral outcome used directly in the predictive model, we constructed a broader set of outcomes to better understand the experiences of persons in the high-risk target population. As identified in Figure 4, these additional outcomes included the following experiences in the six-month follow-up period: any arrest (whether or not the arrest leads to a competency evaluation referral), any psychiatric hospitalization (whether or not that hospitalization is for competency evaluation or restoration services), use of mental health crisis services, homelessness, or death.

FIGURE 4.

Prior Risk Indicators and Future Outcomes



Model Results

The final model is described in the appendix, including regression coefficients and odds ratios. Prior competency evaluation history is by far the most important measurement domain in predicting future competency evaluation referrals, reflecting high rates of recidivism in the forensic system. Other factors with a statistically significant (positive or negative) relationship to the target outcome included: age, gender, race/ethnicity, prior DOC incarceration history, and prior psychiatric hospitalization history. Note that we dropped arrest history, adjudication history, and behavioral health diagnosis variables from our final model due to data timeliness limitations in an operational context, with minimal loss of predictive accuracy in the validation sample.[2]

We recognize the potential concerns about using race/ethnicity information in a predictive modeling context. Because our predictive model is intended to identify high-risk persons for community-based behavioral health interventions to reduce risk of arrest, it may be appropriate to use race/ethnicity information in this modeling context to support the potential to reduce racial disproportionality that currently exists in the forensic mental health system. We would seek further community input before operationalizing a predictive model using race/ethnicity information.

While our final statistical model provided a satisfactory level of predictive accuracy based on conventional "goodness of fit" criteria for logistic regression models (e.g., a c-statistic of 0.79 for our final model), we used our validation sample to further assess

[2] Restrictions on the ability to share risk factor information derived from non-conviction criminal justice data (e.g., arrest data) also motivated the exclusion of arrest and non-conviction adjudication data from the final model.

whether the model would be sufficiently predictive to be actionable in supporting care management interventions. Table 1 summarizes this exploration by describing the proportion of the validation sample experiencing the target outcome, when stratified by the predictive risk score (first in deciles, then in smaller quantiles at the highest end of the risk-score distribution).

We draw the following conclusions from Table 1:

- **Forensic evaluation referrals are rare.** Even in the top 10 percent of the risk pool, less than one percent experience the outcome of a referral for a competency evaluation within 6 months.
- **The rate of the target outcome is relatively high in the top 0.1 percent and 0.01 percent of the risk pool; these thresholds could plausibly be used for intervention targeting.** Approximately 20 to 40 percent of these groups experienced a competency evaluation referral in the six-month follow-up period.

We note that on an annual statewide basis, the top 0.1 percent risk threshold would identify about 2,000 unique individuals for intervention, while the top 0.01 percent risk threshold would identify about 300 unique individuals for intervention.

TABLE 1.

Assessing Predictive Accuracy in the Validation Sample

Validation Sample: First 10 Months of Calendar Year 2017

Predictive Accuracy in the Validation Sample by Decile

Risk Score Decile	Observations	% With Forensic Evaluation in next 6 months
1	760,910	0.01%
2	566,565	0.03%
3	1,550,852	0.02%
4	587,933	0.01%
5	679,674	0.05%
6	980,712	0.04%
7	336,197	0.06%
8	1,128,577	0.05%
9	964,303	0.10%
10	827,865	0.85%

Predictive Accuracy in the Highest-Risk Quantiles

Risk Score Quantiles	Observations	% With Forensic Evaluation in next 6 months
Top 1%	83,787	5.1%
Top 0.1%	8,383	20.6%
Top 0.01%	838	40.1%

Given that efficient intervention targeting would likely require focusing on the extreme high end of the risk distribution, the descriptive analyses that follow focus on persons in the top 0.1 percent and 0.01 percent of the 2017 validation sample. From Figures 6 through 12 we draw the following conclusions:

- The vast majority of both the top 0.1 percent and top 0.01 percent target populations experience one or more of the adverse outcomes charted in Figure

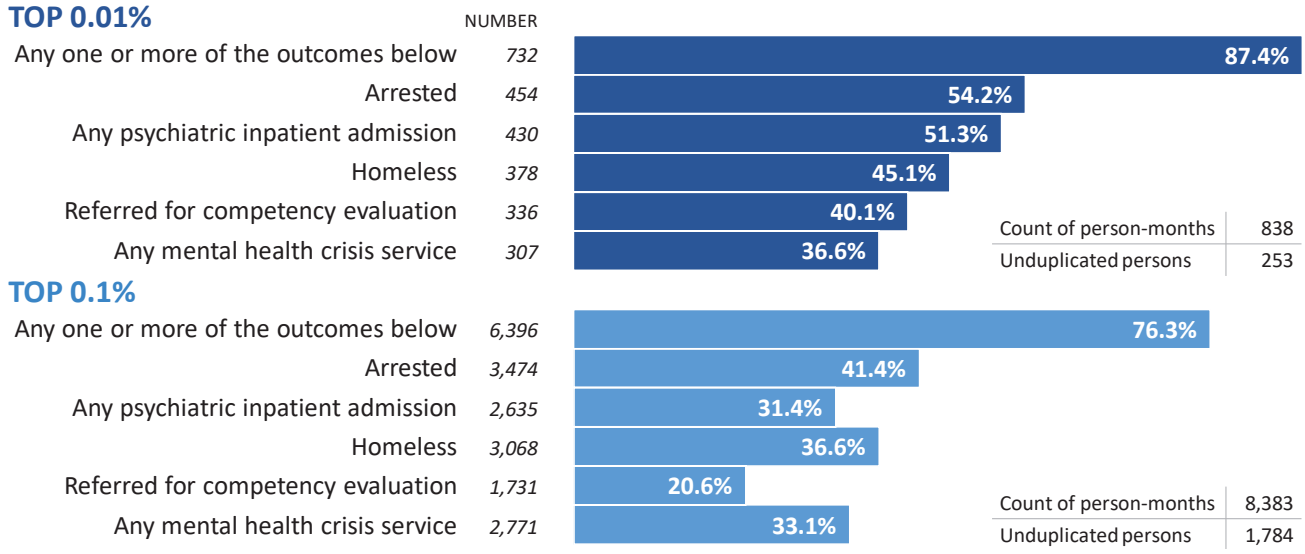
6. In particular we note that a significant proportion of each high-risk group experienced an arrest or a psychiatric hospitalization within the next 6 months.[3]

- The highest risk groups identified by the risk model are disproportionally minority (Figure 7).
- Most high-risk Medicaid enrollees are men (Figure 8).
- A large minority of each high-risk group experiences homelessness (Figure 9).
- Most high-risk group members are enrolled in "New Adult" Medicaid coverage, which means that Medicaid-funded interventions would have a relatively high federal fund share (Figure 10).
- Most high-risk group members are enrolled in managed care (Figure 11).
- A disproportionate share of the high-risk groups live in King County (Figure 12).

FIGURE 6.

Outcomes

Forensic Predictive Modeling Results: 10 Month Validation Sample



[3] Mortality rates were very low in the high-risk groups (approximately 0.5 percent in each group), and are not presented in Figure 6.

FIGURE 7.

Race/Ethnicity Distribution

Forensic Predictive Modeling Results

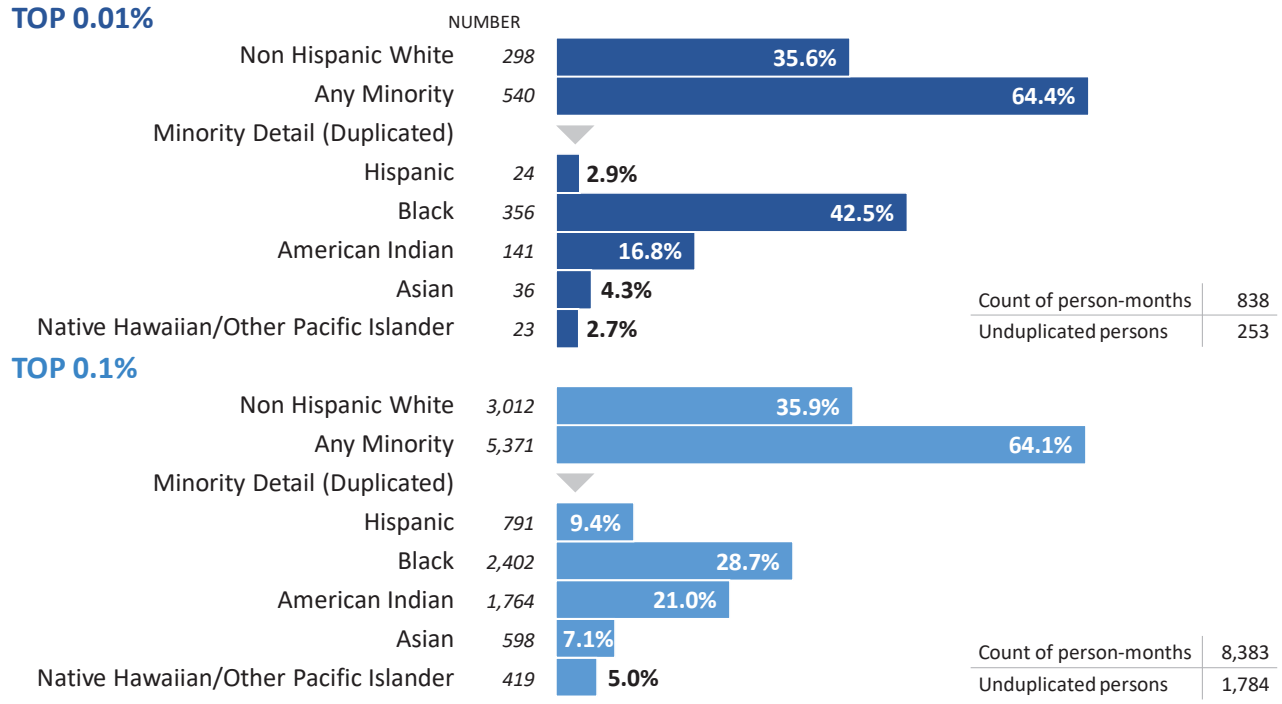


FIGURE 8.

Gender Distribution

Forensic Predictive Modeling Results

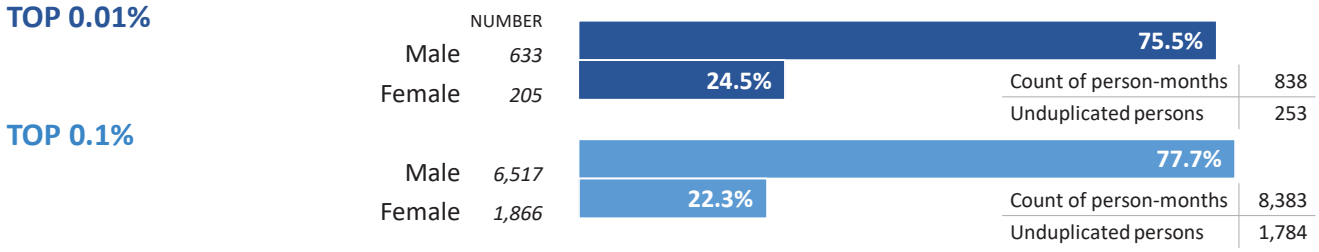


FIGURE 9.

Housing Status as of Index Month

Forensic Predictive Modeling Results

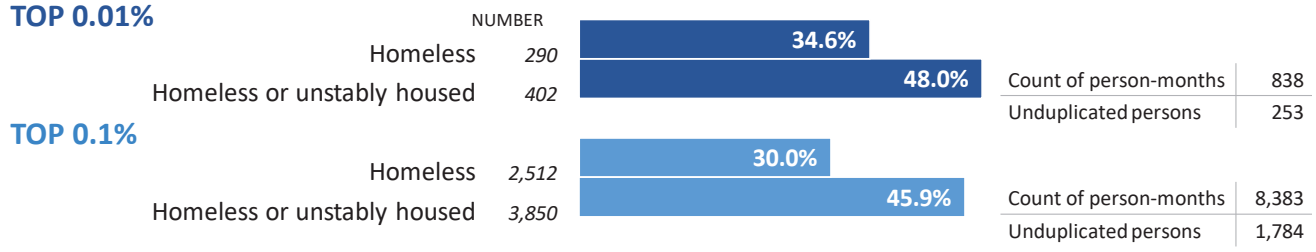


FIGURE 10.

Medicaid Coverage Group Distribution

Forensic Predictive Modeling Results

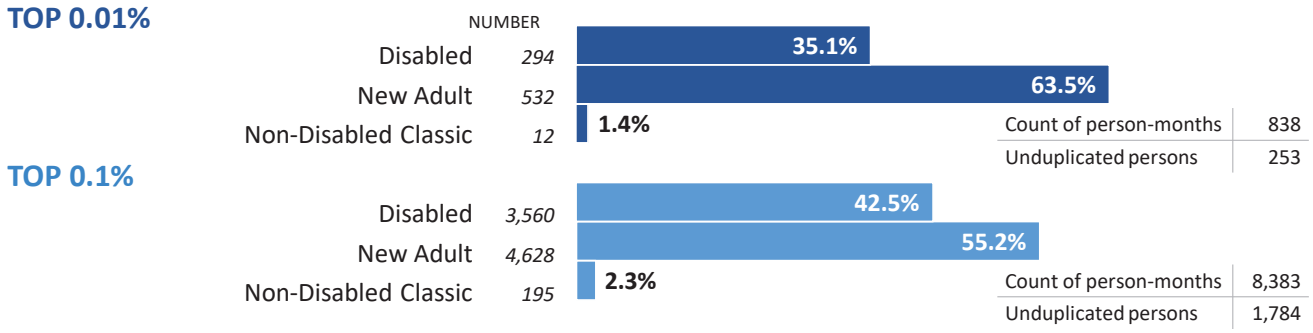


FIGURE 11.

Managed Care Plan Distribution

Forensic Predictive Modeling Results

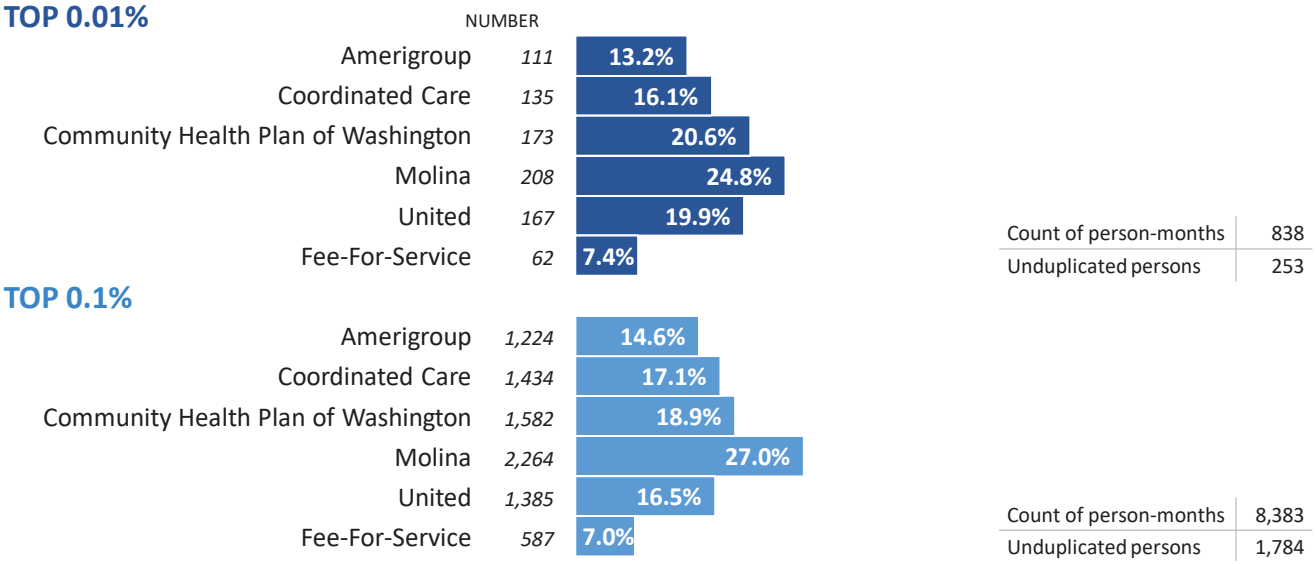
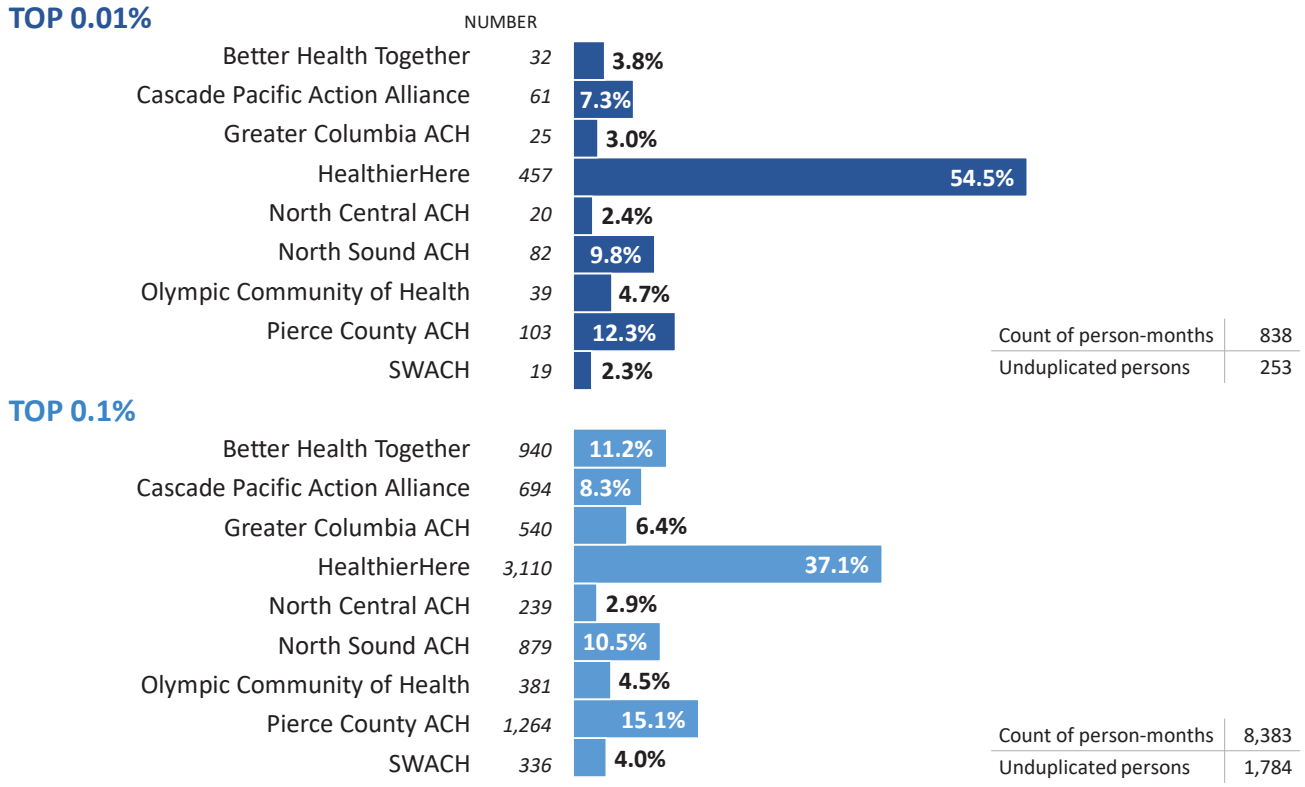


FIGURE 12.

Accountable Community of Health (ACH) Region Distribution

Forensic Predictive Modeling Results



Discussion

We have shown that most persons who are arrested in Washington State are currently (or were recently) enrolled in Medicaid, and have mental illness and/or substance use disorders identified in their Medicaid-paid health service experience. It is technically feasible to provide regularly updated Medicaid member-level data to MCOs and BHOs that would identify their currently enrolled members who are at highest risk of being arrested and referred for a competency evaluation in the near future. The risk factors contained in the predictive model described in the appendix (including incarceration and forensic evaluation data) reflect information that would be legally permissible to share with MCOs and BHOs for their currently enrolled members.

Prior experiences in the forensic mental health system are by far the most information in predicting risk of a future competency evaluation referral. Rapid-cycle linkage of managed care enrollment with data from the recently implemented Forensic Data System (FDS) offers the most timely prospect for identifying enrolled Medicaid beneficiaries who are at high risk of a competency evaluation referral. The DSHS Research and Data Analysis Division is developing processes to link FDS data with ProviderOne managed care enrollment data. It is reasonable to expect that a mechanism for regularly sharing the results of that linkage with MCOs and BHOs for

their currently enrolled members could be in production by July 2019. This timeline assumes that progress continues to be made to improve FDS identifier quality.

We found that about half of the Medicaid beneficiaries with the highest risk of future involvement in the forensic mental health system are homeless or unstably housed. An even larger proportion (about 90 percent) have a substance use disorder. Based on this profile, we would expect the high-risk population to be challenging to find and engage in services. We note that from a client-finding perspective, MCOs and BHOs have access to their internal encounter data and case management systems, and the state-operated PRISM application, which provide them with information about primary care providers and other current treating providers (to the extent the identified high-risk member has recently received care). Leveraging this information may be an avenue to more current means of contact for some high-risk, unstably housed members.

Other important attributes of the high-risk population include:

- A high proportion are from minority groups, reflecting racial disproportionality in the criminal justice system;
- A high proportion reside in urban counties;
- High-risk Medicaid enrollees are likely to experience other adverse outcomes including arrest or psychiatric hospitalization;
- Some high-risk Medicaid enrollees have significant physical comorbidities, and about 30 percent would meet PRISM risk score criteria for eligibility for the Health Home program;
- A high proportion are enrolled in Medicaid Expansion coverage, presenting favorable intervention financing opportunities due to the higher federal match available for services covered under Medicaid.

Taken together, these attributes point to targeted interventions designed to engage a diverse, complex population with significant rates of homelessness, substance use disorder, and physical condition comorbidities.

We conclude with a discussion of intervention strategies that may be effective in reducing future criminal justice involvement by high-risk Medicaid enrollees. We note that the effectiveness of these strategies is dependent on factors such as:

- Developing intervention financing and implementation strategies, including strategies for persons who are not enrolled in Medicaid;
- Supporting the readiness of managed care organizations to receive data identifying high-risk Medicaid beneficiaries currently enrolled with them; and
- Building additional capacity in community mental health and SUD treatment delivery systems to provide intensive services and supports for high-risk populations.

With regard to specific potential intervention strategies, we begin with consideration of the Assertive Community Treatment program (also known as the Program of Assertive Community Treatment, or PACT). PACT is a model of community care intended for

persons who experience severe and persistent symptoms of mental illness (e.g., repeated hospitalization). PACT provides a comprehensive range of services from a treatment team typically consisting of a medication prescriber, case manager, mental health professional, peer specialist, and team leader. Supported employment and vocational rehabilitation are also an aspect of PACT.

PACT has been evaluated in a large number of randomized trials, and results suggest it is effective in reducing hospitalizations, costs no more than care-as-usual, and is more satisfactory to consumers and their families (Boust, Kuhns, & Studer, 2005 in Stout and Hayes, Eds.). Although scoring poorly from a benefit/cost model perspective, the Washington State Institute for Public Policy (WSIPP) found PACT is effective in reducing homelessness and psychiatric hospitalizations. WSIPP benefit-cost analyses have also found employment counseling and job training services (in the context of transitional reentry from incarceration into the community) are effective at increasing earnings, reducing technical violations of conditional release, and are cost-effective.

Our forensic risk model found both homelessness and prior psychiatric hospitalizations to be predictors of future competency evaluation referrals. Given that the PACT model has been shown to reduce rates of homelessness and psychiatric hospitalization, there is evidence to suggest it could reduce the risk of referral for competency evaluation. While Washington State currently has a PACT program for adults with serious mental illness, wider targeted implementation of this program may lessen the number of competency evaluation referrals and help Medicaid beneficiaries avoid involvement in the forensic mental health system.

While research indicates the PACT model is effective in reducing patient rehospitalization and in increasing stable housing (Baronet & Gerber, 1998; Bedell, Cohen, & Sullivan, 2000; Bond et al., 2001; Gorey et al., 1998; Herdelin & Scott, 1999; Latimer, 1999; Marshall & Creed, 2000; Ziguras & Stuart, 2000), some have argued the PACT model can be strengthened by incorporating recovery-focused clinical interventions, such as Illness Management and Recovery (IMR; Gingreich & Muser, 2005) into the PACT model. IMR is an evidenced-based intervention designed to improve consumers' self-management of their mental illness (McGuire et al., 2013). IMR includes psychoeducation (i.e., teaching consumers about mental illness and treatment), cognitive-behavioral therapy (see below), and motivational interviewing (i.e., technique to increase consumers' motivation to participate in treatment (McGuire et al., 2016; Salyers et al., 2009). Consumers are considered to be active members of their treatment team and are encouraged to make their own informed choices (Gingreich and Muser, 2005). A recovery orientation is adopted, in which treatment team members help consumers reestablish their sense of self, find their place in society, and reach their full potential (McGuire et al., 2016).

Evidence suggests IMR can be successfully incorporated into the PACT model (Salyers et al., 2009, 2010). For example, Salyers et al. (2009) found IMR was successfully integrated into PACT teams at six of seven studied sites, and five sites achieved high fidelity scores (i.e., full integration of IMR into PACT model) within one year. In addition, consumers demonstrated significant positive changes in their illness management skills and sense of hope. A meta-analysis completed by WSIPP (2017) found IMR had a

positive benefit/cost ratio. As consumers' improved self-management of their mental illness could reduce the risk of psychiatric decompensation and hospital readmission, integration of IMR in the PACT model may indirectly reduce competency referrals, as both psychotic symptoms and psychiatric hospitalization are predictive of competency referrals.

Cognitive-behavioral therapy for psychosis (CBTp) may also indirectly decrease Washington's competency referrals. Cognitive-behavioral therapy for psychosis (CBTp) is an evidence-based treatment designed to target psychotic symptoms (e.g., hallucinations, delusions) that persist despite treatment with antipsychotic medications (Velligan, 2009). It involves the use of cognitive techniques to change consumers' maladaptive thoughts, feelings, and behaviors, as well as behavioral strategies to target their negative symptoms (e.g., reduced emotional expression; social withdrawal). Consumers are taught coping strategies, problem-solving skills, social skills, and relapse prevention strategies. Multiple meta-analyses indicate CBTp is effective in reducing psychotic symptoms, as well as improving consumers' quality of life, self-esteem, and coping strategies (Hofmann, Asnaani, Vonk, Sawyer, & Fang, 2012; Sarin, Wallin, & Widerlöv, 2011; Turner, van der Gaag, Karyotaki, & Cuijpers, 2014; Wykes, Steel, Everitt, & Tarrier, 2008). A meta-analysis completed by the Washington State Institute for Public Policy (2017) found CBTp had a positive benefit/cost ratio.

However, as many consumers in the community do not have access to mental health providers with training in CBTp, attention has been devoted to the delivery of low-intensity, or brief, CBTp (Bennett-Levy et al., 2010). In brief CBTp, non-therapist providers are taught a simplified version of CBTp so they can incorporate CBTp therapeutic techniques into their work with patients without going outside their scope of practice. For example, psychiatrists could include these strategies with patients during medication management sessions or case managers could incorporate them into their regularly scheduled client interactions (Montesano et al., 2014).

Studies on the efficacy of brief CBTp generally found the incorporation of CBTp into treatment resulted in significant improvements in patients' psychotic symptoms, depressive symptoms, social functioning, overall quality of life, and insight into their mental illness (Nareem et al., 2016; Turkington et al., 2002, 2014; Waller et al., 2013). In addition, both Nareem et al. (2016) and Waller et al. (2016) found the moderate effects (i.e., strength of the relationship) observed were maintained after patients completed brief CBTp treatment.

Similar to IMR, the incorporation of brief CBTp into PACT may be beneficial to both patients and treatment providers. As case managers tend to spend more time with patients than other mental health professionals in community mental health clinics (Sivec et al., 2017), incorporating brief CBTp into Washington's PACT program would make a potentially efficacious treatment more accessible to patients (Bond & Dryden, 2005). In addition, this would be cost-effective for community programs, as fewer doctorate-level psychologists would need to be employed to provide individualized treatment for active mental health symptom (Sivec et al., 2017). As psychotic symptoms predict inpatient hospitalizations and inpatient hospitalizations predict competency

referrals (Beard et al., 2016; Sfetcu et al., 2017), the integration of brief CBTp and PACT may indirectly reduce the number of Washington's competency referrals.

Finally, there may be ways to reduce the number of competency referrals in Washington that do not involve psychiatric interventions. For example, although there is no known data on the number of cases referred for forensic evaluation at arraignment, anecdotal evidence suggests the number is quite high in certain jurisdictions. Many defendants may be under the influence of mind-altering substances at the time of arrest. Their behavior and cognition may continue to be affected at the time of arraignment, resulting in a referral for a competency evaluation. However, these behavioral and cognitive effects may abate once the defendant is no longer under the influence of substances, at which time the competency evaluation may no longer be deemed necessary. Deferring competency evaluation requests until the defendant has had time to undergo managed withdrawal (while considering defendants' rights to due process) might reduce some potentially avoidable competency evaluation referrals.

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Appendix

APPENDIX TABLE 1.

Final Model Parameter Estimates and Odds Ratios

Model Calibration Data: Calendar Year 2015 – Calendar Year 2016

Variable	Coefficient	Odds Ratio Estimate
Intercept	-7.0944	
Age 25 – 29, relative to Age 18 - 24	0.0906	1.095
Age 40 – 44, relative to Age 18 – 24	-0.1193	0.888
Age 45 – 49, relative to Age 18 – 24	-0.1772	0.838
Age 50 – 54, relative to Age 18 – 24	-0.3186	0.727
Age 55 – 59, relative to Age 18 – 24	-0.4478	0.639
Age 60 – 64, relative to Age 18 – 24	-0.6550	0.519
Female, relative to Male	-0.8981	0.407
Black	0.4428	1.557
American Indian	0.4905	1.633
In DOC facility, prior 7 to 12 months	0.3323	1.394
In DOC facility, prior 13 to 24 months	0.2292	1.258
In DOC facility, prior 25 to 36 months	0.2673	1.306
In DOC facility, prior 37 to 60 months	0.6374	1.892
Forensic State Hospital admit, prior 4-6 months	0.7290	2.073
Forensic State Hospital admit, prior 7-12 months	0.7076	2.029
Forensic State Hospital admit, prior 25-36 months	0.9061	2.475
Forensic State Hospital admit, prior 37-60 months	0.7904	2.204
Civil State Hospital admit, prior month	-1.1683	0.311
Com. Psych admit, 1 month prior	0.8756	2.400
Com. Psych admit, 2 months prior	0.7053	2.024
Com. Psych admit, 3 months prior	0.5617	1.754
Com. Psych admit, 4-6 months prior	0.6663	1.947
Com. Psych admit, 7-12 months prior	0.7887	2.201
Com. Psych admit, 13-24 months prior	0.7437	2.104
Com. Psych admit, 25-36 months prior	0.5836	1.793
Com. Psych admit, 37-60 month prior	0.6003	1.823
E&T admit, 1 month prior	0.6797	1.973
E&T admit, 2 months prior	0.6174	1.854
E&T admit, 4-6 months prior	0.5205	1.683
E&T admit, 7-12 months prior	0.9505	2.587
E&T admit, 13-24 months prior	0.6787	1.971
E&T admit, 25-36 month prior	0.8907	2.437
E&T admit, 37-60 month prior	0.3240	1.383
Forensic State Hospital discharge, 13-24 months prior	0.5755	1.778
Forensic State Hospital discharge, 25-36 months prior	0.5733	1.774
Civil State Hospital discharge, 1 month prior	0.7664	2.152
Civil State Hospital discharge, 4-6 months prior	0.5704	1.769
Civil State Hospital discharge, 7-12 months prior	0.8159	2.261

Civil State Hospital discharge, 13-24 months prior	0.3260	1.385
Civil State Hospital discharge, 37-60 month prior	0.5662	1.762
Homeless without housing, 1 month prior	0.5611	1.753
Homeless without housing, 7-12 months prior	0.2494	1.283
Homeless without housing, 25-36 months prior	0.2533	1.288
Homeless with housing, 1 month prior	0.8785	2.407
Homeless with housing, 7-12 months prior	0.1731	1.189
Homeless with housing, 13-24 months prior	0.2973	1.346
Homeless with housing, 37-60 months prior	0.2593	1.296
Competency evaluation referral, 1 month prior	3.2568	25.967
Competency evaluation referral, 2 months prior	1.7282	5.630
Competency evaluation referral, 3 months prior	1.5506	4.714
Competency evaluation referral, 4-6 months prior	1.8563	6.400
Competency evaluation referral, 7-12 months prior	1.6106	5.006
Competency evaluation referral, 13-24 months prior	1.8805	6.557
Found not competent, 1 month prior	-1.1486	0.317
Found not competent, 13-24 months prior	-0.2655	0.767
Other competency evaluation disposition, 2 months prior	0.9482	2.581
Other competency evaluation disposition, 3 months prior	0.8289	2.291
Other competency evaluation disposition, 7-12 months prior	0.2854	1.330

A.5 2021 FIRCREST SCHOOL LAND USE ASSESSMENT

Fircrest School
Land Use Assessment

A Report for the Washington State Office of Financial Management

January 15, 2021

Prepared By

MAKERS architecture and urban design

Heartland

Schemata Workshop

Perteet

Transpo

The Watershed Company

MAKERS
architecture · planning · urban design

Abbreviations

- The Fircrest School Campus (campus) – Note: This refers to the entire site, not just areas currently used by the Fircrest School)
- Fircrest Residential Habilitation Center (Fircrest RHC)
- Department of Social and Health Services (DSHS)
- Department of Health (DOH)
- Public Health Laboratories (PHL)
- Department of Natural Resources (DNR)
- City of Shoreline (City)
- Fircrest School Land Use Assessment consultant team (consultants)
- Fircrest School Nursing Facility (nursing facility)
- Behavioral health center or behavioral health facility (BHC)
- Fircrest School Campus Master Plan Phase III - 2017 (Phase III Master Plan)
- Recommendations on the Underutilized Portions of the Fircrest Campus - 2019 (2019 Recommendations)

Contents

This report contains the following sections and content:

Appendices

Section 1

Executive Summary

In 2020, the Washington State Legislature passed a proviso to the capital budget that directed the Office of Financial Management to hire an independent consultant to conduct a land use assessment for the Fircrest School. (See Section 2 for the full text of the proviso.) This proviso stated that the consultant must work with the Department of Health (DOH), the Department of Social and Health Services (DSHS), the Department of Natural Resources (DNR), and the City of Shoreline (City) to accomplish the following:

> *(a) Identify a site for a single-story nursing facility with a minimum of one hundred twenty beds and a site for a two-story nursing facility with a minimum of one hundred twenty beds, with an analysis of any corresponding staffing needs and the needs of the residents to ensure a sense of community and mobility;*
>
> *(b) Identify potential sites for up to a forty-eight-bed behavioral health facility; and*
>
> *(c) Maximize the long-term revenue generating opportunities of the campus property while taking into consideration the infrastructure needs to accomplish the proposed development outlined in this subsection.*[1]

This report responds to the proviso by:

1. presenting background and real estate economic information necessary for analyzing alternate development scenarios;
2. evaluating different facilities and private development options for both individual parcels and the whole campus; and
3. outlining a process for constructing nursing and behavioral health facilities and developing portions of the site for private uses.

Analytical Uncertainties

Assessing the value of lands is complicated by the fact that significant addition of DSHS facilities or commercial or residential development requires an agreement with the City of Shoreline (City). Currently the Fircrest School campus (campus) is zoned Fircrest Campus Zone (FCZ) which does not allow commercial or residential development. Construction of nursing facilities, housing for disabled persons, and similar uses requires a Master Development Plan that meets specific City criteria. The City has indicated that part of such a development agreement must address the City's objectives for active park space and employment-producing commercial development. Moving forward with development of DSHS facilities or for revenue generation will require a comprehensive plan amendment and rezoning of the property. It appears that this can be most efficiently accomplished through reaching a "development agreement" with the City, on which a comprehensive plan amendment and zoning designation(s) are based. Because it is not currently known what the City will ultimately permit in terms of private redevelopment or the price it will be willing to pay for park land, the figures in this report are generated from the planning team's best assumptions based on current information regarding the campus's physical conditions and the regulatory context affecting land use.

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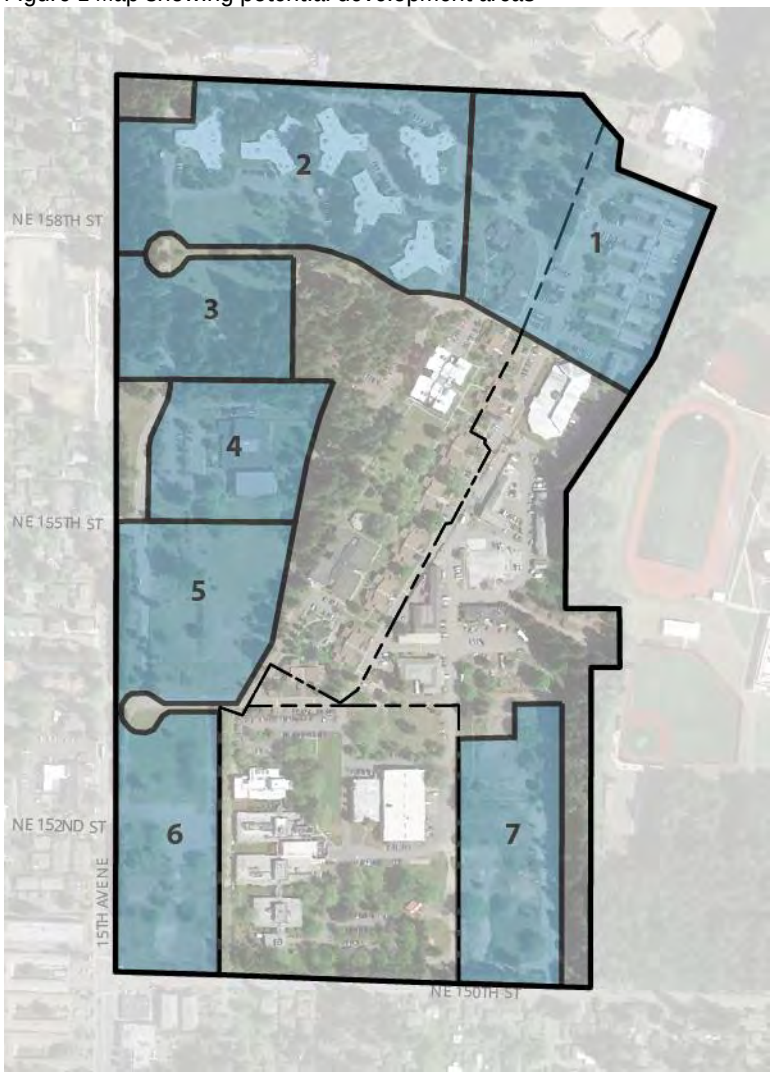
[1] Washington Senate, *Fircrest School Land Use Assessment (92000035) (SB 6248)* (Olympia, Washington: 2020), 48.

Alternative Evaluation

The consultants divided the campus into seven potential areas (Areas) for development and assessed the opportunities and challenges of each. Figure 2 illustrates the individual areas of the campus that this report explored.

Figure 1 Map showing potential development areas



The consultants then developed three campus-wide site planning alternatives, which were analyzed by project stakeholders. **Error! Reference source not found.** summarizes that analysis. Sections 6 and 7 of t his report describe other considerations regarding future DSHS facilities.

Table 1 Summary chart comparing the three comprehensive alternatives

CHARACTERISTIC	ALTERNATIVE		
	1. 2 Story Nursing on Madrona (Area 3)	2. 1 or 2 story Nursing on NE Corner (Area 1)	3. 1 Story Nursing on Madrona (Area 3)
LEGEND Nursing Fac BHC Multifamily residential Townhomes Commercial			
Potential Land Value	$49 million - $57.4 million	$50.8 million - $58.9 million	$42.2 million - $49.7 million
Implications for DSHS	+ Madrona site (Area 3) is DSHS preferred location + NE corner is DSHS preferred location for BHC - Two-story nursing facility is not preferred DSHS configuration - Very little expansion space - Site is separated from many other Fircrest School buildings and facilities	+ The NE Corner (Area 1) is flat and near the kitchen + A two-story nursing facility provides expansion space + The site provides open space for residents - The NE corner is not the DSHS preferred nursing facility location - $1.5 million additional cost for stormwater pipe relocation	+ DSHS preferred location and configuration + DSHS prefers BHC in NE corner + DSHS prefers one-story nursing facility - Very little expansion space - Site separated from campus - Site is separated from many other Fircrest School buildings and facilities
Implications for DNR	+ Development produces $42.6 million– $48.9 million to CEP&RI Trust	+ Development provides $50.8 million - $58.9 million to CEP&RI Trust	- Development provides $35.8 million- $41.2 million to CEP&RI Trust.
Implications for City	+ Park at SW corner (Area 6) + Commercial development + Retains some Madrona site trees	+ Park on Madrona site + Commercial development + Retains Madrona site trees	+ A park or park + soundstage on the SW corner + Commercial development on the SE corner (Area 7) - Loss of Madrona site trees
Other Considerations	+ Avoids residential next to PHL + Yields approx. $6.4 million - $8.5 million for Dan Thompson Account - Park at SW rather than SE corner reduces income to the State overall	+ Avoids residential next to lab + Park on Madrona benefits new residential development and saves an important stand of trees - There is no revenue for Dan Thompson Account	+ Avoids residential next to PHL + Yields approx. $6.4 million - $8.5 million for Dan Thompson Account - Park at SW rather than SE corner reduces income to the State overall

Agency and City Reactions

DSHS has indicated a preference for the facilities layout in Alternative 3 with a 1-story nursing facility on the Madrona site (wooded area north of the Activities Building) and the behavioral health center (BHC) in the northeast corner (current site of the ATP building). All three alternatives appear to address the City's objectives for new park land and employment-producing commercial development.

Recommended Development Process

The recommended process for moving forward with facilities improvements and land development is described in Section 9 and summarized below:

Phase 1: Site Planning Decisions and Development Agreement with the City

a. Determine the preferred locations and configurations of the nursing and BHC and identify the optimum uses on other portions of the campus.

b. With the City of Shoreline agree on a process to prepare a development agreement as noted in "c" below.

c. Work with the City of Shoreline to reach a development agreement that defines the zoning and applicable development regulations and conditions for the various areas along with an agreed upon price for the land to be transacted to the City for a park. SEPA analysis should be accomplished at this time to identify all conditions necessary for development

d. (The City) adopt necessary comprehensive planning and zoning amendments based on the development agreement, and State and City implement land transactions as applicable.

Phase 2: Private Sector Investment

a. Determine how the State would develop land for state facilities or public or private uses. (Section 8 describes the relative implications or sale or ground lease options).

b. Conduct a phased program of land transactions such as sale or lease, including the following steps:
   i. Pre-Market Preparation. Conduct due-diligence and prepare marketing information.
   ii. Marketing. Implement a variety of activities over an 18-month period.
   iii. Negotiation and Documentation. Receive letters of intent from prospective developers, select a proposal, and complete a purchase and sale agreement (PSA).
   iv. Pre-Closing Management. Monitor permitting and ensure pre-closing conditions are met.
   v. Post-Closing Management. Ensure that conditions of the PSA are met.

Other Observations

- The development agreement with the City, comprehensive plan amendment, rezoning, and park land transaction should occur concurrently and should consider the whole State-owned campus (including DOH facilities), rather than individual parcels.
- The State would likely achieve greater value from lands if departmental revenues were not tied to specific trust or account lands.

- The State may use the values for different private uses on applicable parcels as described in Sections 5 and 6 to evaluate different options, conditions, and park land prices when working with the City on a development agreement.
- The Fircrest Residential Habilitation Center site is a unique resource for the State, the community, and the region. With its mature trees, gentle slopes, and views, the property is very attractive for a variety of activities. While consideration was given to the compatibility of adjacent developments, this report necessarily focuses on exploring potential uses in individual areas. Further development planning work should consider how individual development actions can be integrated to maximize the functional, environmental and aesthetic assets of the campus as a whole.

Section 2

Introduction

In 2020, the Washington State Legislature passed a proviso to the capital budget that directed the Office of Financial Management to hire an independent consultant to conduct a land use assessment for the Fircrest School. The proviso states:

> *(1) The appropriation is provided solely to contract with an independent consultant that is agreed to by both the department of social and health services and the department of natural resources to assess potential land development opportunities for the Fircrest residential habilitation center and submit recommendations to the governor, the house capital budget committee, and the senate ways and means committee by November 1, 2020. The contract is exempt from the competitive procurement requirements in chapter 39.26 RCW.*
>
> *(2) The consultant must work with the department of health, department of natural resources, the department of social and health services, and the city of Shoreline.*
>
> *(3) The consultant recommendations must accomplish the following goals:*
>
> > *(a) Identify a site for a single-story nursing facility with a minimum of one hundred twenty beds and a site for a two-story nursing facility with a minimum of one hundred twenty beds, with an analysis of any corresponding staffing needs and the needs of the residents to ensure a sense of community and mobility;*
> >
> > *(b) Identify potential sites for up to a forty-eight bed behavioral health facility; and*
> >
> > *(c) Maximize the long-term revenue generating opportunities of the campus property while taking into consideration the infrastructure needs to accomplish the proposed development outlined in this subsection (3).*
> >
> > *(4) A secondary recommendation may be submitted by the consultant that includes maximizing the long-term revenue generating opportunities of the campus property while taking into consideration the infrastructure needs to accomplish the proposed development outlined in subsections (3)(a) through (b) of this section and compatibility with the needs of the department of social and health services and the department of health, including the needs of the individuals they serve.*
> >
> > *(5) It is the intent of the legislature to prioritize up to $125,000,000 in funding for the nursing facility replacement on the Fircrest residential habilitation center campus in the 2021-2023 fiscal biennium.*[2]

OFM hired MAKERS architecture and urban design to lead an interdisciplinary team of consultants (consultants) to work with the stakeholders named above and make land use assessment recommendations for the campus. The following report outlines the process and products of this study.

Property Overview

The Fircrest School campus (campus) is a 92-acre site owned by Washington State and located in a residential area within the City of Shoreline. It is adjacent to two parks, Hamlin Park to the north and South Woods to the southeast, as well as two schools that are east of the site: Kellogg Middle School and

[2] Washington Senate, *Fircrest School Land Use Assessment*, 48.

Shorecrest High School. A major arterial, 15th Avenue S, runs along the west side of the campus and NE 150TH Street provides access to the southern portion of the site.

The large campus has varied topography, with sloped areas both within and at the edges of the site, many of which are forested with large, mature trees. The site also includes several open, relatively flat areas, particularly in the southeast, the southwest, the northeast, and a portion of the northwest corner of the site.

The primary use of the site today is by the Fircrest School, a residential habilitation center (RHC) that provides long-term nursing care, supported independent living, and job training for people with developmental disabilities. The Washington State Department of Social and Health Services (DSHS) manages the school, which serves approximately 200 residents.[3]

Figure 2 Image of the Fircrest School campus and surrounding neighborhood in Shoreline, Washington

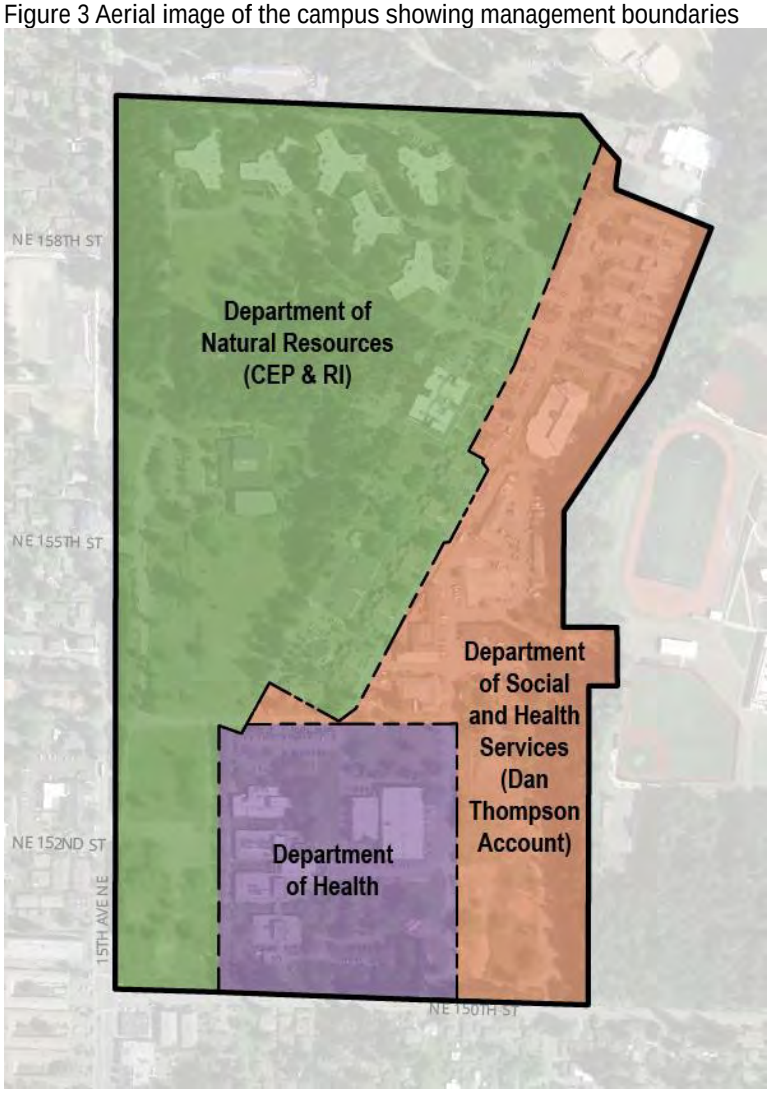
Also located on the campus are the Public Health Laboratories (PHL), operated by the Washington State Department of Health (DOH). The laboratories support several of the state's public health programs, including newborn health screening, testing and outbreak tracking for infectious diseases, and testing for

[3] Washington Department of Social & Health Services (DSHS) , *Fircrest School Campus Master Plan Phase III (2016-437)* (Olympia, Washington: 2017).

environmental contaminants. The PHL is located on a separate parcel from the Fircrest School and the site is owned by DOH.

Two different legal frameworks guide the management of campus lands outside of DOH's property. DSHS manages the Dan Thompson Memorial Developmental Disabilities Community Services Account (Dan Thompson Account) to help support individuals living with developmental disabilities that use community-based services.[4] The Washington Department of Natural Resources (DNR) manages much of the western portion of the site through the Charitable Education, Penal and Reformatory Institutions (CEP & RI) Trust. These lands generate revenue and support certain state institutions, including those managed by the Department of Corrections and DSHS.[5] DNR leases the land to DSHS at no cost and several Fircrest RHC facilities are located there, including the existing long-term care nursing facility.

Figure 3 Aerial image of the campus showing management boundaries

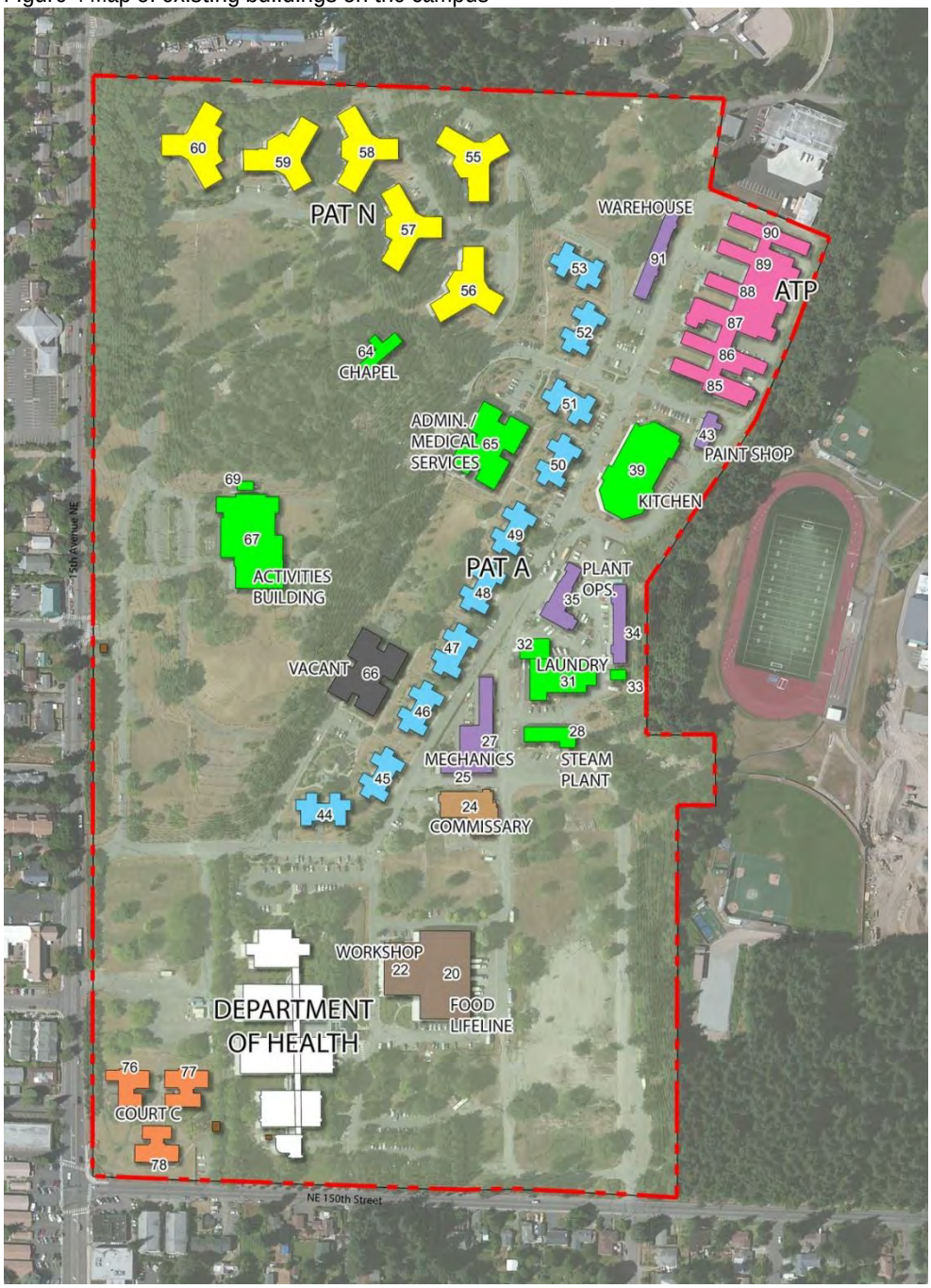


[4] Washington State Department of Natural Resources (DNR), *Recommendations on the Underutilized Portions of the Fircrest Campus* (Olympia, Washington: 2019), 4.
[5] DNR, *Recommendations 2019*, 3.

Future Needs and Opportunities

The Fircrest Residential Habilitation Center (RHC) has two residential programs; a nursing facility that provides individualized healthcare and activities to persons who have unique medical needs (Pat N in Figure 4), and an intermediate care facility for individuals with intellectual disabilities (ICF/ID) that provides individualized habilitative services. (Pat A in Figure 4.)

Figure 4 Map of existing buildings on the campus



Map of existing buildings from the Fircrest School Campus Master Plan Phase III (Phase III Master Plan)

Several of the Fircrest RHC facilities are aging and many will require extensive upgrades or replacement in the coming years. DSHS initiated a multi-phase master planning process for the Fircrest School in 2010, identifying building and infrastructure improvement needs, as well as potential future uses of the site. Phase III of this multi-year master planning effort was completed in 2017, and focused on immediate facility needs, such as the replacement of the nursing facility and the relocation of the ATP functions into the vacant building 66. A following study, published in 2018, developed a schematic design for the new nursing facility.

Since these plans were published, DSHS identified the Fircrest School campus as a potential site for a 48-bed behavioral health center, as part of a state-wide effort to provide better access to mental health services for those suffering from acute metal illness. Studies completed in early 2020 provide a schematic design for the facility proposed at the campus.

In order to proceed with any changes at the Fircrest School, DSHS must submit a Master Development Plan to the City of Shoreline, outlining proposed changes to the campus and demonstrating how the development aligns with the City's current zoning and regulations. The Master Development Plan process requires a significant investment of time and resources on the part of the applicant, and the State has not yet been able to complete this process. (More information on the City of Shoreline regulations and the Master Development Plan process are provided in Section 3 – Summary of the Existing Conditions of the Fircrest School Campus and in Appendix A.)

DOH completed a master plan in 2010 for the PHL facility at the southern end of the campus. The original vision for expansion included in the earlier master plan has been scaled back in recent years. At the time of the study, PHL did not identify a need to expand beyond the boundary of their current site. However, ongoing coordination is necessary between DOH and DSHS to ensure that future plans for the campus do not interfere with PHL infrastructure improvements and operations.

Finally, though DNR does not have a physical presence on the campus, the department manages the western portion of the site for the CEP & RI trust. DNR must manage all trust land for the maximum benefit of trust beneficiaries. In 2019, DNR and OFM co-led a study to develop recommendations for potential future uses for underutilized portions of the campus. DNR and OFM were unable to come to agreement on the recommendations before submittal to the Legislature, so the final report included recommendations from both departments.

This Land Use Assessment has considered previous planning efforts and has worked with DOH, DNR, DSHS, OFM, and the City of Shoreline to understand current facility, operation, and agency needs. The recommendations of this report represent the consultants' perspective on how to address existing and near-term future needs and take advantage of land use opportunities.

Section 3

Summary of the Existing Conditions of the Fircrest School Campus

The following section summarizes the key findings from the Existing Conditions Report that the consultants developed at the outset of the project. It provides an overview of current facilities based on the consultants' review of previous planning documents and is supplemented with information gathered from early stakeholder interviews. It also includes new information about the site gathered for this report, including a market assessment for real estate development, a review of environmental critical areas, an assessment of existing infrastructure conditions and future needs for the campus, and an assessment of transportation considerations for the campus and surrounding neighborhood. The summary below highlights findings from this report that were most critical or relevant to the consultants' work and the ultimate recommendations of this study. The full report is included as Appendix A to this report.

Previous Planning Efforts and Existing Facilities on Campus

As noted in the introduction, this Land Use Assessment is preceded by over a decade of facilities and master site planning efforts for the campus. Table 2Table 2 Summary of previous campus planning efforts lists the most recent plans and notes how the consultants incorporated that information into this Land Use Assessment.

Table 2 Summary of previous campus planning efforts

Document / Year	Summary
Behavioral Health: Community Civil 48 Bed Capacity State Owned, Mixed Use - Pre-Design Report Multiple Sites, 2020 Behavioral Health: Community Civil 48 Bed Capacity State Owned, Mixed Use - Pre-Design Report - Prototype Building, 2020	These two architectural reports provided the background information and schematic design layouts for the 48-bed behavior health facility. The consultants used the schematic design layout for the facility included in these reports to determine how various sites across the campus might accommodate this facility.
Recommendations on the Underutilized Portions of the Fircrest Campus, 2019	The consultants referenced background content and stakeholder input included in this report by DNR, in consultation with the Washington State Office of Financial Management (OFM) and reviewed both DNR and OFM's recommendations.
Predesign Study: Nursing Facility New Capacity at Fircrest School, 2018	The consultants used the schematic design layout for the nursing facility included in these reports to determine how various sites across the campus might accommodate this facility.
Fircrest School Campus Master Plan Phase III, 2017	The consultants did a close review of this most recent campus master plan to gather information on existing conditions of Fircrest School facilities and infrastructure, and review the improvements needs identified in the plan. This plan also provided an overview of how Fircrest School programs currently use the campus.
Public Health Laboratories 20-year Master Plan, 2010	The consultants reviewed this older master plan for the PHL and discussed with DOH staff what elements of this remain relevant to current and future plans for the PHL, and how their facility expansion plans have changed in the subsequent decade.

Fircrest School Facilities Overview

The Fircrest RHC serves approximately 200 people with intellectual or developmental disabilities through the Nursing and the Intermediate Care (ICF/ID) facilities. The school also operates an Adult Training Program (ATP), where residents can access training and educational opportunities to enhance their ability for independent living.

The Fircrest School Campus Master Plan Phase III (Phase III Master Plan) conducted a thorough assessment of current facilities and concluded that many will require extensive upgrades or replacement in the coming years.[6] An overview of facilities and programs discussed in this Land Use Assessment follows:

Nursing Facility

Figure 5 Image of one of the existing nursing buildings

The Nursing Facility provides long-term nursing care to a current population of 93 residents. Approximately 75% of these patients have chronic physical disabilities and require regular ambulatory care. The existing facilities includes six Y-shaped buildings, with a total area of 83,200 sf. Consolidating operations into a single building, or separate structures with easier access between facilities, would reduce some operational and staffing costs for Fircrest School.[7]

The existing buildings require significant upgrades to repair systems and bring buildings up to current code. DSHS plans to construct a new nursing facility, once a location has been determined, and demolish the existing buildings once the new facility is complete. Identifying locations for a 1-story and a 2-story new nursing facility are key deliverables of this study.

Intermediate Care Facility

Fircrest School is also home to a community of 133 residents in the ICF/ID. This program provides supervision and medical/nursing support for patients who need support but not full-time nursing care. The residents occupy 10 cottages that are at maximum capacity, given the age and condition of the structures.[8] The Phase III Master Plan found these cottages to be adequate for their current use, but noted that structure improvements, repairs, and some renovations of the interiors will be needed in the future.[9]

[6] DSHS, *Phase III Master Plan*, 15-30.
[7] DSHS, *Phase III Master Plan*, 3.
[8] DSHS, *Phase III Master Plan*, 24.
[9] DSHS, *Phase III Master Plan*, 24.

Adult Training Program

Figure 6 Image of the existing ATP building

The Adult Training Program (ATP) offers Fircrest residents opportunities to learn skills for independent living, employment, and participation in the community beyond the school. The existing ATP building is 52,633 sf and was built in 1942 as part of the original Naval hospital at the site. Adult training programs utilize approximately half of the building, with the remaining portion of the building used for administrative offices.

In 2019, the Legislature allocated initial funds for DSHS to renovate Building 66 (currently vacant) and move the programs currently located in the ATP site to this location. Once all of the programs currently housed in the existing ATP building have been relocated, DSHS plans to demolish the building, as renovation is not feasible given the building's condition.

Activities Center

The campus also includes an activities center building, which Fircrest School residents use to for some ATP classes and to attend social events. The building includes a pool, but Fircrest School no longer operates this due to system renovation needs. The building has suffered some deferred maintenance but is otherwise in good condition.[10]

Chapel

A chapel on the campus, which is open for services on Sunday mornings, is eligible for the National Register of Historic Places (NRHP). In November 2020, the Shoreline Preservation Society, a community non-profit group, informed the Mayor and City Council of Shoreline of the organization's plans to pursue landmark designation of the structure and 3 acres of the surrounding land.

Behavioral Health Center (BHC)

In addition to DSHS' existing Fircrest RHC operations, Governor Inslee and the Washington State Legislature recently directed DSHS to begin development of three small community-based behavioral health facilities across the state. DSHS is exploring the campus as a site for a 48-bed facility. The goal of this facility is to provide increased access to mental health services, provide support services once hospital treatments are complete, and prevent or divert people from being committed to state hospitals.[11] See Section 6 – Campus-wide Alternatives for more details.

Public Health Laboratories (PHL) Facility Overview

Located on the southern portion of the campus, the DOH's Public Health Laboratories (PHL) provide a range of diagnostic and analytical functions to identify and track infectious/communicable diseases,

[10] DSHS, *Phase III Master Plan*, 27.

[11] Washington Department of Social & Health Services (DSHS), *Behavioral Health: Community Civil 48-Bed Capacity* (Olympia, Washington: 2020), 8.

heritable/genetic diseases, and environmental contamination. The PHL also provides training, consultation with clinical and environmental laboratories, and scientific leadership in developing public health policy.[12]

The PHL's current building is approximately 65,000 sf, with each of the PHL program areas occupying a separate wing of the building. The PHL staff estimate that roughly 300 staff work at the facility.[13] DOH completed a master plan for the PHL in 2010, which identified the potential for several improvements and two new wings at the facility. DOH reduced the scope of that plan in subsequent years and does not foresee a need for expanding beyond the current boundaries of its property.

Regulatory Framework

Comprehensive Plan and Zoning

The campus has a land use designation of Institution/Campus. The plan describes the campus as a major employer within Shoreline, including both the Fircrest School and the Public Health Laboratories. Multiple policies within the comprehensive plan focus on the potential for greater economic opportunities at the site.[14]

The overall campus is zoned and mapped as the Campus Zone (C), though the City has further sub-zoning as described in SMC 20.40.045: The DOH PHL is zoned Public Health Laboratory Zone (PHZ), and the rest is zoned Fircrest Campus Zone (FCZ). Table 3 summarizes allowed uses for these zones. Multifamily housing and commercial uses are not currently allowed in Campus zones pursuant to SMC 20.30.060 and 20.30.353.

[12] Washington Department of Health (DOH) *Public Health Laboratories Directory of Services* (Olympia, Washington: 2020).
[13] Office of Financial Management (OFM), Phone Interview with PHL Staff, September 10, 2020.
[14] City of Shoreline, *Comprehensive Plan* (Shoreline, Washington: 2012), 105.

Table 3 Allowed uses for the Public Health Laboratory (PHZ) and Fircrest Campus (FCZ) zones per Shoreline Municipal Code 20.40.150 Campus Uses

SPECIFIC LAND USE	FCZ	PHZ
Child and Adult Care Services	P-m	
Churches, Synagogue, Temple	P-m	
Food Storage, Repackaging, Warehousing and Distribution	P-m	
Fueling for On-Site Use Only	P-m	
Home Occupation	P-i	
Housing for Disabled Persons	P-m	
Library		P-m
Light Manufacturing	P-m	
Maintenance Facilities for On-Site Maintenance	P-m	P-m
Medical-Related Office or Clinic (including personal care facility, training facilities, and outpatient clinic)	P-m	P-m
State Owned/Operated Office or Laboratory	P-m	P-m
Nursing Facility	P-m	
Personal Services (including laundry, dry cleaning, barber and beauty shop, shoe repair, massage therapy/health spa)	P-m	
Power Plant for Site Use Power Generation Only	P-m	P-m
Recreational Facility	P-m	
Research Development and Testing	P-m	P-m
Residential Habilitation Center and Support Facilities	P-m	
Social Service Providers	P-m	
Specialized Instruction School	P-m	
Support Uses and Services for the Institution On-Site (including dental hygiene clinic, theater, restaurant, book and video stores and conference rooms)	P-m	P-m

P = Permitted Use

P-i = Permitted Use with Indexed Supplemental Criteria

P-m = Permitted Use with approved Master Development Plan

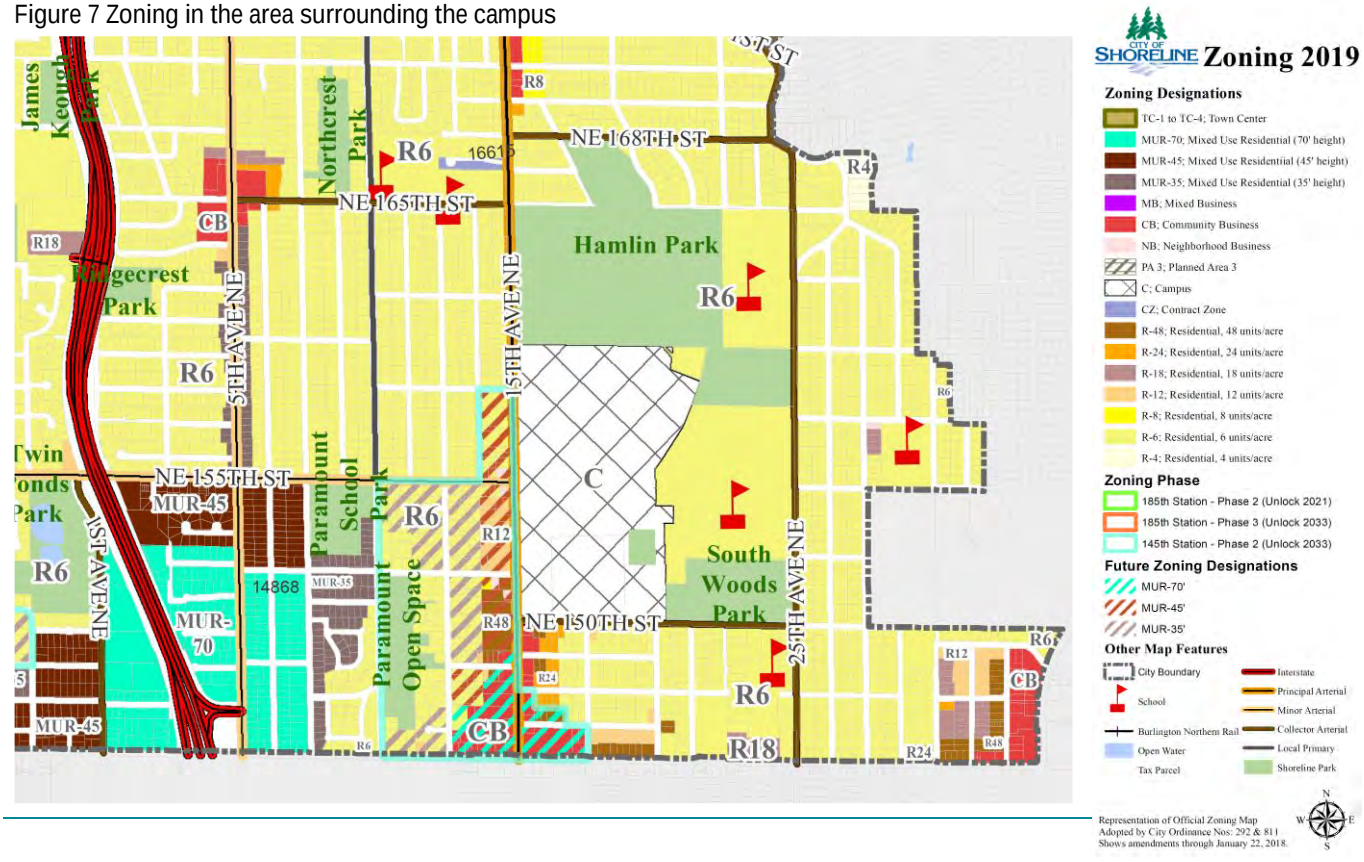
Surrounding Land Use and Zoning Context

The land use context surrounding the campus is predominantly residential. Adjacent uses, however, are a mix of parkland, schools, mixed-residential, and commercial uses. The 15th Avenue NE corridor functions as the front door of the campus to the west and features a mix of commercial and low-density multifamily uses toward the south and mostly single family uses toward the north. Heavily wooded Hamlin Park borders the campus to the north and Shorecrest High School and South Woods Park border the campus to the east behind a buffer of tall trees. Northeast 150th Street borders the campus to the south and single-family uses exist across the street.

Figure 7 illustrates zoning in the campus vicinity. While R-6 is the predominate zone in the area, the property across the street from 15th Avenue NE features mostly R-12 and R-48 zoning. Those properties are part of a phased Mixed-Use Residential (MUR) zone with a 45-foot height limit that is scheduled to unlock in 2033 as a part of the 145th Street Station Subarea Plan. The block of NE 150th Street east of 15th Avenue NE includes a mix of Community Business, R-48, R-24, and R-6 zoning.

Light rail will come to Shoreline by 2025 with the closest station at NE 145th Street, just over a half-mile from the southwest corner of the campus. However, due to the large block sizes in the area, and the interruptions of the street grid by Paramount Park and its stream/wetland corridor, the functional distance to the station is closer to one mile from the southwest corner of the site The 145th Street Station Subarea Plan instituted a phased zoning approach for the neighboring areas directly west and southwest of the campus, which will be automatically up-zoned in 2033 to Mixed-Use Residential (MUR) with 45-foot height limits across the street from the campus and up to 70-feet to the south . (See blue-green and dark brown areas in Figure 7.)

Figure 7 Zoning in the area surrounding the campus



Master Development Plan (MDP)

Applicants for a new use, expanded use, or redevelopment within the Campus zone must prepare a master development plan per SMC 20.30.353. Existing plans may be amended, subject to restriction. The plan must describe phasing over 20 years along with environmental and community benefits, infrastructure capacity or expansion, and architectural design concepts. Master plan developments must adhere to specific development standards, summarized in Table 4.

Table 4 Master Development Plan development standards

Summary list of MDP development standards (per SMC 20.30.353(D))	
1.	Density is limited to a maximum of 48 units per acre.
2.	Height is limited to a maximum of 65 feet.
3.	Buildings must be set back at least 20 feet from property lines at 35 feet building height abutting all R-4 and R-6 zones. Above 35 feet buildings shall be set back at a ratio of two to one.
4.	New building bulk shall be massed to have the least impact on neighboring single-family neighborhood(s) and development on campus.
5.	At a minimum, landscaping along interior lot lines shall conform with the standards set forth in SMC 20.50.490.
6.	Construction of buildings and parking areas shall preserve existing significant trees to the maximum extent possible. Landscaping of parking areas shall at a minimum conform with the standards set forth in SMC 20.50.500.
7.	Development permits for parking shall include a lighting plan for review and approval by the Planning Director. The lighting shall be hooded and directed such that it does not negatively impact adjacent residential areas.
8.	The location, material, and design of any walkway within the campus shall be subject to the review and approval of the Planning Director.
9.	Where adjacent to existing single-family residences, campus roadways and parking areas shall be landscaped as much as possible in the space available to provide a visual screen. The amount and type of plant materials shall be subject to the review and approval of the Planning Director.

The preparation of a Master Development Plan and the accompanying environmental analysis are the responsibility of the applicant. The fee for the MDP permit as summarized in a 2019 City of Shoreline staff report is $29,353, with SEPA review adding between $4,635-$8,033. Applicants are encouraged to develop a consensus-based master development plan through outreach to the community and stakeholders as set forth in SMC 20.30.085. The Master Development Plan review timeline is 120 days and approval is based on the criteria listed in Table 5. Master Development Plans shall expire 20 years after City approval.[15] The State has made multiple attempts to begin the MDP process in the last decade but has not completed an MDP application.

[15] Nathan Daum and Rachel Markle. "Discussing Fircrest Master Plan and Underutilized Property Land Use Options" in *City Council Meeting Agenda* (Shoreline, Washington: February 4, 2019).

Table 5 Master Development Plan decision criteria

Summary list of MDP decision criteria (per SMC 20.30.353(B))
1. The project is designated as either campus or essential public facility in the comprehensive plan and development code and is consistent with goals and policies of the comprehensive plan.
2. The master development plan includes a general phasing timeline of development and associated mitigation.
3. The master development plan meets or exceeds the current critical areas regulations, Chapter 20.80 SMC, Critical Areas, or Shoreline Master Program, SMC Title 20, Division II, if critical areas or their buffers are present or project is within the shoreline jurisdiction and applicable permits/approvals are obtained.
4. The proposed development uses innovative, aesthetic, energy-efficient and environmentally sustainable architecture and site design (including low impact development stormwater systems and substantial tree retention) to mitigate impacts to the surrounding neighborhoods.
5. There is either sufficient capacity and infrastructure (e.g., roads, sidewalks, bike lanes) in the transportation system (motorized and nonmotorized) to safely support the development proposed in all future phases or there will be adequate capacity and infrastructure by the time each phase of development is completed. If capacity or infrastructure must be increased to support the proposed master development plan, then the applicant must identify a plan for funding their proportionate share of the improvements.
6. There is either sufficient capacity within public services such as water, sewer and stormwater to adequately serve the development proposal in all future phases, or there will be adequate capacity available by the time each phase of development is completed. If capacity must be increased to support the proposed master development plan, then the applicant must identify a plan for funding their proportionate share of the improvements.
7. The master development plan proposal contains architectural design (including but not limited to building setbacks, insets, facade breaks, roofline variations) and site design standards, landscaping, provisions for open space and/or recreation areas, retention of significant trees, parking/traffic management and multimodal transportation standards that minimize conflicts and create transitions between the proposal site and adjacent neighborhoods and between institutional uses and residential uses.
8. The applicant shall demonstrate that proposed industrial, commercial or laboratory uses will be safe for the surrounding neighborhood and for other uses on the campus.

Future Approaches to the Site

City staff prepared a memo to City Council for their February 4, 2019 meeting to provide background information on the Fircrest School campus, including current zoning, relevant policy language, comprehensive plan designation, previous City Council discussion and workshops involving the campus, related plans, and recent/ongoing campus master planning efforts. The intent of the discussion was for staff to understand City Council's preference for the role, if any, that the Council would like the City to play in identifying uses for any underutilized properties at the Fircrest School campus. Staff has identified four primary ways (Options A-D) in which the State, future property owners, or the City could be involved in determining uses and/or zoning of the campus. [16]

- Option A: Master Development Plan (MDP)
- Option B: State Agency Initiated Comprehensive Plan and Concurrent Rezone

[16] Daum and Markle, "Discussing Fircrest Master Plan".

- Option C: Council-Initiated Comprehensive Plan Amendment and Concurrent Rezone of All or Part of the Fircrest School Campus
- Option D: City-Initiated Comprehensive Plan and Development Plan Text Amendments Modifying Campus Land

See Appendix A for background on each option, including summaries from City staff on the pros and cons of each.

Key Findings from Regulatory Framework

The consultants' review of the current regulatory conditions resulted in several findings of significance to the final recommendations of this report.

- The campus is in a predominantly residential area within the City of Shoreline and the community may have strong opinions on significant changes or the type, character, and intensity of future redevelopment.
- City policies indicate a desire to bring new uses, economic development opportunities, and jobs to the site.
- The City's requirement for a Master Development Plan (MDP) for all campus development is a significant permitting process that has resulted in several prior attempts by the State, but no resolution or completed applicated to date.
- Future development of excess campus property will require a comprehensive plan amendment and rezone.

Environment, Infrastructure, and Transportation

Environmental Critical Areas

The campus is located within the Thornton Creek sub-basin of the Cedar-Sammamish watershed (WRIA 8); most of the site is located in a relatively flat broad valley, but a hill in the northwest corner extends approximately 40 to 60 feet above the interior gradient. Along the east property line, the gradient increases approximately 35 feet, steeply in some areas. The site has patchy forest stands, though most of the vegetated areas on campus are maintained as lawn with ornamental landscaping.

Geologic Hazards

Slopes that are likely to meet "steep slope" criteria are located along the east property boundary. The northeast side of the campus is at the toe of a slope with a gradient of approximately 35% to 45%.[17] Golder Associates completed a preliminary geotechnical assessment for the Fircrest School Site in 2002. That report did not document any regulatory requirements for on-site or adjacent slopes in the landscape. However, site topography and City of Shoreline GIS Property Information maps indicate a regulated geologic hazard is likely present in the northeast side of the property. This would require a 50-foot buffer, though this could be reduced to a minimum of 15 ft with further study by a geotechnical engineer.

[17] King County, "iMap Topography," King County GIS Center, August 22, 2018, https://www.kingcounty.gov/services/gis/Maps/imap.aspx.

Hamlin Ditch Drainages

Drainage ditches which feed into the Hamlin Creek system are mapped by some sources, including WDFW, on the east side of the campus. The City of Shoreline reviewed on-site drainages in 2009 to determine their jurisdictional status. The City concluded that independent studies prepared by qualified professionals demonstrate City-mapped tributaries on the campus and in Hamlin Park to the north do not meet the City's definition of a regulatory stream. A current site walk supports the City's characterization of the drainages as an artificial system for stormwater flows. Permitting requirements and site constraints would be limited to direct impact to the drainages.

Wetlands

Prior studies and referenced public resources identified no wetlands on the campus. It is possible some segments of the Hamlin Ditch drainages may exhibit wetland characteristics, but since ditch wetlands are not regulated as wetlands under city code, no buffer is required.

Trees

The campus contains a number of forest patches that are scattered throughout the site. Although significant trees are not a critical area, tree canopy is a part of the City's natural resource management. The City manages tree conservation under SMC 20.50, subchapter 5.

The City of Shoreline defines significant and landmark trees as follows per SMC 20.20.048.

- **Significant tree**: Any tree eight inches or greater in diameter at breast height if it is a conifer and 12 inches or greater in diameter at breast height if it is a non-conifer (excluding those trees that qualify for complete exemptions under SMC 20.50.310(A).)
- **Landmark tree**: Any healthy tree over 30 inches in diameter at breast height or any tree that is particularly impressive or unusual due to its size, shape, age, historical significance, or any other trait that epitomizes the character of the species, or that is a regional erratic.

A tree inventory would be needed to determine the condition and status of trees proposed for removal.

Transportation

The Fircrest School campus is bound by 15th Avenue NE to the west, NE 150th Street to the south, 25th Avenue NE to the east and Hamlin Park Road to the north and east. Figure 8 illustrates the transportation system surrounding the campus including major streets, bicycle facilities, and transit service and stops. Access to the campus is provided at the signalized 15th Avenue NE at NE 155th Street intersections and along NE 150th Street at unsignalized intersections with 17th Avenue NE and 20th Avenue NE. Private roads and driveways provide circulation on-site, except for NE 160th Street which is a City local secondary street. The campus is well-served by transit but walking distance from within the campus could be far depending on the location.

Considerations for Adjacent Streets

A grid network of streets surrounds the campus and provides good connectivity for driving, walking, and biking. The site is less than a five-minute drive from Interstate (I) 5 and State Route (SR) 522. Most amenities and commercial uses are south of the site along NE 145th Street including the nearest grocery store, QFC, which is approximately ½-mile from the site.

The lack of sidewalks and fencing along the 15th Avenue NE campus frontage presents a barrier for walking and biking to and from campus. Enhancing the 17th Avenue NE entrance to have more a front door feel brings the campus closer to the sidewalk, bicycle, and transit facilities. The City of Shoreline's Transportation Master Plan anticipates poor operations, higher traffic volumes, and more congestion on 15th Avenue NE.

Figure 8 Transportation system near the Fircrest School campus

The map above illustrates the street system, bicycle, and transit service and facilities in the immediate area of the campus.

Infrastructure

Summary of existing infrastructure

Water

According to the Phase III Master Plan, the campus-wide water system is not adequate to serve fire sprinkler needs. In July 2017, the laundry facility caught fire and burned to the ground. It was the opinion of the fire department that the water flows were not sufficient due to capacity issues. A 2019 report with joint recommendations from DNR and OFM[18] proposes possible solutions:

- **Provide an additional water source for the property, such as water tanks.** This would help meet the surge in demand in the event of a fire. The Phase III Campus Master Plan includes a proposed location for the water tanks in the upper northwest corner of the campus. According to DSHS, this is based on elevation and proximity to the current North City Maintenance Facility. Prior to the completion of the Master Plan, North City Water District and DSHS had discussed a location to add system capacity, and North City had recommended this location at the upper northwest corner of the campus. It does not appear that proposed development will conflict with this recommended location.
- Include all of the campus within the North City Water District system. The site is currently self-managed.

Given the ongoing nature of this discussion, the consultants did not make specific assumptions on water utilities, but the site plans within this report did reserve space for the location of water tanks in the far northwest corner of the campus.

Stormwater

According to publicly available GIS data, there is a closed storm system serving the site, which feeds into public storm sewers (operated by the City of Shoreline).

- There is limited information on capacity of the system, and further research will be needed to investigate drainage complaints in the public storm sewer system downstream of the site. Some buildings on the south end of the site had previously experienced localized flooding in basements. This potentially indicates high groundwater in select areas and/or inadequacies in the stormwater system. Area 6 (southwest corner) is the lowest part of the campus. However, this area drains into a system leaving the campus at the southwest corner that eventually outlets into wetlands to the southwest.
- Increased runoff from new roofs and impervious parking areas are not anticipated to overburden the existing system. Any proposed developments that increase sources of runoff will require new on-site flow control facilities to mitigate the off-site flow to pre-developed levels.
- On the eastern portion of the site, the closed system is fed by an open drainage swale which runs along the east side of Hamlin Park and enters the on-site closed system just north of Hamlin Park Rd/NE 160th St.
- Discussions with the City of Shoreline indicate the City does not classify the aforementioned western reach as a stream, but rather as a drainage. The drainage would not be regulated under Shoreline Municipal Code Chapter 20.80. However, an Administrative Order (#000110-081909 by the City Director of Planning and Redevelopment Services) noted that the State may still consider this drainage a "water of the state" per WAC 220-110-020 (107). If so, additional requirements or restrictions may

[18] DNR, *Recommendations 2019*

apply from the State. Additionally, GIS identifies the reach as potentially requiring Hydraulic Project Approval (HPA) from WSDOT.

Sanitary Sewer

Ronald Wastewater District operates two sewer mains which run through the property.

- The 2019 Recommendations report[19] mentions that the existing sewer system has excellent site coverage and capacity, and notes that some system modifications are needed to place the Fircrest School on a separate system so that potential future third party users can have their own services. According to the Ronald Wastewater District, although the sewer main is in good condition, laterals are not necessarily in good condition (see below).
- Despite excellent coverage and capacity, the information available seems to suggest that repairing or replacing much of the system may still be necessary (due to old and deteriorated side sewers, and asbestos-lined pipes).
- It is possible that the existing sewer mains servicing the site provide adequate capacity; however, this should be confirmed.

Stormwater management considerations with development

Flow control and water quality facilities will be needed to treat new roofs and impervious parking areas, thus some land area (or multiple areas) will need to be dedicated to stormwater facilities, such as ponds. Appendix D of the Phase III Master Plan proposed ponds at five locations throughout the campus. As an alternative, underground detention could be used under proposed parking areas, although ponds are often the more economical solution. Infiltration and dispersion will also need to be evaluated, and if feasible, some land area will need to be dedicated to this as well.

Infrastructure considerations with development

Telecommunications

Lumen (formerly CenturyLink) currently services the site. However, if desired, there is opportunity to work with other telecommunication service providers such as Comcast and Ziply, as each of these utilities own network facilities adjacent to the site, along 15th Avenue NE.

Gas

Puget Sound Energy (PSE) currently services and maintains existing gas utilities on the site. One single remote meter set near NE 150th Street and 20th Avenue NE provides branch connections throughout the property which services multiple buildings. Need to coordinate with PSE on future development needs.

Electrical

Electrical services are provided by Seattle City Light (SCL). Per the Phase III Master Plan, electrical service extends from NE 150th Street and is distributed to the site to provide power to the buildings and light poles. It is also understood that an electrical system capital improvement plan was being developed by DSHS which includes rewiring and installing an emergency backup system. Furthermore, DOH is currently designing a boiler-plant to move away from utilizing the Fircrest steam plant as the source of heat for most of the buildings on the campus. To power the boiler-plant, a new transformer in the southwest area of the site would be required.

[19] DNR, *Recommendations 2019*

- These electrical site improvement plans will need to be directly coordinated with future site development.
- The Phase III Master Plan proposed siting a new power building in the southeast section of the campus. The consultants considered that location in their site planning.

Key Findings on Environment, Transportation, and Infrastructure

- The City does not classify the existing site drainages as streams, but it is likely that Washington State agencies would regulate the drainages. This could result in additional permit requirements if there are direct impacts to the drainages.
- Steep slopes along the eastern edge of the site could result in a 50-foot buffer for redevelopment. However, it is possible that this buffer requirement could be reduced significantly with additional technical review by a geotechnical engineer.
- The existing water system is not adequate to meet existing fire safety standards for the campus.
- Stormwater system for the site lacks documentation, so further assessment of stormwater management requirements is needed.
- Electrical site improvement plans currently in development by both DOH and DSHS will need to be directly coordinated with future site development, particularly in the southeast corner of the site.
- Existing stands of trees on the site may meet the City's definition of significant trees. A full survey of the site's trees would indicate the number of trees and verify if any individual trees meet the City's landmark definition.
- The removal of trees from properties zoned NB, CB, MB, TC-1, 2, and 3, and MUR-70' – unless within a critical area or critical area buffer – is exempt from the permit requirements of the City's Tree Conservation, Land Clearing and Site Grading Standards (SMC 20.50.290.) If the rezoning and development of the property is pursued and tree removal is considered, establishing requirements for tree retention and removal will be necessary.
- 15th Avenue NE is projected to have higher traffic volumes and more congestion in the future, so significant redevelopment may result in traffic impacts.
- Given that many residents of Fircrest School have limited mobility, all future development should prioritize accessibility across the campus to remove barriers and promote universal access.

Assessment of Site Areas

To better understand the campus as a whole, the consultants divided the property into seven potential areas (Areas) for development and assessed the opportunities and challenges of each. The consultants largely followed the areas defined by earlier plans, most notably the Phase III Master Plan. Figure 9Figure 2 illustrates the individual areas of the campus that this report explored. Table 6 lists the area numbers and descriptive names and highlights the current uses and owners of the land.

Figure 9 Map showing potential development areas

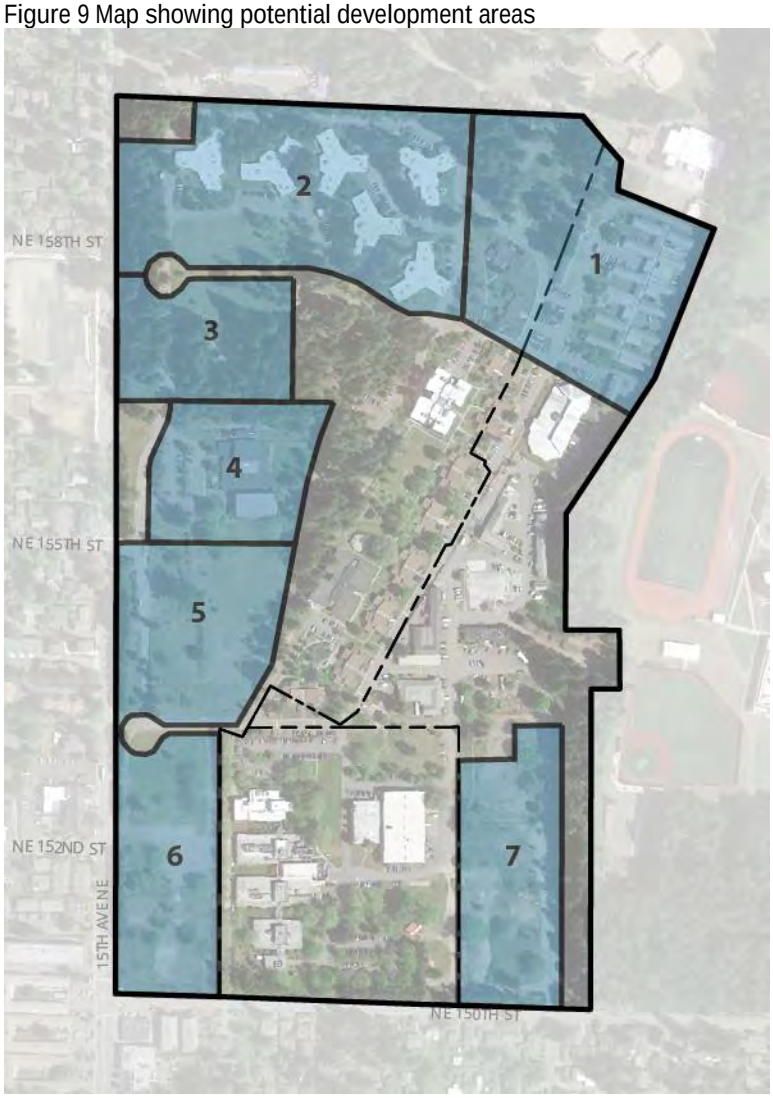


Table 6 Site area numbers, descriptive names, current use, and land owner

Number	Descriptive Name	Acreage (Approximate)	Current Use	Land Owner
1	Northeast Corner	4.3 ac	Fircrest School (ATP building, cottages and warehouse)	DSHS (eastern portion) DNR (western portion)
2	Northwest Corner	11.7 ac	Fircrest School (Nursing facility)	DNR
3	Madrona	4.6 ac	Vacant	DNR
4	Activities Building	4.4 ac	Fircrest School (Activities Building)	DNR
5	Activities South	4.5 ac	Vacant	DNR
6	Southwest Corner	5.3 ac	Vacant	DNR
7	Southeast Corner	4.9 ac	City of Shoreline Dog Park	DSHS

Area 1 – Northeast Corner

Figure 10 Aerial image of Area 1

This area of the site is the most remote portion of the campus largely due to topography and the configuration of the existing roads. It is currently where Fircrest School's ATP building is located, though this building will be demolished once the existing programs and offices it holds are relocated to a vacant building on the Fircrest School grounds. Given the remote access to the site and the close proximity to other Fircrest School facilities, the consultants deemed that this parcel would be best used for institutional purposes, such as the Fircrest School nursing facility, or the behavioral health center. See Section 5 for more information about land valuation.

Any future development of the site would need to account for the environmental conditions noted in Section 3. The slope along the eastern portion of the site may require an up to 50' buffer. Two drainages run through the parcel, one below the existing road and the other along the eastern edge of the site in a partially piped ditch. The consultants considered these factors in assessing development options for the site.

Area 2 – Northwest Corner

Figure 11 Aerial image of Area 2

The Northwest Corner is the highest elevation of the overall campus and the site of Fircrest School's existing nursing facility buildings. The site contains a number of mature trees and is separated from the adjacent 15th Avenue S arterial to the west by a wooded ravine. With North Woods Park to the north, the site is well-buffered by forest, and is an attractive site for residential development. See Section 5 for more information about land valuation.

The existing ravine is steep and provides a helpful screen and buffer from 15th Avenue S. Sensitive site planning could integrate residential development into the site while also retaining some of the site's existing trees. The Phase III Master Plan identified the far northwest corner of the site as the potential future location of water tanks that will provide additional water capacity for the campus. The consultants considered these elements as they developed conceptual layouts shown in Section 6.

Area 3 – Madrona

Figure 12 Aerial image of Area 3

Area 3 is located just south of Area 2 and is often referred to as the Madrona site. It is a vacant and largely forested area. The Fircrest School chapel is adjacent to the site to the east and the activities buildings is to the south. This is DSHS's preferred site for the new nursing facility. Given the existing trees and the proximity to the chapel, the site could also offer a light recreation and open space amenity for community members and Fircrest School residents. See Section 5 for more information about land valuation.

Area 4 – Activities Building

Figure 13 Aerial image of Area 4

Just south of Area 3 is Fircrest School's activities building. The facility is used by Fircrest School residents for ATP classes and social activities. The facility also provides the Fircrest School as space to engage the larger community. Given that the space is currently used by the Fircrest School, the consultants did not explore redevelopment of the site. If new uses are brought to the sites adjacent to this facility, there may be opportunities for partnership and/or shared use of the space.

Area 5 – Activities South

Figure 14 Aerial image of Area 5

Area 5, a sloped lawn south of the activities center, is an open and attractive location within the campus. The site is elevated above 15th Avenue. S, with the Fircrest School to the east and the PHL to the south. The parcel is attractive for redevelopment, but also highly visible from adjacent residential neighborhoods to the west given the topography and lack of trees. See Section 5 for more information about land valuation.

Area 6 – Southwest Corner

Figure 15 Aerial image of Area 6

Area 6, the Southwest Corner of the site, is located adjacent to the intersection of 15th Avenue S and NE 150th Street. The site is flat and open, with a few mature trees within and along the perimeter. The site is at the same elevation of the adjacent streets and is a good opportunity for redevelopment, given the street access and proximity to commercial centers south of the campus. This corner of the site is the closest to the future light rail station at NE 145th Street. With the PHL adjacent to the site to the west, future uses that are compatible with, or build on, that existing use will be most beneficial to the overall campus. See Section 5 for more information about land valuation.

Area 7 – Southeast Corner

Figure 16 Aerial image of Area 7

Area 7, the Southeast Corner of the campus, is similar in size and scale to Area 6, but has significantly less street frontage as it is adjacent to NE 150th Street. to the south and a steep, wooded slope to the east. The City of Shoreline currently leases the site for use as a dog park. The site is flat and largely open, with only a few trees. There have been some reports of drainage issues, which could be due to a high water-table and/or soil conditions or lack of stormwater facilities. The Phase III Master Plan reserved the far northwest corner of the site for a new power building and the consultants took that into account in their site planning.

The consultants assumed development of this site was feasible, though less desirable than areas along the western portion of the site due to the more secluded location. Private development or institutional uses would make sense here. The existing dog park has been an established use thus far next to the PHL; continuing to use the site for active recreation is also possible. See Section 5 for more information about land valuation.

Section 4

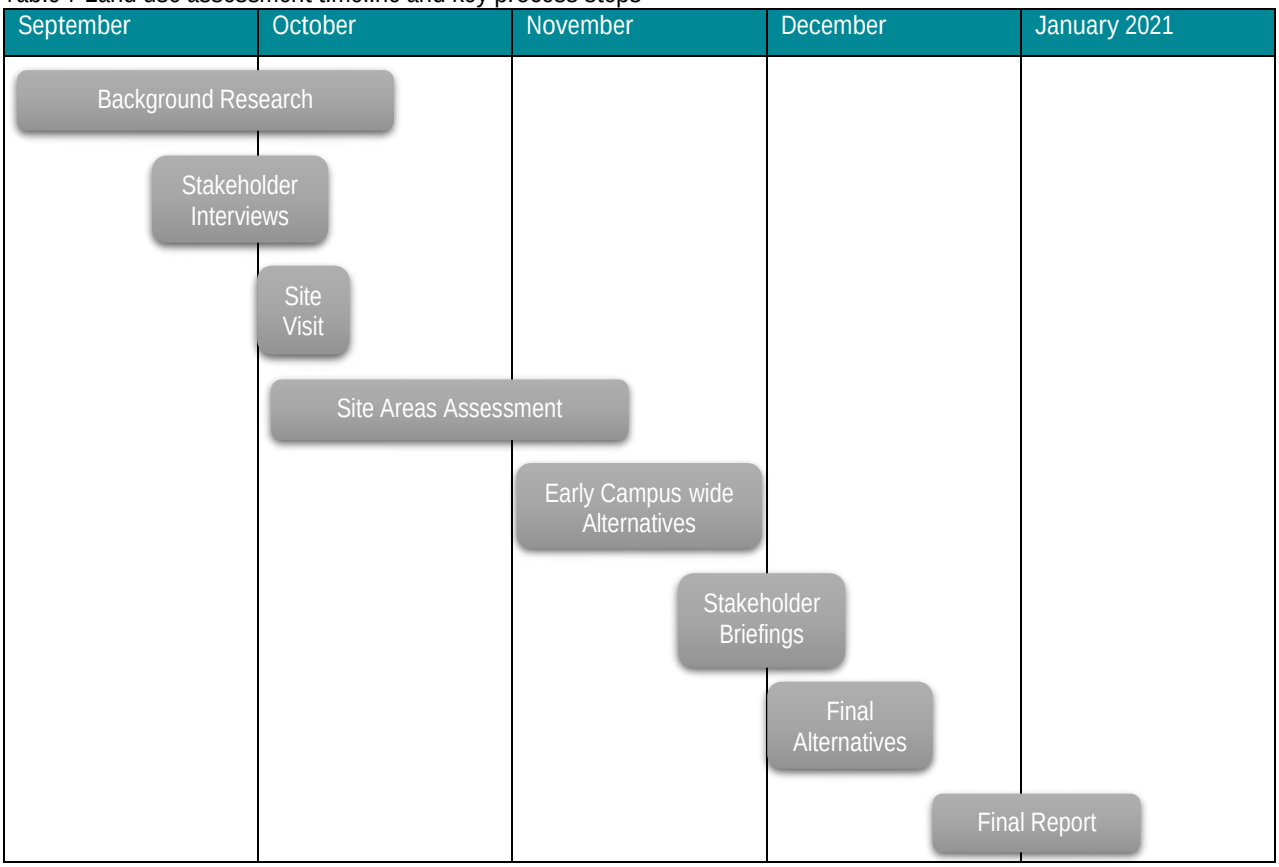
Description of Analytical Process

Overview

As early steps of this project, the consultants reviewed existing plans and conducted the background research summarized in Section 3. In addition, the team met with key stakeholders, including staff from DOH, DNR, DSHS, and the City of Shoreline. Next, the team reviewed individual areas of the campus to assess the development opportunities, infrastructural and environmental constraints, and stakeholder needs and preferences for each area. With this foundation of information, the team was able to efficiently develop campus-wide alternatives (see Section 6) and the final recommendations of this plan (see Section 8).

Table 7 outlines the key steps the consultants took in development this Land Use Assessment.

Table 7 Land use assessment timeline and key process steps



Stakeholder Interviews

Through a series of interviews, stakeholders provided information about their role at the campus and gave general feedback on this planning effort. These meetings provided the project team critical insights and a thorough understanding of site considerations and stakeholder perspectives. This section outlines key feedback from the interviews. See Appendix B for full summaries of these initial meetings.

Key Feedback

DSHS

- The campus has allowed Fircrest School to evolve to changing needs over time – DSHS is concerned that extensive development could limit the ability to meet future needs.
- DSHS cannot easily predict future needs – the new behavioral health center is an example of that.
- Single story facilities work better for residents and staff. Buildings that include administrative offices on a second floor can work.
- Access to the outdoors is important for all residents, including those in the nursing facility.
- DSHS expressed concerns about some of the City's permitting process requirements (requiring street improvements, etc.)
- Maintenance facilities will need to be replaced in the future, though some could be consolidated.
- Madrona site is the preferred location for the new nursing facility. The northeast corner of the site, currently occupied by the ATP building is a possibility, but less ideal due to potential impacts to other facilities.

DNR

- DNR have a legal, fiduciary responsibility governing how they manage trust land, including undivided loyalty to the trust, inter-generational equity, and putting the trust land to productive use.
- DNR staff noted that land valuation has been a key challenge in previous discussions about the future of the campus. It would be helpful to have the City outline what the zoning might be and use that as a base for the assumptions.
- For the Land Use Assessment, DNR wants to see clear, well-defined options for the Legislature to consider.

DOH

- DOH staff noted that PHL does not have current plans to expand beyond the existing boundaries of their property.
- DOH and PHL are open to redevelopment of portions of the campus, but they have concerns about residential uses adjacent to the PHL facility since the public is sometimes suspicious or has undue concerns about standard laboratory work.
- DOH has developed some plans on the assumption of having a new road from 150th north to building 22/20 and administrative building. This was the road location shown in an earlier version of the DSHS master plan, but in more recent iterations it has shifted further west. PHL prefers the earlier location for that road.

City of Shoreline

- Shoreline staff noted that the City would like to unlock economic development potential at Fircrest and prefers commercial uses that bring living-wage jobs to the area.
- The City would like to see commercial uses that build on the existing assets and provide living-wage jobs – for example, an innovation district around the PHL similar to Shoreline Community College's job training program. Filmmaking is an industry that operates in Shoreline and the City expressed a desire for a soundstage.

- The City would like to see a park for active recreation, roughly 5 acres in size.
- Community currently uses the site for walking, bird watching, and dog walking. Trees are important to the community and removal of campus trees may be a significant concern to neighbors. Future engagement with the community around redevelopment topics will be needed.
- The City supports the State in locating a future 48-bed behavioral health center at the site – they recognize this is a need in the community, regionally, and statewide, and sees this as an essential public facility. The City recognizes that some jobs would come from this but would like to see more commercial uses at the campus.
- Staff mentioned a range of potential zones and offered alternatives to the Master Development Plan (MDP) process (e.g. comprehensive plan amendment & rezone).
- An MDP would still be required for the Fircrest School RHC to move ahead with the nursing facility, etc. unless there is a full campus comprehensive plan amendment or rezone that defines where a facility is permitted use.

Site Walk with DSHS Staff

After an initial review of previous plans, the consultants met with DSHS operations and facilities staff to tour the Fircrest School campus on October 6, 2020. DSHS provided additional background information and answered questions from the consultants at that time.

Analysis of Site Areas and Early Alternatives

Using the information gathered from the background report, the interviews, and the site visit, the consultants assessed the programmatic needs of Fircrest School, DSHS, and DOH, the interests of DNR, and the development opportunities for the overall campus per district areas as defined by earlier planning efforts. The team identified the sites best suited for both the nursing facility and the behavioral health center and explored a range of configurations for these sites. The team also identified sites most suited for both commercial and residential uses, exploring a range of density and development intensity. Through this study of the campus's individual areas, the consultants explored development opportunities, financial feasibility, institutional programmatic needs, environmental constraints, regulatory challenges, infrastructure improvements, and the integration of the campus into the residential neighborhood

With an understanding of the individual areas of the campus, the team developed preliminary campus-wide alternatives. The team created a series of land use diagrams, which later supported more detailed site plan illustrations that the team used to explore options to balance development opportunities, DSHS facility needs, and City priorities. This was an iterative process, and the consultants assessed several configurations for the site before developing the final alternatives and recommendations.

Preliminary Briefings

The consultants briefed the agencies on early draft alternatives to ensure work aligned with key stakeholder input and to gather additional feedback. The consultants adjusted the alternatives and developed detailed recommendations to accompany those conceptual layouts.

Final Alternatives and Final Plan

The results of this work are shared in the final sections of this this Land Use Assessment. Section 6 provides detailed information on the three final alternatives. Section 8 outlines the key steps towards implementation, including both public agency agreement and private sector investment phases. Section 9 outlines the final conclusions of the study. The consultants presented the final draft of this Land Use Assessment to OFM staff on January 15, 2021.

Section 5

Economic and Financial Analysis

Introduction

Identifying appropriate types of potential development for the Fircrest campus is a critical element of this study. To this end, Heartland evaluated a range of potential real estate product types for financial viability across the Fircrest campus. There is strong demonstrated demand in the market area for residential uses across both for-rent and for-sale product types, specifically for-rent multifamily and for-sale townhomes. In addition, Heartland evaluated potential commercial office uses. Office demand in this location is expected to be much more limited as evidenced by the lack of recent new office construction. This section of the report summarizes valuation findings by product type and applies per-unit land contribution values to the site alternatives devised by the consultant team to project financial returns from land at Fircrest.

Multi-family

Approach

The City of Shoreline has benefited from strong land sale transaction activity in the years leading up to and following the implementation of the 145th Street Subarea Plan and the 185th Street Subarea Plan in 2015 and 2016. Planned light rail stations serving these locations, enabling easier access to economic centers in downtown Seattle and around Puget Sound, have spurred significant interest from the development community. In this context, after identifying a subset of relevant comparable sales, selecting the most appropriate, and making adjustments for time, density, and location, and specific sale conditions as appropriate, Heartland estimated a range of values based upon (a) price per land square foot and (b) price per unit.

Heartland identified a shortlist of eight (8) multifamily land sale transactions which closed within the past 5 years within Shoreline city limits and within reasonable proximity to the Fircrest site[20]. (see Figure 17 and Table 8.) Density for these eight new multifamily development projects ranged from 121 units per acre to 227 units per acre. Sale price per land square foot ranged from $36 on the low end (an outlier) to $184 on the high end (also an outlier). Sale price per multifamily unit ranged from $13,000 on the low end to $57,000 on the high end. For context, multifamily development sites in core neighborhoods in downtown Seattle, prior to the coronavirus pandemic, were transacting for upwards of $90,000 per unit. Heartland applied time, location, and density adjustments based upon zoning, as appropriate. Heartland then selected those comparable sales most appropriate and relevant to Fircrest given the assumed development context, after taking account of sale recency, anticipated building typology, site-specific and transaction-specific elements (including, for example, entitlement status and non-arm's length transactions), among other factors.

Selected Comparable Sales

Heartland focused the valuation on the following three sales which are most relevant to the Fircrest site:

[20] Heartland Proprietary Data and Data Collected from Past Assignments; CoStar; City of Shoreline Construction Permitting Data; County Assessor Data.

1. 15560 Westminster Way N – Trammell Crow Residential closed on the sale of this 1.97-acre site on December 21, 2018. This was an arm's length sale with some environmental remediation. The site was under contract for seventeen (17) months and entitlements for a 330-unit project were approved at time of sale. Construction start for this project, known as "The Alexan Shoreline" began in February of 2019. Adjusting for time of sale, location, and specific transactional elements including entitlements and environmental remediations, the adjusted value estimated for the Fircrest site came in at $136 per land square foot or approximately $36,000 per unit.

2. 19022 Aurora Ave N – Trent Development Closed on the sale of this 1.65-acre redevelopment site on March 23, 2018. The permit pre-application was filed in February of 2018 for a 244-unit multifamily project to be called "Crux". The site was sold with an existing lease encumbrance. Adjusting for time, location and sale conditions influencing the purchase price, the estimated adjusted value as it relates to the Fircrest site is $99 per land square foot, or $29,000 per unit.

3. 18815 Aurora Ave N – Shea Properties completed its purchase of this 1.67-acre redevelopment site on December 12, 2019. The pre-application process for the 315-unit project started on May 24, 2019, and the site was under contract for 210 days prior to closing. Adjusting for time, location and sale conditions influencing the purchase price, the estimated adjusted value as it relates to the Fircrest site is $152 per land square foot, or $35,000 per unit.

Proximity to transit resources, in particular light rail stations, has outsized impact on land values which can be difficult to quantify. Selecting sites roughly equidistant from future light rail, whether east or west of I-5, was important. The three primary land sale comparables are roughly equally distanced to their nearest future light rail stations at either NE 185th Street and NE 145th Street.

Figure 17 Map of comparable sites

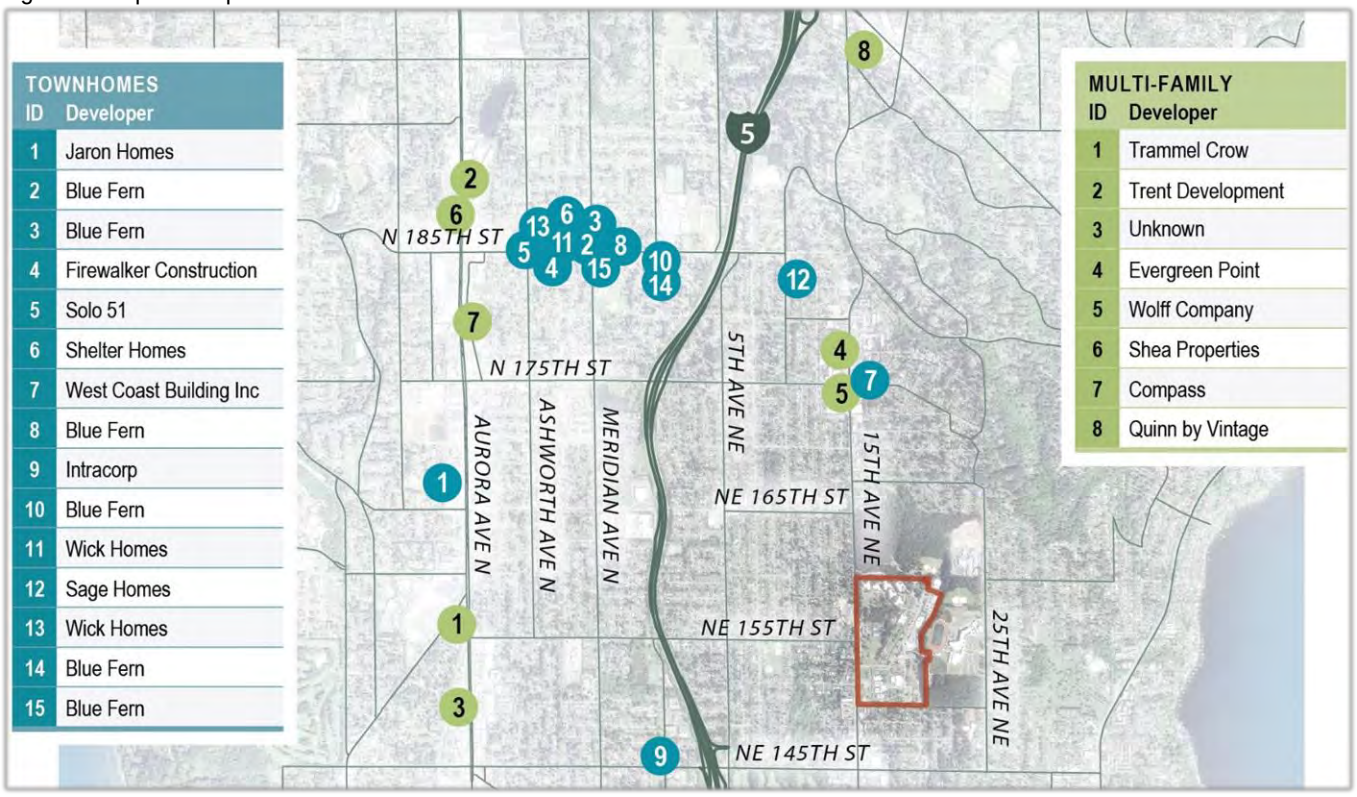


Table 8 Multi-family sites

ID	Address	Developer	Lot Size	DU/Acre	Sale Date	Adj. $ / LSF	Adj. $ / Unit
1	15560 Westminster Way N	Trammel Crow	88,268	163	12/21/18	$136	$36,321
2	19022 Aurora Ave N	Trent Development	71,981	148	3/23/18	$99	$29,083
3	14925 Aurora Ave N	Unknown	58,972	159	6/13/16	$74	$20,253
4	17567 15th Ave NE	Evergreen Point	44,679	121	8/25/17	$36	$13,085
5	17233 15th Ave NE	Wolff Company	81,549	130	8/26/16	$69	$23,224
6	18815 Aurora Ave N.	Shea Properties	72,846	188	12/11/19	$152	$35,118
7	17962 Midvale Avenue N	Compass	50,862	140	11/17/17	$184	$57,486
8	20057 Ballinger Way NE	Quinn By Vintage	149,350	227	3/12/20	$57	$37,547
				DU/Acre		Adj. $ / LSF	Adj. $ / Unit
	Reconciled Value*			150		$119 - $125	$35,000 - $40,000

Valuation

Heartland employed a valuation technique which began with per-unit land sale values, then scaled down the anticipated density in terms of development units per acre in conjunction with the consulting team, and derived a per-land-square-foot value which was applied to each site. Heartland concluded that land for multifamily development at the subject site, as of the date of this report, should be expected to transact in the range of (a) $119 to $125 per land square foot and (b) $35,000 to $40,000 per developed unit on average. Variability outside of that range could be driven by many factors, but especially a change in market conditions, or site-specific advantages or disadvantages which would impact valuation.

Table 9 Redevelopment land value - Multifamily

Est. Redevelopment Land Value

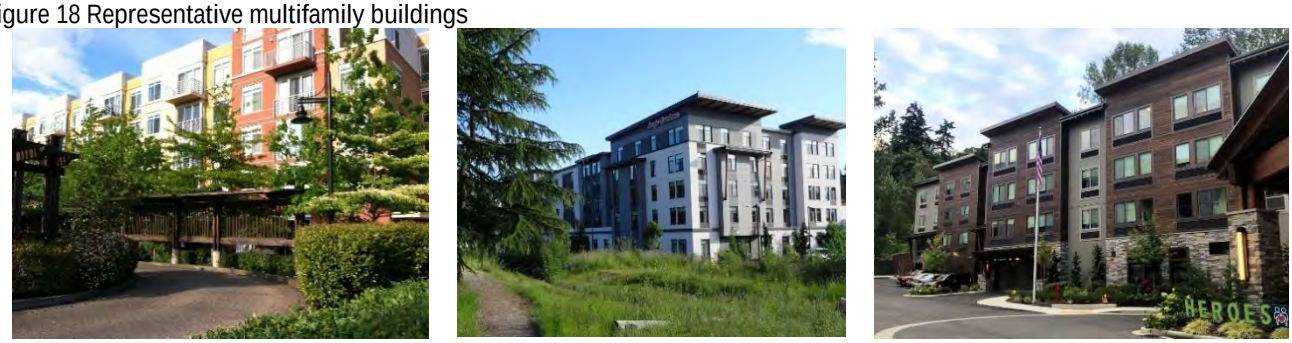
	Multifamily	
	Per Land Square Foot	Per Unit
High	**$125**	**$40,000**
Low	**$119**	**$35,000**

Density

A critical factor influencing land values is the allowed development density. Notice that density for the selected sale comparables is higher on average, at approximately 150 units per acre, than is assumed for the Fircrest site. In determining the appropriate density for multifamily development at the Fircrest site, given its unique size and scale, site planning considerations, including access, topography, tree or open space preservation, circulation, and view orientation, among others, would likely be required. Such considerations would likely translate to a lower density at Fircrest relative to other sites in Shoreline. After evaluating comparable projects in development contexts similar to Fircrest, in Seattle and on the Eastside of Puget

Sound, including Redmond, we determined a density of between 90 and 110 dwelling units per acre is appropriate for the Fircrest site.

Figure 18 Representative multifamily buildings



Townhome

Approach

Heartland identified a shortlist of 15 comparable townhome land sale transactions which closed within the past 5 years within Shoreline city limits and within reasonable proximity to the Fircrest site[21]. (See Figure 17 and

[21] Heartland Data Sources.

Table *10*.) Density for these fifteen proposed new multifamily development projects ranged from 20 units per acre to 41 units per acre. Sale price per land square foot ranged from $49 on the low end (an outlier) to $153 on the high end (also an outlier). Sale price per townhome unit ranged from $105,000 on the low end to $171,000 on the high end. Heartland applied time, location, and density adjustments as appropriate then selected those comparable sales which were most appropriate and relevant to Fircrest given the assumed development context, after taking account of sale recency, site-specific and transaction-specific elements (including, for example, entitlement status and non-arm's length transactions), among other factors.

Selected Comparable Sales

Heartland focused the valuation on seven sales which were most relevant to the Fircrest site. All projects were developed by either Intracorp or Blue Fern Development. The Intracorp assemblage transaction, located at 2356 N 145th Street, is relevant due to its scale but it is situated in a more urban context than Fircrest with superior adjacency to light rail at the future 145th Street station.

Table 10 Townhome sites

ID	Address	Developer	Lot Size	Units	DU/Acre	Sale Date	Adj. $ / LSF	Adj. $ / Unit
1		Jaron Homes						
2	18515 Meridian Ave N	Blue Fern	7,980	7	38	12/4/18	$126	$143,465
3	18512 Meridian Ave N	Blue Fern	12,425	11	39	1/21/19	$107	$120,940
4	18339 Wallingford Ave N	Firewalker	14,400	7	21	4/28/16	$56	$114,258
5	18529 Ashworth Ave N	Unknown	11,400	7	27	12/7/19	$105	$170,635
6	18524 Wallingford Ave N	Shelter	6,386	6	41	7/11/16	$153	$162,970
7	1540 NE 175th St	WC Building	12,323	7	25	9/10/17	$93	$162,972
8	2156 N 185th St	Blue Fern	8,529	7	36	1/29/19	$123	$149,806
9	2356 N 145th St	Intracorp	121,010	81	29	9/24/18	$107	$160,186
10	18322 1st Ave NE	Blue Fern	9,501	7	32	3/3/19	$92	$124,850
11	18510 Wallingford Ave N	Wick Homes	14,600	10	30	6/2/18	$136	$198,761
12	18311 11th Ave NE	Sage Homes	10,680	5	20	5/20/18	$49	$104,665
13	18526 Densmore Ave N	Wick Homes	10,788	7	28	4/22/19	$101	$156,279
14	18322 1st Ave NE	Blue Fern	9,501	7	32	3/2/19	$92	$124,872
15	18512 Meridian Ct. N	Blue Fern	13,460	11	36	1/21/19	$91	$111,150
					DU/Acre		Adj. $ / LSF	Adj. $ / Unit
	Reconciled Value*				25		$105 - $110	$140,000 - $160,000

Valuation

Heartland employed a valuation technique similar to the approach for multifamily which begins with per-unit land sale values, scaling down anticipated density in terms of development units per acre and deriving a per-land-square-foot value which was then applied to each site. Heartland concludes that land for townhome development in Shoreline, based on anticipated allowable density, as of the date of this report, should be expected to transact in the range of (a) $105 to $110 per land square foot and (b) $140,000 to $160,000 per developed townhome unit on average. Variability outside of that range could be driven by many factors, but especially a change in market conditions, or site-specific advantages or disadvantages which would impact valuation.

Table 11 Redevelopment land value - Townhome

Est. Redevelopment Land Value

	Townhome	
	Per Land Square Foot	Per Unit
High	**$105**	**$140,000**
Low	**$110**	**$160,000**

Density

As for multifamily, assumed density at Fircrest is lower than for the comparable sales, many of which are in more transit-oriented urban contexts. Notice that density for the selected sale comparables in some cases exceeds 35 units per acre. In determining the appropriate density for townhome development, and informed by consulting team, we assumed site planning considerations including access, topography, tree or open space preservation, circulation, and view orientation, acknowledging the unique size and scale of Fircrest, which could drive down developable units per acre. After evaluating comparable projects in development contexts which we felt were similar to Fircrest, in Seattle, the Eastside of Puget Sound, including Redmond and Bellevue, we determined a density of between 15 and 20 dwelling units per acre would be appropriate at the Fircrest site, and in line with similar communities around Puget Sound.

Figure 19 Representative Townhome Buildings

Office

Approach

There are no recent comparable office land development transactions to use in assessing redevelopment land value for office property. There are also no recently constructed office buildings in Shoreline from which it is possible to estimate market office rent for a prospective development at Fircrest. Certain medical and other office properties in Everett and north Shoreline provide a starting point for where office rents might settle for a project developed at the Fircrest site, but it is difficult to truly ascertain given absence of recent new construction. As a proxy, Heartland triangulated office market data from nearby markets,

including the Northgate submarket, the north Shoreline/Everett submarket, and the Bothell/Kenmore submarket in order to estimate office rental rates for the Fircrest location.

Valuation

Given current construction costs, and triangulating rents as described above, Heartland applied a residual land value approach to estimating the value of office development land at Fircrest. Assuming a 2-4 story suburban construction typology with structured parking, a 0.8 floor area ratio ("FAR"), and a range of market cap rates ranging from 6.0% to 6.5%, residual land value for an office use at Fircrest ranges from $4 to $25 per land square foot (See Table 12.)

Heartland concludes that in order to entice office developers or owner-users to the Fircrest location, as of the date of this report, a range of $30 to $40 per land square foot at maximum might be sufficient. However, given its lack of transit resources, distance from future light rail, lack of surrounding commercial uses and supporting retail, office development at Fircrest is highly unlikely. An owner-user or other prospective user with unique motivations could prove this conclusion wrong.

Table 12 Redevelopment land value - Office

Est. Redevelopment Land Value

Office	
Est. Cap Rate	Est. Residual Land Value PSF
6.00%	$25
6.25%	$14
6.50%	$4

Source: CoStar, RSMeans

Density

Heartland collaborated with Schemata Workshop in determining the appropriate density levels by product type. Given parking requirements, an office developer would be able to achieve an estimated 0.8 Floor Area Ratio ("FAR") at Fircrest.

Figure 20 Representative office buildings



Valuation Summary

The study identifies five areas for potential commercial development which could be compatible with existing and planned institutional uses on the property. The sites under consideration for redevelopment, and which were assessed for future redevelopment potential and for valuation purposes, were sites 2 ("Northwest Corner"), 3 ("Madrona"), 5 ("South of Activities Center"), 6 ("Southwest Corner"), and 7 ("Southeast Corner"). (see *Figure 9 Map showing potential development* on page 28.) Depending on the motivations of the stakeholders, any one of these areas could be redeveloped for any of the contemplated uses described above. The valuation depends to a significant degree on the willingness of the city of Shoreline to re-zone the area through a Comprehensive Plan Amendment, and the designated zone will have a material impact on valuation and development potential. It has been indicated to us that likely zones for this area include "CB," or "Community Business," "MB," or "Mixed Business", or less likely but still possible, "MUR-70." The Heartland analysis is agnostic to eventual zoning, provided that the assumed densities, which as we describe above are relatively conservative in light of recent comparable land transactions in Shoreline, are possible.

Table 13 Land valuation assumptions

Fircrest Parcel	Acres	Square Feet
Area 1 - Northeast Corner (NEC)	4.33	188,397
Area 2 - Northwest Corner (NWC)	11.70	509,652
Area 3 - Madrona	4.60	200,376
Area 4 - Activities Building	4.40	191,664
Area 5 - South of Activities Center	4.55	198,198
Area 6 - Southwest Corner (SWC)	5.30	230,868
Area 7 - Southeast Corner (SEC)	4.90	213,444
Fircrest Total	39.7839.78	1,732,599
Est. Density [1]	Min	Max
Est. Office FAR	0.8	0.8
Units per Acre (MF)	90	100
Units per Acre (TH)	15	20
Est. Land Value [2]	Min	Max
Office (per LSF)	$30	$40
MF (per unit)	$35,000	$40,000
Townhome (per unit)	$140,000	$160,000

NOTES

[1] Schemata,Workshop Yield Study, December 2020. (Anticipated density subject to City of Shoreline re-zone but is anticipated, given suburban context, to be lower density than comparable sales (in more urban locations), translating to a lower $ PSF value.)

[2] Heartland, Makers, City of Shoreline Planning & Community Development, Fircrest School Master Plan Phase III (2017)

Table 14 Estimated land value by area by use

Est. Value by Area by Use (millions, 2020)		
Area 2 - Northwest Corner (NWC)	Min	Max
Multifamily	$37	$47
Townhome	$25	$37
Office	$15	$20
Area 3 - Madrona	*Min*	*Max*
Multifamily	$14	$18
Area 5 - South of Activities Center	Min	Max
Multifamily	$14	$18
Townhome	$10	$15
Area 6 - Southwest Corner (SWC)	Min	Max
Multifamily	$17	$21
Townhome	$11	$17
Office	$7	$9
Area 7 - Southeast Corner (SEC)	Min	Max
Multifamily	$15	$20
Townhome	$10	$16
Office	$6	$9
Est. Value PSF by Area by Use ($ 2020)		
	Min	Max
Multifamily	$72	$92
Townhome	$48	$73
Office	$30	$40

Note: This table is intended to derive and summarize per-square-foot values by area by use. As such, values shown should not necessarily match those described in custom scenarios elsewhere in the report. Each scenario has a custom mix of densities and uses based on site planning work by Schemata Workshop and values have been adjusted accordingly.

Valuation of lands considered for public park development

The per-square-foot valuation of land proposed for a public park was based upon the principle of substitution, or the cost of acquiring a substitute property which is zoned for a similar set of allowed uses as is the current in-place zoning at the Fircrest campus. Our approach builds upon recent appraisals of Area 7 (Southeast Corner) from ABS Valuation dated October 2020, utilizing selected unrestricted comparable property sales only, and The Eastman Company, dated July 2020. The midpoint between the value conclusions based upon unrestricted comparable sales only, at approximately $20 per land square foot, is sensitized +/- 10%. It is then applied to Area 3 (Madrona) and Area 6 (Southwest Corner) which have been identified as potential park locations. The actual value of any land developed for a park will be determined

during transactions between the City of Shoreline and the State; and could vary from the range of estimates provided here. Variability in site-specific conditions such as access and topography could also impact final valuation.

Table 15 Valuation

Valuation	
Park Valuation – Existing Zoning	$ PSF
Unrestricted Property Sales - ABS	$23.2
The Eastman Company	$16.0
Average	$19.6

Fircrest Site	Est. Value @ $19.6 PSF ($M)	Square Feet	Low	High
Area 3 - Madrona	$3.9	200,376	$3.5	$4.3
Area 6 - Southwest Corner (SWC)	$4.5	230,868	$4.1	$5.0
Area 7 - Southeast Corner (SEC)	$4.2	213,444	$3.8	$4.6

Section 6

Campus-wide Alternatives

The team developed the following three alternative site planning concepts that illustrate different options for both DSHS facilities and for residential and commercial redevelopment. These alternatives explore the full range of identified options in terms of:

- Locations for 1- and 2-story nursing facilities.
- The most advantageous locations for behavioral health center (BHC).
- Development options for multifamily, townhouse, and commercial redevelopment.
- Measures and conditions that the City of Shoreline (City) has indicated what it will expect to achieve when approving a development agreement and rezoning the property. Such an agreement and comprehensive plan amendment with zoning provisions will be necessary in order to develop a mix of facilities and revenue-producing uses on the site. The City's priorities include land for a park and zoning for commercial uses.

This framework facilitates the State's decision-making and discussions with the City by including an evaluation of alternatives with respect to project objectives and the estimated land values for each area under applicable assumptions.

This analysis provides the following information for each alternative:

- A conceptual site plan and narrative description with the location, size and configuration of the proposed uses for each area. The area numbers are indicated in Figure 9 on page 28.
- A rationale to summarize the logic behind the specific land use locations, configurations, and specific elements.
- More detailed concept-level site plans with discussions of area-specific site planning considerations to illustrate how proposed DSHS facilities and private development options fit within available sites.
- A summary chart to indicate the proposed use and range of potential revenues for each area.
- An evaluation of the relative advantages and disadvantages of the alternative.
- An aerial perspective to depict the relative size of proposed new construction and its relation to site topography and vegetation.

Site Planning Assumptions

Due to the short timeframe of the project, the consultant team relied heavily on information obtained from previous plans and made several assumptions in its approach to site planning. The assumptions most relevant to this report's content and final recommendations include:

- The consultants based the layouts for the 1-and 2-story nursing facilities on the 2018 *Predesign Study: Nursing Facility New Capacity at Fircrest School, Shoreline*, but did not independently verify those designs except to update some of the facility sizes to accommodate 120 bed nursing facilities and adjust roadway layouts. Building sizes and configurations may change as more refined architectural plans are developed.

- The per-square-foot valuation of land proposed for a public park was based upon the principle of substitution, or the cost of acquiring a substitute property which is zoned for a similar set of allowed uses as is the current in-place zoning at the Fircrest campus. Our approach builds upon recent appraisals of Area 7 (Southeast Corner) from ABS Valuation dated October 2020, utilizing selected unrestricted comparable property sales only, and The Eastman Company, dated July 2020. The midpoint between the value conclusions based upon unrestricted comparable sales only, at approximately $20 per land square foot, is sensitized +/- 10%. It is then applied to Area 3 (Madrona) and Area 6 (Southwest Corner) which have been identified as potential park locations. The actual value of any land developed for a park will be determined during transactions between the City of Shoreline and the State; and could vary from the range of estimates provided here. Variability in site-specific conditions such as access and topography could also impact final valuation.
- Traffic mitigation measures will be required and roughly the same for all three alternatives including payment of City transportation impact fees, a traffic signal or other traffic control (e.g., a roundabout) at one access point along NE 150th Street, and additional non-motorized connections to/from the site along 15th Avenue NE. (See Appendix C- Transportation Assessment of Alternatives for more details.)
- All buildings proposed for Area 1 adhered to 50-foot setback from the slope along the eastern edge of the site. A geotechnical evaluation may further reduce this buffer and allow future development more flexibility.
- The consultants assumed that redevelopment of the Southeast Corner (Area 7) of the site is feasible, given existing structures in the area, but further geotechnical assessment will be needed to assess whether soil conditions limit the intensity of development and/or would necessitate additional structural requirements.
- Preservation of some of the existing trees is beneficial to residential redevelopment and may make increased density/new uses at the site more appealing to the local community. Tree conservation measures may be part of the development agreement with the City.
- The optimal intensity and type of residential and commercial development may change as project refinement proceeds.
- The alternative concept plans follow the City's interpretations that existing site drainages should not be regulated as streams and the current underground pipe configuration could be altered with redevelopment.
- Stormwater system for the site lacks documentation, so further assessment of stormwater management requirements is needed.
- The building massing shown in each of alternatives is conceptual in nature, with site plans sensitive to the unique program and context. Each alternative aims to leverage the site's existing assets, which include trees, views, sun exposure, topography, connection to the forested street frontage along 15th Avenue, the Madrona grove and adjacent chapel, and green open spaces.
- The alternatives propose comprehensive, environmentally sensitive approaches to future site development. They all include significant opportunities for sustainable development practices such as passive solar and energy saving strategies, high performance building measures, and district/campus wide infrastructure (e.g.; "EcoDistrict" systems) for net-positive energy and sustainable water use on site. Stormwater management will be addressed according to the most recent regulations, with reduced amounts of impervious surfaces and green infrastructure solutions. Better non-motorized circulation elements including universally accessible pathways, improved connections to the surrounding

community, multimodal streets and bicycle facilities are also envisioned and should be a part of any new development.

Alternative 1: Two-Story Nursing Facility on the Madrona Site (Area 3)

Rationale

Alternative 1 explores the implications of locating the nursing facility on the Madrona site (Area 3) in a 2-story configuration. The Legislature's proviso calls for analyzing both a 120-bed 1- and 2-story nursing facility; Alternative 3 locates a 1-story nursing facility on the Madrona Site, which is DSHS's preferred location and configuration.

Description

Figure 21 illustrates the development proposals for each area.

- Area 1: The 48-bed behavioral health center is located in the Northeast Corner of the campus. The building footprint assumed for this facility is based on the *Behavioral Health Community Civil 48 Bed Capacity* report Dated March 2, 2020 by BRCA for Washington DSHS.
- Area 2: The Northwest Corner (Area 2, the current "Y" building site) provides an excellent opportunity for residential development to provide a variety of housing types to fit the real estate market. A mix of 5- to 6-story multifamily buildings and townhouses is proposed. Commercial development on the Northwest Corner would produce significantly less revenue to the State. The visual impact of the multifamily buildings will be minimized because of the dense vegetation on 15th Avenue NE and the setback from the roadway. Such a mix of building types will also reduce the loss of mature evergreen trees. Commercial development on the Northwest Corner would produce significantly less revenue to the State.
- Area 3: As noted above, a 2-story nursing facility is posited on the Madrona site. Details of a proposed site pan for that facility is in Figure 21.
- Area 4: No change is proposed to the Activities Building and its immediate surroundings in any of the alternatives. The consultant team discussed various reuse and rehabilitation options for this site, but the building's status and future use was unclear at the time of this report. There are no redevelopment proposals for the site.
- Area 5: Townhouse development is proposed for the Activities South (Area 5). The gentle south-facing slope and visible location make smaller scale development most attractive on this site.
- Area 6: Alternative #1 proposes an approximate 5.2-acre city park on the Southwest Corner. Though this area is more valuable for development, and the park would be better located on the Southeast Corner, Alternative #1 places commercial development on the Southeast Corner in order to generate revenue for the Dan Thompson Account. If some form of revenue adjustment can be made between DNR and DSHS land, the park in Area 6 and proposed private development in Area 7 should be switched.
- Area 7: Alternative #1 includes commercial development on this site because residential development is less desirable on this area and commercial development meets the City's interest in employment-producing uses.

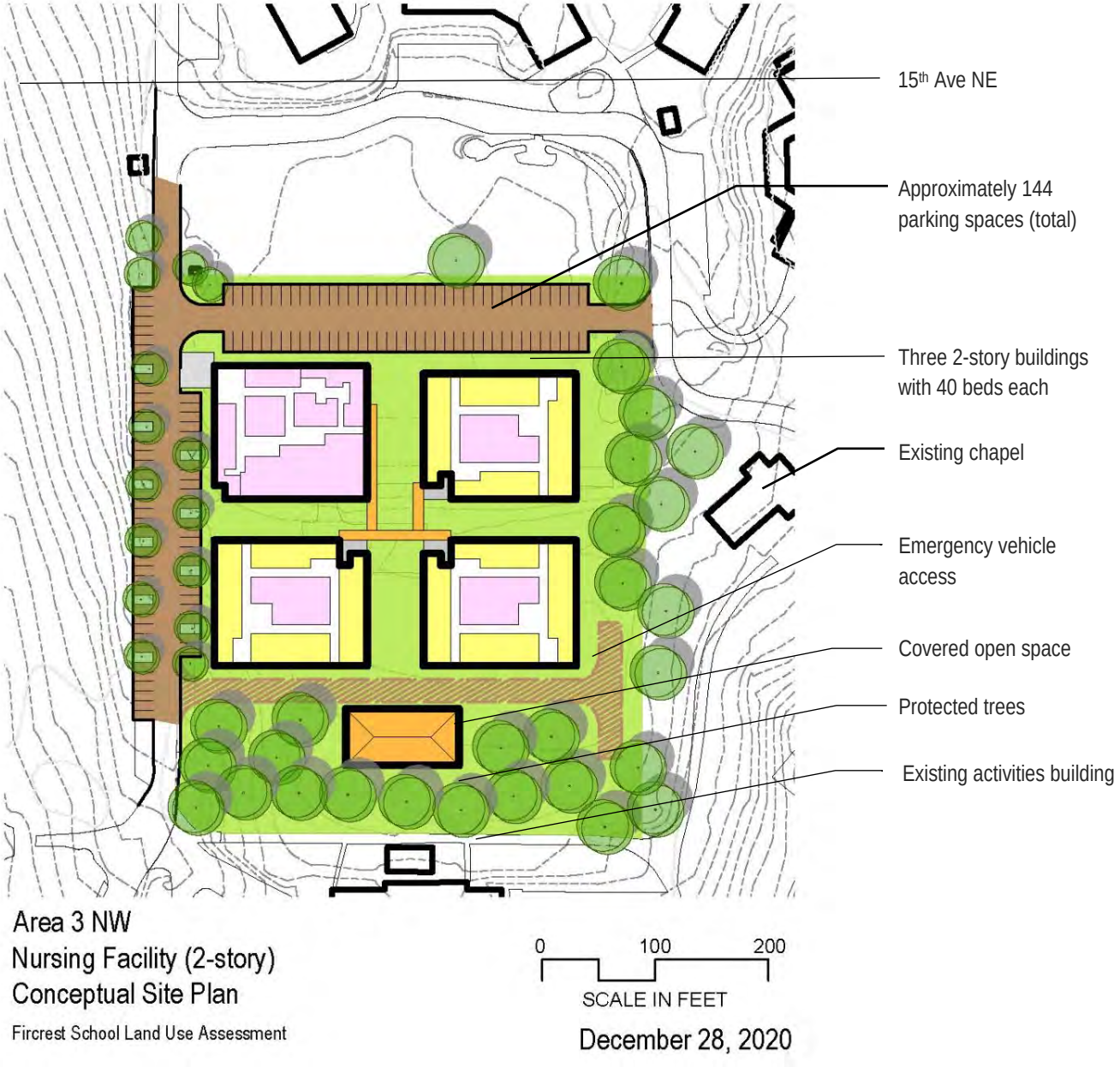
Figure 21 Alternative #1 site planning concept

Area Specific Site Planning Details

The 120-Bed 2-Story Nursing Facility on the Madrona Site

The conceptual site plan below is based on the building size and configuration contained in the October 26, 2018 *Predesign Study for Nursing Facility New Capacity at Fircrest School, Shoreline* for DSHS and OFM by Sage Architectural Alliance. As the diagrammatic plan illustrates, a 2-story building complex fits well on the Madrona site without intruding into Area 2 (the current "Y" buildings site), provides covered and uncovered open space for the residents, and retains some of the mature trees that are important to the community.

Figure 22 Diagrammatic site plan for a 2-story nursing facility on the Madrona site (Area 3)



A Soundstage/Park Option on the Southwest Corner (Area 6)

The City of Shoreline has expressed interest in locating a soundstage facility on the campus. Such a facility would house the production of music and video media and is intended to foster a "cluster" of similar activities taking advantage of Edmonds College's certificate programs for video and audio production. To explore an option that would address the City's interest in both open space and a soundstage within a single area, the consultant team prepared a site planning concept for a 52,000 sf facility with the following elements:

- 18,000 sf Large soundstage
- 26,000 sf Studios/stages
- 22,000 sf Support space
- 170 Parking spaces

This would fit on either the Southwest Corner or Southeast Corner (Areas 6 and 7) and would leave approximately 2 acres of open space for a variety of active park uses. (See Figure 23Figure 23

Figure 23 A proposal for a soundstage and park on the Southwest Corner or Southeast Corner

Behavioral Health Facility on the Northeast Corner (Area 1)

As Figure 24 illustrates, a 48-bed BHC will fit on the Northeast Corner. The building footprint assumed for this facility is based on the Behavioral Health Community Civil 48 Bed Capacity report Dated March 2, 2020 by BRCA for Washington DSHS.

Figure 24 Diagrammatic site plan for a behavioral health center in the Northeast Corner (Area 1)

Summary of Expected Revenues from Area Redevelopment

Table 16 Estimated revenues from development for Alternative 1

Area	Proposed Uses	Estimated Value (in millions)	
		Low	High
1	Behavioral health center	NA	NA
2	510 multifamily units in 6-story building and 65 townhouse units (*1)	$27	$30.8
3	Two-story nursing facility	NA	NA
4	Activities building	NA	NA
5	82 townhouse units (*2)	$11.5	$13.1
6	Park or park + soundstage (*3)	$4.1	$5.0
7	185,000 sf office space	$6.4	$8.5

(*1) Value based on a mix of multi-family and townhouse units.

(*2) Value based on a specific site planning concept and may differ from estimates in Section 5.

(*3) Source of park valuation is the average of per-square-value conclusions per most recent appraisals from ABS Valuation, utilizing selected unrestricted comparable property sales only, dated October 2020, and The Eastman Company, dated July 2020, as applied to 4.9 acre total park site area. The average value is sensitized +/- 10%.

Evaluation: Advantages and Disadvantages

From DSHS Perspective

+ The Madrona site is DSHS's preferred location for the nursing facility.
+ The Northeast Corner (Area 1) is DSHS's preferred location for the BHC and that area is inadequate for private development.
– A 2-story nursing facility is less desirable to nursing staff.
– There will be very little space for expansion.
– A nursing facility at the Madrona site will be somewhat separated from the rest of the DSHS facility, and the topographic change has been mentioned as making it difficult to move residents to other parts of the campus.

From DNR Perspective

+ Mixed residential development in the Northwest Corner provides approximately $27 million - $30.8 million funds.
+ Townhouse development on Area 5 provides approximately $11.5 million - $13.1 million funds.
– There would be no revenue from the Madrona site.
– A park at the Southwest Corner (Area 6) generates between $4.1 million and $5.0 million revenue depending on discussions with the City. However, a park or park and soundstage at that site might be a necessary part of the agreement with the City to allow more intensive (and revenue-producing) development on other areas.

From the City of Shoreline's Perspective

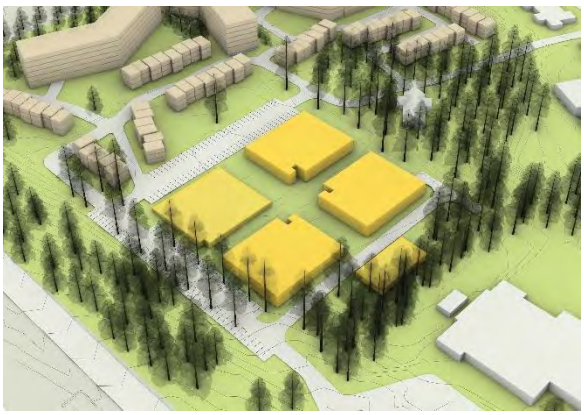
+ A park or park and soundstage on the Southwest Corner meets part of their objectives.
+ Commercial development on the Southeast Corner meets their other goals.
+ Retention of part of the trees on the Madrona site will help address community concerns.

Other Considerations

+ DOH notes that residential next to laboratories has been a problem in the past. This alternative avoids that condition.
+ Commercial development in the Southeast Corner provides approximately $6.4 million - $8.5 million in anticipated revenue to the Dan Thompson Account.
– Providing revenue from the Southeast Corner rather than the Southwest Corner reduces income to the State overall.

– Figure 25 Aerial perspective

Fircrest School from the Southwest



The nursing facility from the Southwest

The behavioral health center from the Southeast

Alternative 2: One- or Two-Story Nursing Facility in the Northeast Corner. (Area 1: Current ATP Site)

Rationale

Alternative 2 explores the implications of locating the nursing facility in the Northeast Corner of the campus (Area 1) in a 1- or 2-story configuration. Alternative 2 requires the proposed behavioral health center (BHC) to be located elsewhere. The preferred location for the BHC in this alternative is in the Southeast Corner (Area 7). This configuration locates all DSHS facilities, except the Activities Building, together on the east side of the campus leaving the bulk of the west side open for development.

Description

Figure 26 illustrates the development proposals for each area.

- Area 1: The Northeast Corner of the site provides enough contiguous land area for either a 1-story (with nursing support on a second floor) or 2-story 120-bed nursing facility. However, there are some considerations in this option noted in the site-specific site planning details, below.
- Area 2: The Northwest Corner provides an excellent opportunity for residential development. To provide a variety of housing types to fit the real estate market, a mix of 5- to 6-story multifamily buildings and townhouses is proposed. The visual impact of the multifamily buildings will be minimized because of the dense vegetation on 15th Avenue NE and the setback from the roadway. Such a mix of building types will also reduce the loss of mature evergreen trees. Commercial development on the Northwest Corner would produce significantly less revenue to the State.
- Area 3: A city park is proposed for the Madrona site. Discussions with City staff have tentatively indicated that the City is open to a park in this location. The land to be a park could include the chapel, which is currently under consideration for historic landmark status. If this alternative is pursued, the park would greatly enhance residential development to the north, and the chapel could be used for community meetings and celebrations such as weddings and private functions.
- Area 4: No change is proposed to the Activities Building and its immediate surroundings.
- Area 5: Townhouse development is proposed for the Activities South (Area 5). The gentle south-facing slope and visible location make smaller scale development most attractive on this site.
- Area 6: The Southwest Corner is large enough for a mix of office and residential development. This option is described in the area specific site planning details.
- Area 7: The 48-bed behavioral health center is proposed and described in the area-specific site planning details.

Figure 26 Alternative 2 site planning concept

Area Specific Site Planning Details

The 120-Bed on a 1- or 2-Story Nursing Facility on the Northwest Corner

The conceptual site plan below (Figure 27) is based on the building size and configuration contained in the October 26, 2018 *Predesign Study for Nursing Facility New Capacity at Fircrest School, Shoreline* for DSHS and OFM by Sage Architectural Alliance. As the diagrammatic plan illustrates, a 1-story building complex fits on the site assuming that the nursing support and administrative functions are located on a second story of one of the 20-bed residential buildings. This was an alternative also proposed by the pre-design study noted above.

There are a several considerations with both the 1- and 2-story concepts.

- A storm sewer pipe must be relocated. The City determined that the existing site drainages should not be regulated as streams, and changes to the current underground pipe configuration could be altered with redevelopment. However, new buildings should not be constructed over existing drainage pipes. Moving the western-most pipe shown in the figures below would cost up to approximately $1.5 million, but would allow a more compact development and eliminate the need to relocate the adjacent cottages.
- The ATP building and the warehouse currently on the site must be relocated. There is currently a program to move the ATP site.
- The configuration of the nursing buildings provides central and covered open space, which was noted as important by nursing staff.
- Being situated on level ground and close the kitchen is considered an advantage by nursing staff.
- A 2-story facility (Figure 28) has the advantage of providing space for expansion, however, a 1-story facility (Figure 27) is preferred by nursing staff.

Figure 27 Conceptual site plan of a 1-story nursing facility on the Northwest Corner (Area 1)

Figure 28 Conceptual site plan of a 2-story nursing facility on the Northwest Corner (Area 1)

The Behavioral Health Center on the Southeast Corner (Area 7)

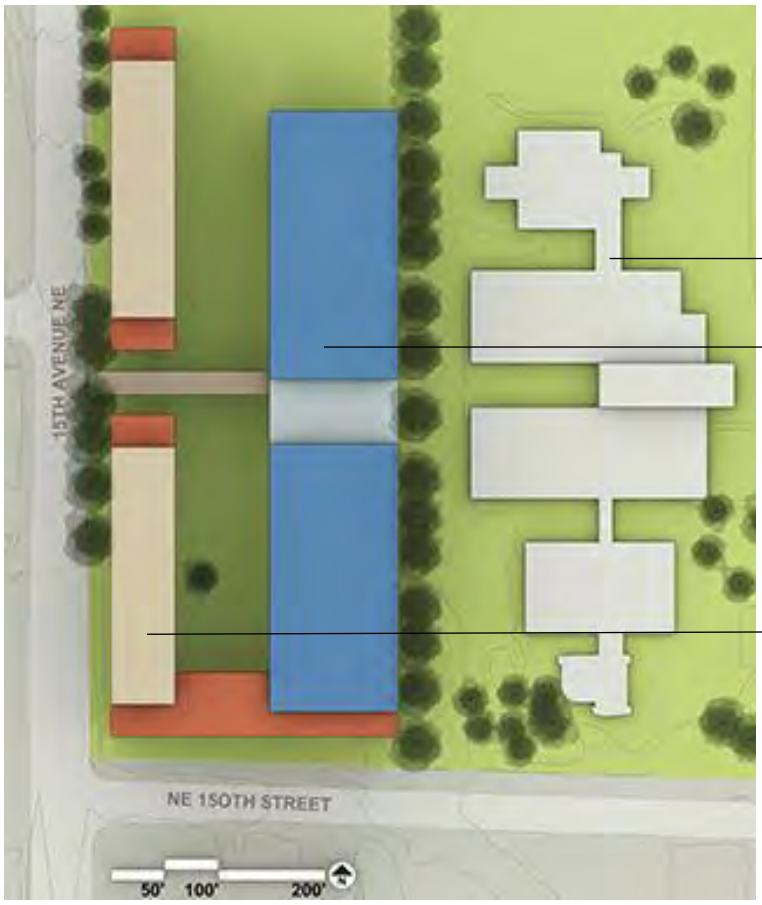
The building footprint assumed for this facility is based on the *Behavioral Health Community Civil 48 Bed Capacity* report Dated March 2, 2020 by BRCA for Washington DSHS. (Figure 29.)

Figure 29 Conceptual site plan of a 48-bed BHC in the Southeast Corner (Area 7)

Commercial and Residential Mixed-Use Development on the Southwest Corner (Area 6)

The dimensions of the Southwest Corner site (Area 6) allow space for both residential facing 15th Ave NE and commercial office or soundstage development facing the PHL. Providing substantial property value, addressing the City's desire for employment-based uses, and separating residences from the laboratories are advantages of this option. DOH has noted concerns about residential uses adjacent to medical laboratories as the public sometimes has undue concerns about standard laboratory work. (See Figure 30.)

Figure 30 Conceptual site plan of a mixed residential (in buff) and commercial (blue) development on the Southwest Corner



A Public Park on the Madrona Site (Area 3)

Alternative 2 proposes an approximate 4.2-acre City-owned and operated park on the Madrona site in order to meet the City's expectations that a similarly sized park be located on the campus to accommodate *active uses*. Active uses could include sports courts, pathways, fitness courses, and other activities that retain significant trees and make use of the site's amenities. The park might include the current chapel which could be used for community meetings, weddings, and other events. (See Figure 31.) Community members are currently pursuing historic landmark status for the chapel.

Figure 31 Aerial photo identifying the general location of a park on the Madrona site. The chapel is in the upper right of the yellow rectangle

Summary of Expected Revenues from Area Redevelopment for Alternative 2

Table 17 Estimated revenues from development for Alternative 2

Area	Proposed Uses	Estimated Value (in millions)	
		Low	High
1	One- or two-story nursing facility	NA	NA
2	510 multifamily units in 6-story building and 65 townhouse units (*1)	$27	$30.8
3	City park (*2)	$3.5	$4.3
4	Activities building	NA	NA
5	82 townhouse units(*3)	$11.5	$13.1
6	162 residential units + 120,000 gsf office +_48,450 gsf retail (*4)	$8.8	$10.7
7	Behavioral health center	NA	NA

(*1) Value based on a mix of multi-family and townhouse units.

(*2) Source of park valuation is the average of per-square-value conclusions per most recent appraisals from ABS Valuation, utilizing selected unrestricted comparable property sales only, dated October 2020, and The Eastman Company, dated July 2020, as applied to 4.9 acre total park site area. The average value is sensitized +/- 10%.

(*3) Value based on a specific site planning concept and may differ from estimates in Section 5.

(*4) Floor area ratio (FAR) of 0.73 for the office on Area 6 per based on assumption that each use consumes 50% of the land area.

Evaluation: Advantages and Disadvantages

From DSHS Perspective

+ A nursing facility on the Northeast Corner (Area 1) is flat and near the kitchen.
+ A 2-story nursing facility provides space for expansion.
+ The site provides open space for residents.
– - The Northeast Corner is not the DSHS preferred location for the nursing facility.
– If a 2-story nursing facility is chosen it is less desirable to nursing staff.

From DNR Perspective

+ Mixed residential development in the Northwest Corner provides approximately $27 million - $30.8 million funds.
+ Townhouse development on Area 5 provides approximately $11.5 million - $13.1 million funds.
+ Revenue from a park on the Madrona site is between $3.5 million and $4.3 million.
+ A mixed-use development at the Southwest corner provides between $8.8 million and 10.7 million funds.

From the City of Shoreline's Perspective

+ A park on the Madrona Site and employment-based uses as part of a mixed-use development on the Southwest Corner meets their objectives.
+ Retention of part of the trees and public use of the chapel on the Madrona site will help address community concerns.

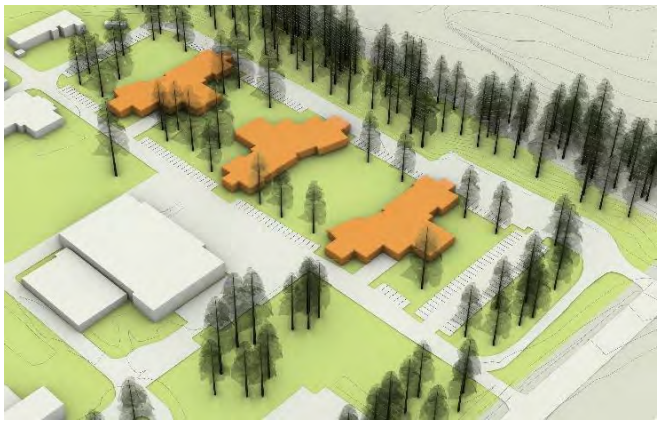
Other Considerations

+ DOH notes that residential next to laboratories has been a problem in the past. This alternative avoids that condition.
+ Relatively intense development on the Southwest Corner (Area 6) provides the State with revenue and addresses the City's employment objectives.
– There is no revenue to the Dan Thompson Account because the BHC is located on the Southeast corner site (Area 7).

Figure 32 Aerial perspective

Fircrest School from the Southwest

Mixed-use development from the Southwest



The behavioral health center from the Southwest

Alternative 3: A One-Story Nursing Facility on the Madrona Site

Rationale

Alternative 3 explores the implications of locating the nursing facility on the Madrona site (Area 3) in a 1-story configuration. The Legislature's proviso calls for analyzing both a 120-bed 1- and 2-story nursing facility. Alternative 1 locates a 2-story nursing facility on the Madrona site.

Description

Figure 33 illustrates the development proposals for each area.

- Area 1: The 48-bed behavioral health facility is located in the Northeast Corner of the campus. The building footprint assumed for this facility is based on the *Behavioral Health Community Civil 48 Bed Capacity* report Dated March 2, 2020 by BRCA for Washington DSHS.
- Area 2: The Northwest Corner (Area 2, the current "Y" building site) provides an opportunity for residential development. To provide a variety of housing types to fit the real estate market, a mix of 5- to 6-story multifamily buildings and townhouses is proposed. This alternative diminishes the area and number of units because a 2-story nursing facility would intrude into this area and somewhat isolate it.
- Area 3: A 1-story nursing facility is posited on the Madrona site. Details of a proposed site plan for that facility is below.
- Area 4: No change is proposed to the Activities Building and its immediate surroundings. The consultant team discussed various reuse and rehabilitation options for this site, but the building's status and future use was unclear at the time of this report.
- Area 5: As in all alternatives, townhouse development is proposed for the Activities South area. The gentle south-facing slope and visible location make smaller scale development most attractive on this site.
- Area 6: Alternative #3 proposes an approximate 5.2-acre city park on the Southwest Corner. Though this area is more valuable for development, and the park would be better located on the Southeast Corner, Alternative #3 places commercial development on the Southeast Corner in order to generate revenue for the Dan Thompson Account. If some form of revenue adjustment can be made between DNR and DSHS land, the park and development should be switched.
- Area 7: Alternative #3 includes commercial development on this site because residential development is less desirable on this area and the City is interested in employment-producing uses.

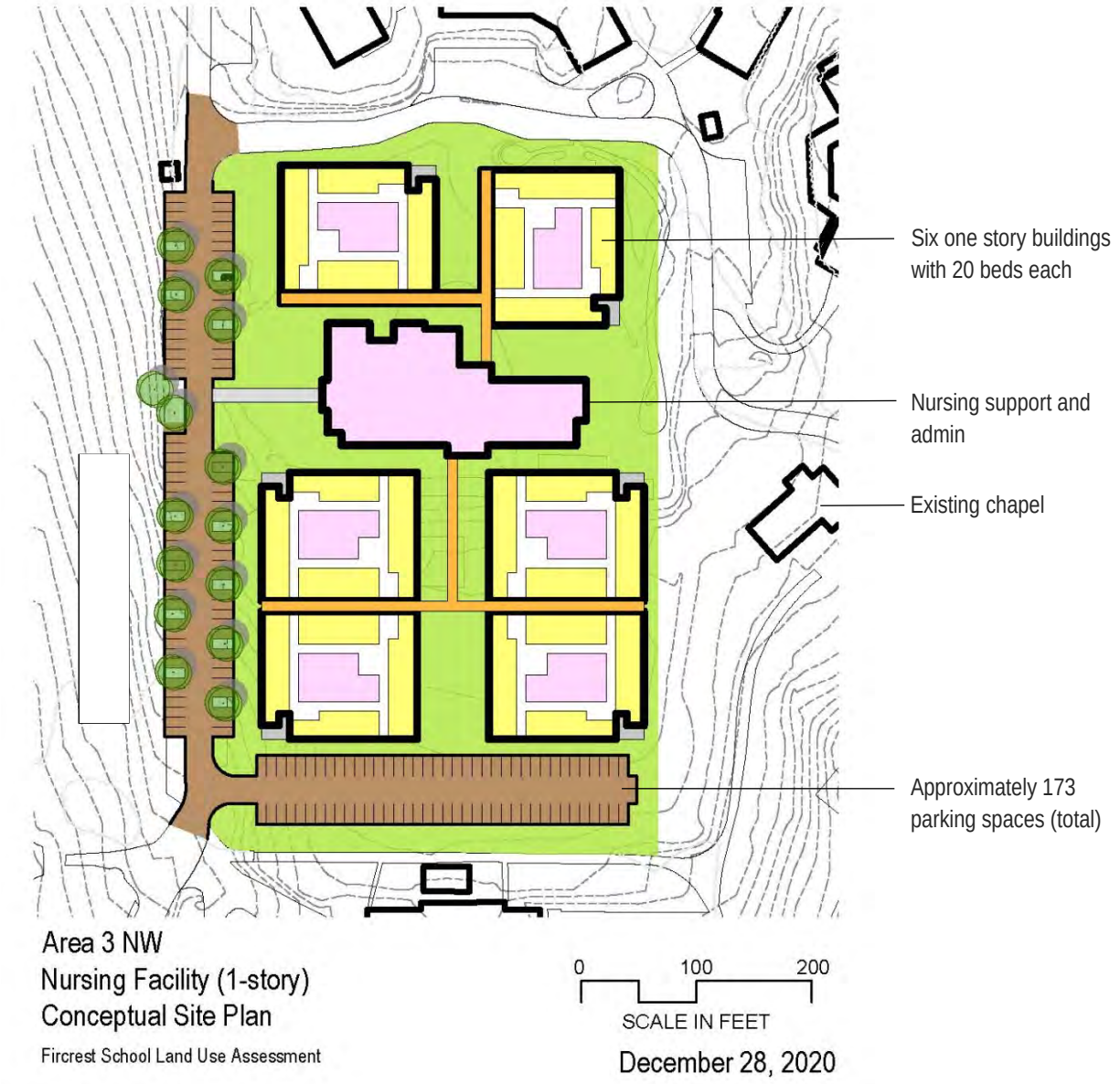
Figure 33 Alternative #3 site planning concept

Area Specific Site Planning Details

The 120-Bed 1-Story Nursing Facility on the Madrona Site

The conceptual site plan below (Figure 34) is based on the building size and configuration contained in the 2018 *Predesign Study for Nursing Facility New Capacity at Fircrest School, Shoreline* for DSHS and OFM by Sage Architectural Alliance, except that the parking has been reconfigured to account for the steep slope to the west of the current access road. As the diagrammatic plan illustrates, a 1-story building complex intrudes into Area 2 and removes most of the mature trees that are important to the community. The expansion of the Madrona site into the Northwest Corner reduces the land available for residential development by about 60,000 sf and generally isolates a potential residential development. This isolation could be remedied by constructing an access road from 15th Avenue NE to the existing road at the north of the proposed nursing facilities. The consultant team estimates this to cost about $7 million.

Figure 34 Diagrammatic site plan for a 1-story nursing facility on the Madrona site (Area 3)



Summary of Expected Revenues from Area Redevelopment

Table 18 Estimated revenues from development for Alternative 3

Area	Proposed Uses	Estimated Value (in millions)	
		Low	High
1		NA	NA
2		$20.2	$23.1
3		NA	NA
4		NA	NA
5		$11.5	$13.1
6		$4.1	$5.0
7		$6.4	$8.5

(*1) Value based on a mix of multi-family and townhouse unit's and reduced 25% from values calculated in Alternatives 1 and 2 because of land taken for the nursing facility (17%) and the sites isolation (8%).

(*2) Value based on a specific site planning concept and may differ from estimates in Section 5.

(*3) Source of park valuation is the average of per-square-value conclusions per most recent appraisals from ABS Valuation, utilizing selected unrestricted comparable property sales only, dated October 2020, and The Eastman Company, dated July 2020, as applied to 4.9 acre total park site area. The average value is sensitized +/- 10%.

Evaluation: Advantages and Disadvantages

From DSHS Perspective

+ A 1-story nursing facility on Area 3, the Madrona site, is DSHS's preferred location and configuration.
+ The Northeast Corner (Area 1) is DSHS's preferred location for the BHC and that area is inappropriate for non-facilities development.
– There will be very little space for expansion.
– A nursing facility at the Madrona site will be somewhat separated from the rest of the DSHS facility, and the topographic change has been mentioned as making it difficult to move residents to other parts of the campus.

From DNR Perspective

+ Mixed residential development in the Northwest Corner provides approximately $20.2 million -$23.1 million funds.
+ Townhouse development on Area 5 provides approximately $11.5 million - $13.1 million funds.
+ A park at the Southwest Corner (Area 6) generates $4.1 million - $5.0 million. However, a park or park and soundstage at that site might be a necessary part of the agreement with the City to allow more intensive (and revenue-producing) development on other areas.
– There would be no revenue from the Madrona site.

From the City of Shoreline's Perspective

+ A park or park and soundstage on the Southwest Corner meets part of their goals.
+ Commercial development on the Southeast Corner meets the City's other goals.

Other Considerations

+ DOH notes that residential next to laboratories has been a problem in the past. This alternative avoids that condition.
+ Commercial development in the Southeast Corner (Area 7) provides approximately $6.4 million - $8.5 million funds to the Dan Thompson Account.
– Providing revenue from the Southeast Corner rather than the Southwest Corner reduces net income to the State overall.
– Alternative 3 will likely result in the removal of the trees on the Madrona site, which may be a significant public concern and may trigger City tree protection requirements.

Figure 35 Aerial perspective

Fircrest School from the Southwest

Nursing facility from the Southwest

Townhome development from the Southwest

Section 7

Summary Evaluation

Introduction

While Section 6 – Campus-wide Alternatives explored the physical, functional, and financial implications of options for different areas as campus-wide conceptual site plans, this section compares the relative advantages and disadvantages of the three alternatives to facilitate internal decision-making and future discussions with the City. To that end, this section includes a brief comparison of the three alternatives with general observations relevant to next steps toward the facilities upgrades and land development. It should be noted that the following conditions and assumptions that are common to all three alternatives:

- There will be costs to develop property in all alternatives such as: traffic mitigation measures, environmental analysis, permitting fees, and site development costs. Phasing of non-facilities development is considered in the implementation section.
- Figures noted as "land value" are not necessarily the net income, but they are a means of comparing revenues from different site planning concepts. The figures are based on the analysis in Section 5.
- The team reviewed environmental information to determine potential site constraints and addressed constraints in the alternatives.
- Only the most exceptional site infrastructure costs have been noted, including relocation of the storm drainage pipe in Alternative 2 and a new access drive in Alternative 3. Though substantial site infrastructure costs may apply, the consultant team assumed costs would be relatively similar in all three alternatives.

Comparative Description and Observations

Table 19 compares the most salient characteristics of the three alternatives. From it, the following can be noted.

Alternative #1 posits a 2-story nursing facility on the Madrona site, which does not intrude on the Northwest Corner as does a 1-story facility. A 2-story facility would provide open space for the residents and retain some trees on the heavily wooded Madrona area; however, a 1-story nursing facility is preferred by the nursing staff. Alternative 1 generates an estimated land value between $49 million - $57.4 million.

Alternative #2 proposes a 1- or 2-story nursing facility in the Northeast Corner. The 1-story facility would include a second story over one of the 20-bed buildings. This location is not preferred by DSHS but would be on level ground and near the kitchen, and would provide covered and uncovered open space, all of which the nursing staff noted as an advantage when moving patients. Relocating a warehouse would also be required. A park in the Madrona area would benefit both the City and the potential residents to the north and retain most of the grove or trees.

Table 19 Summary chart comparing the three comprehensive alternatives.

CHARACTERISTIC	ALTERNATIVE		
	1. 2 Story Nursing on Madrona (Area 3)	2. 1 or 2 story Nursing on NE Corner (Area 1)	3. 1 Story Nursing on Madrona (Area 3)
LEGEND Nursing Fac BHC Multifamily residential Townhomes Commercial			
Potential Land Value	$49 million - $57.4 million	$50.8 million - $58.9 million	$42.2 million - $49.7 million
Implications for DSHS	+ Madrona site (Area 3) is DSHS preferred location + NE corner is DSHS preferred location for BHC - Two-story nursing facility is not preferred DSHS configuration - Very little expansion space - Site is separated from many other Fircrest School buildings and facilities	+ The NE Corner (Area 1) is flat and near the kitchen + A two-story nursing facility provides expansion space + The site provides open space for residents - The NE corner is not the DSHS preferred nursing facility location - $1.5 million additional cost for stormwater pipe relocation	+ DSHS preferred location and configuration + DSHS prefers BHC in NE corner + DSHS prefers one-story nursing facility - Very little expansion space - Site separated from campus - Site is separated from many other Fircrest School buildings and facilities
Implications for DNR	+ Development produces $42.6 million– $48.9 million to CEP&RI Trust	+ Development provides $50.8 million - $58.9 million to CEP&RI Trust	- Development provides $35.8 million- $41.2 million to CEP&RI Trust.
Implications for City	+ Park at SW corner (Area 6) + Commercial development + Retains some Madrona site trees	+ Park on Madrona site + Commercial development + Retains Madrona site trees	+ A park or park + soundstage on the SW corner + Commercial development on the SE corner (Area 7) - Loss of Madrona site trees
Other Considerations	+ Avoids residential next to PHL + Yields approx. $6.4 million - $8.5 million for Dan Thompson Account - Park at SW rather than SE corner reduces income to the State overall	+ Avoids residential next to lab + Park on Madrona benefits new residential development and saves an important stand of trees - There is no revenue for Dan Thompson Account	+ Avoids residential next to PHL + Yields approx. $6.4 million - $8.5 million for Dan Thompson Account - Park at SW rather than SE corner reduces income to the State overall

A one-story facility is preferred by nursing staff, but a two-story complex in the northeast corner would provide expansion space. In either case, a storm drainage pipe and a small warehouse would need to be moved to allow more compact development. the price of relocating the pipe is estimated at approximately $1.5 million.

In Alternative 2, all the DSHS facilities would be located on the eastern portion of the campus (Dan Thompson Account land). While this has functional advantages and produces more land value overall, it secures no revenue for the Dan Thompson Account. Alternative 2 generates an estimated $50.8 million to $58.9 million in land value.

Alternative 3 with a one-story nursing complex on the Madrona site meets all DSHS preferences and provides a park and commercial development that will, to the best of the team's knowledge, meet the City's requirements, although there may be public concern and City requirements regarding the loss of trees on Area 3. A major drawback is that intrudes into the Northwest Corner (Area 2) and reduces its potential value by reducing the amount of monetizable land by about 60,000 SF and isolating the area from the rest of the community. Alternative 3 generates and estimated $42.2 million to $49.7 million in land value.

Section 8

Implementation

Realizing the potential of the Fircrest School campus can be described as a two-phase process. In the first phase, the public agencies (state and local) need to agree on how they will use the finite land resource. In the second phase, private sector capital needs to be secured through land transactions. This section describes considerations and processes for each phase.

Phase 1: Public Agency Agreement

State Decisions Regarding Facilities Locations

The scenarios detailed in this report focus on the operational and financial impacts of various configurations of the new behavioral health center (BHC) and a rebuilt existing nursing facility. From a sequencing standpoint, reaching an agreement with DSHS should come first as it will define the remaining land area. Critical operational issues to be addressed include:

- Nursing Facility: One- or two-story format and location at the Madrona site (Area 3) or Northeast Corner (Area 1).
- BHC: Location in Northeast Corner (Area 1) or Southeast Corner (Area 7).

Another issue to consider is that the area which may be dedicated for a park instead of redevelopment will determine the relative revenues available to each trust or account. Section 6 Alternatives of this report provides comparative information for determining the location and configuration of the individual facilities, as well as the implications for the development of other areas.

City of Shoreline Planning and Regulatory Framework

The second step in Phase 1 is to ascertain the uses, intensities, and development standards that the City's comprehensive plan, zoning code, and other regulations will allow. The City has identified four alternate processes to support site development, two which are City-initiated and two which the State would initiate. (See Appendix A for details.) The two State-initiated options are:

1. The State prepares and the City approves a Master Development Plan (MDP) under the current municipal code section: SMC 20.30.353 which would define the regulatory requirements for new campus development.
2. The state prepares and the City approves Comprehensive Plan amendment and concurrent rezone.

Option 2 appears to be the most advantageous because it avoids the current MDP requirements which include both development constraints and a specific public engagement process conducted by the State. The City has noted that the comprehensive plan update and rezone process could incorporate a concurrent "development agreement" that is consistent with comprehensive plan and zoning amendments and may also include other elements such as land transactions with the City, or other specific conditions in exchange for adopting the proposed amendments. The Phase 1 process assumes that a development agreement is used to bundle regulatory requirements and special conditions into a single comprehensive agreement with which provides the State the certainty that it can move forward toward facilities and Phase 2 development. Based on the development agreement, comprehensive planning and zoning amendments plus any other necessary regulatory changes should be quickly adopted by the City so that the State can initiate the Phase 2 process below. During Phase 1, the following should be considered:

- Negotiations with the City should commence only after the location of DSHS's uses are known. Ideally the state representatives would be able to forecast the construction timing of the nursing and BHC facilities as it will help the City envision the future condition of those areas of the property.
- The State and the City should first agree on a process and sequence of steps to prepare and implement the development agreement.
- At the outset of the negotiation with the City, the State should make clear what type of restrictions and conditions will be applied when it comes to selling or ground leasing state land as well as DSHS facilities development. At the timing of this report we understand most of these restrictions evolve around fair market value (FMV).
- From an ownership standpoint, the City has expressed a strong interest in both park/open space and commercial development that is consistent with their economic development objectives. For any portion of the property that the City wants to reserve for commercial development (i.e., soundstage or other employment-generating options), we recommend a purchase option rather than a straight sale. The key difference is that the option agreement will be for a specified period (e.g. 12 months) and may include other provisions such as allowable uses, size, and other factors. The State has a significant long-term interest in the quality and timing of development on the campus. A limited duration option agreement is the best way to ensure that the City moves quickly to pursue their goals and, in the event that they do not come to fruition, it will allow the State the option to develop the property with the new zoning in place. This is less of an issue with any park land that the City might acquire, though the consultants recommend including park construction obligations (timing and programming) as a covenant in the sale to ensure the City implements its plan for the park.
- A SEPA document should be prepared at this time to identify other concerns and development conditions related to the implementation of site development. A planned action EIS may be one way to reduce uncertainty in the development process and ensure public engagement.
- The State will maximize its value by reducing the amount of uncertainty associated with the development of the property. Since the maximum development capacity (both state and market based uses) will be an integral part of the negotiation with the City, the State should endeavor to make the City land sale(s)/option contingent upon execution of a development agreement that addresses SEPA and other non-project entitlements. This will help ensure that developer-buyers have a higher level of certainty about the approval process and are therefore willing to pay the most for the opportunity.

Phase 2: Private Sector Investment

At the conclusion of Phase 1, the DSHS facilities and City projects will be conceptually defined and the development agreement, along with a comprehensive plan amendment and zoning standards, will clarify the market-based development opportunities. Phase 2, outlined below, summarizes the process for monetizing the developable portions of the campus.

General Considerations

Sale or Ground Lease

DNR has two options for monetizing the developable portions of the campus — Fee Simple Sale or Ground Lease. Ground leases are desirable for the Lessor because they generate long-term, very low risk revenue that keeps pace with inflation. Ground leases generally are not desirable to developers because the

land cannot be subordinated to construction or permanent debt and the divided estate is perceived to negatively impact the value of the project at stabilization (higher capitalization rates).

Landowners are best positioned to overcome the market's aversion to ground leases when their properties are "very unique" (urban waterfront, a downtown block, location on a hospital campus, etc.) where a fee simple alternative cannot be easily substituted. The scale of the development opportunities at the campus are unique as is the setting near open space, but generally, the consultants believe the State would achieve greater value through sale of land and reinvestment of the proceeds into institutional grade income properties.

It is also important to note that the for-sale townhouse product that is blended into the land value estimates cannot be developed on a ground lease. While for rent multifamily is more valuable (on a per square foot basis) and compatible with a ground lease structure, the sheer quantity of a single product type on the campus will somewhat slow absorption and put downward pressure on value to the State.

Land Transaction Program

All the alternatives contemplated in this study lend themselves to a process whereby the State conducts a series of land transactions over a 1 to 3-year period. To maximize value, we recommend a land transaction process that incorporates the following concepts:

- Multiple Transactions: By securing the rezone and development agreement in Phase 1, the State is essentially serving the role of "land developer". By selling the development sites individually, the State can optimize timing and leverage competition by having multiple developers working on the campus redevelopment.

Closing Transactions with Permits: The State's holding cost for the campus is de minimis compared to a developer's cost of equity therefore allowing the developer to close on the land with permits in-hand will maximize the gross proceeds at closing.

Transaction Steps

Pre-Market Preparation

During this one to two-month period, marketing materials are prepared and due diligence documents are assembled for review by potential buyers. Development opportunities of this scale are rare in urban Puget Sound so the marketing materials should be designed for broad outreach and introduce the campus to high quality developers that may not already be familiar with Shoreline, the DSHS facilities, and DNR.

Marketing

In order to maximize both value and efficiency, marketing of any one development site (e.g. Northeast Corner (Area 1) should begin approximately 18 months prior to a targeted closing date, which would roughly coincide receipt of permits and with start of construction. In addition to being consistent with DNR regulations, the marketing process for these development opportunities should be designed to maximize exposure and leverage competition to drive value to the State.

Negotiation & Documentation

This two- to three-month phase of the process starts with the receipt of Letters of Intent (LOIs) from potential developers and concludes with execution of a binding Purchase and Sale Agreement (PSA).

Pre-Closing Management

As discussed above; the State will maximize its gross revenue from land sales if the PSAs are structured to allow the developer to close at receipt of land use approval. If the State has successfully secured a development agreement during Phase 1, the developer's feasibility period and permitting timeline will be shorter (estimating 90 days or less for feasibility and 10 months for permitting). During this period the

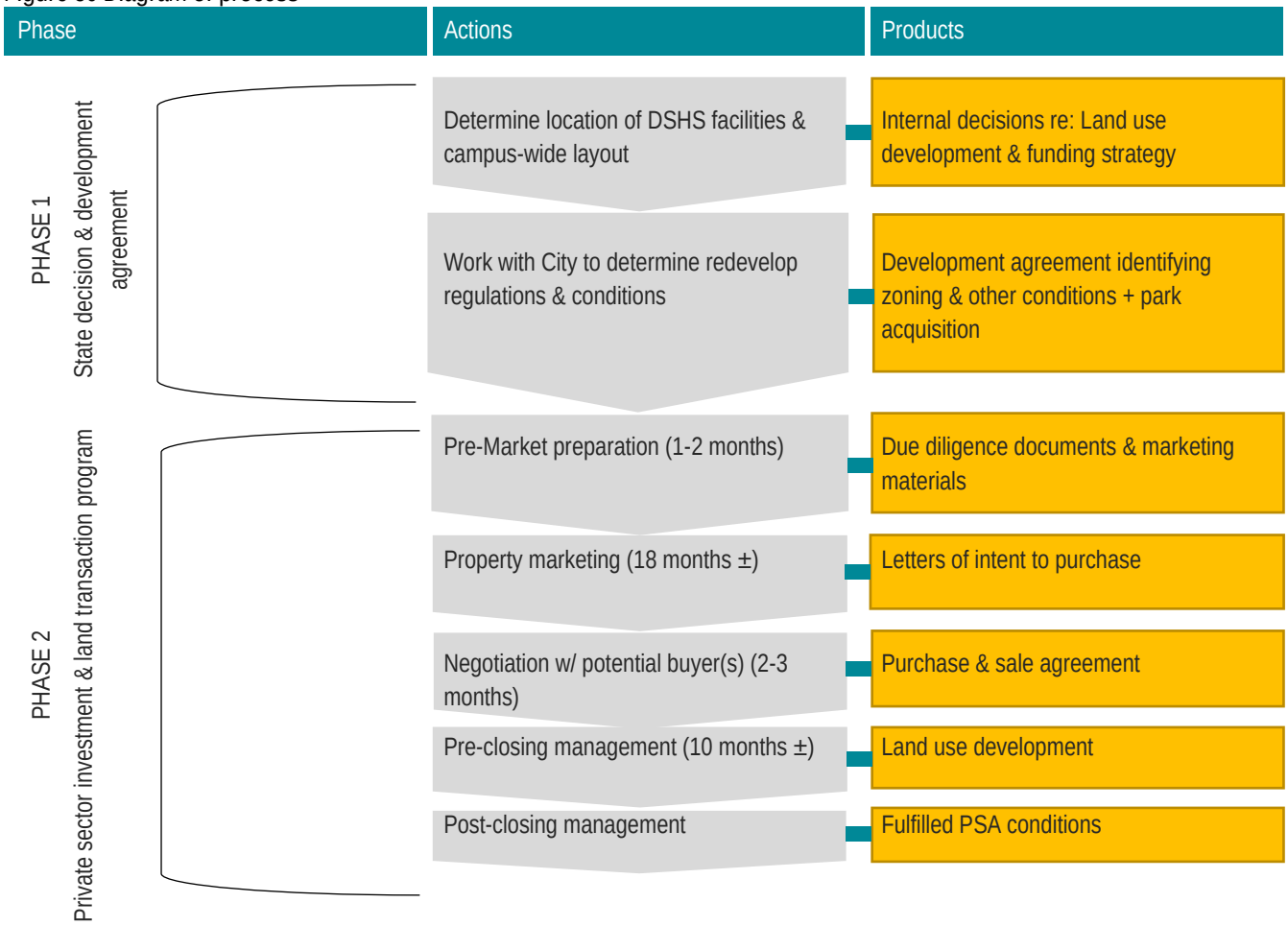
State's representatives will need to monitor the developers permitting progress and ensure that all pre-closing conditions are fulfilled and to negotiate amendments to the agreements if necessary.

Post-Closing Management

With multiple development sites to sell and the rest of the campus to manage, the State has a significant interest in ensuring individual developers successfully complete their projects in a manner consistent with the PSAs. During this period the State's representatives will need to monitor the developers' construction progress and ensure that any post-closing conditions are fulfilled.

This process is diagrammed in Figure 36 Diagram of process.

Figure 36 Diagram of process



Section 9

Conclusions

1. The location and configuration of the nursing facilities is the fundamental decision to be made before action can be taken to provide for that core function. And, the location of the nursing facility has significant implications for the use of other portions of the campus and affects the amount of potential revenue that the State may achieve from the development of portions of the campus for residential or commercial uses. To evaluate the implications of nursing facility development options, the team conducted an evaluation of several comprehensive, campus wide alternatives with different nursing facility options. Sections 6 and 7 of this report compare the options for one and two-story nursing facilities on both the Madrona site (the forested area north of the Activities Building) and the northeast corner (currently occupied by the ATP Building).
   - A one-story nursing facility on the Madrona site (Alternate 3) is preferred by DSHS staff and will yield a land value of about $42.2 million to $49.7 million for portions of the site to be developed for uses other than state facilities.
   - A two-story nursing facility on the Madrona site will yield a value of about $49 million to $57.4 million.
   - A one or two-story nursing facility in the northeast corner will yield a land value of about $50.8 million to $58.9 million for portions of the site to be developed for uses other than state facilities. Moving a storm drainage pipe might add approximately $1.5 million to the cost of a nursing home in this location.

   Sections 6 and 7 of this report identify other significant issues to be considered in comparing the 4 options above. All the land values noted above are based on the assumptions and analysis in Section 5. They are also subject to the conditions of a development agreement with the City that describes the development capacity and standards for development of campus properties.

2. Significant development of DSHS facilities or commercial or residential development will require an agreement with the City of Shoreline. Currently the campus is zoned Fircrest Campus Zone (FCZ) which does not allow new commercial or residential development. Also, redevelopment or new development of nursing facilities, housing for disabled persons, and similar uses would require an approved "Master Plan" that meets specific City criteria. The City has indicated that a part of such a development agreement must include addressing the City's objectives for active park open space and employment producing commercial development. To move forward with development of facilities and public and private uses will require a comprehensive plan amendment and rezoning of the property. It appears that this can be most efficiently accomplished through reaching a "development agreement" with the City, on which a comprehensive plan amendment and zoning designation(s) are based. The development agreement should specify the use and development standards that apply to various portions of the site and the agreed upon price that the City will pay for park land. The development agreement may also include other provisions such as SEPA determinations, specific project entitlements, covenants or a purchase option for the City to acquire a specific parcel within a specified period of time for purposes that it identifies.

3. Determining the "fair market value" for various portions of the campus is complicated by at least two factors. First, the value of land to be transacted to the City for a park must be negotiated, and the price may vary from its value as effectively un-zoned land with negligible development capacity to land with

substantially more value if it was zoned for commercial or residential uses that are economically and contextually appropriate for the campus's location. Second, the value of other parcels will be dependent upon the zoning agreed upon between the City and the State. It is recommended that the State pursues a "development agreement" as described in Section 8 that identifies both the value of the land to be purchased by the City and the development regulations that affect the other portions of the site. It may be that the State's interest to sell land for a park to the City for a lower price in exchange for higher development capacity on other portions of the campus.

4. The fact that the revenue from different departmental ownerships is tied to those parcels may hinder the most efficient and revenue producing development strategy. For example, the southwest corner has greater development value than the southeast corner. However, funds from the southeast corner benefit the developmentally disabled community. Therefore, locating development on the southeast corner and a park on the southwest corner of the campus will generate revenue for the Dan Thompson Account but will yield less revenue to the State overall. Some internal mechanism to address this dilemma should be considered.
5. The behavioral health center (BHC) will fit on either the northeast site (Area 1) or the southeast site (Area 7). The southwest corner (Area 6) was also considered as a BHC location, but there are advantages for having the BHC on a less prominent site and the southwest corner has high redevelopment value.
6. In general, the parcels facing 15th Avenue E on the west side of the campus are more valuable for commercial or residential development than the northeast or southeast corner parcels.
7. The Fircrest School campus is a unique resource for the State, the community, and the region. With its mature trees, gentle slopes, and views, the property is very attractive for a variety of activities which will be enhanced if integrated into a larger campus-wide site planning concept. Further development planning work should consider how individual development actions can be integrated to maximize the functional, environmental and aesthetic assets of the campus as a whole.
8. The recommended process for moving forward with facilities improvements and land development is described in Section 8 and summarized below:

Phase 1: Site Planning Decisions and Development Agreement with the City

a. Determine the preferred locations and configurations of the nursing and BHC facilities and identify the optimum uses on other portions of the campus.
b. With the City of Shoreline agree on a process to prepare a development agreement as noted in "c" below.
c. Work with the City of Shoreline to reach a development agreement that defines the zoning and applicable development regulations and conditions for the various areas along with an agreed upon price for the land to be developed by the City as a park. SEPA analysis should be accomplished at this time to identify all conditions necessary for development
d. (The City) adopt necessary comprehensive planning and zoning amendments based on the development agreement, and State and City park development land as applicable.

Phase 2: Private Sector Investment

a. Determine how the State would develop land for state facilities or public or private uses.
b. Conduct a phased program or land transactions, including the following steps:

i. Pre-Market Preparation. Including due-diligence and preparation of marketing information.

ii. Marketing. Which includes a variety of activities over an 18-month period.

iii. Negotiation and Documentation: Receiving letters of intent from prospective developers, selecting a proposal and completing a purchase and sale agreement (PSA).

iv. Pre-Closing Management: Including monitoring permitting and ensuring pre-closing conditions are met.

v. Post-Closing Management: Ensuring that conditions of the PSA are met.

A.6 CRITICAL AREAS REPORT

DRAFT
CRITICAL AREAS REPORT

FIRCREST SCHOOL CAMPUS MASTER PLAN
SHORELINE, WASHINGTON

Prepared for
City of Shoreline
and
AHBL, Inc.

Prepared by
Herrera Environmental Consultants, Inc.

HERRERA

Note:
Some pages in this document have been purposely skipped or blank pages inserted so that this document will print correctly when duplexed.

CRITICAL AREAS REPORT

FIRCREST SCHOOL CAMPUS MASTER PLAN
SHORELINE, WASHINGTON

Prepared for
City of Shoreline
and
AHBL, Inc.
Tacoma, Washington 98403

Prepared by
Herrera Environmental Consultants, Inc.
2200 Sixth Avenue, Suite 1100
Seattle, Washington 98121
Telephone: 206-441-9080

DRAFT
March 7, 2022

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APPENDICES

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FIGURES

DISCLAIMER

Herrera Environmental Consultants, Inc., has prepared this report for use by AHBL, Inc., and the City of Shoreline. The results and conclusions in this report represent the professional opinion of Herrera Environmental Consultants, Inc. They are based upon examination of public domain information concerning the study area, site reconnaissance, and data analysis.

The work was performed according to accepted standards in the field of jurisdictional wetland determination and delineation using the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Western Mountains, Valleys, and Coast Region* (Environmental Laboratory 2010). However, final determination of jurisdictional wetland boundaries pertinent to Section 404 of the Clean Water Act is the responsibility of the Seattle District of the US Army Corps of Engineers. Various agencies of the State of Washington and local jurisdictions may require a review of final site development plans that could potentially affect zoning, buffer requirements, water quality, or habitat functions of lands in question. Therefore, the findings and conclusions in this report should be reviewed by appropriate regulatory agencies before any detailed site planning or construction activities.

HERRERA QUALIFICATIONS

Established in 1980, Herrera Environmental Consultants, Inc. is an innovative, employee-owned, consulting firm focused on three practice areas: water, restoration, and sustainable development. The following staff authored this report and conducted field work in support of this report. A summary of their qualifications is provided.

Rayna Gleason, ISA Arborist

Rayna Gleason is an arborist and landscape designer with 11 years of experience in urban forestry, native habitat restoration, forest and meadow restoration, environmental design, and invasive species management. Rayna provides tree inventories, tree risk assessments, planting plans, vegetation monitoring surveys, wetland delineation, and native Pacific Northwest habitat restoration consulting. Rayna writes tree assessment reports, critical areas reports, wetland and stream delineation reports, and vegetation monitoring reports. Rayna creates JARPA permitting and mitigation planting plans for Washington municipalities.

Credentials

- ISA Arborist, NY-5710A, PNW Chapter, 2011
- ISA TRAQ Qualification, 2019

Eliza Spear, PWS

Eliza Spear is an ecologist and permitting specialist with 6 years of experience in wetland, forest, and meadow restoration; wetland delineation; environmental permitting; and invasive species control. Eliza delineates wetlands and ordinary high water marks of streams and shorelines, and prepares wetland and stream delineation reports, critical areas reports, and mitigation plans for impacts to wetlands, streams, and buffers. Eliza coordinates with local, state, and federal agencies; completes applications; and obtains permits and approvals for project compliance with regulations including local critical area ordinances, the State Hydraulic Code, SEPA, and Clean Water Act Sections 401 and 404.

Credentials

- BS, Environmental Science and Ecology, College of William and Mary, 2013
- Certificate in Wetland Science and Management, University of Washington, 2018
- PWS, Professional Wetland Scientist, Society of Wetland Scientists, 2021
- WSDOT Junior Biological Assessment Author, 2020

EXECUTIVE SUMMARY

This critical areas and significant tree investigation was performed as a subconsultant for AHBL, Inc. (AHBL) in support of the Fircrest School Campus Master Plan. This report presents the results of a wetlands and stream investigation conducted by Herrera Environmental Consultants, Inc. (Herrera) in May 2018, a significant tree survey conducted by Herrera in 2018, and a landslide and erosion hazard assessment conducted by South Sound Geotechnical Consulting in February 2022. Critical areas present on the site include two non-fish-bearing streams and one priority habitat (critical roosting habitat for little brown bat). The project is not expected to directly impact the streams, but may impact stream buffers. Mitigation for impacts on stream buffers must be mitigated according to City of Shoreline Critical Areas code.

The significant tree survey found that most of the trees measured on the site met the City of Shoreline definition of a significant tree. Any significant trees removed for the project are required to be replaced according to City of Shoreline replacement ratios.

No wetlands were found on the site, and no landslide hazard areas or areas of erosion were identified.

Most of the trees measured on site met the City of Shoreline definition of a significant tree.

INTRODUCTION

The critical areas investigation and significant tree survey described in this report was performed as a subconsultant for AHBL, in support of the Fircrest School Campus Master Plan (hereafter referred to as the project). AHBL is proposing to create a campus master plan to improve modifications to facilities and campus layout. Critical areas regulated by the City of Shoreline and relevant to this project include wetlands, fish and wildlife habitat conservation areas (streams, priority habitats, and species), and geologic hazard areas. Significant trees are regulated under the City's development standards. This report documents baseline conditions of significant trees and critical areas in the study area and applicable regulations and guidance regarding potential project impacts on these resources.

PROJECT SETTING

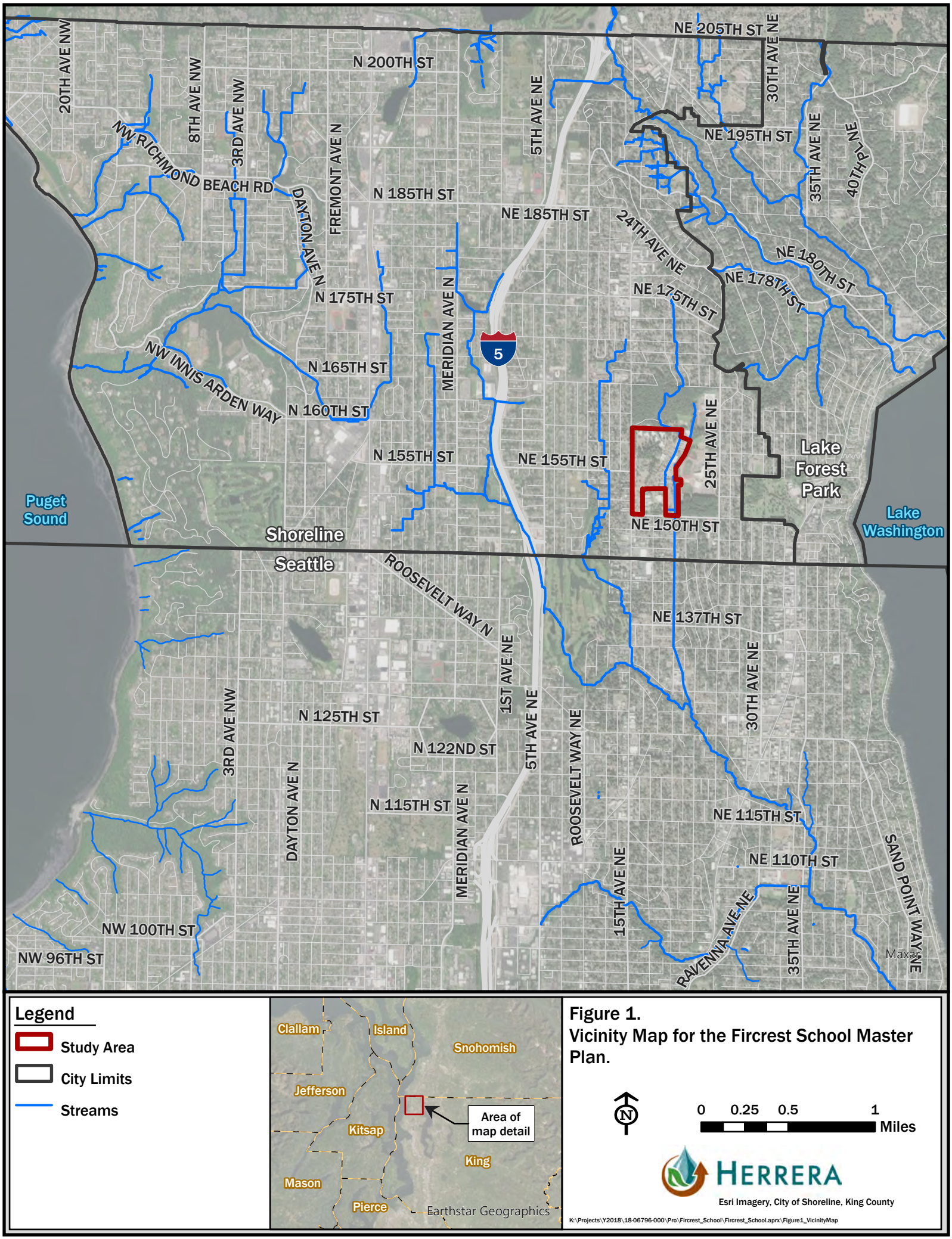
The Fircrest School campus is located at 15230 15th Avenue Northeast, Shoreline, Washington 98155 (Figure 1). The approximately 53-acre area, investigated for the presence of wetlands and streams (the study area), is located at latitude 47.5968633, longitude -122.3236344 in Sections S5 T24N and R4E, Township T24N North, Range R4E East of the Willamette Meridian (WDFW 2009).

The study area Is in the Cedar River/Lake Washington portion of Water Resource Inventory Area (WRIA) Cedar-Sammamish (WRIA 8). The study area is within the subbasin referred to as the North Branch Thornton Creek drainage basin, which discharges into Lake Washington.

STUDY OBJECTIVES

The objectives of the study were to:

- Identify any wetlands and fish and wildlife habitat conservation areas (FWHCAs) in the study area.
- Identify all significant trees within the study area.
- Identify geologic hazards in the study area.
- Identify regulations and guidance applicable to project impacts on wetlands, FWHCAs, significant trees, and buffers set forth by local, state, and federal authorities.



Legend

- Study Area
- City Limits
- Streams

Figure 1.
Vicinity Map for the Fircrest School Master Plan.

N

0 0.25 0.5 1 Miles

HERRERA

Esri Imagery, City of Shoreline, King County

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METHODS AND MATERIALS

Evaluating the presence, extent, and type of critical areas and significant trees requires a review of available information about the site (e.g., surveys, studies), followed by an onsite wetland investigation. The following sections describe the research methods and field protocols for the evaluations.

REVIEW OF AVAILABLE INFORMATION

A literature review was performed to determine the historical and current presence of critical areas in and near the study area. Sources of information included:

- Aerial photographs of the study area (Google Earth 2022)
- National Wetlands Inventory map of wetland areas in the study area (USFWS 2022)
- King County wetland inventory (King County 2022)
- Hydrographic data (stream locations) for King County (King County 2022)
- SalmonScape online mapping (WDFW 2022b)
- Washington State priority habitat and species (PHS) data (WDFW 2022c).
- Washington State Natural Heritage data (DNR 2022)
- Soil survey maps for the study area (NRCS 2022)
- Landslide and Erosion Hazard Assessment (Appendix A)
- Thornton Creek and West Lake Washington Basin Characterizations Report (Tetra Tech 2004)

WETLAND INVESTIGATION

The wetland investigation was performed in accordance with the *Regional Supplement to the US Army Corps of Engineers Wetlands Delineation Manual: Western Mountains, Valleys, and Coast Region* (Environmental Laboratory 2010) , which is consistent with the *1987 Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987).

The methods in the guidance manuals listed above use a three-parameter approach for identifying and delineating wetlands and rely on the presence of field indicators for hydrophytic vegetation, hydric soils, and hydrology.

Fish and Wildlife Habitat Conservation Area Delineation and Classification

A Fish and Wildlife Habitat Conservation Areas (FHWCA) is an area that supports regulated fish or wildlife species or habitats, typically identified by known point locations of specific species, habitat areas, or both. Streams and piped stream segments are FHWCAs according to Shoreline Municipal Code (SMC) 20.80.270(B)(5). SMC defines streams as "those areas where surface waters produce a defined channel or bed, not including irrigation ditches, canals, storm or surface water runoff devices or other entirely artificial watercourses, unless they are used by fish or are used to convey streams naturally occurring prior to construction." FHWCAs also include Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species.

In accordance with the City of Shoreline, streams on the site were classified using the Washington State Department of Natural Resources (DNR) water typing system based on WAC 222-16-030.

Stream locations and conditions, and potential wildlife presence and habitats, were evaluated through the review of available information and onsite investigations.

Significant Tree Investigation

In 2018 a Herrera arborist and a biologist inventoried the entire Fircrest Campus project area, measuring 176 significant trees or tree groves that met the minimum circumference per the City of Shoreline Municipal Code, *Chapter 22.62 Landscaping Regulations*. Within the code, *Chapter 22.62.009 Retention and protection of significant trees,* states that "*significant trees are healthy evergreen trees with a minimum 12-inch DBH and healthy deciduous trees with a minimum nine-inch DBH* (diameter at breast height)."

Prior to the initial site visit, a desktop analysis was done for the campus property, private buildings, and access points. Once in the field, tree circumference was measured at 4.5 feet above grade (dbh), identified by genus and species, and mapped by hand with a unique tree number and location within the project area. Trees that were dead, damaged, in decline, or hazardous were noted at the time.

The tree inventory of the Fircrest Campus is grouped into two categories: specimen trees and tree groves. Specimen trees are categorized as trees of significant size or approximately significant size that are planted on site. Tree groves are larger groups of trees that may have been planted or generated naturally. They tend to have a mixture of sizes and species, and often a mature native canopy with invasive species in the understory. Tree groves are also defined by

a complex understory (versus grass or a planting bed for specimen trees). Understory species are listed in the comments section of the tree inventory for each grove. Constraints on the project timeline did not allow each tree in a tree grove to be measured. Instead, the species diversity was identified, and the dbh range was provided based on measurements taken of the high and low end of the spectrum of tree sizes. Tree groves receive one unique Tree ID Number, although they have multiple trees in each grove.

The final tree inventory spreadsheet (see Appendix B) shows the Tree ID Number, Species, Common Name, DBH, Significant Tree per City Standards (Yes or No), whether the tree species is native, nonnative, on the Washington State Noxious Weed Board's invasive monitor list or its invasive list, Tree Grove vs Tree Specimen, General Tree Health (Good, Fair, Poor), Risk of Physical Failure (Low, Medium, High), Location by Building Number, and Notes.[1]

Notes detail dead trees present, justifications for a "Fair" or "Poor" General Tree Health rating, or Risk of Physical Failure Rating of "Medium" or greater.

The Fircrest School Campus Master Plan project was put on hold, and the original tree inventory was not delivered to the City upon completion in 2018. The completed tree inventory and corresponding map (see Figure 2) reflects the health and size of significant species inventoried in 2018. Trees that have died, become damaged, grown into significant size per City standards, or have been removed since 2018 have not been noted.

[1] General Tree Health and Risk of Physical Failure refer to the Type 1 Tree Risk Assessment (TRAQ) standards set by the International Society of Arboriculture (ISA).

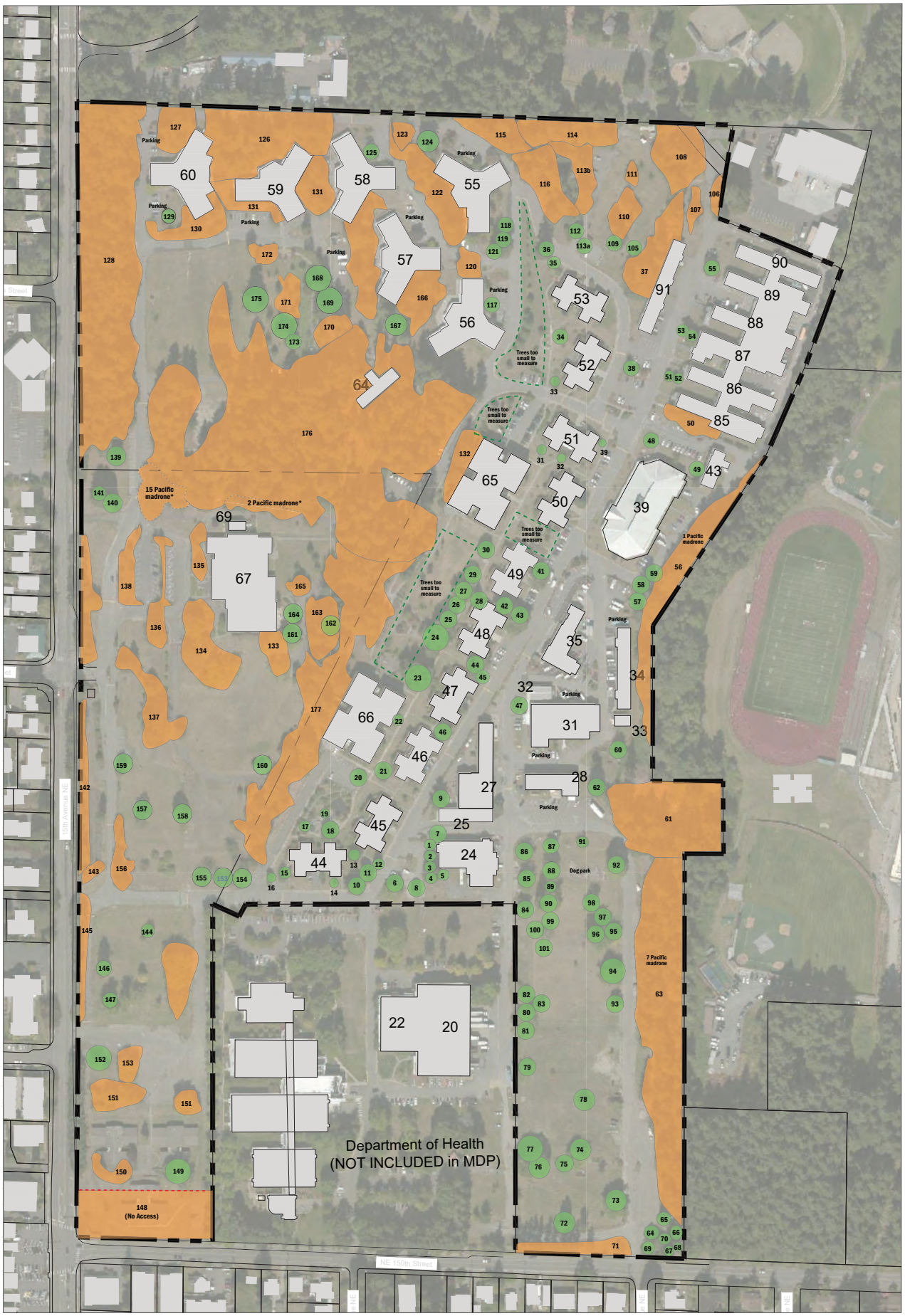

Figure 2. Fircrest Campus Tree Inventory – 2018.

N

0 50 100 200

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RESULTS

This section discusses the results of the site investigations, including a review of information obtained from various references, and an analysis of critical area conditions in the study area as observed during field investigations.

Analysis of Available Information

The available existing information compiled for the critical areas investigation is summarized in the following subsections.

Previously Mapped Wetlands and Streams

The National Wetlands Inventory (NWI) does not map any wetlands in the study area. NWI maps show West Hamlin Creek flowing under Northeast 160th Street from Hamlin Park to the north. West Hamlin Creek is then conveyed through pipes to the eastern boundary of the study area, where it joins with East Hamlin Creek and flows out of the study area to the south before joining the main Thornton Creek system south of the Shoreline city limits boundary (Tetra Tech 2004).

East Hamlin Creek is also mapped flowing through a mixed open channel conveyance and piped system on the eastern boundary of the study area. East Hamlin Creek collects drainage from primarily single-family residential areas before flowing south into Thornton Creek downstream of the study area (Tetra Tech 2004).

Fish Habitat Use

Based on WDFW's SalmonScape and PHS mapping, there is no fish use in West or East Hamlin Creek (WDFW 2022b, 2022c). SalmonScape mapping shows multiple fish passage barriers downstream of the study area, including multiple natural barriers due to excessive slopes for fish passage.

Wildlife Habitat Use

According to WDFW PHS data (WDFW 2022c), the Fircrest Campus is potential habitat for the little brown bat (*Myotis lucifugus*), similar to the entire Shoreline city limits. The little brown bat is one of the most common bat species in Washington and is found throughout forested habitats. The species is a habitat generalist and occurs most commonly in both conifer and hardwood forests and forest margins (WDFW 2022a).

The little brown bat is not federally regulated or regulated within Washington State. Critical roosting habitat preservation is encouraged, but not enforced. Critical roosting habitat per the WDFW are remnant forest patches, large snags, hollow trees, and large-diameter trees in areas that are heavily managed (i.e., the Fircrest Campus). As of the 2018 site visit, no critical little brown bat roost habitat was identified.

RESULTS OF FIELD INVESTIGATIONS

This section presents the results of the 2018 significant tree survey and wetland investigation, the 2022 FWHCA investigation, and the February 2022 geologic hazard investigation.

Wetlands

Herrera biologists found no evidence of hydrophytic vegetation or wetland hydrology during the site investigation and determined that no wetlands are present in the study area.

Fish and Wildlife Habitat Conservation Areas

Streams

The small segment of West Hamlin Creek that was not piped in the study area did not have any bed or bank characteristics and instead was observed to be a vegetated swale that conveys the stream flows from mapped piped stream segments to the north and south. A majority of the small segment of East Hamlin Creek that was not piped in the study area displayed characteristics consistent with those observed in West Hamlin Creek; however, a small segment of the vegetated swale appeared to have been maintained, resulting in bed and bank characteristics likely caused by human intervention, rather than by natural flow processes. Piped stream segments and segments without OHWM but that convey naturally occurring streams are regulated as FWHCAs per SMC 20.80.270(B)(5) and SMC 20.80.270(B)(5)(E). Stream conditions are summarized in Tables 1 and 2.

Table 1. Stream Summary Table—West Hamlin Creek.	
Stream Name	West Hamlin Creek
	Photo showing the non-piped section of West Hamlin Creek lacking OHWM at the northern boundary of the study area.
Local Jurisdiction	City of Shoreline
DNR Stream Type	Type Ns
Local Stream Rating	Type Ns
City of Shoreline Buffer Width	45-foot buffer on non-piped section, 10-foot buffer on piped sections
Documented Fish Use	No known fish use (WDFW 2022b and 2022c). Mapped natural barriers downstream.
Location of Stream Relative to Project Corridor	Stream flows south from Hamlin Park through the eastern portion of the study area. At the southeastern corner of the study area, West Hamlin Creek flows into East Hamlin Creek.
Riparian/Buffer Condition	The buffer in the northernmost portion of the study area where West Hamlin Creek is conveyed through an open channel consists of mature trees and a mowed, grassy understory. West Hamlin Creek is then conveyed through pipes that are within the paved development of the Fircrest School Campus.

Table 2. Stream Summary Table—East Hamlin Creek.	
Stream Name	East Hamlin Creek
	Photo showing the non-piped section of East Hamlin Creek lacking OHWM at the eastern boundary of the study area.
Local Jurisdiction	City of Shoreline
DNR Stream Type	Type Ns
Local Stream Rating	Type Ns
City of Shoreline Buffer Width	45-foot buffer on non-piped section, 10-foot buffer on piped sections
Documented Fish Use	No known fish use (WDFW 2022b, 2022c). Mapped natural barriers downstream.
Location of Stream Relative to Project Corridor	East Hamlin Creek flows south into the study area at its northeast corner. East Hamlin Creek flows south out of the study area at its southeast corner after joining with West Hamlin Creek.
Riparian/Buffer Condition	The buffer within the study area consists of narrow strips of managed, upland lawn. Beyond this vegetation, the buffer is comprised of paved surfaces associated with the buildings on the Fircrest School Campus.

Wildlife

During field reconnaissance, a large number of domesticated rabbits and raptors, predominantly red-tailed hawk (*Buteo jamaicensis*), were observed on site. It is probable the domesticated rabbits are feral offspring of pets. No other wildlife were observed during the site visit.

Significant Trees

The current tree canopy within the Fircrest Campus is a mixture of mature native tree species and ornamental species, many from the eastern United States. On average, trees within the project area were about 23 inches dbh in 2018. Most of the trees measured on site met the City of Shoreline definition of a significant tree.

Specimen Trees

Ornamental and native trees are located around each of the buildings and along the roadways, within the off-leash dog park, and within an open field along the southeastern portion of the campus. The predominant ornamental/specimen trees species are American sycamore *(Platanus occidentalis*), horse chestnut (*Aesculus hippocastanum*), Norway maple (*Acer platanoides*), sycamore maple (*Acer pseudoplatanus*), Port Orford cedar (*Chamaecyparis lawsoniana*), Northern red oak (*Quercus rubra*) and Scots pine (*Pinus sylvestris).*

Most specimen trees around the campus appear healthy and provide significant benefits to the look of the campus. A few specimen trees were dead or had obvious health problems. A few trees had experienced structural damage. Dead, damaged, or trees in decline were noted within the Notes section of the 2018 tree inventory.

Tree Groves

Tree Groves are predominantly along the edges of the property line, along with a large grove of trees around the Naval Hospital Chapel. Healthy, large stands of Pacific madrone (*Arbutus menziesii*) and mature native conifers such as Douglas fir (*Pseudotsuga menziesii*), Western white pine *(Pinus monticola*), Western hemlock (*Tsuga heterophylla*), Western redcedar (*Thuja plicata*) are prominent throughout. Other native species found within the tree groves are bigleaf maple (*Acer macrophyllum*), Ponderosa pine (*Pinus ponderosa*), quaking aspen (*Populus tremuloides*), black cottonwood (*Populus balsamifera* ssp *trichocarpa*), red alder (*Alnus rubra*), Pacific dogwood (*Cornus nuttallii*), and bitter cherry (*Prunus emarginata*). Nonnative species found within the tree groves are Scots pine and horse chestnut. Species within the tree groves on the Washington State Noxious Species Board's list of Invasive of Invasive Monitor are Norway maple, English laurel (*Prunus laurocerasus*), and English holly (*Ilex aquifolium*).

Native species within the tree grove understory often consisted of bracken fern (*Pteridium aquilinum*), salal (*Gaultheria shallon*), Western swordfern (*Polystichum munitum*), dull Oregon grape (*Mahonia nervosa*), red huckleberry (*Vaccinium parvifolium*), Pacific blackberry (*Rubus*

ursinus), osoberry (*Oemleria cerasiformis*), beaked hazelnut (*Corylus cornuta*), common snowberry (*Symphoricarpos albus*) and small native tree saplings.

Invasive understory species within the tree groves are: Himalayan blackberry (*Rubus armeniacus*), common hawthorn (*Crataegus monogyna*), English ivy (*Hedera helix*), English holly, and herb Robert, (*Geranium robertianum*), English laurel, creeping buttercup (*Ranunculus repens*), field bindweed (*Convolvulus arvensis*), and Norway maple saplings.

Landslide and Erosion Hazard Assessment

A complete description of the landslide and erosion hazard assessment is included in Appendix A of this report. This assessment indicated that the study area does not include a Landslide Hazard Area. The study area is anticipated to have a slight to moderate potential for erosion and Best Management Practices for erosion control should be applied to limit the risk of offsite transport of sediment during construction.

Regulatory Implications

Critical areas are subject to a variety of federal, state, and local regulations that will apply to any future activities planned for the project. Federal laws regulating wetlands and streams include Sections 404 and 401 of the Clean Water Act (United States Code, Title 33, Chapter 1344 and 1251 [33 USC 1344 and 1251]) and the Navigable Waters Protection Rule (33 Code of Federal Regulations [CFR] Part 328). Washington State laws and programs designed to control the loss of wetland acreage include the State Environmental Policy Act (SEPA) and Section 401 of the Clean Water Act (administered in the State of Washington by the Washington State Department of Ecology [Ecology], as mandated by the Washington State Water Pollution Control Act). In addition, Washington State laws include the state Hydraulic Code (Washington Administrative Code [WAC] 220-110). SMC 20.80 specifies wetland categories, required wetland buffer widths, development standards, and wetland mitigation requirements for critical areas in its jurisdiction. Federal, state, and county regulations require mitigation for impacts on wetlands and streams.

Clean Water Act Sections 404 and 401

The project is not anticipated to require Section 404 or 401 permitting because there are no anticipated direct impacts to a water of the United States.

Section 404 of the federal Clean Water Act regulates the placement or removal of soil or other fill, grading, or alteration (hydrologic or vegetative) in waters of the United States, including wetlands and streams (33 USC 1344). The Seattle District of the US Army Corps of Engineers (USACE) administers the permitting program under the act. The permits include nationwide (general) permits for projects involving small areas of fill, grading or alteration and individual permits for projects that require larger areas of wetland disturbance. USACE does not regulate wetland buffers.

Section 401 of the Clean Water Act requires that proposed dredge (removal) and fill activities permitted under Section 404 be reviewed and certified to ensure that such activities meet state water quality standards. State 401 certification is administered by Ecology for all Section 404 permits. State 401 certification is granted without the need for a separate permit from Ecology for projects that qualify for a Section 404 nationwide permit, meet specific 401 certification conditions of the nationwide permit, and meet Ecology 401 General Conditions. If that is not the case, an Individual 401 Water Quality Certification permit is required by Ecology.

Washington State Laws

The project is not anticipated to require a Hydraulic Project Approval (HPA) because there is no work proposed that will use, divert, obstruct, or change the natural flow or bed of any of the salt or fresh waters of the state.

Washington State laws and programs designed to control the loss of wetland acreage include SEPA and Section 401 of the Clean Water Act (a federal law that is implemented in the state by Ecology as noted above and as mandated by the Washington State Water Pollution Control Act).

The WDFW administers the Hydraulic Project Approval (HPA) program under the state Hydraulic Code (WAC 220-110), which was specifically designed to protect fish life. An HPA is required for projects that will use, divert, obstruct, or change the natural flow or bed of any of the salt or fresh waters of the state.

City of Shoreline Municipal Code

FWHCAs

The open conveyances are regulated as streams because they "are used to convey streams naturally occurring prior to construction" (SMC 20.80.270(5)). West and East Hamlin Creek convey flows in an area where historical aerial photographs indicate the presence of multiple streams (Tetra Tech 2004), indicating this system is part of a historical stream network that existed prior to human intervention in this area.

In accordance with the City of Shoreline, streams on the site were classified using the Washington State Department of Natural Resources water typing system based on WAC 222-16-030. This system is based primarily on fish, wildlife, and human use, and consists of four stream types: Type S, F, Np, or Ns. Type S streams are those surface waters that are inventoried as "Shorelines of the State" under the Shoreline Management Master Program for the City, pursuant to Revised Code of Washington (RCW) Chapter 90.58.030. Type F streams and water bodies are those known to be used by fish or meet the physical criteria to be potentially used by fish. Fish streams may or may not have flowing water all year; they may be perennial or seasonal. Physical criteria for fish use include stream segments having a defined channel of 2 feet or greater within the bankfull width in Western Washington; and having a gradient of

16 percent or less. Type Np streams have flow year-round and may have spatially intermittent dry reaches downstream of perennial flow. Type Np streams do not meet the physical criteria of a Type F stream and have been proven not to contain fish. Type Ns streams do not have surface flow during at least some portion of the year, and do not meet the physical criteria of a Type F stream.

The piped segments of these streams are afforded a 10-foot standard buffer width and the open conveyances are afforded a 45-foot standard buffer width per SMC 20.80.280(C)(1). Per SMC 20.80.280(D)(7), areas that are functionally isolated and physically separated from streams due to existing, legally established roadways or paved areas 8 feet or more in width shall be considered physically isolated and functionally separated stream buffers. Development proposals are allowed in these areas as approved by the City of Shoreline. Mitigation will be required for impacts to stream buffers that are not physically separated or functionally isolated from West and East Hamlin Creek (Figure 3).

Significant Trees

The City of Shoreline defines a significant tree as 8 inches in diameter or larger for evergreen conifers, and 12 inches in diameter for other trees. The City's tree regulations, SMC 20.50.290–370 Significant Sized Trees, state that "up to six significant trees may be removed during a 3-year period based on the parcel sizes below. Trees over 30 inches in diameter (94.2" in circumference) are not exempt and will need a permit to remove." Trees that are dead, a high risk, or dying may be removed as they are not counted as a significant tree. Critical root zones (CRZs) of each tree that remains must be protected during the length of construction; and prior to construction, an arborist must approve a tree protection plan.

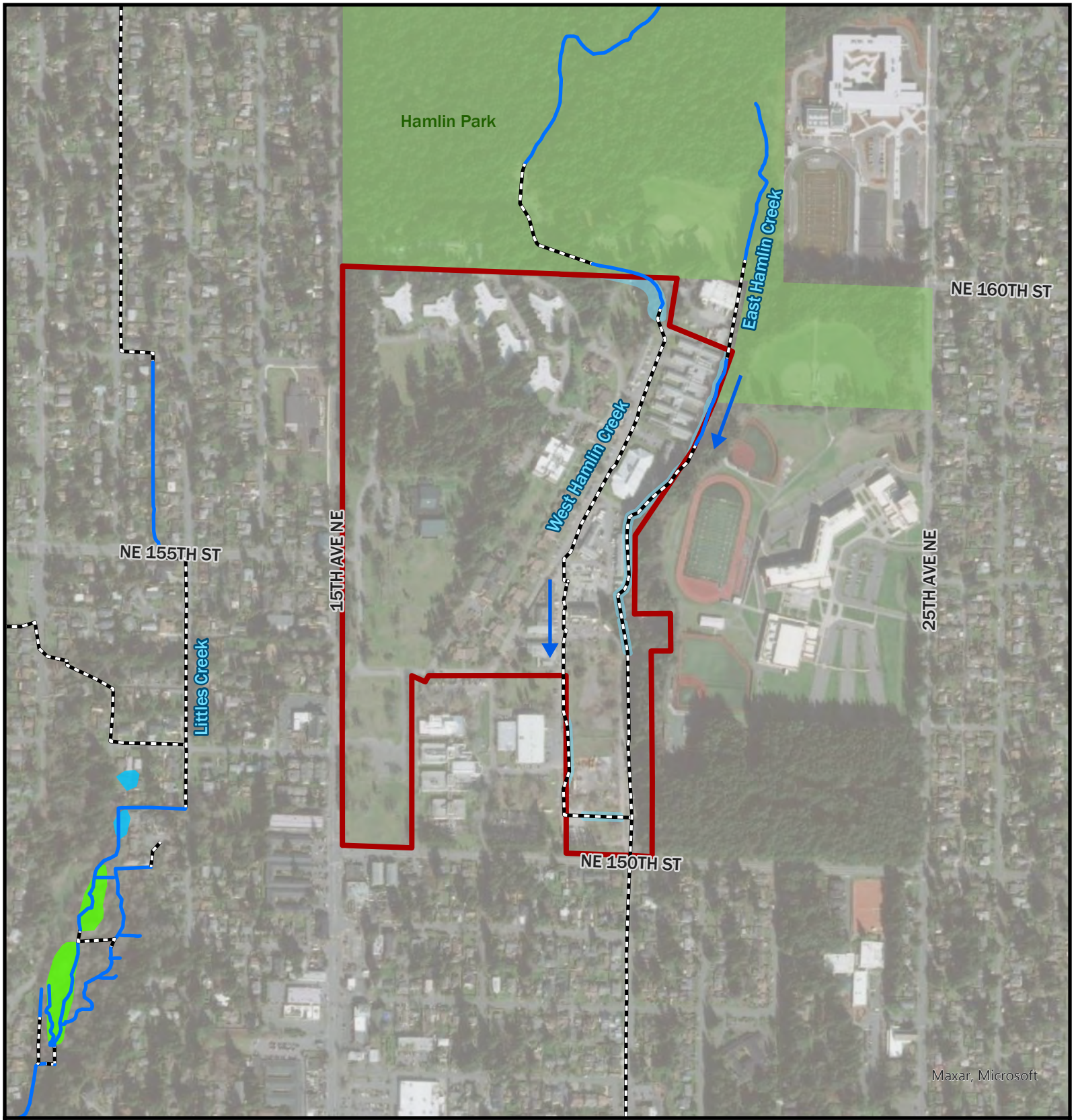
Per City of Shoreline code, landscaping credit may be given for significant trees retained, especially if trees that provide screening, habitat, buffering, or extend canopy coverage are maintained.

City of Shoreline Replacement Requirements (SMC 20.50.360.D) for all significant trees removed on site are as follows: One existing significant tree of 8 inches in diameter at breast height for conifers or 12 inches in diameter at breast height for all others equals one new tree.

1. Each additional 3 inches in diameter at breast height equals one additional new tree, up to three trees per significant tree removed.

2. Minimum size requirements for replacement trees under this provision: Deciduous trees shall be at least 1.5 inches in caliper and evergreens 6 feet in height.

Prior to the construction phase of the Master Plan, it is recommended that an updated tree survey be generated for all trees that will be removed. Tree sizes, health, and replacement ratios should be updated; and an in-depth analysis of all tree groves may be required per City code.



Legend

- Study Area
- Open Water Course
- Piped Water Course
- Flow Direction
- Stream Buffers
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Park

Figure 3.
Previously Mapped Wetlands and Streams in the Vicinity of the Study Area for the Fircrest School Master Plan.

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Feet

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Esri Imagery, City of Shoreline, USFWS

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APPENDIX A

Landslide and Erosion Hazard Assessment

South Sound Geotechnical Consulting

February 4, 2022

AHBL
2215 North 30th Street, Suite 200
Tacoma, Washington 98403-3350

Attention: Ms. Brittany Port

Subject: Landslide and Erosion Hazard Assessment
Fircrest School Master Plan
Shoreline, Washington
SSGC Project No. 22012

Ms. Port,

South Sound Geotechnical Consulting (SSGC) has prepared this landslide and erosion hazard assessment at the DSHS Fircrest School in Shoreline, Washington. Our services have been completed in general conformance with our proposal P21160 (dated December 21, 2021) and authorized per AHBL subconsultant agreement. Our scope of services included a site visit, review of available geologic, soil, topographic, and geologic hazard maps, and preparation of this report.

PROJECT INFORMATION

The project area is on the east side of the Fircrest campus. Construction of new residential cottages is planned in the central portion of the campus near the east boundary. This area is near the base of a west-facing slope that extends up to the ballfields of Shorecrest High School. We understand the City of Shoreline is requesting a landslide hazard assessment of the slope regarding future development plans.

DOCUMENT REVIEW

The following documents were reviewed as part of our assessment of this site:

- Shoreline Municipal Code (SMC).
- USGS "Geologic Map of Northeastern Seattle (Part of the Seattle North 7.5' x 15'Quadrangle), King County", 2009.
- USDA NRCS Soil Survey of King County Area, Washington.
- King County iMap System.
- Washington State DNR Geologic Information Portal Web Site.

Document Summary

Native soil on the west-facing slope have been classified on the referenced USGS map as Vashon Stade glacial till. Ice-contact deposits are mapped at the top of the slope on the Shorecrest High School grounds. Till is described as a compact diamict of silt, sand, and gravel deposited directly under the last advancing glacial ice-sheet.

Native soil on the slope is mapped as "Alderwood gravelly sandy loam" per the USDA Soil Conservation Service map of King County. Alderwood soils reportedly formed in glacial till/drift.

Slopes on the property are not shown as having landslide susceptibility on the DNR Geologic Information portal or King County iMap system. Portions of the slope in the northern side of the Fircrest campus are shown on the King County iMap system as a potential soil erosion hazard. The slope near the planned cottages is not mapped as an erosion hazard.

Topography of the west-facing slope shows an elevation change of about 50 feet per King County GIS topographic information. Average slope inclination is on the order of 30 to 35 percent.

SITE CONDITIONS

SSGC completed a reconnaissance of the west-facing slope on February 1, 2022. Site observations include:

- The west-facing slope is vegetated with a mixture of young and mature deciduous and conifer trees with an understory of vines, ferns, grasses, and brush. Mature fir trees exhibited generally straight trunks.

- A drainage ditch and culvert system is at the base of the slope. North of the planned cottage building area, the lower portion of the slope above the ditch has been previously graded to a near vertical cut-face. Exposed soils in the cut-face appeared to be glacial till. No excessive erosion or evidence of slope movement was observed in the cut-face.

- A rockery extends across a portion of the slope base on the east side of the existing parking lot. The tallest portion of the rockery is on the order of 7 (+/-) feet tall. No evidence of deformation (e.g. bulging of rocks) was observed.

- Evidence of recent slope movement (such as slumps, slides, tension cracks, head scarps, etc.) was not observed on the slope.

- No evidence of excessive erosion was observed on the slope.

- The presence of seeps or springs was not observed on the slope at the time of our site visit. Wet soil vegetation (such as horsetail, rushes, or other) was not observed on or at the base of the slope.

GEOLOGIC HAZARD AREAS DISCUSSION

Chapter 20.80.210 of the SMC addresses geologic hazards. Based upon our review of the referenced documents and our field observations, we offer the following statements regarding the geologic hazard areas as described in the SMC.

Landslide Hazard

The SMC utilizes landslide hazard indicators that include the combination of slope inclinations and heights, soil conditions, groundwater conditions, and surface expressions of past or ongoing slope movement. The west-facing slope has an average inclination between about 30 to 35 percent. Locally steeper cut-slopes have inclinations near vertical. No evidence of recent landslide activity was apparent on the slope or on neighboring properties at the time of our site visit.

Based on our site observations and document review, this parcel is not considered a Landslide Hazard Area. The slope appears to consist of dense, glacially consolidated till. We understand planned cottage development is west of the base of the slope and existing parking lot. Construction of the cottages should not adversely affect stability of the west-facing slope.

Erosion Hazard

Native soils are reported to have slight to moderate potential for erosion per the USDA Soil Conservation Service. Evidence of natural erosion was not observed on slopes during our site visit. Excessive erosion was not observed in graded cut slopes.

Regarding construction of the planned development, it is our opinion Best Management Practices (BMP) for erosion control (silt fencing, straw bales, etc) can be utilized such that the risk of off-site transport of sediment is limited during construction. Additional erosion control measures may be necessary if earthwork is scheduled during the wetter seasons. All erosion control provisions should follow City of Shoreline regulations to reduce the risk of off-site transport of sediments. Exposed soils following any construction should be vegetated as soon as possible. Irrigation should be minimized on or near slopes. Temporary and permanent stormwater control measures should prevent concentrated flow onto site slopes.

REPORT CONDITIONS

This letter has been prepared for the exclusive use of AHBL, Inc. for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices in the area. No warranties, either express or implied, are intended or made. The opinions and recommendations contained in this letter are based on surface and subsurface conditions observed during our February 1, 2022 site visit and the referenced documents. Should site conditions presented in this document change, or new information become available, the conclusions and recommendations contained herein shall not be considered valid unless SSGC reviews the new/revised information and either verifies or modifies the conclusions in writing. Additional geotechnical evaluations may be necessary based on future development of the site.

We appreciate the opportunity to work with you on this project. Please contact us if we can be of further assistance.

Respectfully,

South Sound Geotechnical Consulting

Timothy H. Roberts, P.E.
Member/Geotechnical Engineer

APPENDIX B

Tree Inventory

Fircrest Tree Survey – 2018

Tree ID Number	*Species*	Common Name	Diameter at Breast Height (DBH	Significant Tree?	Native, Nonnative, Invasive Monitor*, Invasive	Tree Grove	Tree Specimen	Health (Good, Fair, Poor)	Risk (Low, Medium, High)	Location (By Building [Blg] Number)	Notes
1	*Chamaecyparis lawsoniana*	Port Orford cedar	26.4	Y	N		x	G	L	Blg 24	
2	*Pseudotsuga menziesii*	Douglas fir	28	Y	N		x	G	L	Blg 24	
3	*Chamaecyparis lawsoniana*	Port Orford cedar	na	N	N		x	P	L/M	Blg 24	Dead, no obvious signs of decay
4	*Chamaecyparis lawsoniana*	Port Orford cedar	na	N	N		x	P	L/M	Blg 24	Dead, no obvious signs of decay
5	*Chamaecyparis lawsoniana*	Port Orford cedar	28.75	Y	N		x	G	L	Blg 24	Double leader
6	*Catalpa sp.*	Catalpa	33	Y	NN		x	G	L	Blg 24	Significant tree
7	*Acer japonica*	Japanese maple	17.5	Y	NN		x	G	L	Blg 24	
8	*Pinus sylvestris*	Scots pine	15.75	Y	NN		x	G	L	Blg 24	
9	*Pseudotsuga menziesii*	Douglas fir	26.5	Y	N		x	G	L	Blg 25	
10	*Aesculus hippocastanum*	Horse chestnut	23.5	Y	NN		x	G	L	Blg 44	Invasive species in WA
11	*Liquidambar styraciflua*	Sweetgum	21	Y	NN		x	G	L	Blg 44	
12	*Chamaecyparis lawsoniana*	Port Orford cedar	18	Y	N		x	G	L	Blg 44	
13	*Acer platanoides*	Norway maple	14.75	Y	IM		x	G	L	Blg 44/45	Species of concern in WA
14	*Juniperus sp.*	Cultivar juniper	11	N	NN		x	G	L	Blg 44	Cultivar unknown
15	*Cedrus atlantica* 'Glauca'	Blue Atlas cedar	22	Y	NN		x	G	L	Blg 44	
16	*Chamaecyparis obtusa*	Hinoki cypress	19.5	Y	NN		x	G	L	Blg 44	Double leader
17	*Chamaecyparis lawsoniana*	Port Orford cedar	18.25	Y	N		x	G	L	Blg 44 (Garden)	Double leader
18	*Acer pseudoplatanus*	Sycamore maple	21	Y	NN		x	G	L	Blg 44 (Garden)	
19	*Metasequoia glyptostroboides*	Dawn redwood	15	Y	NN		x	G	L	Blg 44 (Garden)	
20	*Acer pseudoplatanus*	Sycamore maple	28.5	Y	NN		x	G	L	Blg 66	Triple leader, species of concern in WA
21	*Pinus sylvestris*	Scots pine	16	Y	NN		x	G	L	Blg 66	
22	*Acer circinatum*	Vine maple	30	Y	N		x	F	L	Blg 64	Quadruple leader; dieback on one leader
23	*Platanus occidentalis*	American sycamore	54	Y	NN		x	G	L	Blg 47	Significant tree
24	*Acer platanoides*	Norway maple	18.5	Y	IM		x	G	L	Blg 47/48	Species of concern in WA
25	*Platanus occidentalis*	American sycamore	45	Y	NN		x	G	L	Blg 48	Significant tree
26	*Acer pseudoplatanus*	Sycamore maple	20	Y	NN		x	G	L	Blg 48	Species of concern in WA
27	*Platanus occidentalis*	American sycamore	23	Y	NN		x	G	L	Blg 48/49	
28	*Pinus ponderosa*	Ponderosa pine	18	Y	N		x	G	L	Blg 48/49	
29	*Acer platanoides*	Norway maple	18	Y	IM		x	G	L	Blg 49	Species of concern in WA
30	*Acer platanoides*	Norway maple	20	Y	IM		x	G	L	Blg 49	Species of concern in WA
31	*Cedrus atlantica 'Glauca'*	Blue Atlas cedar	13.5	Y	NN		x	G	L	Blg 65/51	
32	*Prunus serrulata 'Kwanzan'*	Kwanzan cherry	15	Y	NN		x	F/P	L/M	Blg 51/50	Tree very stressed
33	*Pyrus calleryana*	Callery pear	14	Y	NN		x	G/F	L	Blg 52	Poor branch structure
34	*Cedrus atlantica 'Glauca'*	Blue Atlas cedar	13.5	Y	NN		x	G	L	Blg 53	
35	*Pseudotsuga menziesii*	Douglas fir	20	Y	N		x	G	L	Blg 53	
36	*Pseudotsuga menziesii*	Douglas fir	37	Y	N		x	G	L	Blg 53	

Fircrest Tree Survey – 2018											
Tree ID Number	***Species***	**Common Name**	**Diameter at Breast Height (DBH**	**Significant Tree?**	**Native, Nonnative, Invasive Monitor*, Invasive**	**Tree Grove**	**Tree Specimen**	**Health (Good, Fair, Poor)**	**Risk (Low, Medium, High)**	**Location (By Building [Blg] Number)**	**Notes**
37	*Populus balsamifera ssp. trichocarpa*	Black cottonwood	13–20	Y	N	x		G	L	Blg 91	Understory: Natives: *Gaultheria shallon, Pteridium aquilinum, Mahonia nervosa, Rubus ursinus, Tsuga heterophylla* Invasives: *Hedera helix, Ilex aquifolium, Rubus armeniacus* , *Crataegus monogyna, Prunus*
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Acer platanoides	Norway maple		Y	IM						
	Arbutus menziesii	Pacific madrone		Y	N						
	Tsuga heterophylla	Western hemlock		Y	N						
	Thuja plicata	Western redcedar		Y	N						
38	*Pinus monticola*	Western white pine	12.5	Y	N		x	G	L	Blg 91 Parking area	
39	*Picea pungens*	Colorado blue spruce	9	N	NN		x	G	L	Blg 51	
40	*Cedrus deodara*	Deodar cedar	28	Y	NN		x	G	L	Blg 50	
41	*Acer rubrum*	Red maple	32	Y	NN		x	P	M	Blg 49	Mostly dead. Recommend removal.
42	*Platanus occidentalis*	American sycamore	41	Y	NN		x	G	L	Blg 49/48	Significant tree
43	*Platanus occidentalis*	American sycamore	39	Y	NN		x	G	L	Blg 49/48	Significant tree
44	*Acer platanoides*	Norway maple	22.5	Y	IM		x	G	L	Blg 48	Species of concern in WA
45	*Acer pseudoplatanus*	Sycamore maple	19	Y	NN		x	G	L	Blg 47	
46	*Acer pseudoplatanus*	Sycamore maple	22	Y	NN		x	G	L	Bldg 47/46	
47	*Aesculus hippocastanum*	Horse chestnut	15.5	Y	NN		x	G	L	Bldg 32/31	Invasive species in WA
48	*Prunus serrulata 'Kwanzan'*	Kwanzan cherry	15	Y	NN		x	G	L	Blg 39	
49	*Prunus serrulata 'Kwanzan'*	Kwanzan cherry	11	Y	NN		x	G	L	Blg 39	
50	*Acer platanoides*	Norway maple	14–25	Y	IM	x		G	L	Blg 85	9 trees total, 1 large beaked hazelnut shrub (*Corylus cornuta*) also in the grove.
	Acer platanoides	Norway maple		Y	IM						
	Acer platanoides	Norway maple		Y	IM						
	Acer platanoides	Norway maple		Y	IM						
	Acer platanoides	Norway maple		Y	IM						
	Aesculus hippocastanum	Horse chestnut		Y	NN						
	Aesculus hippocastanum	Horse chestnut		Y	NN						
	Malus spp.	Fruiting apple		Y	NN						
	Pyrus calleryana	Callery pear		N	NN						
51	*Ilex aquifolium*	English holly	~30	Y	IM		x	G	L	Blg 85	Invasive species in WA. Many leader tree
52	*Ilex aquifolium*	English holly	~30	Y	IM		x	G	L	Blg 85	Invasive species in WA. Many leader tree
53	*Acer platanoides*	Norway maple	18	Y	IM		x	G/F	L	Blg 85/86	Species of concern in WA
54	*Aesculus hippocastanum*	Horse chestnut	20	Y	NN		x	G	L	Blg 85/86	Invasive species in WA
55	*Acer platanoides*	Norway maple	19.5	Y	IM		x	G	L	Blg 89/90	Species of concern in WA
56	*Acer platanoides*	Norway maple	8–15	N	IM	x		G	L	Edge of property along Blg 34–39	Understory: *Rubus armeniacus, Hedera helix, Mahonia nervosa, Prunus laurocerasus, Gaultheria shallon, Symphoricarpos albus, Polystichum munitum, Thuja plicata* (sapling), *Geranium robertianum*
	Acer pseudoplatanus	Sycamore maple		N	NN						
	Aesculus hippocastanum	Horse chestnut		Y	NN						
	Arbutus menziesii	Pacific madrone		Y	N						
	Picea spp.	Spruce		Y	NN						
	Pseudotsuga menziesii	Douglas fir		Y	N						

Fircrest Tree Survey – 2018											
Tree ID Number	***Species***	**Common Name**	**Diameter at Breast Height (DBH**	**Significant Tree?**	**Native, Nonnative, Invasive Monitor*, Invasive**	**Tree Grove**	**Tree Specimen**	**Health (Good, Fair, Poor)**	**Risk (Low, Medium, High)**	**Location (By Building [Blg] Number)**	**Notes**
57	*Pseudotsuga menziesii*	Douglas fir	26	Y	N		x	G	L	Blg 39 edge	
58	*Pseudotsuga menziesii*	Douglas fir	31	Y	N		x	G	L	Blg 39 edge	
59	*Pseudotsuga menziesii*	Douglas fir	28	Y	N		x	G	L	Blg 39 edge	
60	*Acer macrophyllum*	Bigleaf maple	30	Y	N		x	G	L		
61	*Acer platanoides*	Norway maple	12–35	Y	IM	x		G	L	Edge of property adjacent to Blg 28	Understory: *Rubus armeniacus, Convolvulus arvensis, Ranunculus repens, Pteridium aquilinum, Geranium robertianum, Epilobium ciliatum, Hedera helix, Rumex crispus*
	Acer pseudoplatanus	Sycamore maple		Y	NN						
	Aesculus hippocastanum	Horse chestnut		Y	NN						
	Arbutus menziesii	Pacific madrone		Y	N						
	Prunus emarginata	Bitter cherry		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Thuja plicata	Western hemlock		Y	N						
62	*Pseudotsuga menziesii*	Douglas fir	14	Y	N		x	G	L	Blg 28	
63	*Acer macrophyllum*	Bigleaf maple	8–35	Y	N	x				Edge of property adjacent to open field	Multistem madrones. Some are partially dead. Madrones ~14" dbh. Understory: *Symphoricarpos albus, Rubus armeniacus, Rubus ursinus, Ilex aquifolium, Dactylis glomerata, Hedera helix, Mahonia nervosa, Crataegus monogyna, Mahonia aquifoium, Plantago lanceolata*
	Alnus rubra	Red alder		Y	N						
	Arbutus menziesii	Pacific madrone		Y	N						
	Arbutus menziesii	Pacific madrone		Y	N						
	Arbutus menziesii	Pacific madrone		Y	N						
	Arbutus menziesii	Pacific madrone		Y	N						
	Cornus nuttalli	Pacific dogwood		Y	N						
	Cornus nuttalli	Pacific dogwood		Y	N						
	Cornus nuttalli	Pacific dogwood		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Thuja plicata	Western redcedar		Y	N						
64	*Thuja plicata*	Western redcedar	28.5	Y	N		x	G	L	Parking lot in south	
65	*Ilex aquifolium*	English holly	19	Y	IM		x	G	L		Double leader. Invasive species in WA.
66	*Ilex aquifolium*	English holly	20	Y	IM		x	G	L		Double leader. Invasive species in WA.
67	*Pseudotsuga menziesii*	Douglas fir	26	Y	N		x	G	L		
68	*Arbutus menziesii*	Pacific madrone	12	Y	N		x	G	L		Significant tree
69	*Alnus rubra*	Red alder	40	Y	N		x	G	L		~7 leaders
70	*Prunus emarginata*	Bitter cherry	30	Y	N		x	G	L		~6 leaders, thicket

Fircrest Tree Survey – 2018											
Tree ID Number	*Species*	Common Name	Diameter at Breast Height (DBH	Significant Tree?	Native, Nonnative, Invasive Monitor*, Invasive	Tree Grove	Tree Specimen	Health (Good, Fair, Poor)	Risk (Low, Medium, High)	Location (By Building [Blg] Number)	Notes
71	*Pseudotsuga menziesii*	Douglas fir	~20	Y	N	x		G	L		10 Douglas fir and 1 Western redcedar in grove. Understory: *Ilex aquifolium, Juniperus* sp (shrub), *Acer platanoides* (sapling), ornamental rose
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Thuja plicata	Western redcedar		Y	N						
72	*Populus balsamifera ssp. trichocarpa*	Black cottonwood	18	Y	N		x	G/F	L		Suckering at base
73	*Platanus occidentalis*	American sycamore	39	Y	NN		x	G	L		Significant tree
74	*Platanus occidentalis*	American sycamore	24	Y	NN		x	G	L		Some dead branches. Recommend pruning.
75	*Prunus serrulata 'Kwanzan'*	Kwanzan cherry	15	Y	NN		x	F	L		Overtaken by Himalayan blackberry
76	*Quercus rubra*	Northern red oak	30	Y	NN		x	G	L		
77	*Platanus occidentalis*	American sycamore	~80	Y	NN		x	G	L		4 leaders
78	*Prunus serrulata 'Kwanzan'*	Kwanzan cherry	24	Y	NN		x	G/F	L		Drought stress, some dieback
79	*Acer pseudoplatanus*	Sycamore maple	22	Y	NN		x	F	L		Branch dieback
80	*Platanus occidentalis*	American sycamore	28	Y	NN		x	G	L		
81	*Ulmus spp.*	Elm	25	Y	NN		x	F	L		Dieback on the crown. Surrounded by dense invasive species.
82	*Aesculus hippocastanum*	Horse chestnut	17.5	Y	NN		x	F	L		Dieback on the crown.
83	*Acer pseudoplatanus*	Sycamore maple	28	Y	NN		x	G	L		Multistem
84	*Acer platanoides*	Norway maple	22	Y	IM		x	G	L		
85	*Acer pseudoplatanus*	Sycamore maple	25	Y	NN		x	G/F	L		Some crown dieback
86	*Acer pseudoplatanus*	Sycamore maple	35	Y	NN		x	G	L		Multistem
87	*Acer pseudoplatanus*	Sycamore maple	40	Y	NN		x	G	L		7 leaders
88	*Acer pseudoplatanus*	Sycamore maple	35	Y	NN		x	G	L		6 leaders
89	*Acer pseudoplatanus*	Sycamore maple	15	Y	NN		x	G	L		2 leaders
90	*Acer pseudoplatanus*	Sycamore maple	35	Y	NN		x	G	L		5 leaders
91	*Aesculus hippocastanum*	Horse chestnut	17	Y	NN		x	G	L		Invasive species in WA.
92	*Acer macrophyllum*	Bigleaf maple	39	Y	N		x	G	L		3 leaders
93	*Aesculus hippocastanum*	Horse chestnut	17	Y	NN		x	G	L	Located in dog park.	Invasive species in WA.

Fircrest Tree Survey – 2018											
Tree ID Number	***Species***	**Common Name**	**Diameter at Breast Height (DBH**	**Significant Tree?**	**Native, Nonnative, Invasive Monitor*, Invasive**	**Tree Grove**	**Tree Specimen**	**Health (Good, Fair, Poor)**	**Risk (Low, Medium, High)**	**Location (By Building [Blg] Number)**	**Notes**
94	*Platanus occidentalis*	American sycamore	38	Y	NN		x	G	L	Located in dog park.	
95	*Aesculus hippocastanum*	Horse chestnut	18.5	Y	NN		x	G	L	Located in dog park.	Invasive species in WA.
96	*Quercus rubra*	Northern red oak	24.5	Y	NN		x	G/F	L	Located in dog park.	Small branch dieback
97	*Quercus rubra*	Northern red oak	24	Y	NN		x	G/F	L	Located in dog park.	Small branch dieback. Recommend pruning to reduce risk of branches falling in dog park.
98	*Platanus occidentalis*	American sycamore	20	Y	NN		x	G	L	Located in dog park.	
99	*Platanus occidentalis*	American sycamore	34	Y	NN		x	G	L	Located in dog park.	
100	*Chamaecyparis lawsoniana*	Port Orford cedar	26	Y	N		x	G	L	Located in dog park.	
101	*Chamaecyparis lawsoniana*	Port Orford cedar	26	Y	N		x	F	L	Located in dog park.	Interior branches are dead (close to other tree)
102–104	*Missed using these numbers in the field*										
105	*Thuja plicata*	Western redcedar	24	Y	N		x	G	L		
106	*Acer platanoides*	Norway maple	32	Y	IM	x		G	L	NE Corner of the property	
	Acer platanoides	Norway maple	12.5–30	Y	IM						
	Chamaecyparis cultivar	Yellow-leaved cypress		Y	NN						
	Picea sylvestris	Scots pine		Y	NN						
	Prunus emarginata	Bitter cherry		Y	N						
107	*Ilex aquifolium*	English holly	~18–23	Y	IM	x		G	L	NE Corner of the property	Understory: *Corylus cornuta, Pteridium aquilinum, Gaultheria shallon*
	Pinus monticola	Western white pine		Y	N						
	Pinus sylvestris	Scots pine		Y	NN						
	Prunus emarginata	Bitter cherry		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
108	*Acer platanoides*	Norway maple	~18–27	Y	IM	x		G	L	NE Corner of the Property	Understory: *Rubus armeniacus, Pteridium aquilinum*
	Arbutus menziesii	Pacific madrone		Y	N						
	Crataegus monogyna	Common hawthorn		Y	I						
	Pseudotsuga menziesii	Douglas fir		Y	N						
109	*Arbutus menziesii*	Pacific madrone	23	Y	N		x	G	L		
110	*Pseudotsuga menziesii*	Douglas fir	10	N	N		x	G	L		
	Pinus ponderosa	Ponderosa pine	25-Nov	Y	N		x	G	L	Back strip along road	Understory: *Rubus ursinus, Hedera helix, Rubus armeniacus, Gaultheria shallon, Oemleria cerasiformis*
111	*Acer platanoides*	Norway maple	12–30	Y	IM	x		G	L		
	Thuja plicata	Western redcedar		Y	N						

Fircrest Tree Survey – 2018											
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112	*Tsuga heterophylla*	Western hemlock	20	Y	N		x	G	L		
113a	*Pseudotsuga menziesii*	Douglas fir	32	Y	N	x		G	L		Duplicate entry of 113 in the field. Have been
113b	*Thuja plicata*	Western redcedar	36.5	Y	N	x		G	L		Duplicate entry of 113 in the field. Have been relabeled as 113a and 113b to differentiate groups.
	Pinus monticola	Western white pine	20–36	Y	N			G	L		
	Alnus rubra	Red alder		Y	N			G	L		
114	*Arbutus menziesii*	Pacific madrone	22	Y	N	x		G	L	Back fence	Understory: *Gaultheria shallon*
	Thuja plicata	Western redcedar	12+	Y	N			G	L		
	Pinus ponderosa	Ponderosa pine		Y	N			G	L		
115	*Thuja plicata*	Western redcedar	15–24	Y	N	x		G	L	Woodshed area	Understory: *Vaccinium parvifolium, Pteridium aquilinum, Mahonia nervosa, Polystichum*
	Tsuga heterophylla	Western hemlock		Y	N						
116	*Arbutus menziesii*	Pacific madrone	8–25	Y	N	x		G	L		Understory: *Mahonia nervosa, Gaultheria shallon*
	Ilex aquifolium	English holly		N	IM						
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Thuja plicata	Western redcedar		Y	N						
	Tsuga heterophylla	Western hemlock		Y	N						
117	*Cedrus deodara*	Deodar cedar	20	Y	NN		x	G	L		
118	*Tsuga heterophylla*	Western hemlock	25	Y	N		x	G	L		
119	*Pseudotsuga menziesii*	Douglas fir	25	Y	N		x	G	L		
120	*Pinus monticola*	Western white pine	9–14	Y	N	x		G/F	L	North of Blg 56	Planted too close together and scraggly
	Pinus monticola	Western white pine		N	N						
	Pinus monticola	Western white pine		N	N						
	Pinus monticola	Western white pine		N	N						
	Pinus monticola	Western white pine		Y	N						
121	*Pinus sylvestris*	Scots pine		Y	NN						
122	*Acer platanoides*	Norway maple	14–25	Y	IM	x				West of Blg 55	About 35 trees. Understory: *Gaultheria shallon, Pteridium aquilinum*
	Populus balsamifera ssp. trichocarpa	Black cottonwood		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
123	*Arbutus menziesii*	Pacific madrone		Y	N	x				NW of BLg 55	Understory: *Gaultheria shallon*
	Pinus sylvestris	Scots pine		Y	NN						
	Pseudotsuga menziesii	Douglas fir			N						
124	*Pinus sylvestris*	Scots pine	30	Y	NN		x	G	L		Around 10 leaders
125	*Prunus serrulata 'Kwanzan'*	Kwanzan cherry	15	Y	NN						
126	*Alnus rubra*	Red alder	~8–28	N	N	x				NW of BLg 59	Madrones are in good condition. Large conifers. Understory: *Gaultheria shallon, Pteridium aquilinum*
	Arbutus menziesii	Pacific madrone		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Thuja plicata	Western redcedar		Y	N						

Fircrest Tree Survey – 2018											
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127	*Arbutus menziesii*	Pacific madrone	~8–25	Y	N	x		F/P	M	North of Blg 60	Pines not doing well. Branch dieback around 30' up. Very large madrone.
	Pinus monticola	Western white pine		Y	N						
128	*Acer macrophyllum*	Bigleaf maple	~8–25	Y	N	x		G	L	Many large ARME at the base of the hill	Understory: *Crataegus monogyna, Rubus armeniacus, Pteridium aquilinum, Gaultheria shallon, Prunus laurocerasus*
	Aesculus hippocastanum	Horse chestnut		N	NN						
	Arbutus menziesii	Pacific madrone		Y	N						
	Ilex aquifolium	English holly		N	IM						
	Pinus monticola	Western white pine		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Thuja plicata	Western redcedar		Y	N						
	Tsuga heterophylla	Western hemlock		Y	N						
129	*Prunus laurocerasus*	English laurel	24	N	IM		x				4 leaders. Invasive species.
130	*Cercis canadensis*	Eastern redbud	12	Y	NN	x		G/F	L	South of Blg 60	1 dead, 4 live POTR.
	Picea pungens	Colorado blue spruce		Y	NN						
	Populus tremuloides	Quaking aspen		Y	N						
	Pseudotsuga menziesii	Douglas fir	~31	Y	N						
131	*Arbutus menziesii*	Pacific madrone	~10–30+	Y	N	x		G	L		
	Pinus monticola	Western white pine		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
132	*Arbutus menziesii*	Pacific madrone	~15–30	Y	N	x		G	L	Blg 65	Adjacent to the largest grove (176). No understory.
	Pinus monticola	Western white pine		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Thuja plicata	Western redcedar		Y	N						
133	*Acer pseudoplatanus*	Sycamore maple	8–22	N	NN	x				Field	Maple is dead
	Aesculus hippocastanum	Horse chestnut		N	NN						
	Platanus occidentalis	American sycamore		Y	NN						
	Thuja plicata	Western redcedar		Y	N						
134	*Quercus rubra*	Northern red oak	27.5	Y	NN		x			Field	
	Platanus occidentalis	American sycamore	12–24	Y	NN		x			Field	
135	*Platanus occidentalis*	American sycamore	25	Y	NN						
	Acer platanoides 'Crimson King'	Crimson King Norway maple	20	Y	IM						
	Pinus sylvestris	Scots pine	21	Y	NN						
	Pinus ponderosa	Ponderosa pine	20	Y	N						
136	*Abies concolor*	White fir	12	Y	NN		x	F/P	L	Planting median	Declining
	Pinus strobus	Eastern white pine	15	Y	NN	x		G	L	Planting median	4 trees
137	*Arbutus menziesii*	Pacific madrone	12	Y	N		x	G	L		
	Betula pendula	Weeping silver birch	12	Y	NN		x	G	L		
	Betula pendula	Weeping silver birch	12	Y	NN		x	G	L		
	Pinus monticola	Western white pine	24–30	Y	N	x		G	L		3 trees

Fircrest Tree Survey – 2018										
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138	*Pinus sylvestris*	Scots pine	11.5	N	NN		x	G	L	Parking median	
	Pinus sylvestris	Scots pine	11	N	NN		x	G	L		
	Pinus sylvestris	Scots pine	11	N	NN		x	G	L		
139	*Pinus contorta*	Shore pine	24	Y	N		x	F/P	L/M		Declining
140	*Chamaecyparis lawsoniana*	Port Orford cedar	20	Y	N			G	L	Little grove	
141	*Pinus monticola*	Western white pine	38	Y	N		x	G	L		
142	*Pseudotsuga menziesii*	Douglas fir	~8–25	N/Y	N	x		G	L		18 trees
	Aesculus hippocastanum	Horse chestnut	~22–24	Y	NN	x		G	L		3 trees
143	*Liquidambar styraciflua*	Sweetgum	22	Y	NN		x	G	L		
	Pinus ponderosa	Ponderosa pine	25	Y	N		x	G	L		
144	*Pinus ponderosa*	Ponderosa pine	26	Y	N		x	G	L		
145	*Acer macrophyllum*	Bigleaf maple	23	Y	N		x	G	L	Edge hedge	
	Acer macrophyllum	Bigleaf maple	30+	Y	N	x		G	L		4 trees
	Aesculus hippocastanum	Horse chestnut	20	Y	NN		x	G	L		Invasive species in WA
	Platanus occidentalis	American sycamore	15	Y	NN		x	G	L		
	Pseudotsuga menziesii	Douglas fir	12–25	Y	N	x		G	L		40+ trees
146	*Thuja plicata*	Western redcedar	18	Y	N		x	G	L		
147	*Aesculus hippocastanum*	Horse chestnut	16	Y	NN		x	G	L		Invasive species in WA
148	*Abies sp.*	Fir	24	Y	N		x	F	L	No access, end of site	Declining
	Acer platanoides 'Crimson King'	Crimson King Norway maple	15	Y	IM		x	G	L		1 dead tree in 148 grove
	Aesculus hippocastanum	Horse chestnut		Y	N		x	G	L		
	Betula pendula	European white birch		Y	N		x	G	L		
	Pinus monticola	Western white pine		Y	N		x	G	L		
	Platanus occidentalis	American sycamore	26.5	Y	NN		x	G	L		Significant tree, 3 trees total
149	*Platanus occidentalis*	American sycamore	41.5	Y	NN		x	G	L		Significant tree
150	*Acer pseudoplatanus*	Sycamore maple		Y	NN	x		G	L		13 total
	Aesculus hippocastanum	Horse chestnut	12	Y	NN		x	G	L		
	Platanus occidentalis	American sycamore	26.5	Y	NN		x	G	L		Significant tree
	Ulmus spp.	Elm		Y	NN		x	F/P	L		Dead leader, declining
151	*Acer rubrum*	Red maple	33	Y	NN		x	G	L		
	Platanus occidentalis	American sycamore	14	Y	NN		x	G/F	L		Branch dieback
	Platanus occidentalis	American sycamore	30	Y	NN		x	G	L		
	Platanus occidentalis	American sycamore	30	Y	NN		x	G	L		
	Quercus rubra	Northern red oak	22	Y	NN		x	G/F	L		Branch dieback
152	*Betula pendula*	European white birch	15	Y	NN		x	G	L		
153	*Pseudotsuga menziesii*	Douglas fir	13	Y	N		x	G	L	at stairs	
	Arbutus menziesii	Pacific madrone	12	Y	N		x	G	L		
154	*Acer macrophyllum*	Bigleaf maple	30	Y	N		x	G	L		Understory: *Hedera helix, Cistus scoparius*
155	*Robinia pseudoacacia*	Black locust	28	Y	NN		x	G	L		Invasive species in WA

Fircrest Tree Survey – 2018										
Tree ID Number	***Species***	**Common Name**	**Diameter at Breast Height (DBH**	**Significant Tree?**	**Native, Nonnative, Invasive Monitor*, Invasive**	**Tree Grove**	**Tree Specimen**	**Health (Good, Fair, Poor)**	**Risk (Low, Medium, High)**	**Location (By Building [Blg] Number)**	**Notes**
156	*Aesculus hippocastanum*	Horse chestnut	16	Y	NN		x	G	L	lot	
	Arbutus menziesii	Pacific madrone	25	Y	N		x	G	L		
	Juniperus virginiana	Eastern red cedar	30	Y	NN		x	G	L		
	Malus spp.	Fruiting apple		N	NN		x	G	L		
	Pseudotsuga menziesii	Douglas fir	25	Y	N		x	G	L		
	Robinia pseudoacacia	Black locust		N	NN		x	G	L		
157	*Populus balsamifera ssp. trichocarpa*	Black cottonwood	~90	Y	N		x	G	L	retaining wall	
158	*Acer pseudoplatanus*	Sycamore maple	17	Y	NN		x	G	L		
159	*Pinus monticola*	Western white pine	26	Y	N		x	G	L		
160	*Acer macrophyllum*	Bigleaf maple	25	Y	N		x	G	L		
161	*Arbutus menziesii*	Pacific madrone	22	Y	N		x	G	L		
162	*Aesculus hippocastanum*	Horse chestnut	23	Y	NN		x	G	L		
163	*Pseudotsuga menziesii*	Douglas fir	9.5–10	N	N	x		G	L		4 trees
164	*Pseudotsuga menziesii*	Douglas fir	23	Y	N		x	G	L	Small path median	
165	*Thuja plicata*	Western redcedar	16–21	Y	N	x		G	L		7 trees
	Tsuga heterophylla	Western hemlock		Y	N						
166	*Pinus monticola*	Western white pine		Y	N	x		G	L		Understory: *Rubus armeniacus, Gaultheria shallon*
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Thuja plicata	Western redcedar		Y	N						
167	*Pseudotsuga menziesii*	Douglas fir	22	Y	N		x	G	L		
168	*Tsuga heterophylla*	Western hemlock	26.5	Y	N		x	G	L		
169	*Pinus monticola*	Western white pine	38	Y	N		x	G	L		
170	*Pseudotsuga menziesii*	Douglas fir	18–24	Y	N	x		G	L		3 trees
	Thuja plicata	Western redcedar	24	Y	N		x	G	L		
	Prunus serrulata 'Kwanzan'	Kwanzan cherry	19	Y	NN		x	G	L		
171	*Arbutus menziesii*	Pacific madrone	20	Y	N						
	Chamaecyparis lawsoniana	Port Orford cedar	20	Y	N						
	Chamaecyparis lawsoniana	Port Orford cedar	18	Y	N						
	Paulownia tomentosa	Princess tree	12	Y	NN		x				
	Pinus sylvestris	Scots pine	12	Y	NN						
	Pinus sylvestris	Scots pine	10	N	NN						
	Pseudotsuga menziesii	Douglas fir	12	Y	N	x					3 trees
	Thuja plicata	Western redcedar	41	Y	N						
	Tsuga heterophylla	Western hemlock	23	Y	N		x				
	Tsuga heterophylla	Western hemlock	37	Y	N		x				
	Zelkova serrata	Japanese zelkova	12	Y	NN		x	G	L		

Fircrest Tree Survey – 2018											
Tree ID Number	***Species***	**Common Name**	**Diameter at Breast Height (DBH**	**Significant Tree?**	**Native, Nonnative, Invasive Monitor*, Invasive**	**Tree Grove**	**Tree Specimen**	**Health (Good, Fair, Poor)**	**Risk (Low, Medium, High)**	**Location (By Building [Blg] Number)**	**Notes**
172	*Populus tremuloides*	Quaking aspen	24	Y	N		x	G	L		multi-stem
	Populus tremuloides	Quaking aspen	20	Y	N		x	G	L		multi-stem
	Populus tremuloides	Quaking aspen	18	Y	N		x	G	L		
	Populus tremuloides	Quaking aspen	14	Y	N		x	G	L		
	Populus tremuloides	Quaking aspen	12	Y	N		x	G	L		
	Populus tremuloides	Quaking aspen	12	Y	N		x	G	L		
173	*Populus tremuloides*	Quaking aspen	14	Y	N		x	G	L		
174	*Pinus monticola*	western white pine	37	Y	N		x	G	L		
175	*Thuja plicata*	Western redcedar	36	Y	N		x	G	L		
176	*Acer macrophyllum*	Bigleaf maple	12–30+	Y	N	x		G	L	Very large grove, around chapel/ Blg 64. Pacific madrones of significant size.	Understory: *Pteridium aquilinum, Rubus armeniacus, Gaultheria shallon, Sorbus sp., Vaccinium parvifolium, Polystichum munitum*
	Arbutus menziesii	Pacific madrone		Y	N						
	Pinus monticola	Western white pine		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Thuja plicata	Western redcedar		Y	N						
177	*Acer macrophyllum*	Bigleaf maple	12–30+	Y	N	x		G	L	Along Blg 66	Understory: *Pteridium aquilinum, Rubus armeniacus, Gaultheria shallon, Polystichum munitum*
	Arbutus menziesii	Pacific madrone		Y	N						
	Pinus monticola	Western white pine		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Tsuga heterophylla	Western hemlock		Y	N						
	Thuja plicata	Western redcedar		Y	N						

* **Invasive Monitor (IM)** refers to WA State Noxious Weed Guidelines for species that should be monitored for invasive tendencies, but it not yet listed as noxious.

APPENDIX C

Photographic Log

CRITICAL AREAS REPORT: FIRCREST SCHOOL CAMPUS MASTER PLAN—PHOTOGRAPHIC LOG

Photo Number	Photo Description
1	Fircrest campus overview
2	East Hamlin Creek site investigation
3	East Hamlin Creek site investigation
4	Typical specimen tree—London planetree (*Platanus x acerifolia*) on campus
5	Typical tree grove—mix of species and sizes with an understory
6	Example of a specimen tree growing close to campus buildings
7	Typical tree grove with Pacific madrone (*Arbutus menziesii*) and Scotch pine (*Pinus sylvestris*)
8	Population of domesticated rabbits that are feral on campus
9	Typical specimen trees adjacent to buildings
10	Specimen trees and tree groves in the outer campus


1


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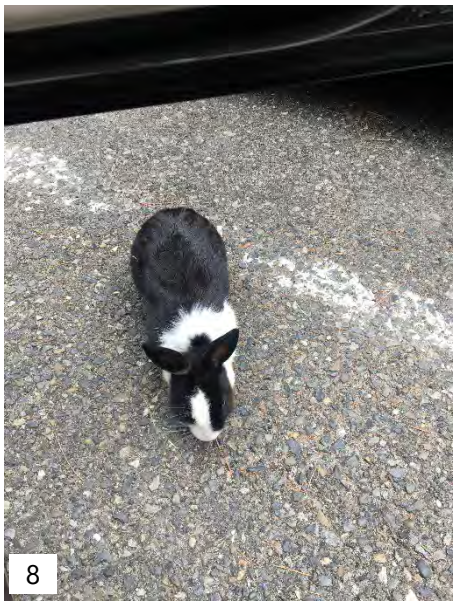

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9

10

A.7 TRANSPORTATION TECHNICAL REPORT

TRANSPORTATION TECHNICAL REPORT

for

Fircrest School Master Development Plan
15230–15th Avenue NE, Shoreline, WA

APPLICANT:

Washington State Department of Social & Health Services

PREPARED BY:

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June 20, 2022

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TABLES

1. INTRODUCTION

This report presents the transportation impact analyses for Washington State Department of Social and Health Services' (DSHS) proposed Fircrest School Master Development Plan project, which will replace some of the existing buildings on campus and entitle an undeveloped south portion of the site for future development. This report documents the existing conditions in the site vicinity, presents estimates of project-related traffic, and evaluates the anticipated impacts to the surrounding transportation system including transit, parking, safety, and pedestrian facilities. The overall scope of this analysis was developed to provide details required by the City of Shoreline for a *Traffic Impact Statement* as outlined in the City of Shoreline's *Traffic Study Guidelines*[1] and organized according to the City's *Transportation Impact Analysis Report Guidelines*.[2] The approach, scope, and study area for the analysis were coordinated with City of Shoreline traffic review staff.[3]

At the time of this analysis, the COVID-19 pandemic and the changes it had on commuter behavior continued to affect traffic volumes and travel patterns throughout the region. Therefore, these analyses were prepared using a combination of baseline traffic data collected in 2018 prior to the pandemic and new data collected in January 2022. The data were adjusted to reflect normalized non-COVID conditions using standards and practices recommended by the Institute of Transportation Engineers (ITE),[4] and other industry professionals.[5]

1.1. Project Description

1.1.1. Existing Campus

The Fircrest School site is located at 15230–15th Avenue NE in the City of Shoreline. The overall site is bounded on the west by 15th Avenue NE, on the north and northeast by Hamlin Park, on the east and southeast by Shorecrest High School and South Woods Park, and on the south by NE 150th Street. It is designated as an Institution/Campus in the City's Comprehensive Plan on land zoned C (Campus).[6] A rectangular area in the southeast portion of the site is noted as a Shoreline Park (the Eastside Off-Leash Area). The Master Development Plan does not propose changes to land use zoning or comprehensive designations; however, it would establish all of the permitted uses for the campus zoning based on the uses proposed in the Master Development Plan. About 12.5 acres located in the middle of the southern portion of the campus contain the Washington State Department of Health public health laboratory, which is not part of this Master Development Plan effort. Figure 1 shows the Master Development Plan area, which includes northern and eastern parts of campus; it does not consider the southwest corner of the DSHS property.

The Fircrest School Master Development Plan area currently has a total of 40 buildings (with about 429,000 square feet (sf)) on about 64.5 acres. The facility, which provides support to about 200 people with intellectual and developmental disabilities, was established in 1959 within a former Naval Hospital that later became a Tuberculosis Sanitarium.[7] The overall site program has three main components of care for persons with unique needs—1) Program Area Team skilled nursing facility (also known as PAT N); 2) the Adult Training Program (ATP), and 3) the residential element or Intermediate Care Facility for Individuals with Intellectual Disabilities (ICF/ID), also known as PAT A.

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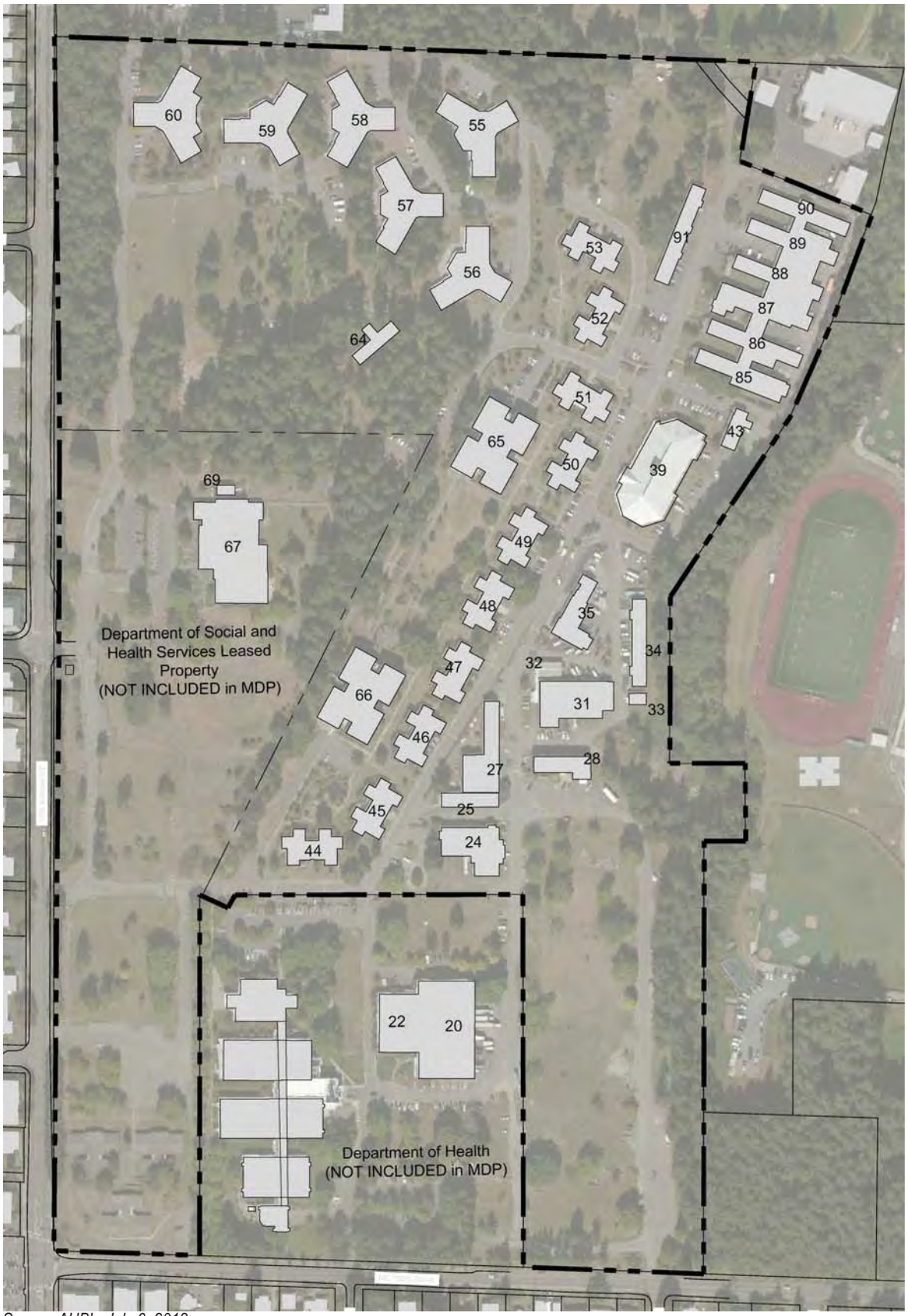
1 City of Shoreline, August 2018.
2 City of Shoreline, Appendix E of the 2022 Engineering Development Manual, Effective March 1, 2022.
3 Email communications, K. Dedinsky – City of Shoreline Traffic Engineer, March 2022.
4 ITE, *What a Transportation Professional Needs to Know About Counts and Studies during a Pandemic*, July 2020.
5 Kittelson & Associates, *Estimating Traffic Volumes Under COVID-19 Pandemic Conditions*, April 2, 2020.
6 City of Shoreline, Zoning 2021 Land Use Zoning Map, July 2, 2021.
7 DSHS website (https://www.dshs.wa.gov/dda/consumers-and-families/fircrest-residential-habilitation-center), accessed April 2022.



Source: AHBL, July 6, 2018

Fircrest School Master Plan
Traffic Impact Statement

Figure 1

Existing Fircrest School Campus

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The PAT N facility is housed in six separate buildings, referred to as the 'Y' buildings located at the northwest portion of the site. It provides individualized health care and activities to persons with unique medical needs and has 120 skilled nursing beds. The ATP is housed in six interconnected buildings located at the northeast portion of the site. It provides individualized habilitative services to support and enhance individual skills and strengths. The PAT A residential portion of the campus consists of 10 buildings. The buildings, referred to as 'the cottages,' are located in the central/eastern portion of the site and have 24-hour supervision with medical/nursing services. The PAT A facilities have a total of 160 beds to house patients with intellectual disabilities.

In addition to the three main program elements, the site has support buildings that consist of a commissary, steam plant, kitchen, chapel, administrative / medical offices, office, activities building, maintenance, storage, warehouse, workshop, and gatehouse buildings. An on-site laundry building was destroyed by fire in July 2017 and has not yet been replaced. Traffic and parking generation at the campus is a function of the three primary program elements and the support buildings do not independently add traffic or parking needs. Table 1 lists the existing campus buildings, functions, and total sizes. The core trip-generating components are highlighted with one vacancy noted; the separate off-leash dog area is also noted as an existing trip-generating element.

Table 1. Fircrest School – Existing Building / Use Summary

Adult Training Program	85 86, 87, 88, 89, 90	47,021 sf
Kitchen	39	21,950 sf
Commissary	24	8,000 sf
Steam Plant	28	8,256 sf
Laundry	31, 32, 33	13,354 sf
Chapel	64	3,518 sf
Activities Building	67	35,341 sf
Maintenance and Storage Buildings	25, 27, 34, 35, 43, 91	34,794 sf
Warehouse/Sheltered Workshop	20, 22	35,200 sf
Gatehouse Building	68	174 sf
Total Building Area		**428,984 sf**

Source: AHBL, March 11, 2022
Current trip-generating site elements; *Vacant trip-generating site element*;

Primary vehicular access to the campus is provided from 15th Avenue NE at its signalized intersection with NE 155th Street. The site can also be accessed from two driveways on NE 150th Street—the eastern driveway opposite 20th Avenue NE provides access to the undeveloped off-leash dog park and connects to the support-function buildings at the Fircrest School campus, and the western driveway is located

opposite 17th Avenue NE and provides access to the Department of Health parcel. The western driveway from NE 150th Street also connects internally to the Fircrest School campus near the southernmost PAT A residential cottage building. Automobile parking is provided near or adjacent to most buildings throughout the campus.

1.1.2. Master Development Plan Changes

The Fircrest School Master Development Plan is being prepared by DSHS to allow for the continued maintenance and redevelopment projects on the campus. The Master Development Plan envisions a range of permitted uses including:

State-owned/operated office or laboratory;
Medical-related office or clinic;
Nursing facility;
Church, synagogue, temple;
Housing for disabled persons;
Child and adult care services;
Library;
Personal services;
Social services provider;
Recreational facility;
Research development & testing;
Light industrial;
Food storage, warehousing and distribution;
Professional office;
Parks and trails;
General retail trade, services;
School district support facility (excluding vehicle maintenance and storage);
Veterinary clinic & hospital;
Fire Station; and
Post Office.

For the purposes of this transportation impact analysis, the following elements have been assumed for the DSHS uses.

- Demolish the six existing "Y" buildings and construct a new 120-bed skilled nursing facility.
- Site and construct a new 48-bed (47,310 sf) behavioral health hospital facility.
- Demolish four of ten existing ICF/ID buildings and construct 14 new 3-4 bed ICF/ID cottages to provide for a total of 128 ICF/ID beds (72 existing and 56 new).
- Demolish the existing six ATP buildings and relocate the ATP into other existing buildings.
- Construct a new laundry building.
- Construct a new maintenance building.
- Construct a new commissary building
- Complete new internal circulation roadways.
- Expand surface parking within the site.
- Construct an addition (7,355 sf) to the existing activities building.

For the southeastern portion of the site a future commercial development is envisioned to be made-up of compatible uses and be developed by others. For this transportation analysis, it is assumed to consist of the following uses to reflect the highest (worst-case) level of trip generation.

- Medical/dental office building (85,000 sf) and a smaller general office building (28,320 sf) with a 5,000-sf daycare facility.
- The existing off-leash dog area would be removed, but publicly accessible open space is assumed within the southeast corner of the campus.

If any of the other envisioned uses are developed in the southern portion of the site instead, it is anticipated they would generate lower levels of traffic than evaluated herein. Table 2 lists the campus

buildings, functions, and total sizes considered for the proposed Master Development Plan with the core trip-generating components highlighted. The existing buildings and functions are listed for comparison. The changes are expected to be completed in phases as funding is available, but may occur over 20 years. Figure 2 shows the proposed developments site plan.

Table 2. Fircrest School Master Development Plan – Building / Function Summary

Existing Fircrest School Campus			Proposed Fircrest School Master Development Plan		
Building / Function	**Building #**	**Area (sf)**	**Building / Function**	**Building #**	**Area (sf)**
120-bed Nursing Facility	55, 56, 57, 58, 59, 60	65,628 sf	120-bed Nursing Facility	New	115,851 sf
12-bedroom ICF/ID Cottages	44, 45, 46, 47, 48, 49, 50, 51, 52, 53	65,790 sf	12-bedroom ICF/ID Cottages	46, 47, 48, 49, 50, 51	39,474 sf
Administration / Medical Offices	65	48,912 sf	48-bed Behavioral Health Facility	New	52,000 sf
Building 66 (Vacant)	66	41,046 sf	4-Bedroom ICF/ID Cottages – 14 buildings	New	49,000 sf
Adult Training Program	85 86, 87, 88, 89, 90	47,021 sf	Administration / Medical Offices	65	48,912 sf
Kitchen	39	21,950 sf	Administration Office [1]	66	41,046 sf
Commissary	24	8,000 sf	Kitchen	39	21,950 sf
Steam Plant	28	8,256 sf	Commissary	New	8,075 sf
Laundry	31, 32, 33	13,354 sf	Chapel	64	3,518 sf
Chapel	64	3,518 sf	Activities Building	67	35,341 sf
Activities Building	67	35,341 sf	Activities Building Addition	New	7,353 sf
Maintenance and Storage Buildings	25, 27, 34, 35, 43, 91	34,794 sf	Warehouse / Sheltered Workshop	20, 22	35,200 sf
Warehouse / Sheltered Workshop	20, 22	35,200 sf	Gatehouse Building	68	174 sf
Gatehouse Building	68	174 sf	Laundry Facility	New	15,000 sf
Off-leash dog area		1.4 acre	Maintenance Facility	New	42,794 sf
			North Building – Professional Office	New	85,000 sf
Total Building Area		**428,984 sf**	South Building – Professional Office [2]	New	28,320 sf
					625,933 sf

Source: AHBL, March 11, 2022

Current trip-generating site elements; *Vacant trip-generating site element*

1. *Although DSHS does not currently have plans to re-use this building, this analysis assumes it could be re-occupied as office space.*
2. *Analysis assumes 5,000-sf daycare facility would be located in this building.*

Source: AHBL, December 16, 2021

1.2. Project Location and Study Area

As stated previously, the site is located at 15230–15th Avenue NE in the City of Shoreline. Vehicular access to the site would occur from two locations—the primary main campus access would remain from the existing signalized access driveway on 15th Avenue NE opposite NE 155th Street. The new development at the southeast corner would be accessed from a new driveway on NE 150th Street located about 290 feet west of 20th Avenue NE. The eastern most driveway on NE 150th Street would be removed; the western access located opposite 17th Avenue NE and providing access to the Department of Health parcel would remain but would no longer connect internally to the Fircrest Campus. An existing gated access on 15th Avenue NE about 350 feet north of NE 155th Street is planned to be retained, but remain gated with access limited to emergency and/or maintenance vehicles.

The City of Shoreline's *Traffic Study Guidelines* indicate that a development of the size and scale proposed (estimated to generate between 100 and 500 peak hour trips), is required to evaluate site access points and nearby intersections. Based on scope coordination with the City of Shoreline Traffic Engineer,[8] the following off-site study-area intersections were selected for review in addition to site access. Figure 3 shows the project site location and vicinity street system.

Signalized Intersection

1. NE 155th Street / 5th Avenue NE
2. NE 155th Street / 15th Avenue NE
3. NE 150th Street / 15th Avenue NE

Unsignalized Intersections

4. NE 150th Street / 25th Avenue NE
5. NE 150th St / Fircrest School Access / 20th Ave NE

[8] Email communication, K. Dedinsky, March 23, 2022.

Fircrest School Master Plan
Traffic Impact Statement

Figure 3

Site Location and Vicinity

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1.3. Summary of Findings

The following summarizes the findings of the transportation analysis:

- The changes in program envisioned by Master Development Plan are estimated to generate net increases of up to 3,710 daily trips; 383 AM peak hour trips, and 498 PM peak hour trips.
- New traffic generated by the Master Development Plan development would add delay to the study-area intersections during the AM and PM peak hours. All of the signalized study-area intersections are projected to operate at LOS E or better with the proposed project. However, the all-way-stop-controlled NE 150th Street / 25th Avenue NE intersection is forecast to degrade to LOS F by 2042 without the project, and would be exacerbated by additional project traffic if no changes to traffic control are made.
- The site access driveway on NE 150th Street is forecast to operate at LOS A overall with all movements operating at LOS C or better.
- The Master Development Plan proposes 812 parking spaces allocated throughout the campus (an increase of 271 spaces compared to existing conditions). The planned supply is expected to exceed the estimated parking demand for the campus which is estimated at 746 vehicles. Parking supply for the individual masterplan elements would be determined at the time of permit application, and the number of spaces needed will depend on the intended building program.

1.4. Summary of Recommended Mitigation

The following measures have been incorporated into the project proposal and/or are recommended to minimize the traffic and parking impacts associated with the Fircrest School Master Development Plan.

A. **Construction Transportation Management Plan (CTMP)** – DSHS should require the selected contractor to develop a CTMP. The elements of the CTMP are described in detail in Section 4.

B. **Contribute to cost of improvements (e.g., signalization or conversion to roundabout) at NE 150th Street / 25th Avenue NE** – It would also be appropriate for the project to contribute a proportionate share (estimated at between 2.7% and 3.4%) toward the costs of operational improvements (such as signalization or conversion to roundabout) to mitigate its impacts, if the improvement is not incorporated into the City's Transportation Impact Fee system.

C. **Signal optimization for NE 150th and NE 155th Street intersections on 15th Avenue NE** – It may be desirable to implement operational mitigation measures at these two intersections. If requested by the City, the project could contribute a proportionate share (estimated at between 9% and 17%) toward the costs of the signal optimization improvements, if these improvements are not incorporated into the City's Transportation Impact Fee system.

D. **Parking analysis at time of development permitting** – Parking supply for each individual Master Development Plan element would be determined at the time of permit application, and the number of spaces needed will depend on the intended building program. It is expected that sufficient supply would be provided to meet project parking demand. If future demand is estimated to exceed the supply, then the proponent should be required to perform further studies to determine if parking mitigation (e.g., share parking or trip reduction strategies) would be needed.

In addition to the recommended measures above, the City of Shoreline collects Transportation Impact Fees (TIFs) from applicants seeking building permits for either new developments or changes of use. Based on the above, the potential TIF for all contemplated Master Development Plan uses could range from about $3,342,000 ($490,600 for DSHS Program elements and $2,851,400 for other commercial elements) to $4,144,500 ($857,200 for DSHS Program elements and $3,287,300 for other commercial elements). It is noted that TIFs are collected at the time of building permit issuance and at the rates in place at that time.

2. BACKGROUND CONDITIONS

This section of the report presents the existing and future conditions without the proposed Fircrest School Master Development Plan. The impacts of the proposed project were evaluated against these base conditions. DSHS expects that the Master Development Plan project elements may be completed over the next 20 years; therefore, year 2042 was selected as the future horizon year for this analysis. The following sections describe the existing roadway network, traffic volumes, traffic operations (in terms of levels of service), traffic safety, transit facilities, and pedestrian/bicycle (non-motorized) facilities.

2.1. Roadway Network

The project site is located on the east side of 15th Avenue NE between about NE 160th and NE 150th Streets. The primary roadways that serve the site and its vicinity are 15th Avenue NE, NE 155th Street, and NE 150th Street. The following provides a description of the study area roadways[9].

15th Avenue NE is a north-south Principal Arterial connecting the south City limit at NE 145th Street to the north City limit at NE 205th Street. Within the study area, the roadway has two travel lanes (one in each direction) plus a center, two-way, left-turn lane and bicycle lanes on both sides. It has curbs on both sides and sidewalk along the west side. The posted speed limit is 35 miles per hour (mph). Its intersections at NE 150th, NE 155th, NE 160th, and NE 165th Street are signalized.

NE 150th Street is an east-west roadway designated as a Collector Arterial near the site (from 15th to 25th Avenue NE). East of 25th Avenue NE, it is a Local Secondary Street terminating at 28th Avenue NE. Adjacent to the site, it has one lane in each direction with curb and walkway (concrete and asphalt) on the north side and bicycle lanes on both sides. The posted speed limit is 30 mph. Its intersection with 15th Avenue NE is signalized; its intersection with 25th Avenue NE is all-way-stop controlled.

NE 155th Street is an east-west roadway designated as a Minor Arterial and connecting Aurora Avenue N on the west and 15th Avenue NE on the east. Near the site, the roadway has two travel lanes (one in each direction) plus a center, two-way, left-turn lane and bicycle lanes on both sides. It has curbs and sidewalks on both sides. East of 15th Avenue NE, the street becomes the main internal access road for the Fircrest School site. The posted speed limit is 30 mph. Its intersection with 15th Avenue NE and the Fircrest School access is signalized.

NE 165th Street is an east-west Collector Arterial between 5th and 15th Avenues NE. It has one travel lane in each direction, with curb and sidewalk on the north side. The posted speed limit is 25 mph. On-street parallel parking occurs along some segments on both sides. Its intersection with 15th Avenue NE is signalized. East of 15th Avenue NE, it is a dead-end local street.

25th Avenue NE is a north-south Collector Arterial that extends north from the south City limit to NE 168th Street and then continues in segments to NE 178th Street. In the site vicinity, it has one travel lane in each direction, parking east side of the street, with curb and sidewalk on both sides. The posted speed limit is 30 mph; however, there are 20 mph school zones in several locations (near Shoreline Christian School, Shorecrest High School, and Kellogg Middle School). Its intersection with NE 150th Street is all-way-stop controlled.

At the time of this report, the City of Shoreline was actively engaged in a multi-year process to update its Transportation Master Plan (TMP). The City of Shoreline's most recent available TMP, *2011 Transportation Master Plan (TMP),* was reviewed. Several planned improvements would provide designated bicycle lanes on 15th Avenue NE, NE 155th Street, and extensions of existing bicycle lanes on

[9] City of Shoreline, Street Classification, October 2019.

15th Avenue NE. The plan also calls for the designation of a signed bicycle route along NE 160th Street north of the project site. Finally, the plan identifies the segments of NE 150th Street and 15th Avenue NE adjacent to the project site as part of the proposed pedestrian system with sidewalk improvements identified to fill in missing segments or gaps.

The City of Shoreline's *2022 to 2027 Transportation Improvement Program (TIP)*,[10] its *2021-2026 Capital Improvement Plan (CIP)* [11]and its *2022 Capital Improvement Project Map*[12] were also reviewed to determine if there are funded transportation improvements scheduled in the study area. The *TIP* and *2022 CIP Map* identify sidewalk improvements along 15th Avenue NE adjacent to the project site.

Based on review of the CIP, TIP, and other planning documents, no other specific changes are expected to affect the operational capacity of the study area roadways and intersections for the forecast year 2042 analysis conditions. Therefore, the existing roadway channelization and traffic control were assumed for all future conditions analyses.

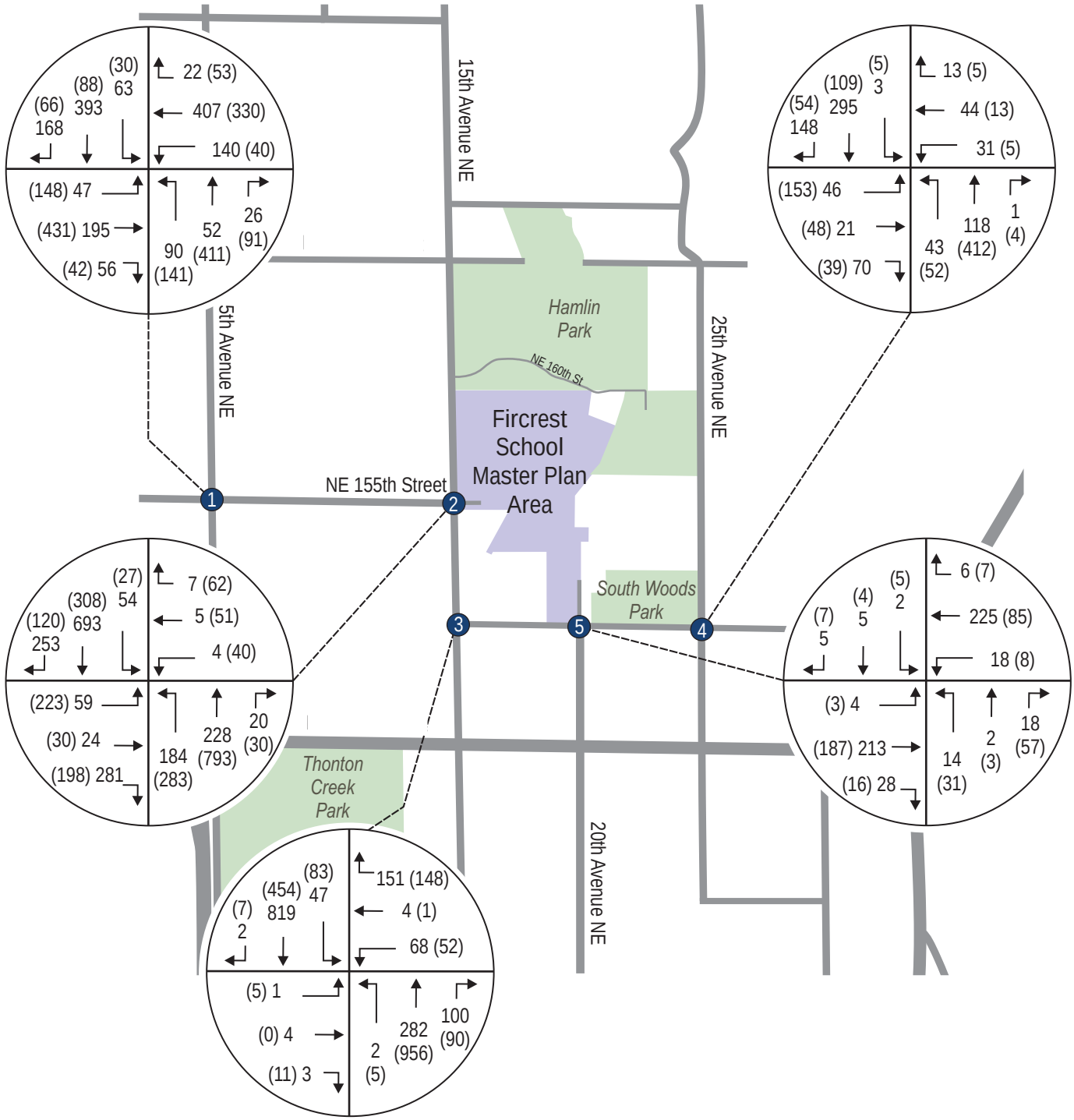
2.2. Traffic Volumes

New AM and PM peak period video turning movement counts were conducted by Idax Data Solutions at all study-area intersections on January 11, 2022. In addition, the counts performed previously at four study intersections for this project on September 27, 2018 and at the two remaining study intersections for another project on May 31, 2018 (all by Idax) were compiled for review.

Based on comparisons of data from 2018 and 2022, current traffic volumes at most locations have not rebounded from the declines caused by the COVID-19 pandemic. At comparable locations, total entering PM peak hour volumes in 2022 ranged from about 47% to about 79% of the 2018 volumes; total entering AM peak hour volumes in 2022 ranged from 56% to 91% of the 2018 levels. These levels are consistent with count data throughout the region and account for the large number of employees that continue to work from home. An exception was the volumes along NE 150th Street between 15th and 25th Avenues NE where AM peak hour volumes in 2022 were higher than in 2018.The increase is likely due to the fact that the State Health Lab increased staff to perform COVID testing. Based on the above data review and with guidance from City of Shoreline Traffic Engineering staff, normalized 2022 non-COVID peak hour volumes were derived using the higher of 2018 and 2022 movement volumes at each study intersection. Figure 4 shows the estimated existing (2022) normalized peak hour traffic volumes at the study area intersections for the AM and PM peak hours, respectively.

The Fircrest School Master Development Plan elements may be completed over 20 years; therefore, the analysis was performed for year 2042 conditions. Consistent with other analyses prepared for projects in the City of Shoreline, compound annual growth rates for the arterials in the study area were derived from growth projections in the City's *2011 Transportation Master Plan*. The growth projections reflect potential increases in PM peak hour traffic between the base model year (2008) and 2030. A comparison of the growth projections indicate study-area intersections could experience compound annual increases ranging up to 3.1% with most locations expected to grow by 0.3% to 2% annually. The derived growth rates were applied to the existing traffic volumes to estimate 2042 volumes without the project. Pipeline development traffic from one project—*AAA 149th Apartments*—was provided by the City[13] and added to the forecasts. Finally, traffic that could be generated by the Fircrest School site, if existing vacant buildings were re-occupied (described later in Section 3.2), was also added to background traffic conditions. Figure 5 shows the forecast 2042-without-project traffic volumes for the AM and PM peak hours, respectively.

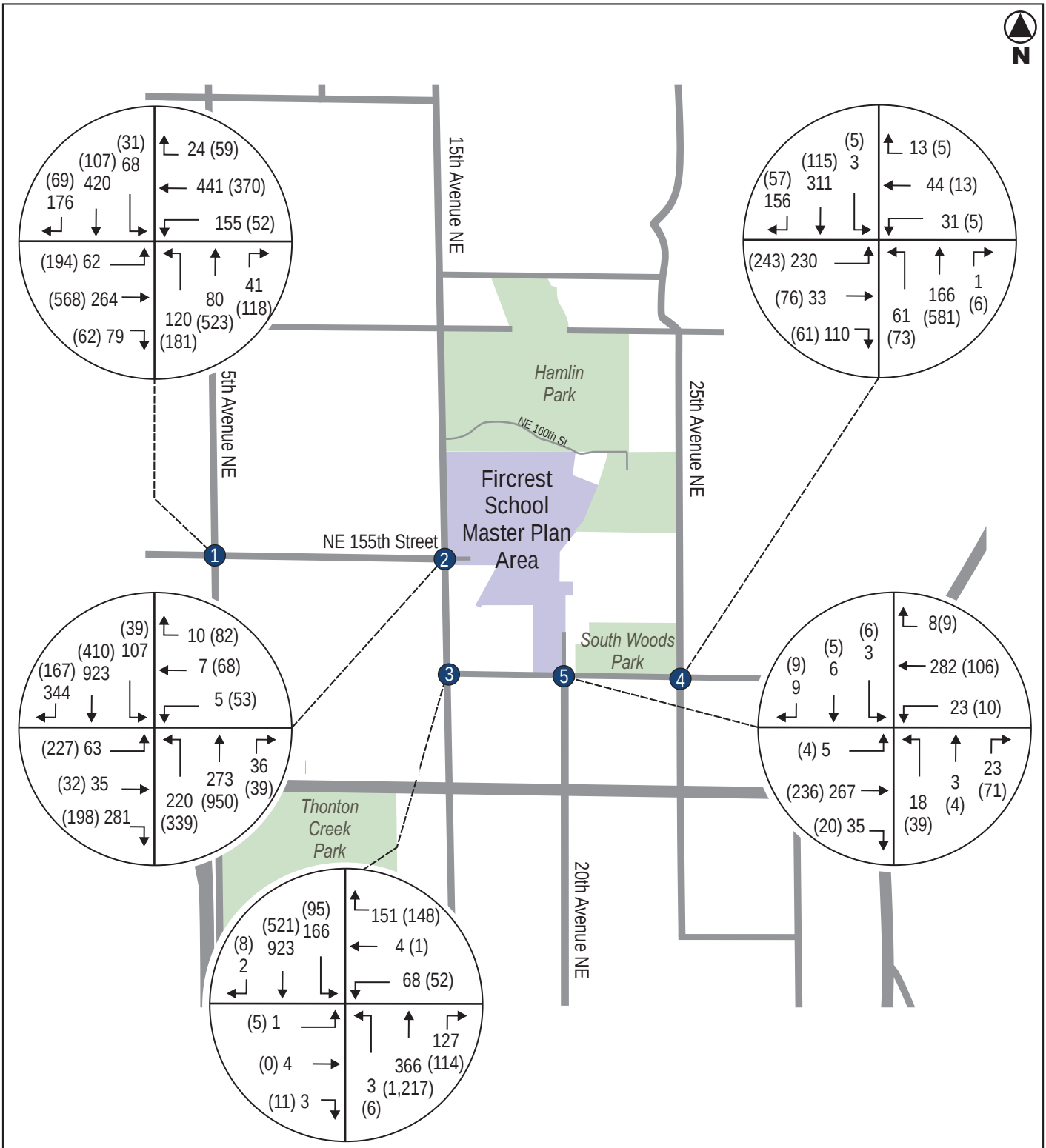
[10] City of Shoreline, Adopted May 28, 2021.
[11] City of Shoreline,
[12] City of Shoreline website, https://www.shorelinewa.gov/government/projects-initiatives/capital-improvement-project-map , accessed April 2022.
[13] Email communication, K. Dedinsky, March 23, 2022.



Fircrest School Master Plan
Traffic Impact Statement

Figure 4
Existing (2022) Normalized Traffic Volumes
AM and PM Peak Hours

heffron transportation inc



Fircrest School Master Plan
Traffic Impact Statement

Figure 5
Forecast (2042) Without-Project Traffic Volumes
AM and PM Peak Hours

heffron transportation inc

2.3. Traffic Operations

Traffic operations analysis was performed for the study area intersections described previously. Traffic operations are evaluated using level of service (LOS) with six letter designations, "A" through "F." LOS A is the best and represents good traffic operations with little or no delay to motorists. LOS F is the worst and indicates poor traffic operations with long delays.

The City of Shoreline has adopted LOS D as its standard for signalized intersections on arterials and unsignalized intersecting arterials for review of traffic impacts of developments.[14] In addition, a supplemental LOS standard "*for Principal Arterials and Minor Arterials limits the volume to capacity (v/c) ratio to 0.90 or lower, provided the v/c ratio on any leg of a Principal or Minor Arterial intersection may be greater than 0.90 if the intersection operates at LOS D or better.*" These LOS standards apply throughout the city except where an alternate standard has been adopted for Principal or Minor Arterial segments where "*widening the roadway cross-section is not feasible, due to significant topographic constraints; or rechannelization and safety improvements result in acceptable levels of increased congestion in light of the improved operational safety of the roadway.*" One of the arterial segments meeting at least one of these criteria is 15th Avenue NE from N 150th Street to N 175th Street where the v/c may not exceed 1.10.

It is noted that the City of Shoreline is currently in the process of preparing a Transportation Master Plan Update to the current 2011 version. The City is in Outreach Series 3 and is soliciting community feedback on draft plans for various travel modes (auto, transit, pedestrian, and bicycle). The draft plan suggests a possible small increase in travel delay policy for automobiles along 15th Avenue NE from NE 155th to the south City limits. As a result, LOS standards may be revised prior to development of the Master Development Plan elements. The level of service definitions and thresholds are in the Appendix A.

Levels of service for the study area intersections were determined using procedures in the *Highway Capacity Manual 6th Edition*.[15] All level of service calculations were performed using the *Synchro 10.1* traffic operations analysis software, using the Synchro reporting module for the signalized intersection and the *HCM 6* reporting module for unsignalized intersections. The PM peak hour analyses reflect existing signal timings provided by the City of Shoreline; the AM peak hour analyses reflect modified signal phase splits to account for morning volume patterns. Table 3 summarizes existing and 2042-without-project levels of service.

As shown, the three signalized intersections currently operate at LOS D or better overall during AM and PM peak hours. The all-way-stop-controlled NE 150th Street / 25th Avenue NE intersection operates at LOS E in the morning and LOS C in the afternoon. The NE 150th Street / 20th Avenue NE intersection operates at LOS A overall with all movements at LOS C or better during both peak hours.

The assumed growth in background traffic is expected to add delay and cause some degradation to operations at the three signalized intersections, but all three are forecast to remain operating at LOS D or better. The growth assumed for the all-way-stop-controlled NE 150th Street / 25th Avenue NE intersection is forecast to degrade operations to LOS F during both AM and PM peak hours by 2042. Based on these levels of delay, a change to traffic control (signalization or conversion to a roundabout) may be required and could improve operations to LOS C or better. The forecast volumes and levels of delay would meet the peak hour warrant (Warrant 3) for signalization outlined in the *Manual on Uniform Traffic Control Devices (MUTCD) for Streets and Highways*.[16] However, City review and monitoring would be needed to determine the intersection meets warrants for signalization or alternative traffic control measures, such as conversion to roundabout.

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14 City of Shoreline, *Comprehensive Plan*, Adopted December 10, 2012.
15 HCM 6th Edition, Transportation Research Board, 2016.
16 US Department of Transportation, Federal Highway Administration, 2009.

Table 3. Intersection Level of Service Summary – Existing and Forecast 2042 Background

Intersection Type / Location	AM Peak Hour						PM Peak Hour					
	Existing			Without Project			Existing			Without Project		
Signalized Intersections	**LOS [1]**	**Delay [2]**	**v/c [3]**	**LOS**	**Delay**	**v/c**	**LOS**	**Delay**	**v/c**	**LOS**	**Delay**	**v/c**
1. NE 155th St / 5th Ave NE	B	18.4	0.81	C	22.1	0.85	B	18.3	0.77	C	33.2	0.99
2. NE 155th St / 15th Ave NE	B	16.2	0.75	C	32.9	1.00	C	23.8	0.89	D	36.9	1.01
3. NE 150th St / 15th Ave NE	B	16.9	0.77	B	17.2	0.78	B	16.4	0.70	B	18.9	0.70
All-Way-Stop Intersection	**LOS**	**Delay**	**v/c**	**LOS**	**Delay**	**v/c**	**LOS**	**Delay**	**v/c**	**LOS**	**Delay**	**v/c**
4. NE 150th St / 25th Ave NE	E	47.5		F	126.5		C	17.7		F	83.2	
Northbound Movements	C	17.7	0.52	E	39.8	0.92	B	13.1	0.76	F	137.7	1.22
Eastbound Left Turns	D	25.6	0.73	F	143.9	1.32	A	9.9	0.41	C	24.7	0.75
Westbound Left Turns	B	14.6	0.31	C	19.5	0.42	C	23.0	0.06	B	11.8	0.07
Southbound Movements	F	80.8	1.05	F	182.8	1.41	B	11.1	0.34	B	14.3	0.44
Stop Controlled Intersection	**LOS**	**Delay**	**v/c**	**LOS**	**Delay**	**v/c**	**LOS**	**Delay**	**v/c**	**LOS**	**Delay**	**v/c**
5. NE 150th St / 20th Ave NE	A	2.0		A	2.6		A	3.8		A	4.3	
Northbound Movements	B	14.7	0.14	C	19.0	0.23	B	12.0	0.22	B	14.1	0.31
Eastbound Left Turns	A	7.9	0.01	A	8.1	0.01	A	7.5	0.00	A	7.6	0.00
Westbound Left Turns	A	8.2	0.02	A	8.4	0.03	A	7.8	0.01	A	8.0	0.01
Southbound Movements	C	16.7	0.09	C	22.0	0.15	B	11.5	0.06	B	12.8	0.09

Source: Heffron Transportation, Inc., April 2022.

1. *LOS = Level of service. LOS E shaded* ▭ *LOS F shaded* ▭.
2. *Delay = Average delay per vehicle in seconds.*
3. *Maximum reported v/c = Volume-to-capacity ratio for lane group.*

2.4. Traffic Safety

Collision data for the study-area intersections and roadway segments adjacent to the site were obtained from the Washington State Department of Transportation (WSDOT). These data, reflecting the period between January 1, 2018 and the most recent available, December 20, 2021 (about four years), were examined to determine if there are any unusual traffic safety conditions that could impact or be impacted by the proposed project. The collision data are summarized in Table 4. As shown, all of the study-area intersections averaged fewer than three collisions per year.

Table 4. Historical Collision Summary – January 1, 2018 - December 20, 2021 (4 years)

Intersections	Number of Collisions by Type						Total (4 Yrs)	Avg / Year
	Rear-End	Side Swipe	Left Turn	Right Angle	Ped / Cycle	Other [a]		
Signalized								
NE 150th St / 15th Ave NE	3	0	1	3	1	0	8	2.0
NE 155th St / 15th Ave NE	3	0	3	2	0	0	8	2.0
NE 155th St / 5th Ave NE	0	0	2	3	0	1	6	1.5
All-Way Stop-Controlled								
NE 150th St / 25th Ave NE	1	0	0	3	0	1	5	1.3
Two-Way Stop-Controlled								
NE 150th St / 20th Ave NE / Fircrest School Access	0	0	0	0	0	0	0	0.0.
Roadway Segments	**Rear-End**	**Side Swipe**	**Left Turn**	**Right Angle**	**Ped / Cycle**	**Other [a]**	**Total (4 Yrs)**	**Avg/ Year**
NE 150th St, between 15th Ave NE and 25th Ave NE	0	0	0	1	0	1	2	0.5
15th Ave NE, between NE 158th St and NE 150th St	4	1	0	1	0	4	10	2.5

Source: WSDOT, January 2022. Reflect collision data for the 4.0-year time period between January 1, 2018 and approximately December 20, 2021. Collisions that occurred recently during the study period (within the past 30 days) may not have been entered into the WSDOT database.

a. "Other" collisions were two vehicles struck fixed objects in the roadway, two vehicles struck fixed objects off the roadway, one vehicle struck a fixed object, and one vehicle struck a parked vehicle.

The City of Shoreline's *Annual Traffic Report, 2020* was also reviewed for this analysis. The report summarizes High Collision Locations (HCLs) based on various criteria. The 2020 report made special note in its executive summary that total crashes nationwide decreased during the COVID-19 pandemic, the rate of fatal crashes increased. The report identifies nine intersections and three roadway segments city-wide that had the highest number of collisions experienced during the three-year period between 2018 and 2020. Locations with three or more pedestrian collisions or two or more bicycle collisions over a five-year period between 2016 and 2020 are also listed in the report. None of the study-area intersections were listed in the City's *Annual Traffic Report* as HCLs; a portion of the segment along 15th Avenue NE (from NE 150th Street to NE 155th Street) was identified in the report as a corridor location to continue to monitor.

There was one recorded pedestrian collision at the NE 150th Street / 15th Avenue NE intersection. The collision occurred on Wednesday, December 15, 2021 and the contributing cause was cited as the driver's failure 'to yield right-of-way to pedestrian. There was one collision involving two vehicles that resulted in a fatality (on May 31, 2020) at the NE 155th Street / 5th Avenue NE. A contributing factor listed was "disregard for traffic signs and signals."

2.5. Transit

The site is served by King County Metro Transit Routes 330 and 348. Route 348 operates along 15th Avenue NE adjacent to the site; Route 330 operates along NE 150th Street, 25th Avenue NE, and NE 155th Street. Route 330 provides weekday peak period directional service between Lake City and Shoreline Community College. Route 348 operates full-day service, 7 days per week, to and from Richmond Beach, Shoreline, Northgate, North City, Shoreline, Ballinger, and Mountlake Terrace. The headways (time between consecutive buses) range between 10 and 60 minutes. The closest stops are located adjacent to the site on 15th Avenue NE at its intersection with NE 155th Street.

Less than a mile to the west of the Fircrest School site, Sound Transit is constructing the 148th Street Transit Station as part of the Lynnwood Link Light Rail Extension project. Located just northeast of I-5 at the NE 145th Street exit, the elevated Shoreline Station will be served by Link light rail beginning in 2024 with frequent service between south Snohomish County and the University of Washington, downtown Seattle, the Eastside, Sea-Tac Airport, and beyond. It will also provide a connection to the new the Sound Transit SR 522/NE 145th Bus Rapid Transit service, which is also scheduled to begin service in 2024.

2.6. Non-Motorized Transportation Facilities

As described in *Roadway Network* section (*2.1*), there are intermittent pedestrian and bicycle facilities within the study area. Near the project site, there is sidewalk along the west side of 15th Avenue NE and bicycle lanes on both sides. However, there are only intermittent segments of sidewalk along the east side of 15th Avenue NE, but there is a narrow, foot-worn path in the grass behind a vertical curb. There is curb and sidewalk along the north side of NE 150th Street near the site and bicycle lanes on both sides. There are curbs, sidewalks, and bicycle lanes on both sides of NE 155th Street.

Crosswalks and pedestrian crossing signals are provided on all legs of the signalized study intersections; there are marked crosswalks on all legs of the unsignalized NE 150th Street / 25th Avenue NE intersections

As described previously, the City of Shoreline plans to construct sidewalk along the east side of 15th Avenue NE north of NE 150th Street.

3. TRAFFIC IMPACTS

This section of the report describes the conditions that could exist with the proposed Fircrest School Master Development Plan elements complete and occupied. The following sections describe the methodology used to determine the proposed project's impacts and the results of the analysis. As described previously, year 2042 was selected as the future horizon year for this analysis to represent conditions when all elements of the Master Development Plan could be complete and occupied.

3.1. Roadway Network

With the changes contemplated by the Master Development Plan, vehicular access to the site would occur from two locations—the primary Fircrest School campus access would remain from the existing signalized access driveway on 15th Avenue NE opposite NE 155th Street. An existing gated access on 15th Avenue NE about 350 feet north of NE 155th Street is planned to be retained, but remain gated with access limited to emergency and/or maintenance vehicles. The new development at the southeast corner would be accessed from a new driveway on NE 150th Street located about 290 feet west of 20th Avenue NE. The eastern most driveway on NE 150th Street would be removed. Frontage improvements would be constructed along the portions of campus included in the Master Development Plan and are proposed to be completed in phases with triggers based on campus improvements. No other changes to the existing off-site roadway network are proposed.

3.2. Traffic Volumes

The City requires that trip generation estimates be developed using rates and equations published by the Institute of Transportation Engineers (ITE) in its most current edition of the *Trip Generation Manual.*[17] Trip estimates for each site component were prepared based on their current and/or expected function and the best-fit uses included in the ITE manual. Trip generation models for the overall site were prepared for existing and future conditions and then compared to estimate the net change in traffic generation that could occur with the Master Development Plan.

3.2.1. Selected Trip Generation Rates and Equations

Based on the existing and proposed facilities and functions that make up the Fircrest School Campus, the ITE land use categories that were selected to estimate trip generation are described for each component.

ICF/ID Cottages: Assisted Living (Land Use 254) – This land use is a "*residential setting that provides either routine general protective oversight or assistance with activities necessary for independent living to persons with mental or physical limitations. The typical resident has difficulty managing in an independent living arrangement but does not require nursing home care. Its centralized services typically include dining, housekeeping, social and physical activities, medication administration, and communal transportation. The complex commonly provides separate living quarters for each resident.*" This best matches the existing and planned future ICF/ID cottages within the campus.

PAT N Nursing Facility: Nursing Home (Land Use 620) – This land use is described as "*…a facility whose primary function is to provide care for persons who are unable to care for themselves. Examples include rest homes, chronic care, and convalescent homes. Skilled nurses and nursing aides are present 24 hours a day at these sites. Residents often require treatment from a registered healthcare professional for ongoing medical issues. A nursing home resident is not capable of operating a vehicle. Traffic is*

[17] ITE, 11th Edition, September 2021.

entirely generated by employees, visitors, and deliveries." This best matches the existing and future PAT N nursing facility component.

Administration Offices: Single-Tenant Office Building (Land Use 715) – This land use is described as a building that "*...generally contains offices, meeting rooms, and space for file storage and data processing of a single business or company and possibly other service functions including a restaurant or cafeteria.*" This category is best for application to the existing and future Fircrest School administration office buildings within the campus.

Behavior Health Hospital: Hospital (Land Use 610) – There is no ITE category that exactly reflects the planned behavioral health hospital. The facility proposed as part of the Master Development Plan would have 48 beds with up to 400 employees. The facility would be staffed seven days per week with three shifts operating 24-hours per day. There would be limited turn-over of patients and the facility would not be open to the public with ingress and egress mainly by staff and physicians. ITE's *Hospital* land use is the most similar to the proposed facility. After review of the three possible independent variables that could be applied, guidance published by ITE in its *Trip Generation Manual* on selecting independent variables, and expected staffing and shift information provided by the applicant, peak hour rates based on gross floor area were selected. These rates are based on the largest number of studies and have a data point near the size of the proposed project. The resulting peak hour trip estimates are consistent with traffic patterns that would be expected based on the staffing, shift details, and operational expectations provided by the applicant. In contrast, the published rates based on number of beds were derived from only seven studies, with none near the proposed number for this site. Trip estimates based on number of employees were also reviewed and determined to be unreasonable; the peak hour rates based on employees resulted in trips that appeared to be too high given the same staffing and operational parameters.

North Professional Office Building: Medical-Dental Office Building (LU 720) – The anticipated worst-case use, in terms of trip generation, for the larger of the two new professional office buildings (planned to be developed by others) at the southeast part of the site would be as a medical/dental office building.

South Professional Office Building: General Office Building (LU 710) and Daycare Center (Land Use 565) – The smaller of the two new professional office buildings planned (to be developed by others) at the southeast part of the site was assumed to be a general office building that also contains at 5,000-sf daycare center. The daycare center is likely to serve employees who work in the building, the adjacent north office building, and/or the larger Fircrest School site. Therefore, 50% of its trips were assumed to be the same as those generated by other uses on site—employees coming to the site who also bring their children to the daycare center.

Off-Leash Dog Area: There are no published ITE rates to estimate trip generation by off-leash dog areas. Therefore, trip estimates for this existing use were derived using a rate derived by Heffron Transportation, and presented in the *Transportation Impact Analysis for Off-Leash Dog Area(s) at the Chambers Creek Properties*.[18] The weekday PM peak hour rate was developed from counts and observations at three off-leash areas (Grandview, Marymoor, and Magnuson). The daily and AM peak hour rates were estimated based on these results.

The rates and equations applied for each land use type are summarized in Table 5. As noted previously, Sound Transit is constructing the Lynnwood Link Light Rail Extension with a new transit station located between NE 145th and NE 148th Streets, about a mile west of the Fircrest School Campus. The City of Shoreline prepared the *145th Street Station Subarea Plan*[19] for surrounding area north of NE 145th Street.

[18] Heffron Transportation, Inc., November 14, 2006.
[19] City of Shoreline, October 2016.

The 'Mobility' and 'Land Use' study areas for the plan extend to 15th Avenue NE at the southwest corner of the Fircrest Campus. The plan anticipates 10% of external trips to and from the subarea would be by transit and 12% would be walking and biking. Based on these expectations, the proximity of the light rail station, transit operating adjacent to the site, and area non-motorized facilities, it is reasonable to assume some non-auto employee trips for the Fircrest Campus by 2042. Therefore, forecast 2042 trip generation estimates were reduced by 6% from the published ITE rates and equations to reflect a level of non-auto mode use. Table 6 presents trip generation estimates for the existing Fircrest Campus (No Action) and year 2042 with the Master Development Plan; the estimated net change due to the Master Development Plan is also shown.

Table 5. Trip Generation Rates & Equations

Land Use	ITE LU Code	Equations [a] / Rates (in / out %s)		
		Daily	AM Peak Hour	PM Peak Hour
Assisted Living	254	2.60 trips / bed *50% / 50%*	0.18 trips / bed *60% / 40%*	0.24 trips / bed *39% / 61%*
Nursing Home	620	3.06 trips / bed *50% / 50%*	0.14 trips / bed *72% / 28%*	0.14 trips / bed *33% / 67%*
Single-Tenant Office	715	13.07 trips / 1,000 sfgfa *50% / 50%*	T = 1.89(X) – 7.67 *89% / 11%*	T = 1.72(X) + 7.89 *15% / 85%*
Daycare Center	565	47.62 trips / 1,000 sfgfa *50% / 50%*	11.00 trips / 1,000 sf *53% / 47%*	11.12 trips / 1,000 sf *47% / 53%*
Hospital	610	10.77 / 1,000 sfgfa *50% / 50%*	Ln(T) = 0.60 Ln(X) + 2.52 *67% / 33%*	Ln(T) = 0.64 Ln(X) + 2.27 *35% / 65%*
General Office	710	Ln(T) = 0.87Ln(X) + 3.05 *50% / 50%*	Ln(T) = 0.86 Ln(X) + 1.16 *88% / 12%*	Ln(T) = 0.83 Ln(X) + 1.29 *17% / 83%*
Medical/ Dental Office	720	*36.00 trips / 1,000 sfgfa* 50% / 50%	*Ln(T) = 0.90Ln(X) + 1.34* 79% / 21%	*T = 4.07(X) - 3.17* 30% / 70%
Off-Leash Dog Area [b]	N/A	*27.59 trips / acre* 50% / 50%	*2.76 trips / acre* 50% / 50%	*2.76 trips / acre* 50% / 50%

Source: Institute of Transportation Engineers (ITE) Trip Generation, 11th Edition, September 2021 (unless otherwise noted).

a. T = number of trips, X = square feet gross floor area (sfgfa).

b. PM Peak hour rate from Transportation Impact Analysis for Off-Leash Dog Area(s) at the Chambers Creek Properties, Heffron Transportation, Inc., Nov. 2006. Daily rate estimated as ten times the PM peak rate; AM rate estimated to be the same as PM rate.

Table 6. Trip Generation Summary – Fircrest Campus: No Action and With Master Plan

Lane Uses / Sizes (assumes full occupancy)	ITE LU Code	Daily Trips	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
DSHS Fircrest School: No Action								
Nursing Home – 120 beds	620	350	12	4	16	6	10	16
Assisted Living – 160 Beds	254	390	16	11	27	14	22	36
Single-Tenant Office – 89,958 sfgfa	715	1,110	135	17	152	23	130	153
Off-Leash Dog Area – 1.4 acres	N/A	40	2	2	4	2	2	4
Total for Fully Occupied Existing Uses		**1,890**	**165**	**34**	**199**	**45**	**164**	**209**
DSHS Fircrest School: Proposed Master Development Plan								
Nursing Home – 120 beds	620	350	12	4	16	5	11	16
Single-Tenant Office – 89,958 sfgfa	715	1,110	135	17	152	23	130	153
Behavioral Health Hospital – 52,000 sfgfa (48 beds)	610	530	84	41	125	40	74	114
Assisted Living – 128 beds	254	310	13	9	22	11	18	29
General Office – 23,320 sfgfa	710	310	40	5	45	8	39	47
Day Care Center – 5,000 sfgfa	565	110	14	12	26	12	14	26
Medical/Dental Office – 85,000 sfgfa	720	2,880	155	41	196	97	225	322
Total for Retained and Proposed New Uses		**5,600**	**453**	**129**	**582**	**196**	**511**	**707**
Net Change With Master Development Plan		**3,710**	**288**	**95**	**383**	**151**	**347**	**498**

Source: Heffron Transportation, Inc. using ITE's Trip Generation Manual (11th Ed, Sept. 2021) with 6% non-auto trip reduction, May 2022.

3.2.2. Trip Distribution and Assignment

Trip distribution patterns were developed based on a combination of resources including: 1) home-to-work (and vice versa) trip data from *OnTheMap*[20] for employees working in the site's Census tract; 2) *Google Maps* predictive travel-route and travel-time results; 3) traffic patterns at study-area intersections, and 4) the project's planned site access locations. The traffic estimates presented in Table 6 were assigned to the local roadway network assuming access to the proposed new southeastern commercial development would be accessed only from NE 150th Street (no access through the campus is anticipated). Figure 6 shows the trip distribution patterns and net new trip assignments for AM and PM peak hours.

The AM and PM peak hour project trips were added to the forecast 2042 without-project traffic volumes for each period to represent future conditions with the Fircrest School Master Development Plan. Figure 7 shows the forecast 2042 with-project AM and PM peak hour traffic volumes.

[20] Version 6, United States Census Bureau, web-based mapping and reporting application, https://onthemap.ces.census.gov/, accessed April 2022.

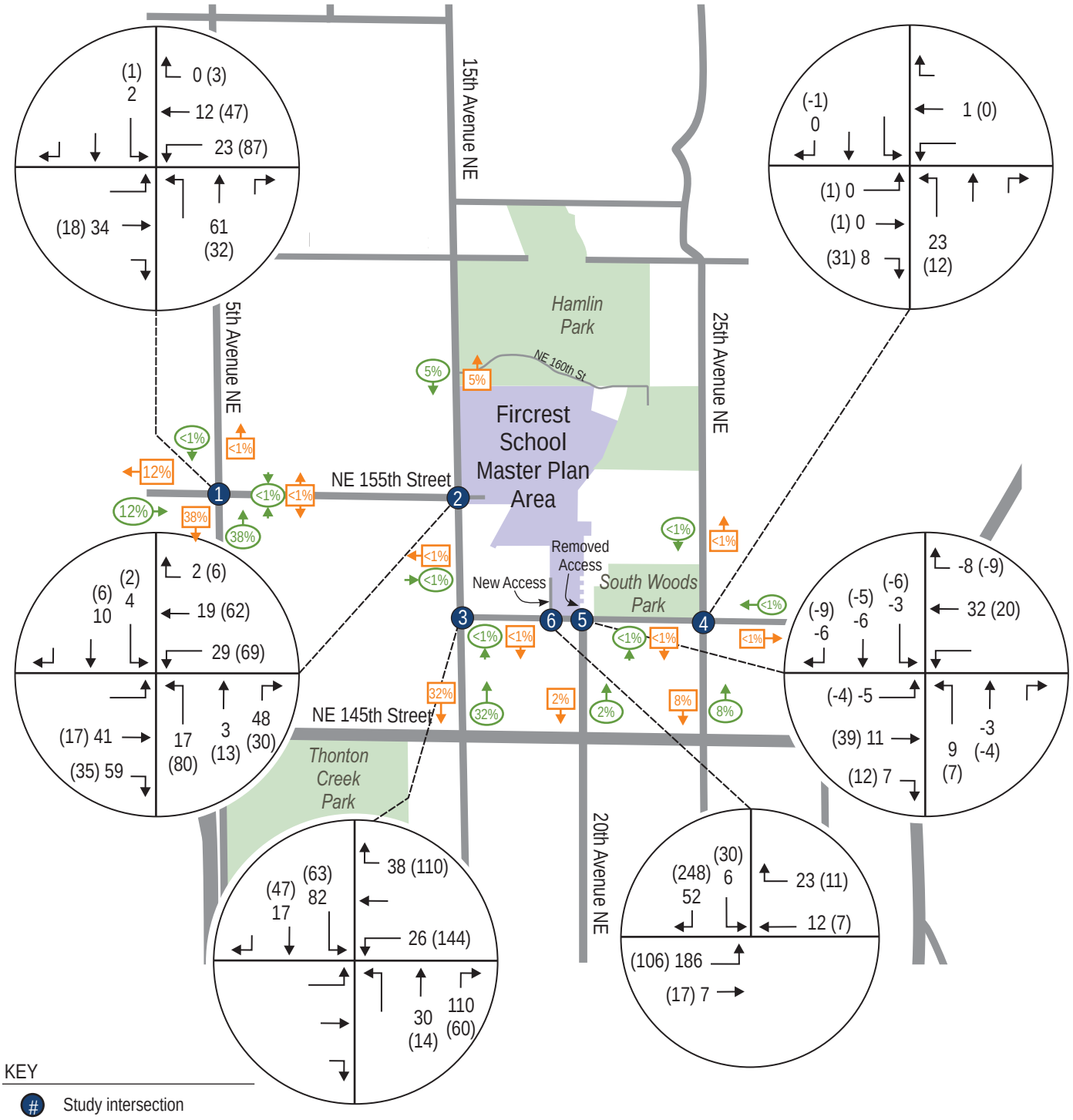

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Figure 6
Trip Distribution and Net Change in Site Trips
AM and PM Peak Hours

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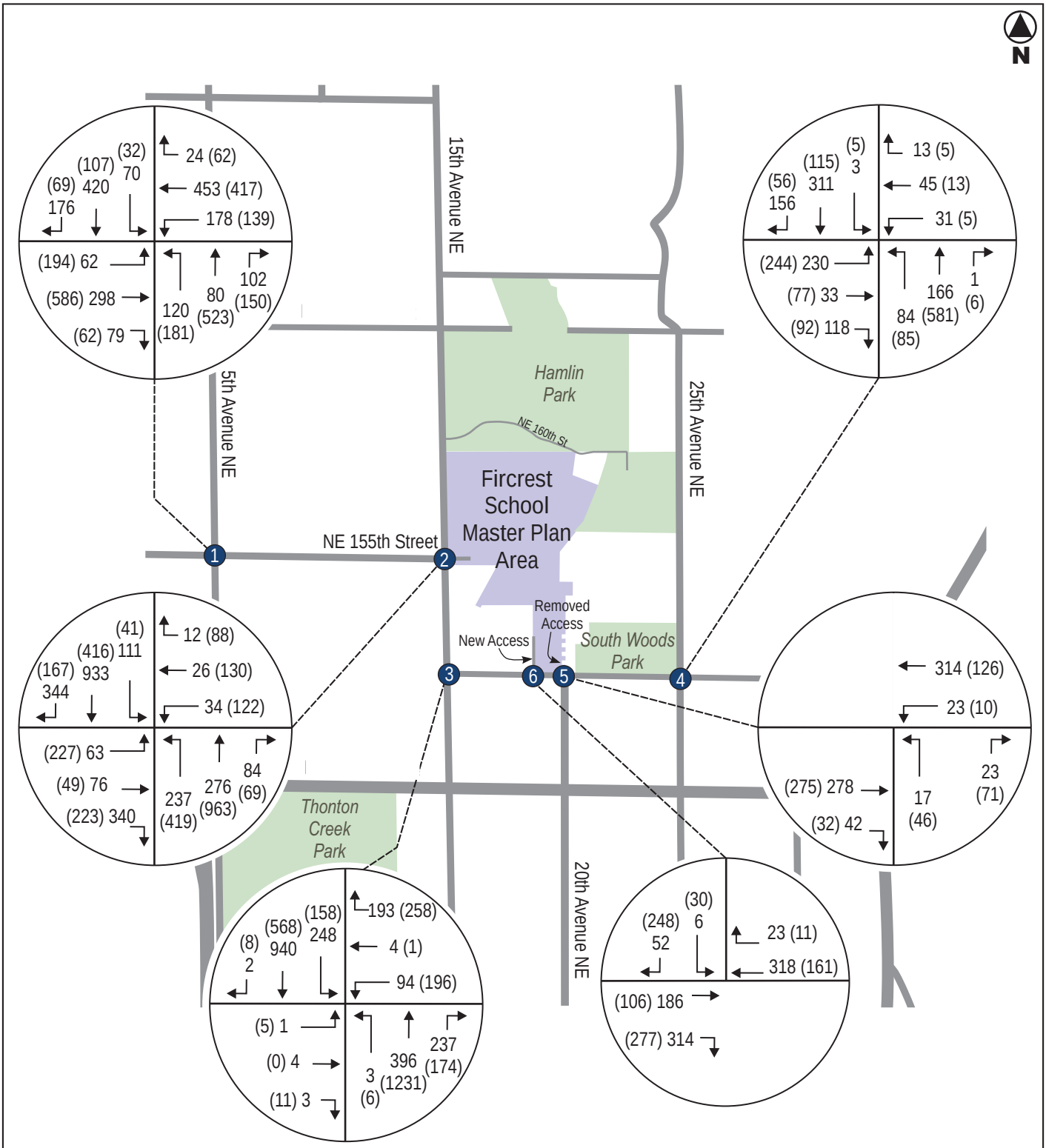

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Figure 7
Forecast 2042-With-Project Traffic Volumes
AM and PM Peak Hours

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3.3. Traffic Operations

Levels of service for the study-area intersections were calculated using the 2042-with-project traffic volumes and the methodology described earlier in this report. Table 7 shows the results of the analysis; levels of service for the 2042-without-project conditions are shown for comparison.

Table 7. Level of Service Summary – Forecast-2042-Without- & With-Project Conditions

	AM Peak Hour						PM Peak Hour					
Intersection Type / Location	**Without Project**			**With Project**			**Without Project**			**With Project**		
Signalized Intersections	**LOS [1]**	**Delay [2]**	**v/c [3]**	**LOS**	**Delay**	**v/c**	**LOS**	**Delay**	**v/c**	**LOS**	**Delay**	**v/c**
1. NE 155th St / 5th Ave NE	C	22.1	0.85	C	22.7	0.85	C	33.2	0.99	D	48.1	1.12
2. NE 155th St / 15th Ave NE	C	32.9	1.00	D	37.7	1.02	D	36.9	1.01	E	63.5	1.19
3. NE 150th St / 15th Ave NE	B	17.2	0.78	C	20.9	0.87	B	18.9	0.70	D	45.3	1.18
All-Way-Stop Intersection	**LOS**	**Delay**	**v/c**	**LOS**	**Delay**	**v/c**	**LOS**	**Delay**	**v/c**			
4. NE 150th St / 25th Ave NE	F	126.5		F	140.1		F	83.2		F	94.5	
Northbound Movements	E	39.8	0.92	F	52.7	1.04	F	137.7	1.22	F	158.2	1.27
Eastbound Left Turns	F	143.9	1.32	F	165.4	1.37	C	24.7	0.75	D	28.7	0.82
Westbound Left Turns	C	19.5	0.42	C	20.6	0.44	B	11.8	0.07	B	12.0	0.07
Southbound Movements	F	182.8	1.41	F	197.1	1.47	B	14.3	0.44	B	14.7	0.45
Stop Controlled Intersection	**LOS**	**Delay**	**v/c**	**LOS**	**Delay**	**v/c**	**LOS**	**Delay**	**v/c**			
5. NE 150th St / 20th Ave NE	A	2.6		A	1.8		A	4.3		A	3.5	
Northbound Movements	C	19.0	0.23	C	18.1	0.24	B	14.1	0.31	B	14.4	0.32
Eastbound Left Turns	A	8.1	0.01		n/a [4]		A	7.6	0.00		n/a [4]	
Westbound Left Turns	A	8.4	0.03	A	8.5	0.03	A	8.0	0.01	A	8.1	0.01
Southbound Movements	C	22.0	0.15		n/a [4]		B	12.8	0.09		n/a [4]	
6. NE 150th St / New Access		n/a [5]		A	3.0			n/a [5]		A	5.4	
Eastbound Left Turns				A	9.5	0.27				A	8.1	0.10
Southbound Movements				C	17.0	0.17				C	15.1	0.46

Source: Heffron Transportation, Inc., May 2022.

1. *LOS = Level of service. LOS E shaded* ▭ *LOS F shaded* ▭;
2. *Delay = Average delay per vehicle in seconds.*
3. *v/c = Volume-to-capacity ratio.*
4. *n/a = not applicable, movement eliminated with removal of north leg of intersection with project.*
5. *n/a = not applicable, driveway would not exist without project.*

As shown, the additional traffic generated by Fircrest School campus with the Master Development Plan is forecast to add delay to each of the signalized study-area intersections during both peak periods. Based on the level of delay forecast to be added and the City of Shoreline's currently-adopted LOS standards, it may be desirable to implement operational mitigation measures at the two signalized intersections on 15th Avenue NE closest to the site. Signal timing optimization at the NE 150th Street intersection could reduce delays slightly (to 45.4 seconds per vehicle). Signal phasing and channelization changes at the NE 155th Street intersection (to provide concurrent protected-permitted left-turn phasing) could reduce delays noticeably (to 48.7 seconds per vehicle). It may be appropriate for the project to contribute a proportionate share toward the costs of signal optimization improvements to mitigate these impacts. Project traffic is estimated to represent between 9% and 17% of the total entering AM and PM peak hour

volumes at these two intersections and would be reasonable contribution portions, if these improvements are not incorporated into the City's Transportation Impact Fee system.

The NE 150th Street / 25th Avenue NE intersection, which is an all-way stop, is forecast to operate at LOS F without the project and the relatively small number of added AM and PM peak hour project trips are forecast to cause large increases in delay. As a result, it would also be appropriate for the project to contribute a proportionate share toward the costs of operational improvements (such as signalization or conversion to a roundabout) to mitigate these impacts. Project traffic is estimated to represent between 2.7% and 3.4% of the total entering AM and PM peak hour volumes and would be reasonable contribution portions, if the improvement is not incorporated into the City's Transportation Impact Fee system.

3.4. Traffic Safety

The new and expanded development contemplated by the Master Development Plan could increase traffic at the study-are intersections and statistically, the number of collisions could increase as traffic increases. However, the project does not include any substantial changes to the roadway network that are expected to result in new adverse safety concerns. The collision data provided for the study-area intersections do not indicate any unusual existing safety conditions that would impact or be impacted by the proposed project and the proposed project is not expected to adversely affect the safety in the area.

3.5. Site Access Evaluation

The existing campus has two access points—one main signalized access on 15th Avenue NE opposite NE 155th Street, and one on NE 150th Street opposite 20th Avenue NW. The main campus access would remain from on 15th Avenue NE. The new development at the southeast corner would be accessed from a new driveway on NE 150th Street located about 290 feet west of 20th Avenue NE, while the eastern most driveway on NE 150th Street would be removed. The existing gated access on 15th Avenue NE about 350 feet north of NE 155th Street is planned to be retained, but remain gated with access limited to emergency and/or maintenance vehicles.

The proposed new access on NE 150th Street would meet the minimum clearance from other intersections (greater than 75 feet for access points on a Collector Arterial). It would also meet the minimum spacing for access driveways on the north side of the street; however, because there are driveways serving single-family residential lots on the south side of the street, the access location may require approval for reduced spacing from the City's Engineering Director.

NE 150th Street has crest vertical curves to the west and east of the planned site access locations. Sight distance to and from this access location is clear for more than 500 feet in both directions and would meet the recommended level for a stop-controlled minor approach as outlined in Table 13 of the City's *2022 Engineering Development Manual* (335 feet for an intersection with a major roadway with a posted speed limit of 30 mph). However, there is currently a rockery, vegetation, and trees located behind the sidewalk at the anticipated access locations. At the time of site development, additional review will be required to ensure that the applicable sight distance triangles would be provided.

The operational analyses of the planned new site access location on NE 150th Street was presented previously. It is forecast to operate at LOS A overall with all movements operating at LOS C or better during AM and PM peak hour conditions. The HCM 6 LOS calculation includes estimates of the 95th-percentile queues, which are reported to be about one vehicle for eastbound left-turns into the site during both peak periods. The 95th-percentile queues for vehicles leaving the access driveway onto NE 150th Street are reported to be less than three vehicles during both peak periods.

3.6. Parking Supply & Demand

The existing campus currently has 541 parking spaces spread throughout the campus with larger clusters of parking near the Activities Building, Kitchen, Administration Building, and the Pat 'N' / 'Y' Buildings. With the proposed Master Development Plan, the total number of parking spaces is anticipated to increase to 812 spaces (an increase of 271 spaces compared to existing conditions). This supply is expected to exceed the parking demand for the campus which is estimated to total 746 vehicles.[21] Due to the unique nature and variety of uses on the Fircrest School Campus parking demand is largely attributed to the number of full time equivalent (FTE) employees on duty and the number of residents at the campus. Table 8 shows the parking supply, estimated demand for each building on campus, and the proposed parking supply standards.

Table 8. Fircrest School Campus Parking Summary

Building	Parking Supply	Peak Parking Demand	Proposed Parking Spaces Standard
Existing Buildings to Remain			
12-Bedroom ICF/ID Cottages	40	75	1 per 5 residents, plus 1 per FTE employee on duty
Activities Building	30	8	1 per FTE employee on duty + 3 spaces for deliveries/visitors
Administration Building	24	53	1 per FTE employee on duty + 3 spaces for deliveries/visitors
Kitchen	53	23	1 per FTE employee on duty + 3 spaces for deliveries/visitors
Chapel	46	27	1 per 5 fixed seats + 1 per 50 square feet of gross floor area without fixed seats used for assembly purposes*
Existing Building Parking Spaces Total	**193**	**186**	
Near-Term Developments (estimated completion by 2030)			
120-Bed Nursing Facility	112	90	1 per 5 residents, plus 1 per FTE employee on duty
Adult Training Program (Relocation)	14	38	1 per FTE employee on duty + 3 spaces for deliveries/visitors
48-Bed Behavioral Health Facility	89	31	1 per 8 residents, plus 1 per FTE employee on duty
South Building – Professional Office/Daycare	81	51	Professional office uses: 1 per 500 square feet Daycare II: 2 + 1 for each 20 clients**
Near-Term Developments Parking Spaces Total	**296**	**210**	
Long-Term Developments (estimated competition by 2040)			
Laundry Facility	0	11	1 per FTE employee on duty + 1 loading space
Maintenance Facility	20	60	1 per FTE employee on duty + 10 loading space
Commissary Building	15	6	1 per FTE employee on duty + 2 spaces for deliveries/visitors
4-Bedroom ICF/ID Cottages	75	96	1 per 5 residents, plus 1 per FTE employee on duty
North Building – Professional Office	193	170	1 per 500 square feet
Recreation Space	20	7	10 per acre
Long-Term Developments Parking Spaces Total	**323**	**350**	
Total Campus (All Development)	**812**	**746**	

Source: AHBL, June 2022.

[21] Existing parking supply, proposed supply and estimated demand from AHBL, June 2022.

It is noted that the total peak parking demand for the cumulative uses reflects a worst-case condition that assumes all of the uses have their peak demand at the same time of day. In reality, peak demand times could occur at different times of day. For example, office uses typically have peak demand times in the mid-morning or mid-afternoon, while the nursing facilities are likely to have their peak demand early in the morning during the shift change. Therefore, peak cumulative demand would likely be less than reported in Table 8.

Parking supply for the individual masterplan elements would be determined at the time of permit application, and the number of spaces needed will depend on the intended building program. It is expected that sufficient supply would be provided to meet project parking demand. If future demand is estimated to exceed the supply, then the proponent should be required to perform further studies to determine if parking mitigation would be needed, which could include sharing parking with other uses on site or in the vicinity, implementing trip and parking demand reduction strategies, or other measures.

3.7. Transit

Some transit trips are expected to be generated by employees working at the site. Based on the trip generation estimates presented previously and the 6% adjustment for non-auto modes of travel, the campus could generate increases of up 360 transit trips per day with about 35 in the AM peak hour and 45 in the PM peak hour. Due to the proximity to local bus stops and access to future light rail (the nearest bus stops are located at the NE 155th Street / 15th Avenue NE intersection), the estimated additional transit trips are not expected to result in adverse impacts to transit facilities or service.

3.8. Non-Motorized Transportation Facilities

Fircrest School campus would continue to generate pedestrian and bicycle trips within the site vicinity. The increase in employment is expected to proportionally increase the number of pedestrian and bicycle trips generated at the site. As noted, frontage improvements (including new sidewalk) would be constructed along the portions of campus included in the Master Development Plan in phases with triggers based on campus improvements. These improvements would enhance the non-motorized environment for the site and the project is not expected to adversely affect non-motorized transportation facilities.

The City of Shoreline's *2022 to 2027 TIP and 2022 CIP Map* show that the City intends to repair and replace sidewalks along 15th Avenue NE between NE 155th Street and NE 175th Street, with construction planned in 2023. It is noted that the Fircrest School Master Development Plan area fronts 15th Avenue NE north of NE 155th Street, but not south of NE 155th Street. Development of the site requiring frontage improvements is likely many years in the future, and may occur after the City's sidewalk project. Remaining frontage improvement needs would be coordinated with the City.

4. RECOMMENDATIONS / CONCLUSIONS

Based on the above findings, the following measures would be incorporated into the project proposal and/or are recommended to minimize the traffic and parking impacts associated with the Fircrest Master Development Plan project.

A. **Construction Transportation Management Plan (CTMP)** – DSHS should require the selected contractor to develop a CTMP. The CTMP should address traffic and pedestrian control during each major phase of construction. It should confirm truck routes, lane closures, walkway routes and closures, and parking disruptions, as necessary. The CTMP may also include measures to keep adjacent streets clean on a daily basis at the truck exit points (such as street sweeping or on-site truck wheel cleaning) to reduce tracking dirt off site. The CTMP should identify parking locations for the construction personnel, staff, and fleet vehicles.

B. **Contribute to cost of improvements (e.g., signalization or conversion to roundabout) at NE 150th Street / 25th Avenue NE** – The NE 150th Street / 25th Avenue NE intersection is forecast to operate at LOS F without the project. The added AM and PM peak hour project trips are forecast to cause large increases in delay. As a result, it would also be appropriate for the project to contribute a proportionate share toward the costs of operational improvements (such as signalization or conversion to roundabout) to mitigate these impacts. Project traffic is estimated to represent between 2.7% and 3.4% of the total entering AM and PM peak hour volumes and would be reasonable contribution portions, if the improvement is not incorporated into the City's Transportation Impact Fee system.

C. **Signal optimization for NE 150th and NE 155th Street intersections on 15th Avenue NE** – Based on the level of delay forecast to be added and the City of Shoreline's currently-adopted LOS standards, it may be desirable to implement operational mitigation measures at the two signalized intersections on 15th Avenue NE closest to the site. Signal timing optimization at the NE 150th Street and signal phasing and channelization changes at the NE 155th Street intersection (to provide concurrent protected-permitted left-turn phasing) could reduce delays noticeably. It may be appropriate for the project to contribute a proportionate share toward the costs of signal optimization improvements to mitigate these impacts. Project traffic is estimated to represent between 9% and 17% of the total entering AM and PM peak hour volumes at these two intersections and would be reasonable contribution portions, if these improvements are not incorporated into the City's Transportation Impact Fee system.

D. **Parking analysis at time of development permitting** – Parking supply for each individual Master Development Plan element would be determined at the time of permit application, and the number of spaces needed will depend on the intended building program. It is expected that sufficient supply would be provided to meet project parking demand. If future demand is estimated to exceed the supply, then the proponent should be required to perform further studies to determine if parking mitigation (e.g., share parking or trip reduction strategies) would be needed.

In addition to the recommended measures above, the City of Shoreline collects Transportation Impact Fees (TIFs) from applicants seeking building permits for either new developments or changes of use. The impact fee rate currently in effect (2022) is $8,322.31 per new PM peak hour vehicle trip. The City has also identified fee rates for some select relevant land uses—Assisted living $755.86 / bed; Hospital: $9.90 / sf; Medical offices: $27.08 / sf; General office: $14.90 / sf; and Daycare center: $40.43 / sf.

Based on the estimated change to trip-generating DSHS program elements, only the new Behavioral Health Hospital is expected to increase trips and those would be offset by the reduction in ICF/ID cottage beds (32 fewer assisted-living beds) and the removal of the off-leash dog area. The new commercial development element on the south portion of the campus would be entirely new for the purposes of TIFs.

Based on the above, the potential TIF for all contemplated Master Development Plan uses could range from about $3,342,000 ($490,600 for DSHS Program elements and $2,851,400 for other commercial elements) to $4,144,500 ($857,200 for DSHS Program elements and $3,287,300 for other commercial elements). These estimates are based on the currently adopted fee rates and depend on whether the per-trip fee rate or rates for specific land uses are applied. It is important to note that impact fees are assessed at the time of building permit issuance and at the rates in place at that time. Increases in the fee rates are calculated annually (by January 1st) and typically based on the Seattle-Tacoma-Bellevue Consumer Price Index for all urban consumers (CPI-U).

APPENDIX A
Level of Service Definitions

Levels of service (LOS) are qualitative descriptions of traffic operating conditions. These levels of service are designated with letters ranging from LOS A, which is indicative of good operating conditions with little or no delay, to LOS F, which is indicative of stop-and-go conditions with frequent and lengthy delays. Levels of service for this analysis were developed using procedures presented in the *Highway Capacity Manual, 6th Edition* (Transportation Research Board, 2016).

Level of service for signalized intersections is defined in terms of delay. Delay can be a cause of driver discomfort, frustration, inefficient fuel consumption, and lost travel time. Specifically, level-of-service criteria are stated in terms of the average delay per vehicle in seconds. Delay is a complex measure and is dependent on a number of variables including: the quality of progression, cycle length, green ratio, and a volume-to-capacity ratio for the lane group or approach in question. Table A-1 shows the level of service criteria for signalized intersections from the *Highway Capacity Manual, 6th Edition.*

Table A-1. Level of Service for Signalized Intersections

Level of Service	Average Delay Per Vehicle	General Description
A	Less than 10.0 Seconds	Free flow
B	10.1 to 20.0 seconds	Stable flow (slight delays)
C	20.1 to 35.0 seconds	Stable flow (acceptable delays)
D	35.1 to 55.0 seconds	Approaching unstable flow (tolerable delay—occasionally wait through more than one signal cycle before proceeding.
E	55.1 to 80.0 seconds	Unstable flow (approaching capacity)
F	Greater than 80.0 seconds	Forced flow (jammed)

Source: Transportation Research Board, Highway Capacity Manual, 2016.

For unsignalized intersections, level of service is based on the average delay per vehicle for each turning movement. The level of service for a two-way, stop-controlled intersection is determined by the computed or measured control delay and is defined for each minor movement. Delay is related to the availability of gaps in the main street's traffic flow, and the ability of a driver to enter or pass through those gaps. Table A-2 shows the level of service criteria for unsignalized intersections from the *Highway Capacity Manual, 6th Edition*.

Table A-2. Level of Service Criteria for Unsignalized Intersections

Level of Service	Average Delay (seconds per vehicle)
A	Less than 10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	Greater than 50.0

Source: Transportation Research Board, Highway Capacity Manual, 2016.

APPENDIX B
LOS Calculation Sheets

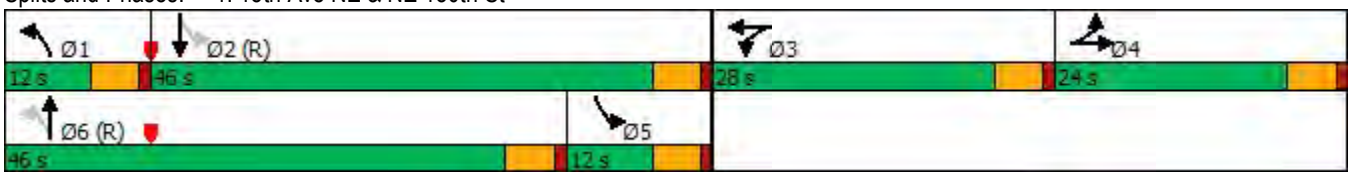
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	4	3	68	4	151	2	282	100	147	819	2
Future Volume (vph)	1	4	3	68	4	151	2	282	100	147	819	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	12	11	11	12	11	11
Storage Length (ft)	0		0	0		0	45		0	80		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.98			0.99		0.99	1.00	
Frt		0.949			0.909			0.961				
Flt Protected		0.994			0.985		0.950			0.950		
Satd. Flow (prot)	0	1780	0	0	1528	0	1752	3223	0	1752	3387	0
Flt Permitted		0.994			0.985		0.248			0.517		
Satd. Flow (perm)	0	1778	0	0	1524	0	457	3223	0	943	3387	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			87			52				
Link Speed (mph)		10			30			35			35	
Link Distance (ft)		100			1323			672			440	
Travel Time (s)		6.8			30.1			13.1			8.6	
Confl. Peds. (#/hr)	6		4	4		6	24		7	7		24
Confl. Bikes (#/hr)						1						1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	6%	6%	6%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	1	4	3	71	4	157	2	294	104	153	853	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	8	0	0	232	0	2	398	0	153	855	0
Turn Type	Split	NA		Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		3	3		1	6		5	2	
Permitted Phases							6			2		
Detector Phase	4	4		3	3		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		10.0	10.0		5.0	15.0		5.0	15.0	
Minimum Split (s)	24.0	24.0		25.0	25.0		12.0	25.0		12.0	20.0	
Total Split (s)	24.0	24.0		28.0	28.0		12.0	46.0		12.0	46.0	
Total Split (%)	21.8%	21.8%		25.5%	25.5%		10.9%	41.8%		10.9%	41.8%	
Maximum Green (s)	19.0	19.0		23.0	23.0		7.0	41.0		7.0	41.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	12.0	12.0		13.0	13.0			13.0			6.0	
Pedestrian Calls (#/hr)	8	8		4	4			7			14	
Act Effct Green (s)		8.4			16.4		64.6	64.6		74.4	74.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.08			0.15		0.59	0.59		0.68	0.68	
v/c Ratio		0.06			0.77		0.01	0.21		0.22	0.37	
Control Delay		36.2			44.3		17.5	12.2		13.4	12.2	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		36.2			44.3		17.5	12.2		13.4	12.2	
LOS		D			D		B	B		B	B	
Approach Delay		36.3			44.3			12.2			12.4	
Approach LOS		D			D			B			B	
Queue Length 50th (ft)		3			100		1	45		24	84	
Queue Length 95th (ft)		17			177		6	129		121	328	
Internal Link Dist (ft)		20			1243			592			360	
Turn Bay Length (ft)							45			80		
Base Capacity (vph)		309			388		350	1913		689	2290	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.03			0.60		0.01	0.21		0.22	0.37	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 14 (13%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 16.9 Intersection LOS: B
Intersection Capacity Utilization 59.7% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: 15th Ave NE & NE 150th St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	24	281	4	5	7	184	228	20	54	693	253
Future Volume (vph)	59	24	281	4	5	7	184	228	20	54	693	253
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	10	10	11	11	11	12	10	11	11	12
Storage Length (ft)	0		75	0		0	60		0	90		140
Storage Lanes	0		1	0		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00	0.97		1.00	0.97	1.00	1.00		1.00		0.97
Frt			0.850			0.850		0.988				0.850
Flt Protected		0.966			0.978		0.950			0.950		
Satd. Flow (prot)	0	1799	1478	0	1244	994	1662	1784	0	1711	1801	1583
Flt Permitted		0.786			0.908		0.258			0.511		
Satd. Flow (perm)	0	1460	1438	0	1154	968	450	1784	0	919	1801	1530
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			299			145		7				193
Link Speed (mph)		30			25			35			35	
Link Distance (ft)		577			127			874			1332	
Travel Time (s)		13.1			3.5			17.0			25.9	
Confl. Peds. (#/hr)	2		1	1		2	5		1	1		5
Confl. Bikes (#/hr)			3			1			2			2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	100%	0%	57%	5%	5%	5%	2%	2%	2%
Adj. Flow (vph)	63	26	299	4	5	7	196	243	21	57	737	269
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	89	299	0	9	7	196	264	0	57	737	269
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4		4	2			6		6
Detector Phase	4	4	4	4	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	12.0	21.0		12.0	23.0	23.0
Total Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	15.0	53.0		12.0	50.0	50.0
Total Split (%)	27.8%	27.8%	27.8%	27.8%	27.8%	27.8%	16.7%	58.9%		13.3%	55.6%	55.6%
Maximum Green (s)	20.0	20.0	20.0	20.0	20.0	20.0	10.0	48.0		7.0	45.0	45.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		5.0	5.0		5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag							Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)	13.0	13.0	13.0	13.0	13.0	13.0		9.0			11.0	11.0
Pedestrian Calls (#/hr)	2	2	2	2	2	2		0			5	5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)		16.0	16.0		16.0	16.0	55.1	55.1		49.0	49.0	49.0
Actuated g/C Ratio		0.18	0.18		0.18	0.18	0.61	0.61		0.54	0.54	0.54
v/c Ratio		0.34	0.60		0.04	0.02	0.48	0.24		0.10	0.75	0.29
Control Delay		36.0	9.3		30.1	0.1	20.2	9.5		10.8	22.6	4.5
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay		36.0	9.3		30.1	0.1	20.2	9.5		10.8	22.6	4.5
LOS		D	A		C	A	C	A		B	C	A
Approach Delay		15.4			17.0			14.0			17.4	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)		45	0		4	0	46	62		14	295	19
Queue Length 95th (ft)		84	66		17	0	95	122		36	#525	64
Internal Link Dist (ft)		497			47			794			1252	
Turn Bay Length (ft)			75				60			90		140
Base Capacity (vph)		324	552		256	327	410	1094		562	980	920
Starvation Cap Reductn		0	0		0	0	0	0		0	0	0
Spillback Cap Reductn		0	0		0	0	0	0		0	0	0
Storage Cap Reductn		0	0		0	0	0	0		0	0	0
Reduced v/c Ratio		0.27	0.54		0.04	0.02	0.48	0.24		0.10	0.75	0.29

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 16.2 Intersection LOS: B
Intersection Capacity Utilization 79.3% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: 15th Ave NE & NE 155th St

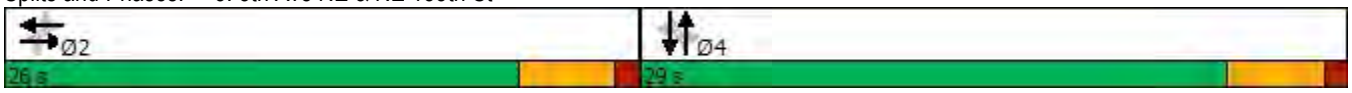
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	195	56	140	407	22	90	52	26	63	393	168
Future Volume (vph)	47	195	56	140	407	22	90	52	26	63	393	168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	11	12	12	12	12	12	12	12	12	12
Storage Length (ft)	110		0	100		0	105		0	160		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	0.99		1.00	1.00		1.00				0.99	
Frt		0.966			0.992			0.951			0.955	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1703	1664	0	1736	1810	0	1703	1705	0	1687	1684	0
Flt Permitted	0.353			0.596			0.264			0.704		
Satd. Flow (perm)	631	1664	0	1085	1810	0	473	1705	0	1250	1684	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30			6			27			50	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		572			796			673			531	
Travel Time (s)		13.0			18.1			15.3			12.1	
Confl. Peds. (#/hr)	5		4	4		5	2					2
Confl. Bikes (#/hr)			1			1						1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	6%	6%	4%	4%	4%	6%	6%	6%	7%	7%	7%
Adj. Flow (vph)	49	205	59	147	428	23	95	55	27	66	414	177
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	264	0	147	451	0	95	82	0	66	591	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		24.0	24.0		24.0	24.0	
Total Split (s)	26.0	26.0		26.0	26.0		29.0	29.0		29.0	29.0	
Total Split (%)	47.3%	47.3%		47.3%	47.3%		52.7%	52.7%		52.7%	52.7%	
Maximum Green (s)	21.0	21.0		21.0	21.0		24.0	24.0		24.0	24.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	5	5		5	5		7	7		7	7	
Act Effct Green (s)	15.9	15.9		15.9	15.9		19.1	19.1		19.1	19.1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.35	0.35		0.35	0.35		0.42	0.42		0.42	0.42	
v/c Ratio	0.22	0.44		0.39	0.71		0.48	0.11		0.13	0.81	
Control Delay	14.5	13.4		15.7	20.5		20.7	7.1		9.7	22.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	14.5	13.4		15.7	20.5		20.7	7.1		9.7	22.1	
LOS	B	B		B	C		C	A		A	C	
Approach Delay		13.6			19.3			14.4			20.9	
Approach LOS		B			B			B			C	
Queue Length 50th (ft)	10	51		32	110		19	9		11	127	
Queue Length 95th (ft)	31	104		72	200		62	30		31	#305	
Internal Link Dist (ft)		492			716			593			451	
Turn Bay Length (ft)	110			100			105			160		
Base Capacity (vph)	310	833		533	892		265	969		702	968	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.16	0.32		0.28	0.51		0.36	0.08		0.09	0.61	

Intersection Summary

Area Type: Other
Cycle Length: 55
Actuated Cycle Length: 45.7
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 18.4 Intersection LOS: B
Intersection Capacity Utilization 79.6% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: 5th Ave NE & NE 155th St



Intersection	
Intersection Delay, s/veh	47.5
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	146	21	70	31	44	13	43	118	1	3	295	148
Future Vol, veh/h	146	21	70	31	44	13	43	118	1	3	295	148
Peak Hour Factor	0.64	0.64	0.64	0.63	0.63	0.63	0.63	0.63	0.63	0.73	0.73	0.73
Heavy Vehicles, %	1	1	1	5	5	5	0	0	0	1	1	1
Mvmt Flow	228	33	109	49	70	21	68	187	2	4	404	203
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	25.6	14.6	17.7	80.8
HCM LOS	D	B	C	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	27%	62%	35%	1%
Vol Thru, %	73%	9%	50%	66%
Vol Right, %	1%	30%	15%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	162	237	88	446
LT Vol	43	146	31	3
Through Vol	118	21	44	295
RT Vol	1	70	13	148
Lane Flow Rate	257	370	140	611
Geometry Grp	1	1	1	1
Degree of Util (X)	0.509	0.706	0.303	1.065
Departure Headway (Hd)	7.355	7.19	8.119	6.274
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	494	507	446	580
Service Time	5.355	5.19	6.119	4.297
HCM Lane V/C Ratio	0.52	0.73	0.314	1.053
HCM Control Delay	17.7	25.6	14.6	80.8
HCM Lane LOS	C	D	B	F
HCM 95th-tile Q	2.8	5.5	1.3	17.6

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	213	28	18	225	6	14	2	18	2	5	5
Future Vol, veh/h	4	213	28	18	225	6	14	2	18	2	5	5
Conflicting Peds, #/hr	10	0	0	0	0	10	12	0	5	5	0	12
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	64	64	64	78	78	78	57	57	57	42	42	42
Heavy Vehicles, %	1	1	1	5	5	5	7	7	7	100	80	0
Mvmt Flow	6	333	44	23	288	8	25	4	32	5	12	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	306	0	0	377	0	0	729	719	360	738	737	314
Stage 1	-	-	-	-	-	-	367	367	-	348	348	-
Stage 2	-	-	-	-	-	-	362	352	-	390	389	-
Critical Hdwy	4.11	-	-	4.15	-	-	7.17	6.57	6.27	8.1	7.3	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.17	5.57	-	7.1	6.3	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.17	5.57	-	7.1	6.3	-
Follow-up Hdwy	2.209	-	-	2.245	-	-	3.563	4.063	3.363	4.4	4.72	3.3
Pot Cap-1 Maneuver	1260	-	-	1165	-	-	332	348	673	236	267	731
Stage 1	-	-	-	-	-	-	642	613	-	506	517	-
Stage 2	-	-	-	-	-	-	646	623	-	477	493	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1248	-	-	1165	-	-	304	334	670	215	256	716
Mov Cap-2 Maneuver	-	-	-	-	-	-	304	334	-	215	256	-
Stage 1	-	-	-	-	-	-	638	609	-	498	499	-
Stage 2	-	-	-	-	-	-	598	602	-	447	490	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.6	14.7	16.7
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	431	1248	-	-	1165	-	-	335
HCM Lane V/C Ratio	0.138	0.005	-	-	0.02	-	-	0.085
HCM Control Delay (s)	14.7	7.9	0	-	8.2	0	-	16.7
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	0.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	11	52	1	148	5	956	90	83	454	7
Future Volume (vph)	5	0	11	52	1	148	5	956	90	83	454	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	12	11	11	12	11	11
Storage Length (ft)	0		0	0		0	45		0	80		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.98		0.98	1.00		1.00	1.00	
Frt		0.907			0.901			0.987			0.998	
Flt Protected		0.985			0.987		0.950			0.950		
Satd. Flow (prot)	0	1679	0	0	1576	0	1787	3401	0	1770	3411	0
Flt Permitted		0.985			0.987		0.431			0.221		
Satd. Flow (perm)	0	1676	0	0	1575	0	796	3401	0	411	3411	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		169			113			11			2	
Link Speed (mph)		10			30			35			35	
Link Distance (ft)		100			1323			672			440	
Travel Time (s)		6.8			30.1			13.1			8.6	
Confl. Peds. (#/hr)	5		2	2		5	12		4	4		12
Confl. Bikes (#/hr)						1						1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Adj. Flow (vph)	5	0	11	53	1	151	5	976	92	85	463	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	0	0	205	0	5	1068	0	85	470	0
Turn Type	Split	NA		Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		3	3		1	6		5	2	
Permitted Phases							6			2		
Detector Phase	4	4		3	3		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		10.0	10.0		5.0	15.0		5.0	15.0	
Minimum Split (s)	24.0	24.0		25.0	25.0		12.0	25.0		12.0	20.0	
Total Split (s)	24.0	24.0		26.0	26.0		12.0	48.0		12.0	48.0	
Total Split (%)	21.8%	21.8%		23.6%	23.6%		10.9%	43.6%		10.9%	43.6%	
Maximum Green (s)	19.0	19.0		21.0	21.0		7.0	43.0		7.0	43.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	12.0	12.0		13.0	13.0			13.0			6.0	
Pedestrian Calls (#/hr)	8	8		4	4			7			14	
Act Effct Green (s)		8.2			13.5		67.9	67.9		75.2	75.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.07			0.12		0.62	0.62		0.68	0.68	
v/c Ratio		0.06			0.70		0.01	0.51		0.23	0.20	
Control Delay		0.4			33.6		15.6	16.2		16.3	9.8	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		0.4			33.6		15.6	16.2		16.3	9.8	
LOS		A			C		B	B		B	A	
Approach Delay		0.4			33.6			16.2			10.8	
Approach LOS		A			C			B			B	
Queue Length 50th (ft)		0			62		1	217		17	53	
Queue Length 95th (ft)		0			134		10	423		70	158	
Internal Link Dist (ft)		20			1243			592			360	
Turn Bay Length (ft)							45			80		
Base Capacity (vph)		429			392		554	2102		367	2333	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.04			0.52		0.01	0.51		0.23	0.20	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 14 (13%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 16.4 Intersection LOS: B
Intersection Capacity Utilization 62.0% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: 15th Ave NE & NE 150th St

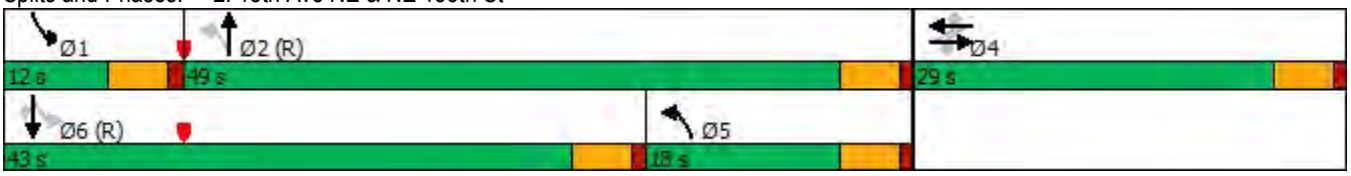
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	223	30	198	40	51	62	283	793	30	27	308	120
Future Volume (vph)	223	30	198	40	51	62	283	793	30	27	308	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	10	10	11	11	11	12	10	11	11	12
Storage Length (ft)	0		75	0		0	60		0	90		140
Storage Lanes	0		1	0		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99	0.97		1.00	0.96	0.99	1.00				0.96
Frt			0.850			0.850		0.995				0.850
Flt Protected		0.958			0.978		0.950			0.950		
Satd. Flow (prot)	0	1785	1478	0	1761	1531	1711	1851	0	1711	1801	1583
Flt Permitted		0.684			0.670		0.562			0.114		
Satd. Flow (perm)	0	1261	1428	0	1203	1476	1002	1851	0	205	1801	1527
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			171			145		3				128
Link Speed (mph)		30			25			35			35	
Link Distance (ft)		577			127			874			1332	
Travel Time (s)		13.1			3.5			17.0			25.9	
Confl. Peds. (#/hr)	6		5	5		6	6		4	4		6
Confl. Bikes (#/hr)			2			2			3			1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Adj. Flow (vph)	237	32	211	43	54	66	301	844	32	29	328	128
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	269	211	0	97	66	301	876	0	29	328	128
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4		4	2			6		6
Detector Phase	4	4	4	4	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	12.0	21.0		12.0	23.0	23.0
Total Split (s)	29.0	29.0	29.0	29.0	29.0	29.0	18.0	49.0		12.0	43.0	43.0
Total Split (%)	32.2%	32.2%	32.2%	32.2%	32.2%	32.2%	20.0%	54.4%		13.3%	47.8%	47.8%
Maximum Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	13.0	44.0		7.0	38.0	38.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		5.0	5.0		5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag							Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)	13.0	13.0	13.0	13.0	13.0	13.0		9.0			11.0	11.0
Pedestrian Calls (#/hr)	2	2	2	2	2	2		0			5	5
Act Effct Green (s)		21.6	21.6		21.6	21.6	53.8	53.8		40.4	40.4	40.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.24	0.24		0.24	0.24	0.60	0.60		0.45	0.45	0.45
v/c Ratio		0.89	0.45		0.34	0.14	0.43	0.79		0.16	0.41	0.17
Control Delay		63.7	10.3		30.8	0.6	15.6	23.5		17.1	19.4	3.7
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay		63.7	10.3		30.8	0.6	15.6	23.5		17.1	19.4	3.7
LOS		E	B		C	A	B	C		B	B	A
Approach Delay		40.2			18.6			21.5			15.1	
Approach LOS		D			B			C			B	
Queue Length 50th (ft)		142	17		44	0	71	323		9	128	0
Queue Length 95th (ft)		#272	75		88	0	161	#733		26	200	32
Internal Link Dist (ft)		497			47			794			1252	
Turn Bay Length (ft)			75				60			90		140
Base Capacity (vph)		336	506		320	499	701	1108		208	808	755
Starvation Cap Reductn		0	0		0	0	0	0		0	0	0
Spillback Cap Reductn		0	0		0	0	0	0		0	0	0
Storage Cap Reductn		0	0		0	0	0	0		0	0	0
Reduced v/c Ratio		0.80	0.42		0.30	0.13	0.43	0.79		0.14	0.41	0.17

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 23.8 Intersection LOS: C
Intersection Capacity Utilization 83.7% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: 15th Ave NE & NE 155th St



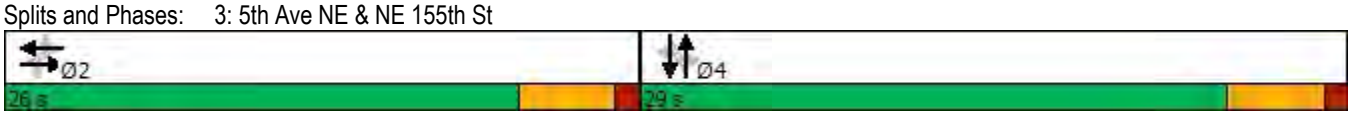
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	148	431	42	40	330	53	141	411	91	30	88	66
Future Volume (vph)	148	431	42	40	330	53	141	411	91	30	88	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	11	12	12	12	12	12	12	12	12	12
Storage Length (ft)	110		0	100		0	105		0	160		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.99	
Frt		0.987			0.979			0.973			0.936	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1773	0	1770	1817	0	1770	1805	0	1687	1646	0
Flt Permitted	0.411			0.299			0.650			0.277		
Satd. Flow (perm)	764	1773	0	556	1817	0	1209	1805	0	491	1646	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			17			26			73	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		572			796			673			531	
Travel Time (s)		13.0			18.1			15.3			12.1	
Confl. Peds. (#/hr)	3		3	3		3	1		2	2		1
Confl. Bikes (#/hr)			2			2						1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	7%	7%	7%
Adj. Flow (vph)	163	474	46	44	363	58	155	452	100	33	97	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	163	520	0	44	421	0	155	552	0	33	170	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		24.0	24.0		24.0	24.0	
Total Split (s)	26.0	26.0		26.0	26.0		29.0	29.0		29.0	29.0	
Total Split (%)	47.3%	47.3%		47.3%	47.3%		52.7%	52.7%		52.7%	52.7%	
Maximum Green (s)	21.0	21.0		21.0	21.0		24.0	24.0		24.0	24.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	5	5		5	5		7	7		7	7	
Act Effct Green (s)	17.5	17.5		17.5	17.5		18.1	18.1		18.1	18.1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.39	0.39		0.39	0.39	
v/c Ratio	0.57	0.77		0.21	0.60		0.33	0.76		0.17	0.25	
Control Delay	22.1	23.1		14.2	16.3		12.5	19.9		12.2	7.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	22.1	23.1		14.2	16.3		12.5	19.9		12.2	7.1	
LOS	C	C		B	B		B	B		B	A	
Approach Delay		22.8			16.1			18.3			7.9	
Approach LOS		C			B			B			A	
Queue Length 50th (ft)	35	122		8	89		31	130		6	18	
Queue Length 95th (ft)	#101	#282		30	179		66	228		21	48	
Internal Link Dist (ft)		492			716			593			451	
Turn Bay Length (ft)	110			100			105			160		
Base Capacity (vph)	369	863		269	888		669	1010		271	943	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.44	0.60		0.16	0.47		0.23	0.55		0.12	0.18	

Intersection Summary

Area Type: Other
Cycle Length: 55
Actuated Cycle Length: 46.2
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 18.3 Intersection LOS: B
Intersection Capacity Utilization 77.5% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: 5th Ave NE & NE 155th St



Intersection	
Intersection Delay, s/veh	17.7
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	153	48	39	5	13	5	52	412	4	5	109	54
Future Vol, veh/h	153	48	39	5	13	5	52	412	4	5	109	54
Peak Hour Factor	0.97	0.97	0.97	0.75	0.75	0.75	0.87	0.87	0.87	0.75	0.75	0.75
Heavy Vehicles, %	1	1	1	5	5	5	0	0	0	1	1	1
Mvmt Flow	158	49	40	7	17	7	60	474	5	7	145	72
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.1	9.9	23	11.1
HCM LOS	B	A	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	64%	22%	3%
Vol Thru, %	88%	20%	57%	65%
Vol Right, %	1%	16%	22%	32%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	468	240	23	168
LT Vol	52	153	5	5
Through Vol	412	48	13	109
RT Vol	4	39	5	54
Lane Flow Rate	538	247	31	224
Geometry Grp	1	1	1	1
Degree of Util (X)	0.766	0.41	0.055	0.335
Departure Headway (Hd)	5.127	5.961	6.44	5.381
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	705	601	553	665
Service Time	3.167	4.015	4.518	3.433
HCM Lane V/C Ratio	0.763	0.411	0.056	0.337
HCM Control Delay	23	13.1	9.9	11.1
HCM Lane LOS	C	B	A	B
HCM 95th-tile Q	7.2	2	0.2	1.5

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	187	16	8	85	7	31	3	57	5	4	7
Future Vol, veh/h	3	187	16	8	85	7	31	3	57	5	4	7
Conflicting Peds, #/hr	6	0	0	0	0	6	2	0	4	4	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	66	66	66	64	64	64	44	44	44
Heavy Vehicles, %	2	2	2	3	3	3	2	2	2	0	0	0
Mvmt Flow	4	240	21	12	129	11	48	5	89	11	9	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	146	0	0	261	0	0	432	429	255	475	434	143
Stage 1	-	-	-	-	-	-	259	259	-	165	165	-
Stage 2	-	-	-	-	-	-	173	170	-	310	269	-
Critical Hdwy	4.12	-	-	4.13	-	-	7.12	6.52	6.22	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.1	5.5	-
Follow-up Hdwy	2.218	-	-	2.227	-	-	3.518	4.018	3.318	3.5	4	3.3
Pot Cap-1 Maneuver	1436	-	-	1298	-	-	534	518	784	503	518	910
Stage 1	-	-	-	-	-	-	746	694	-	842	766	-
Stage 2	-	-	-	-	-	-	829	758	-	705	690	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1428	-	-	1298	-	-	512	508	781	434	508	903
Mov Cap-2 Maneuver	-	-	-	-	-	-	512	508	-	434	508	-
Stage 1	-	-	-	-	-	-	744	692	-	834	754	-
Stage 2	-	-	-	-	-	-	795	746	-	616	688	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.6	12	11.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	653	1428	-	-	1298	-	-	589
HCM Lane V/C Ratio	0.218	0.003	-	-	0.009	-	-	0.062
HCM Control Delay (s)	12	7.5	0	-	7.8	0	-	11.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.8	0	-	-	0	-	-	0.2

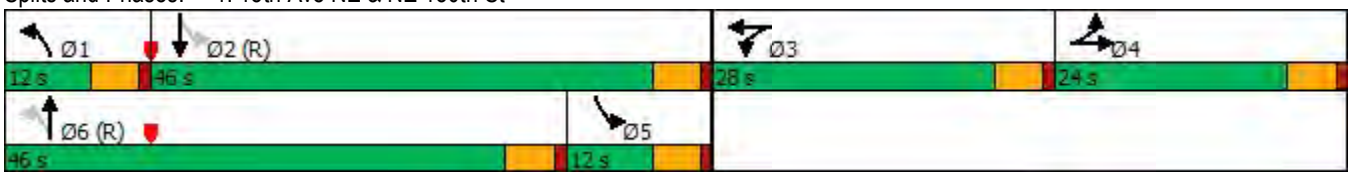
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	4	3	68	4	155	3	366	127	166	923	2
Future Volume (vph)	1	4	3	68	4	155	3	366	127	166	923	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	12	11	11	12	11	11
Storage Length (ft)	0		0	0		0	45		0	80		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.98			0.99		0.99	1.00	
Frt		0.949			0.908			0.961				
Flt Protected		0.994			0.985		0.950			0.950		
Satd. Flow (prot)	0	1780	0	0	1526	0	1752	3223	0	1752	3387	0
Flt Permitted		0.994			0.985		0.209			0.463		
Satd. Flow (perm)	0	1778	0	0	1522	0	386	3223	0	846	3387	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			89			50				
Link Speed (mph)		10			30			35			35	
Link Distance (ft)		100			1323			672			440	
Travel Time (s)		6.8			30.1			13.1			8.6	
Confl. Peds. (#/hr)	6		4	4		6	24		7	7		24
Confl. Bikes (#/hr)						1						1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	6%	6%	6%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	1	4	3	71	4	161	3	381	132	173	961	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	8	0	0	236	0	3	513	0	173	963	0
Turn Type	Split	NA		Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		3	3		1	6		5	2	
Permitted Phases							6			2		
Detector Phase	4	4		3	3		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		10.0	10.0		5.0	15.0		5.0	15.0	
Minimum Split (s)	24.0	24.0		25.0	25.0		12.0	25.0		12.0	20.0	
Total Split (s)	24.0	24.0		28.0	28.0		12.0	46.0		12.0	46.0	
Total Split (%)	21.8%	21.8%		25.5%	25.5%		10.9%	41.8%		10.9%	41.8%	
Maximum Green (s)	19.0	19.0		23.0	23.0		7.0	41.0		7.0	41.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	12.0	12.0		13.0	13.0			13.0			6.0	
Pedestrian Calls (#/hr)	8	8		4	4			7			14	
Act Effct Green (s)		8.4			16.5		64.5	64.5		74.3	74.3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.08			0.15		0.59	0.59		0.68	0.68	
v/c Ratio		0.06			0.78		0.01	0.27		0.28	0.42	
Control Delay		36.2			44.6		17.7	13.1		14.6	12.9	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		36.2			44.6		17.7	13.1		14.6	12.9	
LOS		D			D		B	B		B	B	
Approach Delay		36.3			44.6			13.2			13.2	
Approach LOS		D			D			B			B	
Queue Length 50th (ft)		3			101		1	64		27	101	
Queue Length 95th (ft)		17			180		8	172		136	384	
Internal Link Dist (ft)		20			1243			592			360	
Turn Bay Length (ft)							45			80		
Base Capacity (vph)		309			389		313	1909		628	2286	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.03			0.61		0.01	0.27		0.28	0.42	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 14 (13%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 17.2 Intersection LOS: B
Intersection Capacity Utilization 62.9% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: 15th Ave NE & NE 150th St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	35	281	5	7	10	220	273	36	107	923	344
Future Volume (vph)	63	35	281	5	7	10	220	273	36	107	923	344
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	10	10	11	11	11	12	10	11	11	12
Storage Length (ft)	0		75	0		0	60		0	90		140
Storage Lanes	0		1	0		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00	0.97		1.00	0.97	1.00	1.00		1.00		0.97
Frt			0.850			0.850		0.983				0.850
Flt Protected		0.969			0.980		0.950			0.950		
Satd. Flow (prot)	0	1805	1478	0	1271	994	1662	1774	0	1711	1801	1583
Flt Permitted		0.798			0.905		0.095			0.453		
Satd. Flow (perm)	0	1482	1438	0	1172	968	166	1774	0	815	1801	1530
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			280			145		11				197
Link Speed (mph)		30			25			35			35	
Link Distance (ft)		577			127			874			1332	
Travel Time (s)		13.1			3.5			17.0			25.9	
Confl. Peds. (#/hr)	2		1	1		2	5		1	1		5
Confl. Bikes (#/hr)			3			1			2			2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	100%	0%	57%	5%	5%	5%	2%	2%	2%
Adj. Flow (vph)	67	37	299	5	7	11	234	290	38	114	982	366
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	104	299	0	12	11	234	328	0	114	982	366
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4		4	2			6		6
Detector Phase	4	4	4	4	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	12.0	21.0		12.0	23.0	23.0
Total Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	15.0	53.0		12.0	50.0	50.0
Total Split (%)	27.8%	27.8%	27.8%	27.8%	27.8%	27.8%	16.7%	58.9%		13.3%	55.6%	55.6%
Maximum Green (s)	20.0	20.0	20.0	20.0	20.0	20.0	10.0	48.0		7.0	45.0	45.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		5.0	5.0		5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag							Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)	13.0	13.0	13.0	13.0	13.0	13.0		9.0			11.0	11.0
Pedestrian Calls (#/hr)	2	2	2	2	2	2		0			5	5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)		16.0	16.0		16.0	16.0	54.2	54.2		49.0	49.0	49.0
Actuated g/C Ratio		0.18	0.18		0.18	0.18	0.60	0.60		0.54	0.54	0.54
v/c Ratio		0.40	0.62		0.06	0.04	0.88	0.31		0.22	1.00	0.40
Control Delay		37.1	11.2		30.4	0.2	63.8	10.4		11.7	51.8	6.8
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay		37.1	11.2		30.4	0.2	63.8	10.4		11.7	51.8	6.8
LOS		D	B		C	A	E	B		B	D	A
Approach Delay		17.9			15.9			32.7			37.4	
Approach LOS		B			B			C			D	
Queue Length 50th (ft)		54	9		6	0	83	84		29	510	45
Queue Length 95th (ft)		96	79		20	0	#230	153		62	#869	114
Internal Link Dist (ft)		497			47			794			1252	
Turn Bay Length (ft)			75				60			90		140
Base Capacity (vph)		329	537		260	327	266	1072		516	980	922
Starvation Cap Reductn		0	0		0	0	0	0		0	0	0
Spillback Cap Reductn		0	0		0	0	0	0		0	0	0
Storage Cap Reductn		0	0		0	0	0	0		0	0	0
Reduced v/c Ratio		0.32	0.56		0.05	0.03	0.88	0.31		0.22	1.00	0.40

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.00
Intersection Signal Delay: 32.9 Intersection LOS: C
Intersection Capacity Utilization 91.4% ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: 15th Ave NE & NE 155th St

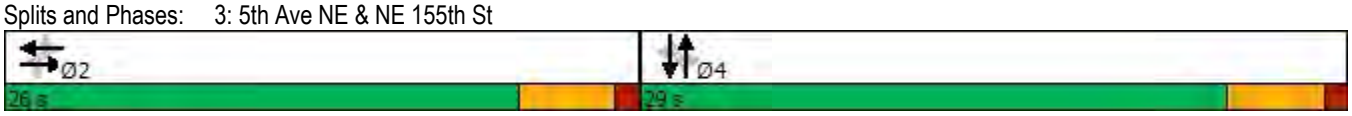
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	264	79	155	441	24	120	80	41	68	420	176
Future Volume (vph)	62	264	79	155	441	24	120	80	41	68	420	176
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	11	12	12	12	12	12	12	12	12	12
Storage Length (ft)	110		0	100		0	105		0	160		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	0.99		1.00	1.00		1.00				0.99	
Frt		0.966			0.992			0.949			0.956	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1703	1664	0	1736	1810	0	1703	1701	0	1687	1686	0
Flt Permitted	0.308			0.464			0.225			0.676		
Satd. Flow (perm)	550	1664	0	845	1810	0	403	1701	0	1200	1686	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		32			6			43			49	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		572			796			673			531	
Travel Time (s)		13.0			18.1			15.3			12.1	
Confl. Peds. (#/hr)	5		4	4		5	2					2
Confl. Bikes (#/hr)			1			1						1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	6%	6%	4%	4%	4%	6%	6%	6%	7%	7%	7%
Adj. Flow (vph)	65	278	83	163	464	25	126	84	43	72	442	185
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	361	0	163	489	0	126	127	0	72	627	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		24.0	24.0		24.0	24.0	
Total Split (s)	26.0	26.0		26.0	26.0		29.0	29.0		29.0	29.0	
Total Split (%)	47.3%	47.3%		47.3%	47.3%		52.7%	52.7%		52.7%	52.7%	
Maximum Green (s)	21.0	21.0		21.0	21.0		24.0	24.0		24.0	24.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	5	5		5	5		7	7		7	7	
Act Effct Green (s)	17.2	17.2		17.2	17.2		20.2	20.2		20.2	20.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.42	0.42		0.42	0.42	
v/c Ratio	0.33	0.58		0.54	0.75		0.75	0.17		0.14	0.85	
Control Delay	17.5	16.3		20.8	22.4		44.6	7.4		10.2	25.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	17.5	16.3		20.8	22.4		44.6	7.4		10.2	25.9	
LOS	B	B		C	C		D	A		B	C	
Approach Delay		16.4			22.0			25.9			24.2	
Approach LOS		B			C			C			C	
Queue Length 50th (ft)	14	80		39	129		32	15		13	157	
Queue Length 95th (ft)	42	150		91	#229		#114	41		34	#334	
Internal Link Dist (ft)		492			716			593			451	
Turn Bay Length (ft)	110			100			105			160		
Base Capacity (vph)	254	786		390	839		212	918		633	913	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.26	0.46		0.42	0.58		0.59	0.14		0.11	0.69	

Intersection Summary

Area Type: Other
Cycle Length: 55
Actuated Cycle Length: 48
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 22.1 Intersection LOS: C
Intersection Capacity Utilization 85.1% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: 5th Ave NE & NE 155th St



Intersection	
Intersection Delay, s/veh	126.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	230	33	110	31	44	13	61	166	1	3	311	156
Future Vol, veh/h	230	33	110	31	44	13	61	166	1	3	311	156
Peak Hour Factor	0.64	0.64	0.64	0.63	0.63	0.63	0.63	0.63	0.63	0.73	0.73	0.73
Heavy Vehicles, %	1	1	1	5	5	5	0	0	0	1	1	1
Mvmt Flow	359	52	172	49	70	21	97	263	2	4	426	214
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	143.9	19.5	39.8	182.8
HCM LOS	F	C	E	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	27%	62%	35%	1%
Vol Thru, %	73%	9%	50%	66%
Vol Right, %	0%	29%	15%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	228	373	88	470
LT Vol	61	230	31	3
Through Vol	166	33	44	311
RT Vol	1	110	13	156
Lane Flow Rate	362	583	140	644
Geometry Grp	1	1	1	1
Degree of Util (X)	0.794	1.219	0.351	1.32
Departure Headway (Hd)	9.28	8.25	10.751	8.025
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	394	443	337	457
Service Time	7.28	6.25	8.751	6.025
HCM Lane V/C Ratio	0.919	1.316	0.415	1.409
HCM Control Delay	39.8	143.9	19.5	182.8
HCM Lane LOS	E	F	C	F
HCM 95th-tile Q	6.9	21.3	1.5	26.4

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	267	35	23	282	8	18	3	23	3	6	6
Future Vol, veh/h	5	267	35	23	282	8	18	3	23	3	6	6
Conflicting Peds, #/hr	10	0	0	0	0	10	12	0	5	5	0	12
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	64	64	64	78	78	78	57	57	57	42	42	42
Heavy Vehicles, %	1	1	1	5	5	5	7	7	7	100	80	0
Mvmt Flow	8	417	55	29	362	10	32	5	40	7	14	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	382	0	0	472	0	0	912	901	450	923	923	389
Stage 1	-	-	-	-	-	-	461	461	-	435	435	-
Stage 2	-	-	-	-	-	-	451	440	-	488	488	-
Critical Hdwy	4.11	-	-	4.15	-	-	7.17	6.57	6.27	8.1	7.3	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.17	5.57	-	7.1	6.3	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.17	5.57	-	7.1	6.3	-
Follow-up Hdwy	2.209	-	-	2.245	-	-	3.563	4.063	3.363	4.4	4.72	3.3
Pot Cap-1 Maneuver	1182	-	-	1074	-	-	249	273	599	171	202	664
Stage 1	-	-	-	-	-	-	571	557	-	447	467	-
Stage 2	-	-	-	-	-	-	578	569	-	415	440	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1171	-	-	1074	-	-	220	259	596	150	191	650
Mov Cap-2 Maneuver	-	-	-	-	-	-	220	259	-	150	191	-
Stage 1	-	-	-	-	-	-	566	552	-	439	446	-
Stage 2	-	-	-	-	-	-	523	544	-	378	436	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.6	19	22
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	333	1171	-	-	1074	-	-	247
HCM Lane V/C Ratio	0.232	0.007	-	-	0.027	-	-	0.145
HCM Control Delay (s)	19	8.1	0	-	8.4	0	-	22
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.9	0	-	-	0.1	-	-	0.5

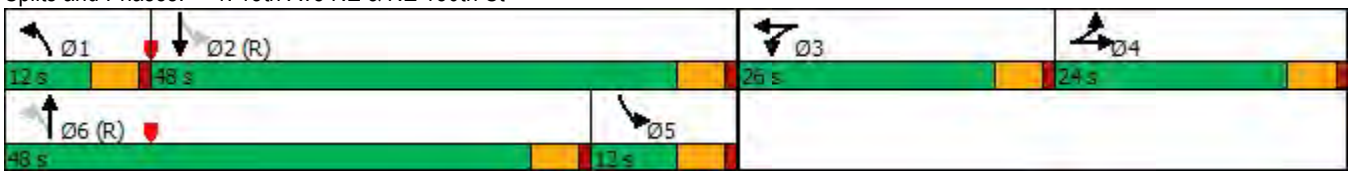
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	11	52	1	148	6	1217	114	95	521	8
Future Volume (vph)	5	0	11	52	1	148	6	1217	114	95	521	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	12	11	11	12	11	11
Storage Length (ft)	0		0	0		0	45		0	80		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.98		0.99	1.00			1.00	
Frt		0.907			0.901			0.987			0.998	
Flt Protected		0.985			0.987		0.950			0.950		
Satd. Flow (prot)	0	1679	0	0	1576	0	1787	3401	0	1770	3411	0
Flt Permitted		0.985			0.987		0.391			0.125		
Satd. Flow (perm)	0	1676	0	0	1575	0	727	3401	0	233	3411	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		169			113			10			2	
Link Speed (mph)		10			30			35			35	
Link Distance (ft)		100			1323			672			440	
Travel Time (s)		6.8			30.1			13.1			8.6	
Confl. Peds. (#/hr)	5		2	2		5	12		4	4		12
Confl. Bikes (#/hr)						1						1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Adj. Flow (vph)	5	0	11	53	1	151	6	1242	116	97	532	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	0	0	205	0	6	1358	0	97	540	0
Turn Type	Split	NA		Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		3	3		1	6		5	2	
Permitted Phases							6			2		
Detector Phase	4	4		3	3		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		10.0	10.0		5.0	15.0		5.0	15.0	
Minimum Split (s)	24.0	24.0		25.0	25.0		12.0	25.0		12.0	20.0	
Total Split (s)	24.0	24.0		26.0	26.0		12.0	48.0		12.0	48.0	
Total Split (%)	21.8%	21.8%		23.6%	23.6%		10.9%	43.6%		10.9%	43.6%	
Maximum Green (s)	19.0	19.0		21.0	21.0		7.0	43.0		7.0	43.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	12.0	12.0		13.0	13.0			13.0			6.0	
Pedestrian Calls (#/hr)	8	8		4	4			7			14	
Act Effct Green (s)		8.2			13.5		65.5	65.5		75.2	75.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.07			0.12		0.60	0.60		0.68	0.68	
v/c Ratio		0.06			0.70		0.01	0.67		0.38	0.23	
Control Delay		0.4			33.6		15.7	20.0		23.8	10.0	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		0.4			33.6		15.7	20.0		23.8	10.0	
LOS		A			C		B	C		C	B	
Approach Delay		0.4			33.6			20.0			12.1	
Approach LOS		A			C			B			B	
Queue Length 50th (ft)		0			62		2	317		19	62	
Queue Length 95th (ft)		0			134		11	#660		78	184	
Internal Link Dist (ft)		20			1243			592			360	
Turn Bay Length (ft)							45			80		
Base Capacity (vph)		429			392		500	2028		257	2333	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.04			0.52		0.01	0.67		0.38	0.23	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 14 (13%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 18.9 Intersection LOS: B
Intersection Capacity Utilization 70.6% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: 15th Ave NE & NE 150th St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	227	32	198	53	68	82	339	950	39	39	410	167
Future Volume (vph)	227	32	198	53	68	82	339	950	39	39	410	167
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	10	10	11	11	11	12	10	11	11	12
Storage Length (ft)	0		75	0		0	60		0	90		140
Storage Lanes	0		1	0		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99	0.97		1.00	0.96	0.99	1.00				0.96
Frt			0.850			0.850		0.994				0.850
Flt Protected		0.958			0.979		0.950			0.950		
Satd. Flow (prot)	0	1785	1478	0	1763	1531	1711	1849	0	1711	1801	1583
Flt Permitted		0.660			0.628		0.463			0.119		
Satd. Flow (perm)	0	1217	1428	0	1128	1476	827	1849	0	214	1801	1527
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			167			145		3				178
Link Speed (mph)		30			25			35			35	
Link Distance (ft)		577			127			874			1332	
Travel Time (s)		13.1			3.5			17.0			25.9	
Confl. Peds. (#/hr)	6		5	5		6	6		4	4		6
Confl. Bikes (#/hr)			2			2			3			1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Adj. Flow (vph)	241	34	211	56	72	87	361	1011	41	41	436	178
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	275	211	0	128	87	361	1052	0	41	436	178
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4		4	2			6		6
Detector Phase	4	4	4	4	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	12.0	21.0		12.0	23.0	23.0
Total Split (s)	29.0	29.0	29.0	29.0	29.0	29.0	18.0	49.0		12.0	43.0	43.0
Total Split (%)	32.2%	32.2%	32.2%	32.2%	32.2%	32.2%	20.0%	54.4%		13.3%	47.8%	47.8%
Maximum Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	13.0	44.0		7.0	38.0	38.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		5.0	5.0		5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag							Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)	13.0	13.0	13.0	13.0	13.0	13.0		9.0			11.0	11.0
Pedestrian Calls (#/hr)	2	2	2	2	2	2		0			5	5
Act Effct Green (s)		22.7	22.7		22.7	22.7	50.5	50.5		39.3	39.3	39.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.25	0.25		0.25	0.25	0.56	0.56		0.44	0.44	0.44
v/c Ratio		0.90	0.44		0.45	0.18	0.61	1.01		0.22	0.55	0.23
Control Delay		64.7	10.4		33.6	1.8	23.6	55.1		18.2	22.7	3.5
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay		64.7	10.4		33.6	1.8	23.6	55.1		18.2	22.7	3.5
LOS		E	B		C	A	C	E		B	C	A
Approach Delay		41.1			20.8			47.1			17.2	
Approach LOS		D			C			D			B	
Queue Length 50th (ft)		148	19		60	0	123	~703		13	184	0
Queue Length 95th (ft)		#288	77		115	9	198	#961		33	279	37
Internal Link Dist (ft)		497			47			794			1252	
Turn Bay Length (ft)			75				60			90		140
Base Capacity (vph)		324	503		300	499	591	1038		209	786	767
Starvation Cap Reductn		0	0		0	0	0	0		0	0	0
Spillback Cap Reductn		0	0		0	0	0	0		0	0	0
Storage Cap Reductn		0	0		0	0	0	0		0	0	0
Reduced v/c Ratio		0.85	0.42		0.43	0.17	0.61	1.01		0.20	0.55	0.23

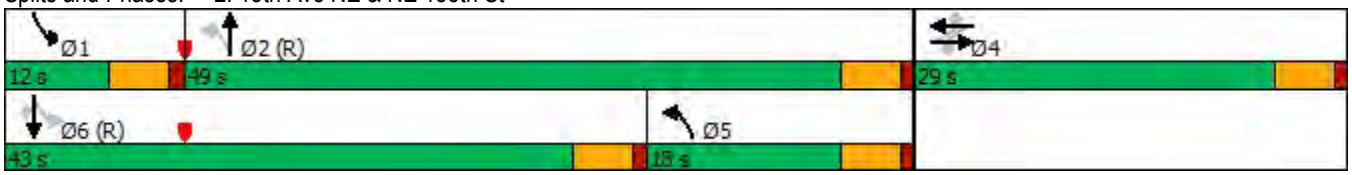
Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 36.9 Intersection LOS: D
Intersection Capacity Utilization 92.8% ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: 15th Ave NE & NE 155th St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	194	568	62	52	370	59	181	523	118	31	107	69
Future Volume (vph)	194	568	62	52	370	59	181	523	118	31	107	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	11	12	12	12	12	12	12	12	12	12
Storage Length (ft)	110		0	100		0	105		0	160		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.99	
Frt		0.985			0.979			0.972			0.941	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1769	0	1770	1817	0	1770	1803	0	1687	1656	0
Flt Permitted	0.340			0.190			0.636			0.178		
Satd. Flow (perm)	632	1769	0	354	1817	0	1183	1803	0	316	1656	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			17			26			75	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		572			796			673			531	
Travel Time (s)		13.0			18.1			15.3			12.1	
Confl. Peds. (#/hr)	3		3	3		3	1		2	2		1
Confl. Bikes (#/hr)			2			2						1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	7%	7%	7%
Adj. Flow (vph)	213	624	68	57	407	65	199	575	130	34	118	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	213	692	0	57	472	0	199	705	0	34	194	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		24.0	24.0		24.0	24.0	
Total Split (s)	26.0	26.0		26.0	26.0		29.0	29.0		29.0	29.0	
Total Split (%)	47.3%	47.3%		47.3%	47.3%		52.7%	52.7%		52.7%	52.7%	
Maximum Green (s)	21.0	21.0		21.0	21.0		24.0	24.0		24.0	24.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	5	5		5	5		7	7		7	7	
Act Effct Green (s)	21.1	21.1		21.1	21.1		22.5	22.5		22.5	22.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.39	0.39		0.39	0.39		0.42	0.42		0.42	0.42	
v/c Ratio	0.86	0.99		0.41	0.65		0.40	0.91		0.26	0.26	
Control Delay	52.2	51.5		23.5	18.5		13.6	33.6		16.0	7.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	52.2	51.5		23.5	18.5		13.6	33.6		16.0	7.3	
LOS	D	D		C	B		B	C		B	A	
Approach Delay		51.6			19.0			29.2			8.6	
Approach LOS		D			B			C			A	
Queue Length 50th (ft)	63	~222		13	119		42	192		7	22	
Queue Length 95th (ft)	#174	#427		#52	207		86	#389		26	55	
Internal Link Dist (ft)		492			716			593			451	
Turn Bay Length (ft)	110			100			105			160		
Base Capacity (vph)	248	702		139	724		531	824		141	785	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.86	0.99		0.41	0.65		0.37	0.86		0.24	0.25	

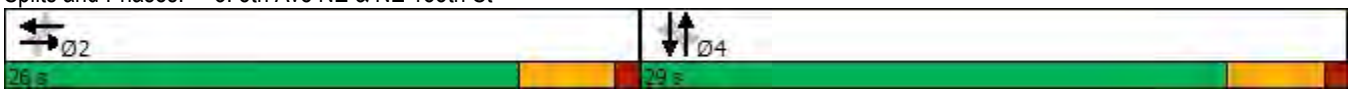
Intersection Summary

Area Type: Other
Cycle Length: 55
Actuated Cycle Length: 53.6
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.99
Intersection Signal Delay: 33.2 Intersection LOS: C
Intersection Capacity Utilization 93.4% ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: 5th Ave NE & NE 155th St



Intersection	
Intersection Delay, s/veh	83.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	243	76	61	5	13	5	73	581	6	5	115	57
Future Vol, veh/h	243	76	61	5	13	5	73	581	6	5	115	57
Peak Hour Factor	0.97	0.97	0.97	0.75	0.75	0.75	0.87	0.87	0.87	0.75	0.75	0.75
Heavy Vehicles, %	1	1	1	5	5	5	0	0	0	1	1	1
Mvmt Flow	251	78	63	7	17	7	84	668	7	7	153	76
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	24.7	11.8	137.7	14.3
HCM LOS	C	B	F	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	64%	22%	3%
Vol Thru, %	88%	20%	57%	65%
Vol Right, %	1%	16%	22%	32%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	660	380	23	177
LT Vol	73	243	5	5
Through Vol	581	76	13	115
RT Vol	6	61	5	57
Lane Flow Rate	759	392	31	236
Geometry Grp	1	1	1	1
Degree of Util (X)	1.23	0.702	0.064	0.411
Departure Headway (Hd)	5.838	6.948	8.192	6.684
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	622	525	440	543
Service Time	3.885	4.948	6.192	4.684
HCM Lane V/C Ratio	1.22	0.747	0.07	0.435
HCM Control Delay	137.7	24.7	11.8	14.3
HCM Lane LOS	F	C	B	B
HCM 95th-tile Q	27.8	5.5	0.2	2

Intersection												
Int Delay, s/veh	4.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	4	236	20	10	106	9	39	4	71	6	5	9
Future Vol, veh/h	4	236	20	10	106	9	39	4	71	6	5	9
Conflicting Peds, #/hr	6	0	0	0	0	6	2	0	4	4	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	66	66	66	64	64	64	44	44	44
Heavy Vehicles, %	2	2	2	3	3	3	2	2	2	0	0	0
Mvmt Flow	5	303	26	15	161	14	61	6	111	14	11	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	181	0	0	329	0	0	542	537	320	593	543	176
Stage 1	-	-	-	-	-	-	326	326	-	204	204	-
Stage 2	-	-	-	-	-	-	216	211	-	389	339	-
Critical Hdwy	4.12	-	-	4.13	-	-	7.12	6.52	6.22	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.1	5.5	-
Follow-up Hdwy	2.218	-	-	2.227	-	-	3.518	4.018	3.318	3.5	4	3.3
Pot Cap-1 Maneuver	1394	-	-	1225	-	-	451	450	721	420	450	872
Stage 1	-	-	-	-	-	-	687	648	-	803	737	-
Stage 2	-	-	-	-	-	-	786	728	-	639	643	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1386	-	-	1225	-	-	425	439	718	343	439	865
Mov Cap-2 Maneuver	-	-	-	-	-	-	425	439	-	343	439	-
Stage 1	-	-	-	-	-	-	684	645	-	795	722	-
Stage 2	-	-	-	-	-	-	743	713	-	531	640	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.6	14.1	12.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	571	1386	-	-	1225	-	-	509
HCM Lane V/C Ratio	0.312	0.004	-	-	0.012	-	-	0.089
HCM Control Delay (s)	14.1	7.6	0	-	8	0	-	12.8
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	1.3	0	-	-	0	-	-	0.3

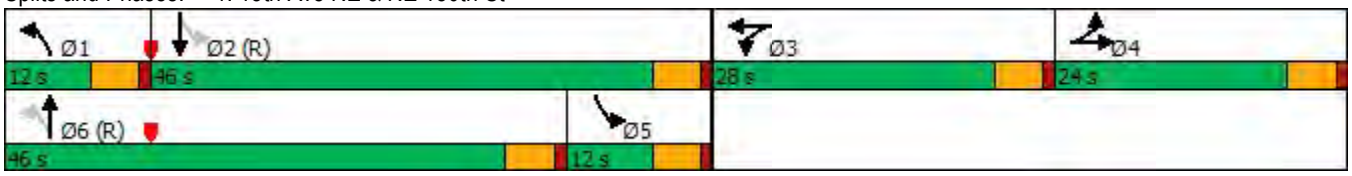
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	4	3	94	4	193	3	396	237	248	940	2
Future Volume (vph)	1	4	3	94	4	193	3	396	237	248	940	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	12	11	11	12	11	11
Storage Length (ft)	0		0	0		0	45		0	80		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.98			0.99		0.99	1.00	
Frt		0.949			0.910			0.944				
Flt Protected		0.994			0.984		0.950			0.950		
Satd. Flow (prot)	0	1780	0	0	1528	0	1752	3152	0	1752	3387	0
Flt Permitted		0.994			0.984		0.188			0.384		
Satd. Flow (perm)	0	1778	0	0	1525	0	347	3152	0	703	3387	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			82			129				
Link Speed (mph)		10			30			35			35	
Link Distance (ft)		100			1032			672			440	
Travel Time (s)		6.8			23.5			13.1			8.6	
Confl. Peds. (#/hr)	6		4	4		6	24		7	7		24
Confl. Bikes (#/hr)						1						1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	6%	6%	6%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	1	4	3	98	4	201	3	413	247	258	979	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	8	0	0	303	0	3	660	0	258	981	0
Turn Type	Split	NA		Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		3	3		1	6		5	2	
Permitted Phases							6			2		
Detector Phase	4	4		3	3		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		10.0	10.0		5.0	15.0		5.0	15.0	
Minimum Split (s)	24.0	24.0		25.0	25.0		12.0	25.0		12.0	20.0	
Total Split (s)	24.0	24.0		28.0	28.0		12.0	46.0		12.0	46.0	
Total Split (%)	21.8%	21.8%		25.5%	25.5%		10.9%	41.8%		10.9%	41.8%	
Maximum Green (s)	19.0	19.0		23.0	23.0		7.0	41.0		7.0	41.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	12.0	12.0		13.0	13.0			13.0			6.0	
Pedestrian Calls (#/hr)	8	8		4	4			7			14	
Act Effct Green (s)		8.4			20.2		60.8	60.8		70.6	70.6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.08			0.18		0.55	0.55		0.64	0.64	
v/c Ratio		0.06			0.87		0.01	0.37		0.50	0.45	
Control Delay		36.2			56.6		18.3	13.7		21.6	14.4	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		36.2			56.6		18.3	13.7		21.6	14.4	
LOS		D			E		B	B		C	B	
Approach Delay		36.3			56.6			13.8			15.9	
Approach LOS		D			E			B			B	
Queue Length 50th (ft)		3			151		1	91		56	134	
Queue Length 95th (ft)		17			#287		8	207		#230	394	
Internal Link Dist (ft)		20			952			592			360	
Turn Bay Length (ft)							45			80		
Base Capacity (vph)		309			384		281	1799		517	2172	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.03			0.79		0.01	0.37		0.50	0.45	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 14 (13%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 20.9 Intersection LOS: C
Intersection Capacity Utilization 69.4% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: 15th Ave NE & NE 150th St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	76	340	34	26	12	237	276	84	111	933	344
Future Volume (vph)	63	76	340	34	26	12	237	276	84	111	933	344
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	10	10	11	11	11	12	10	11	11	12
Storage Length (ft)	0		75	0		0	60		0	90		140
Storage Lanes	0		1	0		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00	0.97		1.00	0.97		0.99		1.00		0.97
Frt			0.850			0.850		0.965				0.850
Flt Protected		0.978			0.973		0.950			0.950		
Satd. Flow (prot)	0	1822	1478	0	1144	994	1662	1736	0	1711	1801	1583
Flt Permitted		0.824			0.782		0.096			0.401		
Satd. Flow (perm)	0	1532	1438	0	918	968	168	1736	0	721	1801	1530
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			278			145		26				195
Link Speed (mph)		30			25			35			35	
Link Distance (ft)		577			127			874			1332	
Travel Time (s)		13.1			3.5			17.0			25.9	
Confl. Peds. (#/hr)	2		1	1		2	5		1	1		5
Confl. Bikes (#/hr)			3			1			2			2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	100%	0%	57%	5%	5%	5%	2%	2%	2%
Adj. Flow (vph)	67	81	362	36	28	13	252	294	89	118	993	366
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	148	362	0	64	13	252	383	0	118	993	366
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4		4	2			6		6
Detector Phase	4	4	4	4	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	12.0	21.0		12.0	23.0	23.0
Total Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	15.0	53.0		12.0	50.0	50.0
Total Split (%)	27.8%	27.8%	27.8%	27.8%	27.8%	27.8%	16.7%	58.9%		13.3%	55.6%	55.6%
Maximum Green (s)	20.0	20.0	20.0	20.0	20.0	20.0	10.0	48.0		7.0	45.0	45.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		5.0	5.0		5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag							Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)	13.0	13.0	13.0	13.0	13.0	13.0		9.0			11.0	11.0
Pedestrian Calls (#/hr)	2	2	2	2	2	2		0			5	5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)		16.5	16.5		16.5	16.5	51.6	51.6		48.5	48.5	48.5
Actuated g/C Ratio		0.18	0.18		0.18	0.18	0.57	0.57		0.54	0.54	0.54
v/c Ratio		0.53	0.74		0.38	0.04	0.96	0.38		0.25	1.02	0.40
Control Delay		40.2	18.8		38.8	0.2	81.3	11.6		12.3	57.8	7.1
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay		40.2	18.8		38.8	0.2	81.3	11.6		12.3	57.8	7.1
LOS		D	B		D	A	F	B		B	E	A
Approach Delay		25.0			32.3			39.3			41.6	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)		79	43		33	0	94	98		30	523	45
Queue Length 95th (ft)		132	137		69	0	#254	179		64	#883	115
Internal Link Dist (ft)		497			47			794			1252	
Turn Bay Length (ft)			75				60			90		140
Base Capacity (vph)		340	535		204	327	262	1006		469	970	914
Starvation Cap Reductn		0	0		0	0	0	0		0	0	0
Spillback Cap Reductn		0	0		0	0	0	0		0	0	0
Storage Cap Reductn		0	0		0	0	0	0		0	0	0
Reduced v/c Ratio		0.44	0.68		0.31	0.04	0.96	0.38		0.25	1.02	0.40

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.02
Intersection Signal Delay: 37.7 Intersection LOS: D
Intersection Capacity Utilization 95.5% ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: 15th Ave NE & NE 155th St

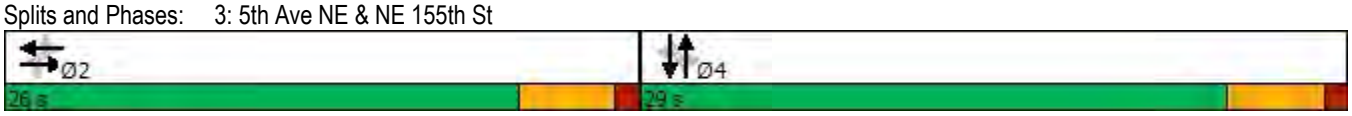
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	298	79	178	453	24	120	80	102	70	420	176
Future Volume (vph)	62	298	79	178	453	24	120	80	102	70	420	176
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	11	12	12	12	12	12	12	12	12	12
Storage Length (ft)	110		0	100		0	105		0	160		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	0.99		1.00	1.00		1.00				0.99	
Frt		0.969			0.993			0.916			0.956	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1703	1670	0	1736	1812	0	1703	1642	0	1687	1686	0
Flt Permitted	0.295			0.420			0.223			0.637		
Satd. Flow (perm)	527	1670	0	765	1812	0	399	1642	0	1131	1686	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28			6			107			49	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		572			796			673			531	
Travel Time (s)		13.0			18.1			15.3			12.1	
Confl. Peds. (#/hr)	5		4	4		5	2					2
Confl. Bikes (#/hr)			1			1						1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	6%	6%	4%	4%	4%	6%	6%	6%	7%	7%	7%
Adj. Flow (vph)	65	314	83	187	477	25	126	84	107	74	442	185
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	397	0	187	502	0	126	191	0	74	627	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		24.0	24.0		24.0	24.0	
Total Split (s)	26.0	26.0		26.0	26.0		29.0	29.0		29.0	29.0	
Total Split (%)	47.3%	47.3%		47.3%	47.3%		52.7%	52.7%		52.7%	52.7%	
Maximum Green (s)	21.0	21.0		21.0	21.0		24.0	24.0		24.0	24.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	5	5		5	5		7	7		7	7	
Act Effct Green (s)	17.4	17.4		17.4	17.4		20.2	20.2		20.2	20.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.42	0.42		0.42	0.42	
v/c Ratio	0.34	0.64		0.68	0.76		0.75	0.25		0.16	0.85	
Control Delay	18.1	17.8		29.2	23.2		45.5	5.8		10.4	26.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	18.1	17.8		29.2	23.2		45.5	5.8		10.4	26.0	
LOS	B	B		C	C		D	A		B	C	
Approach Delay		17.9			24.8			21.6			24.4	
Approach LOS		B			C			C			C	
Queue Length 50th (ft)	14	93		48	133		32	15		14	157	
Queue Length 95th (ft)	43	170		#132	#246		#114	47		35	#334	
Internal Link Dist (ft)		492			716			593			451	
Turn Bay Length (ft)	110			100			105			160		
Base Capacity (vph)	241	780		351	834		209	911		592	907	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.27	0.51		0.53	0.60		0.60	0.21		0.13	0.69	

Intersection Summary

Area Type: Other
Cycle Length: 55
Actuated Cycle Length: 48.2
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 22.7 Intersection LOS: C
Intersection Capacity Utilization 86.6% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: 5th Ave NE & NE 155th St



Intersection	
Intersection Delay, s/veh	140.1
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	230	33	118	31	45	13	84	166	1	3	311	156
Future Vol, veh/h	230	33	118	31	45	13	84	166	1	3	311	156
Peak Hour Factor	0.64	0.64	0.64	0.63	0.63	0.63	0.63	0.63	0.63	0.73	0.73	0.73
Heavy Vehicles, %	1	1	1	5	5	5	0	0	0	1	1	1
Mvmt Flow	359	52	184	49	71	21	133	263	2	4	426	214
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	165.4	20.6	52.7	197.1
HCM LOS	F	C	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	33%	60%	35%	1%
Vol Thru, %	66%	9%	51%	66%
Vol Right, %	0%	31%	15%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	251	381	89	470
LT Vol	84	230	31	3
Through Vol	166	33	45	311
RT Vol	1	118	13	156
Lane Flow Rate	398	595	141	644
Geometry Grp	1	1	1	1
Degree of Util (X)	0.88	1.272	0.364	1.352
Departure Headway (Hd)	9.545	8.475	11.269	8.35
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	382	435	322	438
Service Time	7.545	6.475	9.269	6.35
HCM Lane V/C Ratio	1.042	1.368	0.438	1.47
HCM Control Delay	52.7	165.4	20.6	197.1
HCM Lane LOS	F	F	C	F
HCM 95th-tile Q	8.7	23.2	1.6	27.1

Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	278	42	23	314	27	23
Future Vol, veh/h	278	42	23	314	27	23
Conflicting Peds, #/hr	0	0	0	0	12	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	64	64	78	78	57	57
Heavy Vehicles, %	1	1	5	5	7	7
Mvmt Flow	434	66	29	403	47	40

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	500	0	940	472
Stage 1	-	-	-	-	467	-
Stage 2	-	-	-	-	473	-
Critical Hdwy	-	-	4.15	-	6.47	6.27
Critical Hdwy Stg 1	-	-	-	-	5.47	-
Critical Hdwy Stg 2	-	-	-	-	5.47	-
Follow-up Hdwy	-	-	2.245	-	3.563	3.363
Pot Cap-1 Maneuver	-	-	1049	-	287	582
Stage 1	-	-	-	-	621	-
Stage 2	-	-	-	-	617	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1049	-	274	579
Mov Cap-2 Maneuver	-	-	-	-	274	-
Stage 1	-	-	-	-	621	-
Stage 2	-	-	-	-	588	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	18.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	362	-	-	1049	-
HCM Lane V/C Ratio	0.242	-	-	0.028	-
HCM Control Delay (s)	18.1	-	-	8.5	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	186	314	318	23	6	52
Future Vol, veh/h	186	314	318	23	6	52
Conflicting Peds, #/hr	15	0	0	15	5	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	64	64	78	78	92	92
Heavy Vehicles, %	1	1	5	5	2	2
Mvmt Flow	291	491	408	29	7	57

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	452	0	-	0	1516	443
Stage 1	-	-	-	-	438	-
Stage 2	-	-	-	-	1078	-
Critical Hdwy	4.11	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.209	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1114	-	-	-	131	615
Stage 1	-	-	-	-	651	-
Stage 2	-	-	-	-	327	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1098	-	-	-	81	603
Mov Cap-2 Maneuver	-	-	-	-	81	-
Stage 1	-	-	-	-	408	-
Stage 2	-	-	-	-	322	-

Approach	EB	WB	SB
HCM Control Delay, s	3.5	0	17
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1098	-	-	-	362
HCM Lane V/C Ratio	0.265	-	-	-	0.174
HCM Control Delay (s)	9.5	0	-	-	17
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	1.1	-	-	-	0.6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	11	196	1	258	6	1231	174	158	568	8
Future Volume (vph)	5	0	11	196	1	258	6	1231	174	158	568	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	12	11	11	12	11	11
Storage Length (ft)	0		0	0		0	45		0	80		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.99			1.00			1.00	
Frt		0.907			0.923			0.981			0.998	
Flt Protected		0.985			0.979		0.950			0.950		
Satd. Flow (prot)	0	1679	0	0	1608	0	1787	3377	0	1770	3411	0
Flt Permitted		0.985			0.979		0.334			0.084		
Satd. Flow (perm)	0	1677	0	0	1605	0	628	3377	0	156	3411	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		169			55			16			1	
Link Speed (mph)		10			30			35			35	
Link Distance (ft)		100			1031			672			440	
Travel Time (s)		6.8			23.4			13.1			8.6	
Confl. Peds. (#/hr)	5		2	2		5	12		4	4		12
Confl. Bikes (#/hr)						1						1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Adj. Flow (vph)	5	0	11	200	1	263	6	1256	178	161	580	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	0	0	464	0	6	1434	0	161	588	0
Turn Type	Split	NA		Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		3	3		1	6		5	2	
Permitted Phases							6			2		
Detector Phase	4	4		3	3		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		10.0	10.0		5.0	15.0		5.0	15.0	
Minimum Split (s)	24.0	24.0		25.0	25.0		12.0	25.0		12.0	20.0	
Total Split (s)	24.0	24.0		29.0	29.0		12.0	45.0		12.0	45.0	
Total Split (%)	21.8%	21.8%		26.4%	26.4%		10.9%	40.9%		10.9%	40.9%	
Maximum Green (s)	19.0	19.0		24.0	24.0		7.0	40.0		7.0	40.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	12.0	12.0		13.0	13.0			13.0			6.0	
Pedestrian Calls (#/hr)	8	8		4	4			7			14	
Act Effct Green (s)		8.2			24.0		55.0	55.0		64.7	64.7	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.07			0.22		0.50	0.50		0.59	0.59	
v/c Ratio		0.06			1.18		0.02	0.85		0.83	0.29	
Control Delay		0.4			139.1		19.2	31.1		50.7	6.0	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		0.4			139.1		19.2	31.1		50.7	6.0	
LOS		A			F		B	C		D	A	
Approach Delay		0.4			139.1			31.1			15.6	
Approach LOS		A			F			C			B	
Queue Length 50th (ft)		0			~362		2	454		53	50	
Queue Length 95th (ft)		0			#567		12	#770		m#189	m141	
Internal Link Dist (ft)		20			951			592			360	
Turn Bay Length (ft)							45			80		
Base Capacity (vph)		429			393		388	1696		194	2007	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.04			1.18		0.02	0.85		0.83	0.29	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 14 (13%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.18
Intersection Signal Delay: 45.3 Intersection LOS: D
Intersection Capacity Utilization 94.6% ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: 15th Ave NE & NE 150th St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	227	49	233	122	130	88	419	963	69	41	416	167
Future Volume (vph)	227	49	233	122	130	88	419	963	69	41	416	167
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	10	10	11	11	11	12	10	11	11	12
Storage Length (ft)	0		75	0		0	60		0	90		140
Storage Lanes	0		1	0		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99	0.96		1.00	0.96	0.99	1.00				0.96
Frt			0.850			0.850		0.990				0.850
Flt Protected		0.960			0.976		0.950			0.950		
Satd. Flow (prot)	0	1788	1478	0	1757	1531	1711	1840	0	1711	1801	1583
Flt Permitted		0.444			0.491		0.385			0.118		
Satd. Flow (perm)	0	821	1425	0	881	1471	687	1840	0	212	1801	1522
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			158			119		5				136
Link Speed (mph)		30			25			35			35	
Link Distance (ft)		577			127			874			1332	
Travel Time (s)		13.1			3.5			17.0			25.9	
Confl. Peds. (#/hr)	6		5	5		6	6		4	4		6
Confl. Bikes (#/hr)			2			2			3			1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Adj. Flow (vph)	241	52	248	130	138	94	446	1024	73	44	443	178
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	293	248	0	268	94	446	1097	0	44	443	178
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4		4	2			6		6
Detector Phase	4	4	4	4	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	12.0	21.0		12.0	23.0	23.0
Total Split (s)	38.0	38.0	38.0	38.0	38.0	38.0	27.0	60.0		12.0	45.0	45.0
Total Split (%)	34.5%	34.5%	34.5%	34.5%	34.5%	34.5%	24.5%	54.5%		10.9%	40.9%	40.9%
Maximum Green (s)	33.0	33.0	33.0	33.0	33.0	33.0	22.0	55.0		7.0	40.0	40.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		5.0	5.0		5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag							Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)	13.0	13.0	13.0	13.0	13.0	13.0		9.0			11.0	11.0
Pedestrian Calls (#/hr)	2	2	2	2	2	2		0			5	5
Act Effct Green (s)		33.0	33.0		33.0	33.0	57.9	57.9		40.0	40.0	40.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.30	0.30		0.30	0.30	0.53	0.53		0.36	0.36	0.36
v/c Ratio		1.19	0.46		1.02	0.18	0.79	1.13		0.28	0.68	0.28
Control Delay		154.7	14.5		99.0	3.7	22.7	84.8		27.4	35.8	8.3
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay		154.7	14.5		99.0	3.7	22.7	84.8		27.4	35.8	8.3
LOS		F	B		F	A	C	F		C	D	A
Approach Delay		90.4			74.3			66.8			27.9	
Approach LOS		F			E			E			C	
Queue Length 50th (ft)		~250	47		~194	0	91	~902		20	261	19
Queue Length 95th (ft)		#421	121		#365	25	m164	m#1070		45	377	68
Internal Link Dist (ft)		497			47			794			1252	
Turn Bay Length (ft)			75				60			90		140
Base Capacity (vph)		246	538		264	524	566	970		172	654	640
Starvation Cap Reductn		0	0		0	0	0	0		0	0	0
Spillback Cap Reductn		0	0		0	0	0	0		0	0	0
Storage Cap Reductn		0	0		0	0	0	0		0	0	0
Reduced v/c Ratio		1.19	0.46		1.02	0.18	0.79	1.13		0.26	0.68	0.28

Intersection Summary

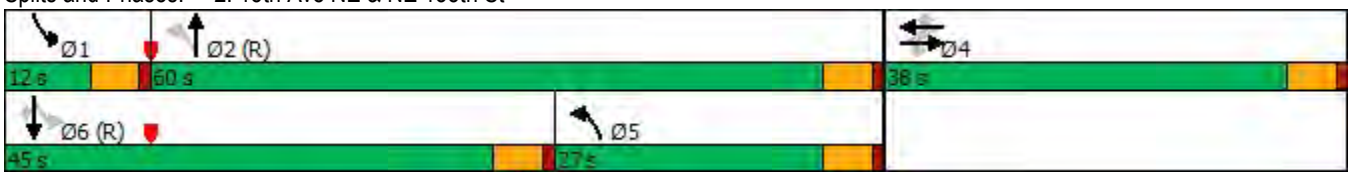
Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.19
Intersection Signal Delay: 63.5 Intersection LOS: E
Intersection Capacity Utilization 105.3% ICU Level of Service G
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: 15th Ave NE & NE 155th St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	194	586	62	139	417	62	181	523	150	32	107	69
Future Volume (vph)	194	586	62	139	417	62	181	523	150	32	107	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	11	12	12	12	12	12	12	12	12	12
Storage Length (ft)	110		0	100		0	105		0	160		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Frt		0.986			0.981			0.967			0.941	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1771	0	1770	1821	0	1770	1792	0	1687	1656	0
Flt Permitted	0.275			0.190			0.636			0.173		
Satd. Flow (perm)	511	1771	0	354	1821	0	1183	1792	0	307	1656	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			16			33			75	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		572			796			673			531	
Travel Time (s)		13.0			18.1			15.3			12.1	
Confl. Peds. (#/hr)	3		3	3		3	1		2	2		1
Confl. Bikes (#/hr)			2			2						1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	7%	7%	7%
Adj. Flow (vph)	213	644	68	153	458	68	199	575	165	35	118	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	213	712	0	153	526	0	199	740	0	35	194	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		24.0	24.0		24.0	24.0	
Total Split (s)	26.0	26.0		26.0	26.0		29.0	29.0		29.0	29.0	
Total Split (%)	47.3%	47.3%		47.3%	47.3%		52.7%	52.7%		52.7%	52.7%	
Maximum Green (s)	21.0	21.0		21.0	21.0		24.0	24.0		24.0	24.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	5	5		5	5		7	7		7	7	
Act Effct Green (s)	21.0	21.0		21.0	21.0		23.1	23.1		23.1	23.1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.39	0.39		0.39	0.39		0.43	0.43		0.43	0.43	
v/c Ratio	1.08	1.02		1.12	0.73		0.39	0.95		0.27	0.26	
Control Delay	110.1	61.8		137.8	22.0		13.5	38.6		16.5	7.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	110.1	61.8		137.8	22.0		13.5	38.6		16.5	7.2	
LOS	F	E		F	C		B	D		B	A	
Approach Delay		72.9			48.1			33.2			8.7	
Approach LOS		E			D			C			A	
Queue Length 50th (ft)	~82	~261		~61	139		42	207		7	22	
Queue Length 95th (ft)	#190	#444		#155	#278		86	#418		27	55	
Internal Link Dist (ft)		492			716			593			451	
Turn Bay Length (ft)	110			100			105			160		
Base Capacity (vph)	198	695		137	717		525	813		135	776	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.08	1.02		1.12	0.73		0.38	0.91		0.26	0.25	

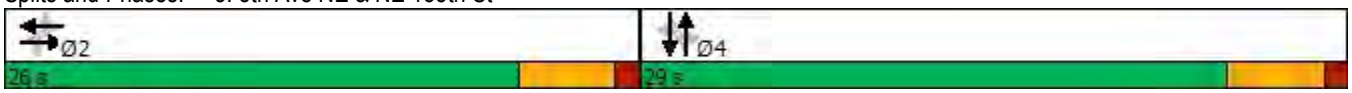
Intersection Summary

Area Type: Other
Cycle Length: 55
Actuated Cycle Length: 54.1
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.12
Intersection Signal Delay: 48.1 Intersection LOS: D
Intersection Capacity Utilization 99.9% ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: 5th Ave NE & NE 155th St



Intersection	
Intersection Delay, s/veh	94.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	244	77	92	5	13	5	85	581	6	5	115	56
Future Vol, veh/h	244	77	92	5	13	5	85	581	6	5	115	56
Peak Hour Factor	0.97	0.97	0.97	0.75	0.75	0.75	0.87	0.87	0.87	0.75	0.75	0.75
Heavy Vehicles, %	1	1	1	5	5	5	0	0	0	1	1	1
Mvmt Flow	252	79	95	7	17	7	98	668	7	7	153	75
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	28.7	12	158.2	14.7
HCM LOS	D	B	F	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	59%	22%	3%
Vol Thru, %	86%	19%	57%	65%
Vol Right, %	1%	22%	22%	32%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	672	413	23	176
LT Vol	85	244	5	5
Through Vol	581	77	13	115
RT Vol	6	92	5	56
Lane Flow Rate	772	426	31	235
Geometry Grp	1	1	1	1
Degree of Util (X)	1.28	0.758	0.065	0.417
Departure Headway (Hd)	5.964	6.995	8.436	6.892
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	610	519	427	526
Service Time	4.016	4.995	6.436	4.892
HCM Lane V/C Ratio	1.266	0.821	0.073	0.447
HCM Control Delay	158.2	28.7	12	14.7
HCM Lane LOS	F	D	B	B
HCM 95th-tile Q	30.4	6.6	0.2	2

Intersection	
Int Delay, s/veh	3.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	275	32	10	126	46	71
Future Vol, veh/h	275	32	10	126	46	71
Conflicting Peds, #/hr	0	0	0	0	2	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	66	66	64	64
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	353	41	15	191	72	111

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	394	0	597	378
Stage 1	-	-	-	-	374	-
Stage 2	-	-	-	-	223	-
Critical Hdwy	-	-	4.13	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.227	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1159	-	466	669
Stage 1	-	-	-	-	696	-
Stage 2	-	-	-	-	814	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1159	-	459	666
Mov Cap-2 Maneuver	-	-	-	-	459	-
Stage 1	-	-	-	-	696	-
Stage 2	-	-	-	-	801	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	14.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	566	-	-	1159	-
HCM Lane V/C Ratio	0.323	-	-	0.013	-
HCM Control Delay (s)	14.4	-	-	8.1	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1.4	-	-	0	-

Intersection						
Int Delay, s/veh	5.4					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	106	277	161	11	30	248
Future Vol, veh/h	106	277	161	11	30	248
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	66	66	92	92
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	136	355	244	17	33	270

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	261	0	-	0	880	253
Stage 1	-	-	-	-	253	-
Stage 2	-	-	-	-	627	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1303	-	-	-	318	786
Stage 1	-	-	-	-	789	-
Stage 2	-	-	-	-	532	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1303	-	-	-	277	786
Mov Cap-2 Maneuver	-	-	-	-	277	-
Stage 1	-	-	-	-	686	-
Stage 2	-	-	-	-	532	-

Approach	EB	WB	SB
HCM Control Delay, s	2.2	0	15.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1303	-	-	-	656
HCM Lane V/C Ratio	0.104	-	-	-	0.461
HCM Control Delay (s)	8.1	0	-	-	15.1
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	2.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	11	196	1	258	6	1231	174	158	568	8
Future Volume (vph)	5	0	11	196	1	258	6	1231	174	158	568	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	12	11	11	12	11	11
Storage Length (ft)	0		0	0		0	45		0	80		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.99			1.00			1.00	
Frt		0.907			0.923			0.981			0.998	
Flt Protected		0.985			0.979		0.950			0.950		
Satd. Flow (prot)	0	1679	0	0	1608	0	1787	3377	0	1770	3411	0
Flt Permitted		0.985			0.979		0.334			0.084		
Satd. Flow (perm)	0	1677	0	0	1605	0	628	3377	0	156	3411	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		169			55			16			1	
Link Speed (mph)		10			30			35			35	
Link Distance (ft)		100			1031			672			440	
Travel Time (s)		6.8			23.4			13.1			8.6	
Confl. Peds. (#/hr)	5		2	2		5	12		4	4		12
Confl. Bikes (#/hr)						1						1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Adj. Flow (vph)	5	0	11	200	1	263	6	1256	178	161	580	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	0	0	464	0	6	1434	0	161	588	0
Turn Type	Split	NA		Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		3	3		1	6		5	2	
Permitted Phases							6			2		
Detector Phase	4	4		3	3		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		10.0	10.0		5.0	15.0		5.0	15.0	
Minimum Split (s)	24.0	24.0		25.0	25.0		12.0	25.0		12.0	20.0	
Total Split (s)	24.0	24.0		29.0	29.0		12.0	45.0		12.0	45.0	
Total Split (%)	21.8%	21.8%		26.4%	26.4%		10.9%	40.9%		10.9%	40.9%	
Maximum Green (s)	19.0	19.0		24.0	24.0		7.0	40.0		7.0	40.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	12.0	12.0		13.0	13.0			13.0			6.0	
Pedestrian Calls (#/hr)	8	8		4	4			7			14	
Act Effct Green (s)		8.2			24.0		55.0	55.0		64.7	64.7	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.07			0.22		0.50	0.50		0.59	0.59	
v/c Ratio		0.06			1.18		0.02	0.85		0.83	0.29	
Control Delay		0.4			139.1		19.2	31.1		51.9	5.9	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		0.4			139.1		19.2	31.1		51.9	5.9	
LOS		A			F		B	C		D	A	
Approach Delay		0.4			139.1			31.1			15.8	
Approach LOS		A			F			C			B	
Queue Length 50th (ft)		0			~362		2	454		53	48	
Queue Length 95th (ft)		0			#567		12	#770		m#211	152	
Internal Link Dist (ft)		20			951			592			360	
Turn Bay Length (ft)							45			80		
Base Capacity (vph)		429			393		388	1696		194	2007	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.04			1.18		0.02	0.85		0.83	0.29	

Intersection Summary

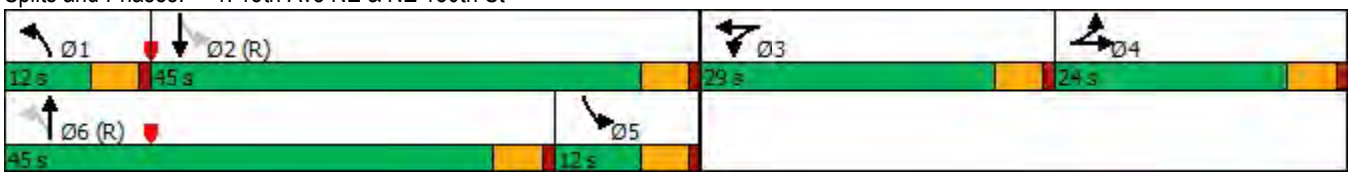
Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 14 (13%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.18
Intersection Signal Delay: 45.4 Intersection LOS: D
Intersection Capacity Utilization 94.6% ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: 15th Ave NE & NE 150th St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	227	49	233	122	130	88	419	963	69	41	416	167
Future Volume (vph)	227	49	233	122	130	88	419	963	69	41	416	167
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	10	10	11	11	11	12	10	11	11	12
Storage Length (ft)	115		0	40		0	60		0	90		140
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.97		0.99	0.98		0.99	1.00				0.96
Frt		0.876			0.939			0.990				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	1581	0	1652	1663	0	1711	1840	0	1711	1801	1583
Flt Permitted	0.314			0.226			0.418			0.104		
Satd. Flow (perm)	541	1581	0	391	1663	0	746	1840	0	187	1801	1522
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		191			27			5				140
Link Speed (mph)		30			25			35			35	
Link Distance (ft)		577			127			874			1332	
Travel Time (s)		13.1			3.5			17.0			25.9	
Confl. Peds. (#/hr)	6		5	5		6	6		4	4		6
Confl. Bikes (#/hr)			2			2			3			1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Adj. Flow (vph)	241	52	248	130	138	94	446	1024	73	44	443	178
Shared Lane Traffic (%)												
Lane Group Flow (vph)	241	300	0	130	232	0	446	1097	0	44	443	178
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	15.0		4.0	15.0		5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	12.0	25.0		12.0	25.0		12.0	21.0		12.0	23.0	23.0
Total Split (s)	12.0	25.0		12.0	25.0		26.0	61.0		12.0	47.0	47.0
Total Split (%)	10.9%	22.7%		10.9%	22.7%		23.6%	55.5%		10.9%	42.7%	42.7%
Maximum Green (s)	8.0	20.0		8.0	20.0		21.0	56.0		7.0	42.0	42.0
Yellow Time (s)	3.5	4.0		3.5	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	0.5	1.0		0.5	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	2.0		3.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)		7.0			7.0			7.0			7.0	7.0
Flash Dont Walk (s)		13.0			13.0			9.0			11.0	11.0
Pedestrian Calls (#/hr)		5			5			5			5	5
Act Effct Green (s)	26.7	17.7		26.7	17.7		61.1	61.1		44.3	44.3	44.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.24	0.16		0.24	0.16		0.56	0.56		0.40	0.40	0.40
v/c Ratio	1.14	0.72		0.70	0.80		0.74	1.07		0.28	0.61	0.26
Control Delay	138.7	26.5		51.9	59.5		18.4	59.3		25.6	31.1	7.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	138.7	26.5		51.9	59.5		18.4	59.3		25.6	31.1	7.3
LOS	F	C		D	E		B	E		C	C	A
Approach Delay		76.5			56.8			47.5			24.3	
Approach LOS		E			E			D			C	
Queue Length 50th (ft)	~163	70		71	140		87	~874		19	247	16
Queue Length 95th (ft)	#269	168		#135	#242		m156	m#1057		43	366	63
Internal Link Dist (ft)		497			47			794			1252	
Turn Bay Length (ft)	115			40			60			90		140
Base Capacity (vph)	212	443		186	324		599	1025		172	724	695
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	1.14	0.68		0.70	0.72		0.74	1.07		0.26	0.61	0.26

Intersection Summary

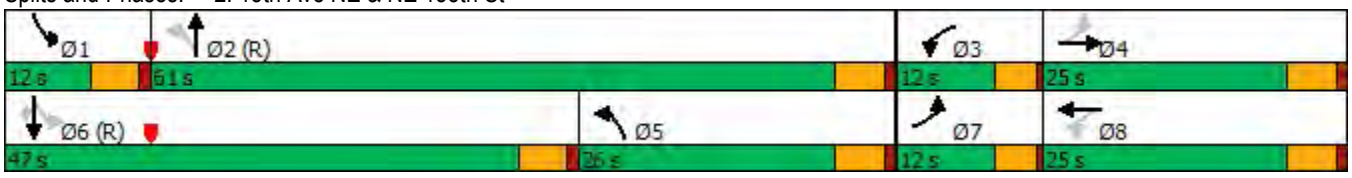
Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.14
Intersection Signal Delay: 48.7 Intersection LOS: D
Intersection Capacity Utilization 100.7% ICU Level of Service G
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: 15th Ave NE & NE 155th St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	194	586	62	139	417	62	181	523	150	32	107	69
Future Volume (vph)	194	586	62	139	417	62	181	523	150	32	107	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	11	12	12	12	12	12	12	12	12	12
Storage Length (ft)	110		0	100		0	105		0	160		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Frt		0.986			0.981			0.967			0.941	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1771	0	1770	1821	0	1770	1792	0	1687	1656	0
Flt Permitted	0.275			0.190			0.636			0.173		
Satd. Flow (perm)	511	1771	0	354	1821	0	1183	1792	0	307	1656	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			16			33			75	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		572			796			673			531	
Travel Time (s)		13.0			18.1			15.3			12.1	
Confl. Peds. (#/hr)	3		3	3		3	1		2	2		1
Confl. Bikes (#/hr)			2			2						1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	7%	7%	7%
Adj. Flow (vph)	213	644	68	153	458	68	199	575	165	35	118	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	213	712	0	153	526	0	199	740	0	35	194	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		24.0	24.0		24.0	24.0	
Total Split (s)	26.0	26.0		26.0	26.0		29.0	29.0		29.0	29.0	
Total Split (%)	47.3%	47.3%		47.3%	47.3%		52.7%	52.7%		52.7%	52.7%	
Maximum Green (s)	21.0	21.0		21.0	21.0		24.0	24.0		24.0	24.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	5	5		5	5		7	7		7	7	
Act Effct Green (s)	21.0	21.0		21.0	21.0		23.1	23.1		23.1	23.1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.39	0.39		0.39	0.39		0.43	0.43		0.43	0.43	
v/c Ratio	1.08	1.02		1.12	0.73		0.39	0.95		0.27	0.26	
Control Delay	110.1	61.8		137.8	22.0		13.5	38.6		16.5	7.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	110.1	61.8		137.8	22.0		13.5	38.6		16.5	7.2	
LOS	F	E		F	C		B	D		B	A	
Approach Delay		72.9			48.1			33.2			8.7	
Approach LOS		E			D			C			A	
Queue Length 50th (ft)	~82	~261		~61	139		42	207		7	22	
Queue Length 95th (ft)	#190	#444		#155	#278		86	#418		27	55	
Internal Link Dist (ft)		492			716			593			451	
Turn Bay Length (ft)	110			100			105			160		
Base Capacity (vph)	198	695		137	717		525	813		135	776	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.08	1.02		1.12	0.73		0.38	0.91		0.26	0.25	

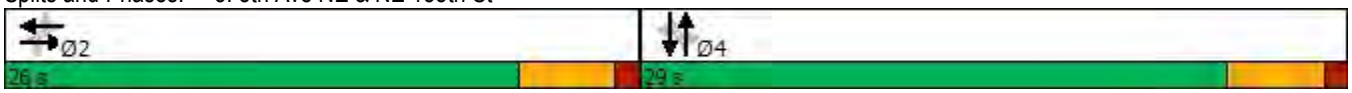
Intersection Summary

Area Type: Other
Cycle Length: 55
Actuated Cycle Length: 54.1
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.12
Intersection Signal Delay: 48.1 Intersection LOS: D
Intersection Capacity Utilization 99.9% ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: 5th Ave NE & NE 155th St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	244	77	92	5	13	5	85	581	6	5	115	56
Future Volume (vph)	244	77	92	5	13	5	85	581	6	5	115	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			0.99			1.00			0.99	
Frt		0.970			0.970			0.999			0.957	
Flt Protected		0.971			0.989			0.994			0.999	
Satd. Flow (prot)	0	1763	0	0	1724	0	0	1886	0	0	1772	0
Flt Permitted		0.800			0.904			0.925			0.979	
Satd. Flow (perm)	0	1445	0	0	1575	0	0	1751	0	0	1736	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			7			1			58	
Link Speed (mph)		25			30			30			30	
Link Distance (ft)		1337			645			437			419	
Travel Time (s)		36.5			14.7			9.9			9.5	
Confl. Peds. (#/hr)	6		1	1		6	16		3	3		16
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.97	0.97	0.97	0.75	0.75	0.75	0.87	0.87	0.87	0.75	0.75	0.75
Heavy Vehicles (%)	1%	1%	1%	5%	5%	5%	0%	0%	0%	1%	1%	1%
Adj. Flow (vph)	252	79	95	7	17	7	98	668	7	7	153	75
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	426	0	0	31	0	0	773	0	0	235	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	24.0	24.0		24.0	24.0		36.0	36.0		36.0	36.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		60.0%	60.0%		60.0%	60.0%	
Maximum Green (s)	19.0	19.0		19.0	19.0		31.0	31.0		31.0	31.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	5	5		5	5		5	5		5	5	
Act Effct Green (s)		18.1			18.1			28.1			28.1	
Actuated g/C Ratio		0.32			0.32			0.50			0.50	
v/c Ratio		0.89			0.06			0.88			0.26	
Control Delay		42.3			12.5			27.3			6.9	
Queue Delay		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		42.3			12.5			27.3			6.9	
LOS		D			B			C			A	
Approach Delay		42.3			12.5			27.3			6.9	
Approach LOS		D			B			C			A	
Queue Length 50th (ft)		137			6			221			32	
Queue Length 95th (ft)		#295			18			#412			50	
Internal Link Dist (ft)		1257			565			357			339	
Turn Bay Length (ft)												
Base Capacity (vph)		510			543			977			993	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.84			0.06			0.79			0.24	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 56.4
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 28.1 Intersection LOS: C
Intersection Capacity Utilization 90.2% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: 25th Ave NE & NE 150th St

Intersection	
Int Delay, s/veh	3.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	275	32	10	126	46	71
Future Vol, veh/h	275	32	10	126	46	71
Conflicting Peds, #/hr	0	0	0	0	2	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	66	66	64	64
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	353	41	15	191	72	111

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	394	0	597	378
Stage 1	-	-	-	-	374	-
Stage 2	-	-	-	-	223	-
Critical Hdwy	-	-	4.13	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.227	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1159	-	466	669
Stage 1	-	-	-	-	696	-
Stage 2	-	-	-	-	814	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1159	-	459	666
Mov Cap-2 Maneuver	-	-	-	-	459	-
Stage 1	-	-	-	-	696	-
Stage 2	-	-	-	-	801	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	14.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	566	-	-	1159	-
HCM Lane V/C Ratio	0.323	-	-	0.013	-
HCM Control Delay (s)	14.4	-	-	8.1	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1.4	-	-	0	-

Intersection						
Int Delay, s/veh	5.4					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	106	277	161	11	30	248
Future Vol, veh/h	106	277	161	11	30	248
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	66	66	92	92
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	136	355	244	17	33	270

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	261	0	-	0	880	253
Stage 1	-	-	-	-	253	-
Stage 2	-	-	-	-	627	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1303	-	-	-	318	786
Stage 1	-	-	-	-	789	-
Stage 2	-	-	-	-	532	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1303	-	-	-	277	786
Mov Cap-2 Maneuver	-	-	-	-	277	-
Stage 1	-	-	-	-	686	-
Stage 2	-	-	-	-	532	-

Approach	EB	WB	SB
HCM Control Delay, s	2.2	0	15.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1303	-	-	-	656
HCM Lane V/C Ratio	0.104	-	-	-	0.461
HCM Control Delay (s)	8.1	0	-	-	15.1
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	2.4

A.8 STORMWATER SITE PLAN REPORT

Stormwater Site Plan Report

PREPARED FOR:

Department of Social and
Health Services
PO Box 45848
Olympia, WA 98597

PROJECT:

Fircrest School Master
Development Plan
Shoreline, WA 98155
2180088.10

PREPARED BY:

Casey Jeszeck, PE
Project Engineer

REVIEWED BY:

Bethany P. Steadman, PE
Project Manager

DATE:

August 2022

Stormwater Site Plan Report

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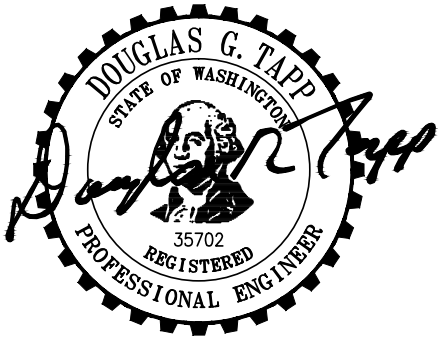
August 2022



05/11/2022

I hereby state that this Stormwater Site Plan Report for Fircrest School Master Development Plan has been prepared by me or under my supervision and meets the standard of care and expertise that is usual and customary in this community for professional engineers. I understand that City of Shoreline does not and will not assume liability for the sufficiency, suitability, or performance of drainage facilities prepared by me.

Table of Contents

Appendices

Appendix A

Maps

A-1 ..... Site Vicinity Map
A-2 ..... Existing Conditions Map
A-3 ..... Developed Conditions Map

Appendix B

Critical Areas Report – Fircrest School Campus Master Plan Shoreline, Washington
Herrera Environmental Consultants, Inc.
March 7, 2022

Report of Geotechnical Engineering Services – Fircrest Adult Training Program Renovation
GeoDesign, Inc.
March 22, 2021

Appendix C

Permanent Stormwater Control Calculations

C-1 ..... Typical Flow Control Calculation
C-2 ..... Typical Water Quality Calculation

1.0 Project Overview

1.1 General Description of Project

The project site is located on the existing Fircrest School Campus site (1902 NE 150th Street, Shoreline, Washington) and is encompassed by one tax parcel (1626049010). The parcel is bounded by Hamlin Park to the north, 15th Avenue NE to the west, Shorecrest High School and the South Woods Open Space to the east, and NE 150th Street to the south.

The project proposes to demolish select existing structures and pavement onsite and construct new nursing, educational, and residential buildings with supporting access and utility infrastructure. Demolition includes existing pavement, landscaping, and parking lots. Refer to Appendix A-1 for the Site Vicinity Map.

The project site is subject to the 2019 Washington State Department of Ecology (Ecology) *Stormwater Management Manual for Western Washington (Drainage Manual)*, City of Shoreline Standard Plans, and Shoreline Municipal Code (SMC) 13.10.200, which adopts the 2019 version of the *Drainage Manual*. This report has been prepared to document how the project meets Minimum Requirements 1 through 9, as outlined in the *Drainage Manual*.

1.2 Existing Conditions

The campus site currently contains buildings, access drives, parking areas, and areas of mature vegetation, including stands of trees along the northwestern quadrant and in the north-central portion of the campus. Vehicular access is from the west and south, as well as from Hamlin Park to the north. Existing frontage improvements include curb, gutter, and partial sidewalk along 15th Avenue NE, with rockery walls along the north portion. To the south, a bike lane, curb, gutter, and sidewalk are located along NE 150th Street.

Topographically, the campus consists of two parallel north-south ridges bordering a relatively flat valley that broadens out toward the southern portion of the campus. The western portion of the campus consists of a series of plateaus that step down to relatively flat terrain in the southwestern portion of the campus. The majority of the project site is paved with asphalt, with occasional lawn and trees.

According to the geotechnical subsurface exploration borings, fill consisting of medium dense silty sand was found generally to a depth of about 0 to 2 feet. Glacial Till was generally found at depths of 2 to 10 feet, below which Advance Outwash was found. No groundwater was observed. Infiltration rates were tested using a small-scale Pilot Infiltration Test (PIT) in accordance with the City of Shoreline Engineering Development Manual. These PITs found long-term infiltration rates to be 0.25 inch per hour. Borings and the Geotechnical Report can be found in Appendix B.

The project site drainage is considered under a single Threshold Discharge Area (TDA) and drains southeast via sheet flow and catch basins to a piped stream (Hamlin Creek), which runs underground within NE 160th Street and eventually connecting to NE 150th Street. Minor connections are made to a diverged leg of Hamlin Creek, which runs in a swale along the east property line. However, the majority of the site drains to the piped drainage previously described. The diverged leg becomes piped and outlets to NE 150th Street, where it combines with the main piped drainage.

1.3 Developed Conditions

The project proposes to demolish portions of the existing Fircrest Campus, including buildings, surrounding asphalt and concrete access, parking lots, and supporting utilities. The southerly end of the parcel is to be preserved during construction.

The project proposes construction of numerous new buildings, including a new nursing facility, laundry building, educational buildings, and residential housing buildings. Vehicular and pedestrian access and parking will be provided, as necessary, based on demand. Onsite stormwater management will be provided to the maximum extent feasible using bioretention, permeable pavements, vegetated filter strips, and post-construction soil quality and depth. These facilities will be sized and placed to provide both runoff treatment for pollution generating surfaces and Low Impact Development (LID) standards.

Flow control will be evaluated and provided on a per building scale, rather than installing a regional facility. The project will be required to meet historical land cover discharge requirements per the City of Shoreline Engineering Development Manual. This will be achieved using underground storage facilities, such as galvanized CMP tanks, precast concrete vaults, or chamber systems with control structures to limit outflow from project site.

Refer to Appendix A-3 for the Developed Conditions Map.

1.4 Project Classification

Per the *Drainage Manual*, the project is classified as a Redevelopment Project, and all Minimum Requirements apply to the new and replaced hard surfaces and converted vegetation areas.

2.0 Minimum Requirements

The TDA for Fircrest School campus is subject to Minimum Requirements (MRs) 1 through 9 for all new and replaced hard surfaces and converted vegetation areas. Refer to Appendix A-3, Developed Conditions Map, for areas.

Below is a summary of how the project will meet MRs 1 through 9 for the TDA.

- MR 1 – Preparation of Stormwater Site Plans: This Stormwater Site Plan Report provides the narrative and analysis for the stormwater site plan and accompanies engineered drawings. Both will be developed by a licensed civil engineer and per Volume I, Chapter 3 of the *Drainage Manual*.

- MR 2 – Construction Stormwater Pollution Prevention: A Construction Stormwater Pollution Prevention Plan (CSWPPP) is prepared in conformance to Volume II of the *Drainage Manual*. The CSWPPP narrative is provided in a separate report. The contractor will be responsible for maintaining the CSWPPP during construction and conforming to the National Pollutant Discharge Elimination Systems (NPDES) Construction Stormwater General Permit (CSGP) requirements.

- MR 3 – Source Control of Pollution: Source Control of Pollution Best Management Practices (BMPs) have been selected for use post construction and are discussed in Section 4.1. Source Control BMPs are to be included in an Operation and Maintenance Manual for the owner's reference.

- MR 4 – Preservation of Natural Drainage Systems and Outfalls: The existing drainage patterns will be preserved to the maximum extent feasible. The developed threshold discharge is to be preserved and not divided, which will match the existing threshold discharge basins as closely as possible.

- MR 5 – Onsite Stormwater Management (OSM): The project has provided OSM to the maximum extent feasible, as required by List 2, found in Section 2.5.5 of the *Drainage Manual.* Refer to Section 3.2 of this report for more detailed information.

- MR 6 – Runoff Treatment: This project does not meet the requirements of a high-use site, and therefore does not need to provide treatment per the Oil Control Treatment Menu. The project does not drain to a phosphorus sensitive lake and does not need to provide treatment per the Phosphorus Treatment Menu. The project is tributary to a fish bearing waterbody and is required to provide stormwater treatment per the Enhanced Treatment Menu. Refer to Section 3.3 for analysis of how the project will meet these performance standards.

- MR 7 – Flow Control: Flow control is required to match historical discharge durations to the pre-developed durations for the range of pre-developed discharge rates from 50 percent of the 2-year peak flow up to the full 50-year peak flow. The pre-developed condition to be matched shall be the historical land cover condition, per Section J.1 of Division 3 of the City of Shoreline Engineering Development Manual.

- MR 8 – Wetlands Protection: No wetlands are located within the site. Stormwater from the site is tributary to several classified wetlands. The natural discharge location is being matched; flow control, water quality, and source controls are being provided. A CSWPPP will be in effect during construction. The project will not aggravate or create any negative downstream conditions.

- MR 9 – Operation and Maintenance: An Operation and Maintenance Manual will be provided.

3.0 Permanent Stormwater Control Plan

This project meets MRs 5 through 7 by providing a Permanent Stormwater Control Plan, which includes water quality treatment and OSM BMPs. The stormwater modeling software, MGSFlood, will be used to size facilities and confirm compliance with the *Drainage Manual*.

3.1 Site Hydrology

The site hydrology is determined by the type of land coverage and soil type. Per the Geotechnical Report, the site is underlain with Glacial Till and Advance Outwash Deposits and is found to have estimated infiltration rates of roughly 0.25 inch per hour. Because of the low infiltration potential and that soils are considered Till, soils were modeled as C in MGSFlood. Historical forested land cover conditions will be used.

Refer to Appendix A-3 for the total developed conditions and for the water quality areas delineated.

3.2 Onsite Stormwater Management (OSM)

The project is subject to MR 5, OSM. Projects that trigger MRs 1 through 9 within the Urban Growth Area are required to use the List 2 approach for evaluating OSM BMPs. For typical surfaces, BMPs area considered in the order listed for that surface type. The chosen BMP is subject to change and the below feasibility criteria are preliminary.

Table 1 – OSM BMP Feasibility Review

Surface Type	List 2 Feasibility Review (~~Strikeout Determined Infeasible~~ and **Bold Determined Feasible and Provided**)	Infeasibility Justification
Landscaping	**1. Post Construction Soil (BMP T5.13)**	**1. BMP T5.13 is to be provided for all proposed landscaped areas.**
Concrete Walks (onsite)	~~1. Full Dispersion~~ **2. Permeable Pavement** **3. Bioretention or Filter Strip** 4. Sheet Flow Dispersion	1. Full Dispersion is not feasible because 65% native growth area is not available downstream of impervious areas. **2. Permeable Pavement may be provided.** **3. A bioretention cell may be provided.**
Parking Lots	~~1. Full Dispersion~~ **2. Permeable Pavement** **3. Bioretention or Filter Strip** 4. Sheet Flow Dispersion	1. Full Dispersion is not feasible because 65% native growth area is not available downstream of impervious areas. **2. Permeable Pavement may be provided.** **3. A bioretention cell may be provided.**
Fire Lane and Roadways	~~1. Full Dispersion~~ ~~2. Permeable Pavement~~ 3. **Bioretention or Filter Strip** 4. Sheet Flow Dispersion	1. Full Dispersion is not feasible because 65% native growth area is not available downstream of impervious areas. 2. Location is made up of fill soils that may become unstable when saturated. **3. A bioretention cell may be provided if runoff is able to be feasibly routed.**
Roof	~~1. Full Dispersion or Downspout Full Infiltration Systems~~ 2. **Bioretention or Filter Strip** 3. Downspout Dispersion 4. Perforated Stub-out Connections	1. Full Dispersion is not feasible because 65% native growth area is not available downstream of impervious areas. Full Infiltration is not feasible due to low long-term infiltration rates found by the geotechnical engineer to be typically 0.25 inch per hour. **2. A bioretention cell may be provided if runoff is able to be feasibly routed.**

Typical Bioretention OSM Sizing

Bioretention areas provided for meeting OSM are sized per BMP T5.14B. The design guidelines recommend that the ponding area be sized as 5 percent of the total impervious surface area and 2 percent of the total pervious surface area draining to it. If any area also has permeable pavement draining to it, these areas will be calculated as half impervious and half pervious per Appendix III-C of the *Drainage Manual*.

3.3 Water Quality Treatment

Because of the project site encompassing more than 5,000 square feet of pollution generating impervious surface (PGIS), enhanced water quality treatment is required for all proposed PGIS per the City of Shoreline Engineering Development Manual, Chapter 19, Section F.1. Refer to Appendix A-3 and Table 2 below for the estimated PGIS target areas.

Water quality target areas include PGIS within the project site, including the fire lane, roadway, and parking lots, as well as any non-pollution generating areas that drain onto PGIS, including adjacent sidewalks and landscaping. The proposed treatment methods for these areas include bioretention cells and filter strips, in addition to underground treatment facilities such as BioPods or Modular Wetlands where surface facilities are infeasible. Refer to Appendix C for calculations showing the typical calculation for sizing for water quality facilities.

Table 2 – Water Quality Facilities Summary

Typical Bioretention	Facility Type	Bioretention
	Required Infiltration %	91%
	Required Bottom Area	Sizing based on MGSFlood typical filter strip sizing calculated in Appendix C-2.
Underground Structure (BioPod / Modular Wetland)	Facility Type	Underground Water Quality Treatment Structure
	Required Infiltration %	91%
	Required Sizing	Sized based on water quality flow rate calculated in Appendix C-2.
	Required Infiltration	91%
Compost Amended Vegetated Filter Strip (CAVFS)	Facility Type	CAVFS
	Required Infiltration %	91%
	Required Length	Sizing based on MGSFlood calculation and varies in width, depth, and length.

3.4 Flow Control

Flow control is required to match developed discharge durations to the historical durations for the range of historical discharge rates from 50 percent of the 2-year peak flow up to the full 50-year peak flow. The condition to be matched shall be the historical land cover condition per the City of Shoreline Engineering Development Manual, Chapter 19, Section J-1.

The project will meet the requirements above using underground stormwater storage facilities, such as aluminized steel CMP tanks, precast or cast-in-place concrete vaults, or prefabricated stormwater arch chambers. Refer to Appendix C-1 and Table 3 below for the typical Flow Control MGSFlood calculation used to size flow control systems based on a ratio of acreage captured to cubic feet of storage required. Depth of system is preliminarily determined based on existing stormwater system depth and conveyance routing feasibility.

Table 3 – Flow Control Facilities Summary

Typical Flow Control	Facility Type	Flow Control Storage with Control Structure
	Required Storage Volume	30,000 CF per acre of impervious surface
	Required Footprint	Determined by depth of storage system, with a 20% sizing factor applied. Required Volume / Available Depth x 1.2

Refer to Appendix A-3 for delineation of areas. Refer to Appendix C for typical flow control calculation showing that the project intends to meet the flow control standard at the point of compliance.

3.5 Stormwater Conveyance Analysis and Design

Conveyance analysis and design will be performed using King County Backwater Analysis (KCBW) or Storm and Sanitary Sewer Analysis (SSA) Software and the outputs from the MGSFlood model.

4.0 Stormwater Pollution Prevention

The project will require a CSGP from Ecology. The Contractor will provide temporary BMPs per the CSWPPP report and engineering drawings. A separate CSWPPP report will be provided.

4.1 Source Control of Pollution BMPs

In addition to the temporary construction BMPs outlined in the CSWPPP report, the project will provide the following permanent Source Control of Pollution BMPs per Volume IV of the *Drainage Manual*.

Source Control BMPs:

- BMPs for Landscaping and Lawn/Vegetation Management.
- BMPs for Maintenance of Stormwater Drainage and Treatment Systems.
- BMPs for Parking and Storage of Vehicles and Equipment.
- BMPs for Roof/Building Drains at Manufacturing and Commercial Buildings.

5.0 Special Reports and Studies

Refer to Appendix B for the following information:

- Critical Areas Report – Fircrest School Campus Master Plan, Shoreline, Washington, by Herrera Environmental Consultants, Inc., March 7, 2022.

- Report of Geotechnical Engineering Services – Fircrest Adult Training Program Renovation, by GeoDesign, Inc., dated March 22, 2021.

6.0 Operation and Maintenance Manual

Onsite stormwater management, water quality, and conveyance systems are maintained and operated by the owner. An Operation and Maintenance Manual will be developed for the permanent stormwater controls included in the project.

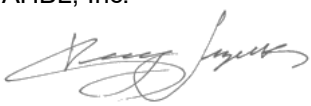
7.0 Declaration of Covenant for Privately Maintained Stormwater Facilities

A Declaration of Covenant will be provided.

8.0 Conclusion

This analysis is based on data and records either supplied to or obtained by AHBL. These documents are referenced within the text of the analysis. The analysis has been prepared using procedures and practices within the standard accepted practices of the industry.

AHBL, Inc.



Casey Jeszeck, PE
Project Engineer

CTJ/lsk

August 2022

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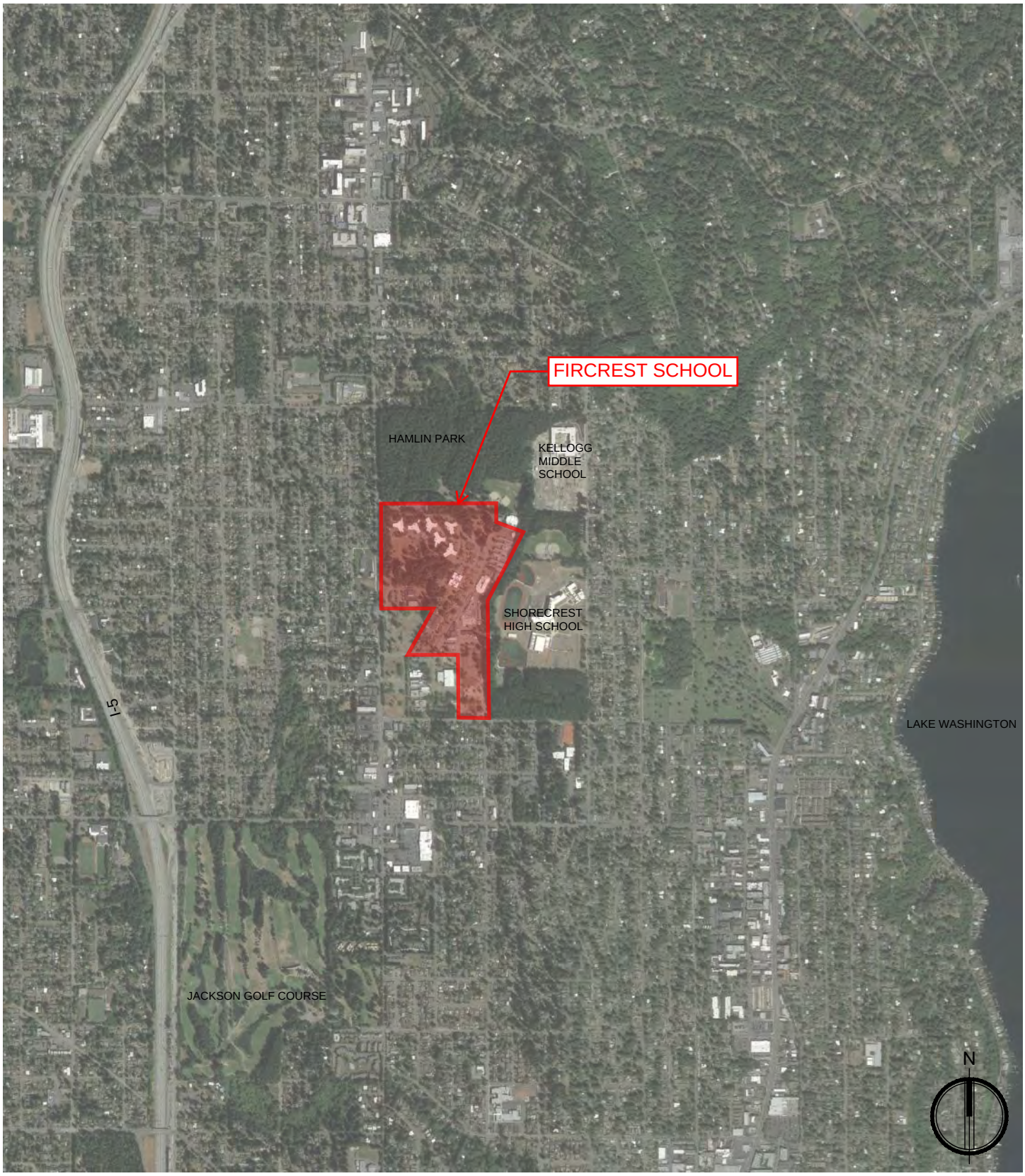
Appendix A

Maps



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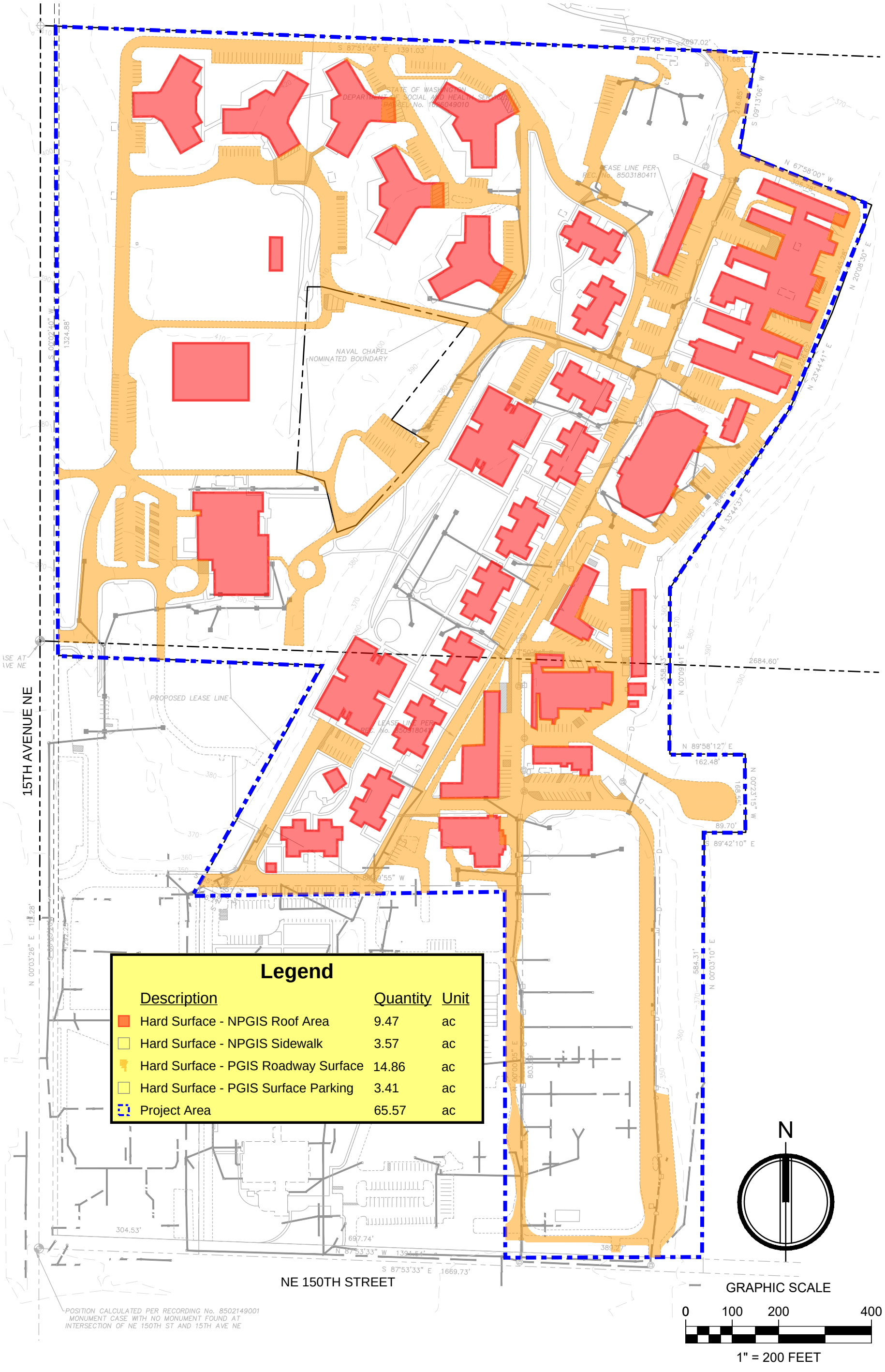
206.267.2429 FAX

FIRCREST SCHOOL

SITE VICINITY MAP

FIG. A-1



Legend

Description	Quantity	Unit
Hard Surface - NPGIS Roof Area	9.47	ac
Hard Surface - NPGIS Sidewalk	3.57	ac
Hard Surface - PGIS Roadway Surface	14.86	ac
Hard Surface - PGIS Surface Parking	3.41	ac
Project Area	65.57	ac

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FIRCREST SCHOOL

EXISTING CONDITIONS MAP

Fig. A-2

WATER STORAGE TANK OWNED AND OPERATED BY NORTH CITY WATER DISTRICT

10' DEPTH STORMWATER DETENTION SYSTEM

10' DEPTH STORMWATER DETENTION SYSTEM

10' DEPTH STORMWATER DETENTION SYSTEM

10' DEPTH STORMWATER DETENTION SYSTEM

10' DEPTH STORMWATER DETENTION SYSTEM

6' DEPTH STORMWATER DETENTION SYSTEM

6' DEPTH STORMWATER DETENTION SYSTEM

6' DEPTH STORMWATER DETENTION SYSTEM

8' DEPTH STORMWATER DETENTION SYSTEM

7' DEPTH STORMWATER DETENTION SYSTEM

PIPED DRAINAGE THROUGH SITE TO BE PRESERVED

PIPED DRAINAGE THROUGH SITE TO BE PRESERVED

STATE OF WASHINGTON
DEPARTMENT OF SOCIAL AND HEALTH SERVICES
PARCEL No. 1626049010

NAVAL CHAPEL
NOMINATED BOUNDARY

PROPOSED LEASE LINE

LEASE LINE PER
REC. No. 9505180411

58th Street

Street

NE 150th Street

S 87°51'45" E 2697.02'

S 87°51'45" E 1391.03'

111.68'

S 09°13'06" W 1285'

N 67°58'00" W 305.78'

N 20°08'30" E

N 23°44'41" E 225.62'

N 33°44'37" E 164.71'

2684.60'

N 00°03'10" E 1190.00'

N 89°58'12" E 162.48'

N 00°23'15" W 168.55'

89.70'

S 89°42'10" E

N 89°59'55" W

N 00°03'26" E 1329.28'

S 00°00'05" E 803.09'

584.31'

304.53'

697.74'

N 87°53'33" W 1394.54'

S 87°53'33" E 1669.73'

389.27'

Surfacing Legend

Description	Quantity	Unit
Hard Surface - NPGIS Roof Area	6.86	ac
Hard Surface - NPGIS Sidewalk	5.21	ac
Hard Surface - PGIS Roadway Surface	8.60	ac
Hard Surface - PGIS Surface Parking	2.38	ac
Project Area	65.57	ac

N

GRAPHIC SCALE

0 100 200 400

1" = 200 FEET

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FIRCREST SCHOOL

DEVELOPED CONDITIONS MAP

Fig. A-3

Appendix B

Critical Areas Report – Fircrest School Campus Master Plan Shoreline, Washington
Herrera Environmental Consultants, Inc.
March 7, 2022

Report of Geotechnical Engineering Services – Fircrest Adult Training Program Renovation
GeoDesign, Inc.
March 22, 2021

DRAFT
CRITICAL AREAS REPORT

FIRCREST SCHOOL CAMPUS MASTER PLAN
SHORELINE, WASHINGTON

Prepared for
City of Shoreline
and
AHBL, Inc.

Prepared by
Herrera Environmental Consultants, Inc.

HERRERA

Note:
Some pages in this document have been purposely skipped or blank pages inserted so that this document will print correctly when duplexed.

CRITICAL AREAS REPORT

FIRCREST SCHOOL CAMPUS MASTER PLAN
SHORELINE, WASHINGTON

Prepared for
City of Shoreline
and
AHBL, Inc.
Tacoma, Washington 98403

Prepared by
Herrera Environmental Consultants, Inc.
2200 Sixth Avenue, Suite 1100
Seattle, Washington 98121
Telephone: 206-441-9080

DRAFT
March 7, 2022

CONTENTS

APPENDICES

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FIGURES

DISCLAIMER

Herrera Environmental Consultants, Inc., has prepared this report for use by AHBL, Inc., and the City of Shoreline. The results and conclusions in this report represent the professional opinion of Herrera Environmental Consultants, Inc. They are based upon examination of public domain information concerning the study area, site reconnaissance, and data analysis.

The work was performed according to accepted standards in the field of jurisdictional wetland determination and delineation using the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Western Mountains, Valleys, and Coast Region* (Environmental Laboratory 2010). However, final determination of jurisdictional wetland boundaries pertinent to Section 404 of the Clean Water Act is the responsibility of the Seattle District of the US Army Corps of Engineers. Various agencies of the State of Washington and local jurisdictions may require a review of final site development plans that could potentially affect zoning, buffer requirements, water quality, or habitat functions of lands in question. Therefore, the findings and conclusions in this report should be reviewed by appropriate regulatory agencies before any detailed site planning or construction activities.

HERRERA QUALIFICATIONS

Established in 1980, Herrera Environmental Consultants, Inc. is an innovative, employee-owned, consulting firm focused on three practice areas: water, restoration, and sustainable development. The following staff authored this report and conducted field work in support of this report. A summary of their qualifications is provided.

Rayna Gleason, ISA Arborist

Rayna Gleason is an arborist and landscape designer with 11 years of experience in urban forestry, native habitat restoration, forest and meadow restoration, environmental design, and invasive species management. Rayna provides tree inventories, tree risk assessments, planting plans, vegetation monitoring surveys, wetland delineation, and native Pacific Northwest habitat restoration consulting. Rayna writes tree assessment reports, critical areas reports, wetland and stream delineation reports, and vegetation monitoring reports. Rayna creates JARPA permitting and mitigation planting plans for Washington municipalities.

Credentials

- ISA Arborist, NY-5710A, PNW Chapter, 2011
- ISA TRAQ Qualification, 2019

Eliza Spear, PWS

Eliza Spear is an ecologist and permitting specialist with 6 years of experience in wetland, forest, and meadow restoration; wetland delineation; environmental permitting; and invasive species control. Eliza delineates wetlands and ordinary high water marks of streams and shorelines, and prepares wetland and stream delineation reports, critical areas reports, and mitigation plans for impacts to wetlands, streams, and buffers. Eliza coordinates with local, state, and federal agencies; completes applications; and obtains permits and approvals for project compliance with regulations including local critical area ordinances, the State Hydraulic Code, SEPA, and Clean Water Act Sections 401 and 404.

Credentials

- BS, Environmental Science and Ecology, College of William and Mary, 2013
- Certificate in Wetland Science and Management, University of Washington, 2018
- PWS, Professional Wetland Scientist, Society of Wetland Scientists, 2021
- WSDOT Junior Biological Assessment Author, 2020

EXECUTIVE SUMMARY

This critical areas and significant tree investigation was performed as a subconsultant for AHBL, Inc. (AHBL) in support of the Fircrest School Campus Master Plan. This report presents the results of a wetlands and stream investigation conducted by Herrera Environmental Consultants, Inc. (Herrera) in May 2018, a significant tree survey conducted by Herrera in 2018, and a landslide and erosion hazard assessment conducted by South Sound Geotechnical Consulting in February 2022. Critical areas present on the site include two non-fish-bearing streams and one priority habitat (critical roosting habitat for little brown bat). The project is not expected to directly impact the streams, but may impact stream buffers. Mitigation for impacts on stream buffers must be mitigated according to City of Shoreline Critical Areas code.

The significant tree survey found that most of the trees measured on the site met the City of Shoreline definition of a significant tree. Any significant trees removed for the project are required to be replaced according to City of Shoreline replacement ratios.

No wetlands were found on the site, and no landslide hazard areas or areas of erosion were identified.

Most of the trees measured on site met the City of Shoreline definition of a significant tree.

INTRODUCTION

The critical areas investigation and significant tree survey described in this report was performed as a subconsultant for AHBL, in support of the Fircrest School Campus Master Plan (hereafter referred to as the project). AHBL is proposing to create a campus master plan to improve modifications to facilities and campus layout. Critical areas regulated by the City of Shoreline and relevant to this project include wetlands, fish and wildlife habitat conservation areas (streams, priority habitats, and species), and geologic hazard areas. Significant trees are regulated under the City's development standards. This report documents baseline conditions of significant trees and critical areas in the study area and applicable regulations and guidance regarding potential project impacts on these resources.

PROJECT SETTING

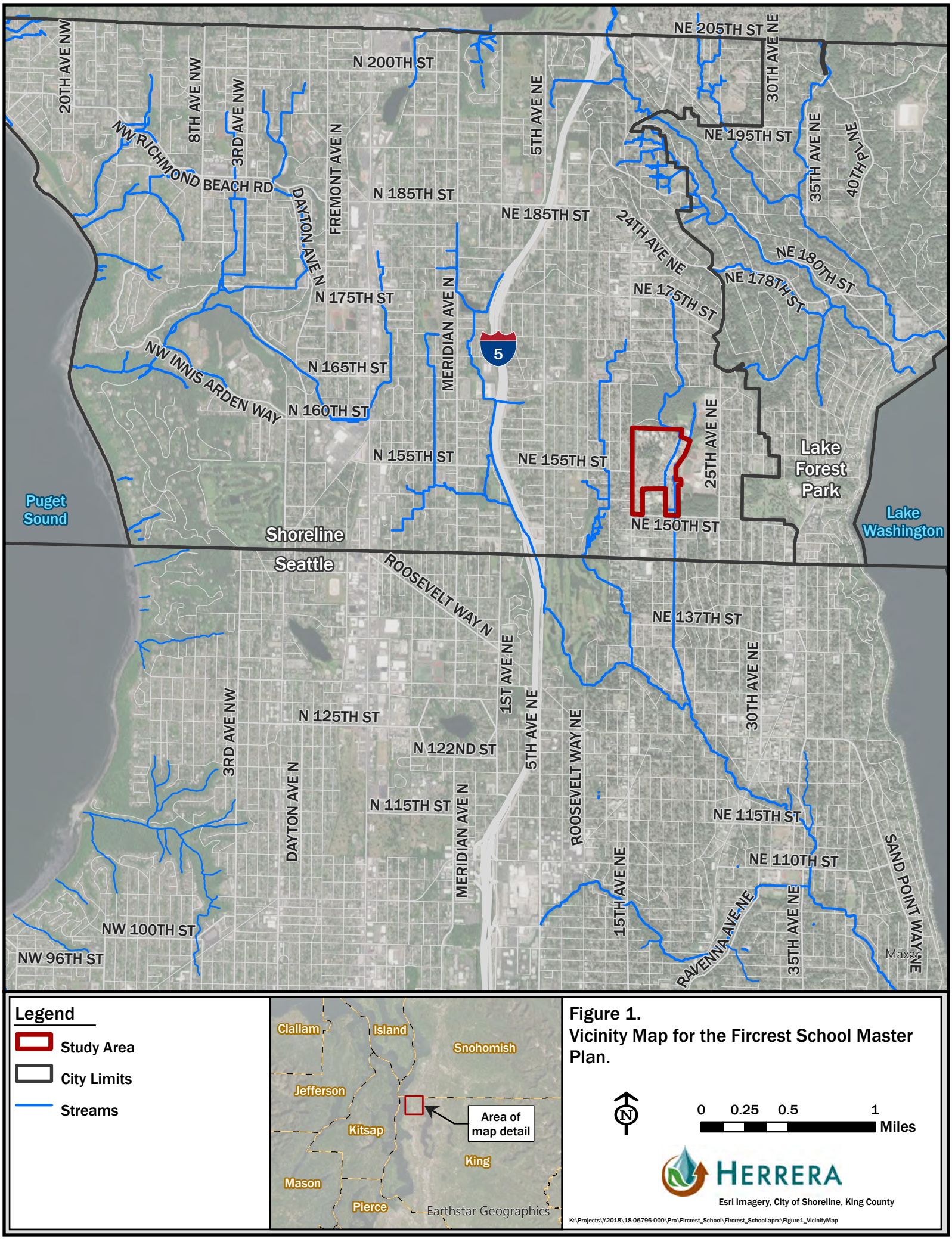
The Fircrest School campus is located at 15230 15th Avenue Northeast, Shoreline, Washington 98155 (Figure 1). The approximately 53-acre area, investigated for the presence of wetlands and streams (the study area), is located at latitude 47.5968633, longitude -122.3236344 in Sections S5 T24N and R4E, Township T24N North, Range R4E East of the Willamette Meridian (WDFW 2009).

The study area Is in the Cedar River/Lake Washington portion of Water Resource Inventory Area (WRIA) Cedar-Sammamish (WRIA 8). The study area is within the subbasin referred to as the North Branch Thornton Creek drainage basin, which discharges into Lake Washington.

STUDY OBJECTIVES

The objectives of the study were to:

- Identify any wetlands and fish and wildlife habitat conservation areas (FWHCAs) in the study area.
- Identify all significant trees within the study area.
- Identify geologic hazards in the study area.
- Identify regulations and guidance applicable to project impacts on wetlands, FWHCAs, significant trees, and buffers set forth by local, state, and federal authorities.



Legend

- Study Area
- City Limits
- Streams

Figure 1.
Vicinity Map for the Fircrest School Master Plan.

N

0 0.25 0.5 1 Miles

HERRERA

Esri Imagery, City of Shoreline, King County

K:\Projects\Y2018\18-06796-000\Pro\Fircrest_School\Fircrest_School.aprx\Figure1_VicinityMap

METHODS AND MATERIALS

Evaluating the presence, extent, and type of critical areas and significant trees requires a review of available information about the site (e.g., surveys, studies), followed by an onsite wetland investigation. The following sections describe the research methods and field protocols for the evaluations.

REVIEW OF AVAILABLE INFORMATION

A literature review was performed to determine the historical and current presence of critical areas in and near the study area. Sources of information included:

- Aerial photographs of the study area (Google Earth 2022)
- National Wetlands Inventory map of wetland areas in the study area (USFWS 2022)
- King County wetland inventory (King County 2022)
- Hydrographic data (stream locations) for King County (King County 2022)
- SalmonScape online mapping (WDFW 2022b)
- Washington State priority habitat and species (PHS) data (WDFW 2022c).
- Washington State Natural Heritage data (DNR 2022)
- Soil survey maps for the study area (NRCS 2022)
- Landslide and Erosion Hazard Assessment (Appendix A)
- Thornton Creek and West Lake Washington Basin Characterizations Report (Tetra Tech 2004)

WETLAND INVESTIGATION

The wetland investigation was performed in accordance with the *Regional Supplement to the US Army Corps of Engineers Wetlands Delineation Manual: Western Mountains, Valleys, and Coast Region* (Environmental Laboratory 2010) , which is consistent with the *1987 Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987).

The methods in the guidance manuals listed above use a three-parameter approach for identifying and delineating wetlands and rely on the presence of field indicators for hydrophytic vegetation, hydric soils, and hydrology.

Fish and Wildlife Habitat Conservation Area Delineation and Classification

A Fish and Wildlife Habitat Conservation Areas (FHWCA) is an area that supports regulated fish or wildlife species or habitats, typically identified by known point locations of specific species, habitat areas, or both. Streams and piped stream segments are FHWCAs according to Shoreline Municipal Code (SMC) 20.80.270(B)(5). SMC defines streams as "those areas where surface waters produce a defined channel or bed, not including irrigation ditches, canals, storm or surface water runoff devices or other entirely artificial watercourses, unless they are used by fish or are used to convey streams naturally occurring prior to construction." FHWCAs also include Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species.

In accordance with the City of Shoreline, streams on the site were classified using the Washington State Department of Natural Resources (DNR) water typing system based on WAC 222-16-030.

Stream locations and conditions, and potential wildlife presence and habitats, were evaluated through the review of available information and onsite investigations.

Significant Tree Investigation

In 2018 a Herrera arborist and a biologist inventoried the entire Fircrest Campus project area, measuring 176 significant trees or tree groves that met the minimum circumference per the City of Shoreline Municipal Code, *Chapter 22.62 Landscaping Regulations*. Within the code, *Chapter 22.62.009 Retention and protection of significant trees,* states that "*significant trees are healthy evergreen trees with a minimum 12-inch DBH and healthy deciduous trees with a minimum nine-inch DBH* (diameter at breast height)."

Prior to the initial site visit, a desktop analysis was done for the campus property, private buildings, and access points. Once in the field, tree circumference was measured at 4.5 feet above grade (dbh), identified by genus and species, and mapped by hand with a unique tree number and location within the project area. Trees that were dead, damaged, in decline, or hazardous were noted at the time.

The tree inventory of the Fircrest Campus is grouped into two categories: specimen trees and tree groves. Specimen trees are categorized as trees of significant size or approximately significant size that are planted on site. Tree groves are larger groups of trees that may have been planted or generated naturally. They tend to have a mixture of sizes and species, and often a mature native canopy with invasive species in the understory. Tree groves are also defined by

a complex understory (versus grass or a planting bed for specimen trees). Understory species are listed in the comments section of the tree inventory for each grove. Constraints on the project timeline did not allow each tree in a tree grove to be measured. Instead, the species diversity was identified, and the dbh range was provided based on measurements taken of the high and low end of the spectrum of tree sizes. Tree groves receive one unique Tree ID Number, although they have multiple trees in each grove.

The final tree inventory spreadsheet (see Appendix B) shows the Tree ID Number, Species, Common Name, DBH, Significant Tree per City Standards (Yes or No), whether the tree species is native, nonnative, on the Washington State Noxious Weed Board's invasive monitor list or its invasive list, Tree Grove vs Tree Specimen, General Tree Health (Good, Fair, Poor), Risk of Physical Failure (Low, Medium, High), Location by Building Number, and Notes.[1]

Notes detail dead trees present, justifications for a "Fair" or "Poor" General Tree Health rating, or Risk of Physical Failure Rating of "Medium" or greater.

The Fircrest School Campus Master Plan project was put on hold, and the original tree inventory was not delivered to the City upon completion in 2018. The completed tree inventory and corresponding map (see Figure 2) reflects the health and size of significant species inventoried in 2018. Trees that have died, become damaged, grown into significant size per City standards, or have been removed since 2018 have not been noted.

[1] General Tree Health and Risk of Physical Failure refer to the Type 1 Tree Risk Assessment (TRAQ) standards set by the International Society of Arboriculture (ISA).

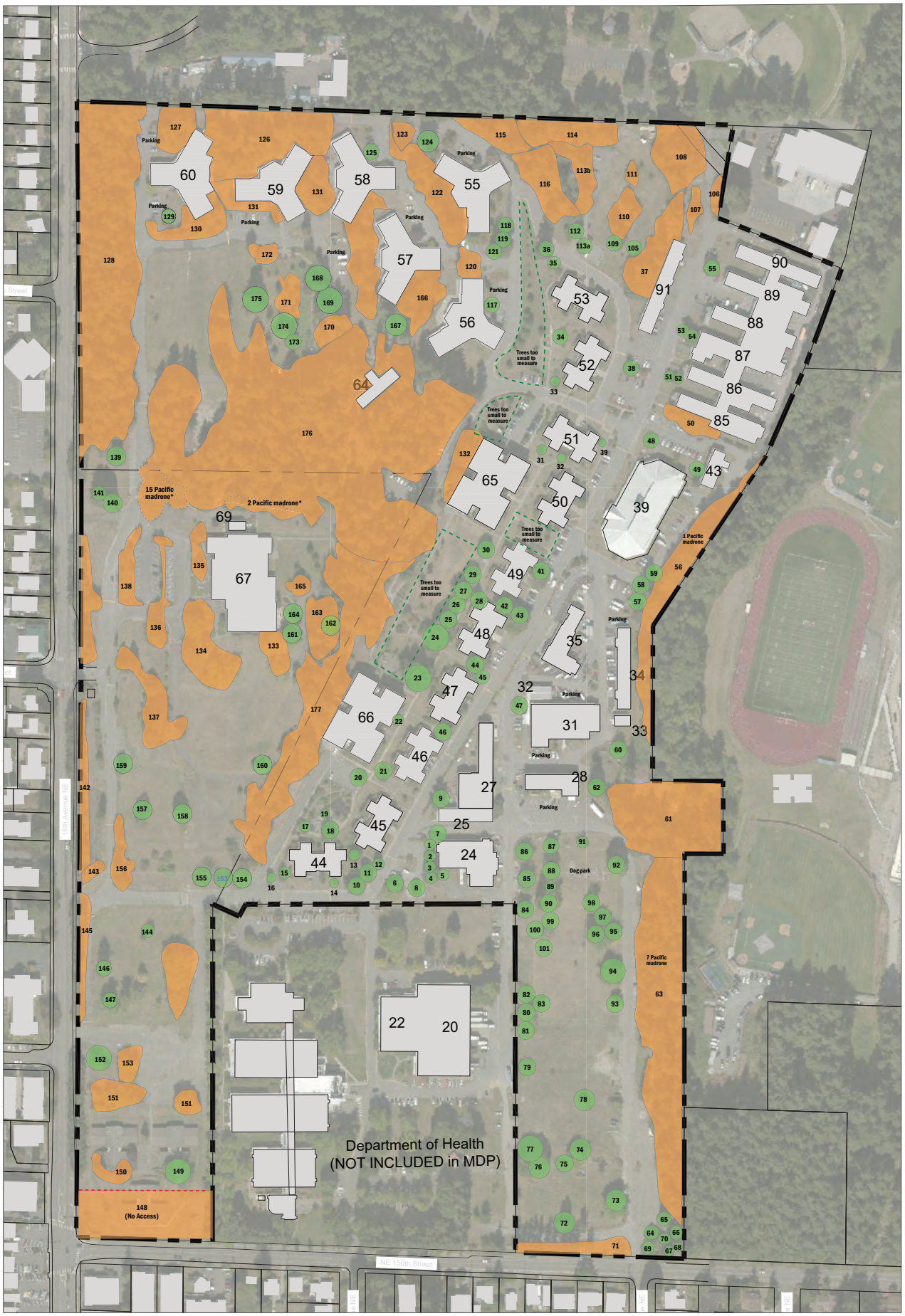


Figure 2. Fircrest Campus Tree Inventory – 2018.

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RESULTS

This section discusses the results of the site investigations, including a review of information obtained from various references, and an analysis of critical area conditions in the study area as observed during field investigations.

Analysis of Available Information

The available existing information compiled for the critical areas investigation is summarized in the following subsections.

Previously Mapped Wetlands and Streams

The National Wetlands Inventory (NWI) does not map any wetlands in the study area. NWI maps show West Hamlin Creek flowing under Northeast 160th Street from Hamlin Park to the north. West Hamlin Creek is then conveyed through pipes to the eastern boundary of the study area, where it joins with East Hamlin Creek and flows out of the study area to the south before joining the main Thornton Creek system south of the Shoreline city limits boundary (Tetra Tech 2004).

East Hamlin Creek is also mapped flowing through a mixed open channel conveyance and piped system on the eastern boundary of the study area. East Hamlin Creek collects drainage from primarily single-family residential areas before flowing south into Thornton Creek downstream of the study area (Tetra Tech 2004).

Fish Habitat Use

Based on WDFW's SalmonScape and PHS mapping, there is no fish use in West or East Hamlin Creek (WDFW 2022b, 2022c). SalmonScape mapping shows multiple fish passage barriers downstream of the study area, including multiple natural barriers due to excessive slopes for fish passage.

Wildlife Habitat Use

According to WDFW PHS data (WDFW 2022c), the Fircrest Campus is potential habitat for the little brown bat (*Myotis lucifugus*), similar to the entire Shoreline city limits. The little brown bat is one of the most common bat species in Washington and is found throughout forested habitats. The species is a habitat generalist and occurs most commonly in both conifer and hardwood forests and forest margins (WDFW 2022a).

The little brown bat is not federally regulated or regulated within Washington State. Critical roosting habitat preservation is encouraged, but not enforced. Critical roosting habitat per the WDFW are remnant forest patches, large snags, hollow trees, and large-diameter trees in areas that are heavily managed (i.e., the Fircrest Campus). As of the 2018 site visit, no critical little brown bat roost habitat was identified.

RESULTS OF FIELD INVESTIGATIONS

This section presents the results of the 2018 significant tree survey and wetland investigation, the 2022 FWHCA investigation, and the February 2022 geologic hazard investigation.

Wetlands

Herrera biologists found no evidence of hydrophytic vegetation or wetland hydrology during the site investigation and determined that no wetlands are present in the study area.

Fish and Wildlife Habitat Conservation Areas

Streams

The small segment of West Hamlin Creek that was not piped in the study area did not have any bed or bank characteristics and instead was observed to be a vegetated swale that conveys the stream flows from mapped piped stream segments to the north and south. A majority of the small segment of East Hamlin Creek that was not piped in the study area displayed characteristics consistent with those observed in West Hamlin Creek; however, a small segment of the vegetated swale appeared to have been maintained, resulting in bed and bank characteristics likely caused by human intervention, rather than by natural flow processes. Piped stream segments and segments without OHWM but that convey naturally occurring streams are regulated as FWHCAs per SMC 20.80.270(B)(5) and SMC 20.80.270(B)(5)(E). Stream conditions are summarized in Tables 1 and 2.

Table 1. Stream Summary Table—West Hamlin Creek.	
Stream Name	West Hamlin Creek
	Photo showing the non-piped section of West Hamlin Creek lacking OHWM at the northern boundary of the study area.
Local Jurisdiction	City of Shoreline
DNR Stream Type	Type Ns
Local Stream Rating	Type Ns
City of Shoreline Buffer Width	45-foot buffer on non-piped section, 10-foot buffer on piped sections
Documented Fish Use	No known fish use (WDFW 2022b and 2022c). Mapped natural barriers downstream.
Location of Stream Relative to Project Corridor	Stream flows south from Hamlin Park through the eastern portion of the study area. At the southeastern corner of the study area, West Hamlin Creek flows into East Hamlin Creek.
Riparian/Buffer Condition	The buffer in the northernmost portion of the study area where West Hamlin Creek is conveyed through an open channel consists of mature trees and a mowed, grassy understory. West Hamlin Creek is then conveyed through pipes that are within the paved development of the Fircrest School Campus.

Table 2. Stream Summary Table—East Hamlin Creek.	
Stream Name	East Hamlin Creek
	Photo showing the non-piped section of East Hamlin Creek lacking OHWM at the eastern boundary of the study area.
Local Jurisdiction	City of Shoreline
DNR Stream Type	Type Ns
Local Stream Rating	Type Ns
City of Shoreline Buffer Width	45-foot buffer on non-piped section, 10-foot buffer on piped sections
Documented Fish Use	No known fish use (WDFW 2022b, 2022c). Mapped natural barriers downstream.
Location of Stream Relative to Project Corridor	East Hamlin Creek flows south into the study area at its northeast corner. East Hamlin Creek flows south out of the study area at its southeast corner after joining with West Hamlin Creek.
Riparian/Buffer Condition	The buffer within the study area consists of narrow strips of managed, upland lawn. Beyond this vegetation, the buffer is comprised of paved surfaces associated with the buildings on the Fircrest School Campus.

Wildlife

During field reconnaissance, a large number of domesticated rabbits and raptors, predominantly red-tailed hawk (*Buteo jamaicensis*), were observed on site. It is probable the domesticated rabbits are feral offspring of pets. No other wildlife were observed during the site visit.

Significant Trees

The current tree canopy within the Fircrest Campus is a mixture of mature native tree species and ornamental species, many from the eastern United States. On average, trees within the project area were about 23 inches dbh in 2018. Most of the trees measured on site met the City of Shoreline definition of a significant tree.

Specimen Trees

Ornamental and native trees are located around each of the buildings and along the roadways, within the off-leash dog park, and within an open field along the southeastern portion of the campus. The predominant ornamental/specimen trees species are American sycamore *(Platanus occidentalis*), horse chestnut (*Aesculus hippocastanum*), Norway maple (*Acer platanoides*), sycamore maple (*Acer pseudoplatanus*), Port Orford cedar (*Chamaecyparis lawsoniana*), Northern red oak (*Quercus rubra*) and Scots pine (*Pinus sylvestris).*

Most specimen trees around the campus appear healthy and provide significant benefits to the look of the campus. A few specimen trees were dead or had obvious health problems. A few trees had experienced structural damage. Dead, damaged, or trees in decline were noted within the Notes section of the 2018 tree inventory.

Tree Groves

Tree Groves are predominantly along the edges of the property line, along with a large grove of trees around the Naval Hospital Chapel. Healthy, large stands of Pacific madrone (*Arbutus menziesii*) and mature native conifers such as Douglas fir (*Pseudotsuga menziesii*), Western white pine *(Pinus monticola*), Western hemlock (*Tsuga heterophylla*), Western redcedar (*Thuja plicata*) are prominent throughout. Other native species found within the tree groves are bigleaf maple (*Acer macrophyllum*), Ponderosa pine (*Pinus ponderosa*), quaking aspen (*Populus tremuloides*), black cottonwood (*Populus balsamifera* ssp *trichocarpa*), red alder (*Alnus rubra*), Pacific dogwood (*Cornus nuttallii*), and bitter cherry (*Prunus emarginata*). Nonnative species found within the tree groves are Scots pine and horse chestnut. Species within the tree groves on the Washington State Noxious Species Board's list of Invasive of Invasive Monitor are Norway maple, English laurel (*Prunus laurocerasus*), and English holly (*Ilex aquifolium*).

Native species within the tree grove understory often consisted of bracken fern (*Pteridium aquilinum*), salal (*Gaultheria shallon*), Western swordfern (*Polystichum munitum*), dull Oregon grape (*Mahonia nervosa*), red huckleberry (*Vaccinium parvifolium*), Pacific blackberry (*Rubus*

ursinus), osoberry (*Oemleria cerasiformis*), beaked hazelnut (*Corylus cornuta*), common snowberry (*Symphoricarpos albus*) and small native tree saplings.

Invasive understory species within the tree groves are: Himalayan blackberry (*Rubus armeniacus*), common hawthorn (*Crataegus monogyna*), English ivy (*Hedera helix*), English holly, and herb Robert, (*Geranium robertianum*), English laurel, creeping buttercup (*Ranunculus repens*), field bindweed (*Convolvulus arvensis*), and Norway maple saplings.

Landslide and Erosion Hazard Assessment

A complete description of the landslide and erosion hazard assessment is included in Appendix A of this report. This assessment indicated that the study area does not include a Landslide Hazard Area. The study area is anticipated to have a slight to moderate potential for erosion and Best Management Practices for erosion control should be applied to limit the risk of offsite transport of sediment during construction.

Regulatory Implications

Critical areas are subject to a variety of federal, state, and local regulations that will apply to any future activities planned for the project. Federal laws regulating wetlands and streams include Sections 404 and 401 of the Clean Water Act (United States Code, Title 33, Chapter 1344 and 1251 [33 USC 1344 and 1251]) and the Navigable Waters Protection Rule (33 Code of Federal Regulations [CFR] Part 328). Washington State laws and programs designed to control the loss of wetland acreage include the State Environmental Policy Act (SEPA) and Section 401 of the Clean Water Act (administered in the State of Washington by the Washington State Department of Ecology [Ecology], as mandated by the Washington State Water Pollution Control Act). In addition, Washington State laws include the state Hydraulic Code (Washington Administrative Code [WAC] 220-110). SMC 20.80 specifies wetland categories, required wetland buffer widths, development standards, and wetland mitigation requirements for critical areas in its jurisdiction. Federal, state, and county regulations require mitigation for impacts on wetlands and streams.

Clean Water Act Sections 404 and 401

The project is not anticipated to require Section 404 or 401 permitting because there are no anticipated direct impacts to a water of the United States.

Section 404 of the federal Clean Water Act regulates the placement or removal of soil or other fill, grading, or alteration (hydrologic or vegetative) in waters of the United States, including wetlands and streams (33 USC 1344). The Seattle District of the US Army Corps of Engineers (USACE) administers the permitting program under the act. The permits include nationwide (general) permits for projects involving small areas of fill, grading or alteration and individual permits for projects that require larger areas of wetland disturbance. USACE does not regulate wetland buffers.

Section 401 of the Clean Water Act requires that proposed dredge (removal) and fill activities permitted under Section 404 be reviewed and certified to ensure that such activities meet state water quality standards. State 401 certification is administered by Ecology for all Section 404 permits. State 401 certification is granted without the need for a separate permit from Ecology for projects that qualify for a Section 404 nationwide permit, meet specific 401 certification conditions of the nationwide permit, and meet Ecology 401 General Conditions. If that is not the case, an Individual 401 Water Quality Certification permit is required by Ecology.

Washington State Laws

The project is not anticipated to require a Hydraulic Project Approval (HPA) because there is no work proposed that will use, divert, obstruct, or change the natural flow or bed of any of the salt or fresh waters of the state.

Washington State laws and programs designed to control the loss of wetland acreage include SEPA and Section 401 of the Clean Water Act (a federal law that is implemented in the state by Ecology as noted above and as mandated by the Washington State Water Pollution Control Act).

The WDFW administers the Hydraulic Project Approval (HPA) program under the state Hydraulic Code (WAC 220-110), which was specifically designed to protect fish life. An HPA is required for projects that will use, divert, obstruct, or change the natural flow or bed of any of the salt or fresh waters of the state.

City of Shoreline Municipal Code

FWHCAs

The open conveyances are regulated as streams because they "are used to convey streams naturally occurring prior to construction" (SMC 20.80.270(5)). West and East Hamlin Creek convey flows in an area where historical aerial photographs indicate the presence of multiple streams (Tetra Tech 2004), indicating this system is part of a historical stream network that existed prior to human intervention in this area.

In accordance with the City of Shoreline, streams on the site were classified using the Washington State Department of Natural Resources water typing system based on WAC 222-16-030. This system is based primarily on fish, wildlife, and human use, and consists of four stream types: Type S, F, Np, or Ns. Type S streams are those surface waters that are inventoried as "Shorelines of the State" under the Shoreline Management Master Program for the City, pursuant to Revised Code of Washington (RCW) Chapter 90.58.030. Type F streams and water bodies are those known to be used by fish or meet the physical criteria to be potentially used by fish. Fish streams may or may not have flowing water all year; they may be perennial or seasonal. Physical criteria for fish use include stream segments having a defined channel of 2 feet or greater within the bankfull width in Western Washington; and having a gradient of

16 percent or less. Type Np streams have flow year-round and may have spatially intermittent dry reaches downstream of perennial flow. Type Np streams do not meet the physical criteria of a Type F stream and have been proven not to contain fish. Type Ns streams do not have surface flow during at least some portion of the year, and do not meet the physical criteria of a Type F stream.

The piped segments of these streams are afforded a 10-foot standard buffer width and the open conveyances are afforded a 45-foot standard buffer width per SMC 20.80.280(C)(1). Per SMC 20.80.280(D)(7), areas that are functionally isolated and physically separated from streams due to existing, legally established roadways or paved areas 8 feet or more in width shall be considered physically isolated and functionally separated stream buffers. Development proposals are allowed in these areas as approved by the City of Shoreline. Mitigation will be required for impacts to stream buffers that are not physically separated or functionally isolated from West and East Hamlin Creek (Figure 3).

Significant Trees

The City of Shoreline defines a significant tree as 8 inches in diameter or larger for evergreen conifers, and 12 inches in diameter for other trees. The City's tree regulations, SMC 20.50.290–370 Significant Sized Trees, state that "up to six significant trees may be removed during a 3-year period based on the parcel sizes below. Trees over 30 inches in diameter (94.2" in circumference) are not exempt and will need a permit to remove." Trees that are dead, a high risk, or dying may be removed as they are not counted as a significant tree. Critical root zones (CRZs) of each tree that remains must be protected during the length of construction; and prior to construction, an arborist must approve a tree protection plan.

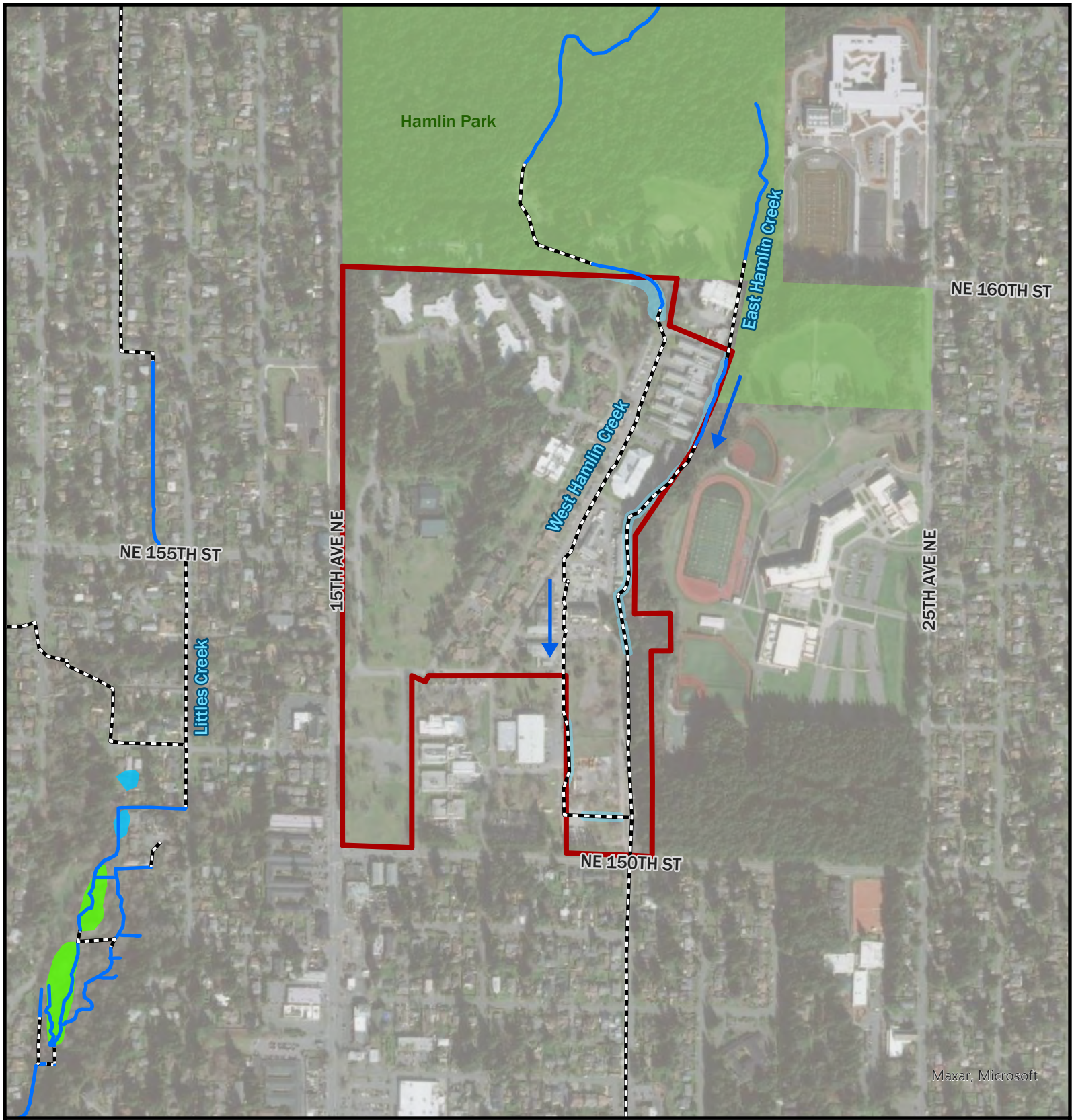
Per City of Shoreline code, landscaping credit may be given for significant trees retained, especially if trees that provide screening, habitat, buffering, or extend canopy coverage are maintained.

City of Shoreline Replacement Requirements (SMC 20.50.360.D) for all significant trees removed on site are as follows: One existing significant tree of 8 inches in diameter at breast height for conifers or 12 inches in diameter at breast height for all others equals one new tree.

1. Each additional 3 inches in diameter at breast height equals one additional new tree, up to three trees per significant tree removed.

2. Minimum size requirements for replacement trees under this provision: Deciduous trees shall be at least 1.5 inches in caliper and evergreens 6 feet in height.

Prior to the construction phase of the Master Plan, it is recommended that an updated tree survey be generated for all trees that will be removed. Tree sizes, health, and replacement ratios should be updated; and an in-depth analysis of all tree groves may be required per City code.



Legend

- Study Area
- Open Water Course
- Piped Water Course
- Flow Direction
- Stream Buffers
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Park

Figure 3.
Previously Mapped Wetlands and Streams in the Vicinity of the Study Area for the Fircrest School Master Plan.

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0 180 360 720
Feet

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Esri Imagery, City of Shoreline, USFWS

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APPENDIX A

Landslide and Erosion Hazard Assessment

South Sound Geotechnical Consulting

February 4, 2022

AHBL
2215 North 30th Street, Suite 200
Tacoma, Washington 98403-3350

Attention: Ms. Brittany Port

Subject: Landslide and Erosion Hazard Assessment
Fircrest School Master Plan
Shoreline, Washington
SSGC Project No. 22012

Ms. Port,

South Sound Geotechnical Consulting (SSGC) has prepared this landslide and erosion hazard assessment at the DSHS Fircrest School in Shoreline, Washington. Our services have been completed in general conformance with our proposal P21160 (dated December 21, 2021) and authorized per AHBL subconsultant agreement. Our scope of services included a site visit, review of available geologic, soil, topographic, and geologic hazard maps, and preparation of this report.

PROJECT INFORMATION

The project area is on the east side of the Fircrest campus. Construction of new residential cottages is planned in the central portion of the campus near the east boundary. This area is near the base of a west-facing slope that extends up to the ballfields of Shorecrest High School. We understand the City of Shoreline is requesting a landslide hazard assessment of the slope regarding future development plans.

DOCUMENT REVIEW

The following documents were reviewed as part of our assessment of this site:

- Shoreline Municipal Code (SMC).
- USGS "Geologic Map of Northeastern Seattle (Part of the Seattle North 7.5' x 15'Quadrangle), King County", 2009.
- USDA NRCS Soil Survey of King County Area, Washington.
- King County iMap System.
- Washington State DNR Geologic Information Portal Web Site.

Document Summary

Native soil on the west-facing slope have been classified on the referenced USGS map as Vashon Stade glacial till. Ice-contact deposits are mapped at the top of the slope on the Shorecrest High School grounds. Till is described as a compact diamict of silt, sand, and gravel deposited directly under the last advancing glacial ice-sheet.

Native soil on the slope is mapped as "Alderwood gravelly sandy loam" per the USDA Soil Conservation Service map of King County. Alderwood soils reportedly formed in glacial till/drift.

Slopes on the property are not shown as having landslide susceptibility on the DNR Geologic Information portal or King County iMap system. Portions of the slope in the northern side of the Fircrest campus are shown on the King County iMap system as a potential soil erosion hazard. The slope near the planned cottages is not mapped as an erosion hazard.

Topography of the west-facing slope shows an elevation change of about 50 feet per King County GIS topographic information. Average slope inclination is on the order of 30 to 35 percent.

SITE CONDITIONS

SSGC completed a reconnaissance of the west-facing slope on February 1, 2022. Site observations include:

- The west-facing slope is vegetated with a mixture of young and mature deciduous and conifer trees with an understory of vines, ferns, grasses, and brush. Mature fir trees exhibited generally straight trunks.

- A drainage ditch and culvert system is at the base of the slope. North of the planned cottage building area, the lower portion of the slope above the ditch has been previously graded to a near vertical cut-face. Exposed soils in the cut-face appeared to be glacial till. No excessive erosion or evidence of slope movement was observed in the cut-face.

- A rockery extends across a portion of the slope base on the east side of the existing parking lot. The tallest portion of the rockery is on the order of 7 (+/-) feet tall. No evidence of deformation (e.g. bulging of rocks) was observed.

- Evidence of recent slope movement (such as slumps, slides, tension cracks, head scarps, etc.) was not observed on the slope.

- No evidence of excessive erosion was observed on the slope.

- The presence of seeps or springs was not observed on the slope at the time of our site visit. Wet soil vegetation (such as horsetail, rushes, or other) was not observed on or at the base of the slope.

GEOLOGIC HAZARD AREAS DISCUSSION

Chapter 20.80.210 of the SMC addresses geologic hazards. Based upon our review of the referenced documents and our field observations, we offer the following statements regarding the geologic hazard areas as described in the SMC.

Landslide Hazard

The SMC utilizes landslide hazard indicators that include the combination of slope inclinations and heights, soil conditions, groundwater conditions, and surface expressions of past or ongoing slope movement. The west-facing slope has an average inclination between about 30 to 35 percent. Locally steeper cut-slopes have inclinations near vertical. No evidence of recent landslide activity was apparent on the slope or on neighboring properties at the time of our site visit.

Based on our site observations and document review, this parcel is not considered a Landslide Hazard Area. The slope appears to consist of dense, glacially consolidated till. We understand planned cottage development is west of the base of the slope and existing parking lot. Construction of the cottages should not adversely affect stability of the west-facing slope.

Erosion Hazard

Native soils are reported to have slight to moderate potential for erosion per the USDA Soil Conservation Service. Evidence of natural erosion was not observed on slopes during our site visit. Excessive erosion was not observed in graded cut slopes.

Regarding construction of the planned development, it is our opinion Best Management Practices (BMP) for erosion control (silt fencing, straw bales, etc) can be utilized such that the risk of off-site transport of sediment is limited during construction. Additional erosion control measures may be necessary if earthwork is scheduled during the wetter seasons. All erosion control provisions should follow City of Shoreline regulations to reduce the risk of off-site transport of sediments. Exposed soils following any construction should be vegetated as soon as possible. Irrigation should be minimized on or near slopes. Temporary and permanent stormwater control measures should prevent concentrated flow onto site slopes.

REPORT CONDITIONS

This letter has been prepared for the exclusive use of AHBL, Inc. for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices in the area. No warranties, either express or implied, are intended or made. The opinions and recommendations contained in this letter are based on surface and subsurface conditions observed during our February 1, 2022 site visit and the referenced documents. Should site conditions presented in this document change, or new information become available, the conclusions and recommendations contained herein shall not be considered valid unless SSGC reviews the new/revised information and either verifies or modifies the conclusions in writing. Additional geotechnical evaluations may be necessary based on future development of the site.

We appreciate the opportunity to work with you on this project. Please contact us if we can be of further assistance.

Respectfully,

South Sound Geotechnical Consulting

Timothy H. Roberts, P.E.
Member/Geotechnical Engineer

APPENDIX B

Tree Inventory

Fircrest Tree Survey – 2018

Tree ID Number	*Species*	Common Name	Diameter at Breast Height (DBH	Significant Tree?	Native, Nonnative, Invasive Monitor*, Invasive	Tree Grove	Tree Specimen	Health (Good, Fair, Poor)	Risk (Low, Medium, High)	Location (By Building [Blg] Number)	Notes
1	*Chamaecyparis lawsoniana*	Port Orford cedar	26.4	Y	N		x	G	L	Blg 24	
2	*Pseudotsuga menziesii*	Douglas fir	28	Y	N		x	G	L	Blg 24	
3	*Chamaecyparis lawsoniana*	Port Orford cedar	na	N	N		x	P	L/M	Blg 24	Dead, no obvious signs of decay
4	*Chamaecyparis lawsoniana*	Port Orford cedar	na	N	N		x	P	L/M	Blg 24	Dead, no obvious signs of decay
5	*Chamaecyparis lawsoniana*	Port Orford cedar	28.75	Y	N		x	G	L	Blg 24	Double leader
6	*Catalpa sp.*	Catalpa	33	Y	NN		x	G	L	Blg 24	Significant tree
7	*Acer japonica*	Japanese maple	17.5	Y	NN		x	G	L	Blg 24	
8	*Pinus sylvestris*	Scots pine	15.75	Y	NN		x	G	L	Blg 24	
9	*Pseudotsuga menziesii*	Douglas fir	26.5	Y	N		x	G	L	Blg 25	
10	*Aesculus hippocastanum*	Horse chestnut	23.5	Y	NN		x	G	L	Blg 44	Invasive species in WA
11	*Liquidambar styraciflua*	Sweetgum	21	Y	NN		x	G	L	Blg 44	
12	*Chamaecyparis lawsoniana*	Port Orford cedar	18	Y	N		x	G	L	Blg 44	
13	*Acer platanoides*	Norway maple	14.75	Y	IM		x	G	L	Blg 44/45	Species of concern in WA
14	*Juniperus sp.*	Cultivar juniper	11	N	NN		x	G	L	Blg 44	Cultivar unknown
15	*Cedrus atlantica* 'Glauca'	Blue Atlas cedar	22	Y	NN		x	G	L	Blg 44	
16	*Chamaecyparis obtusa*	Hinoki cypress	19.5	Y	NN		x	G	L	Blg 44	Double leader
17	*Chamaecyparis lawsoniana*	Port Orford cedar	18.25	Y	N		x	G	L	Blg 44 (Garden)	Double leader
18	*Acer pseudoplatanus*	Sycamore maple	21	Y	NN		x	G	L	Blg 44 (Garden)	
19	*Metasequoia glyptostroboides*	Dawn redwood	15	Y	NN		x	G	L	Blg 44 (Garden)	
20	*Acer pseudoplatanus*	Sycamore maple	28.5	Y	NN		x	G	L	Blg 66	Triple leader, species of concern in WA
21	*Pinus sylvestris*	Scots pine	16	Y	NN		x	G	L	Blg 66	
22	*Acer circinatum*	Vine maple	30	Y	N		x	F	L	Blg 64	Quadruple leader; dieback on one leader
23	*Platanus occidentalis*	American sycamore	54	Y	NN		x	G	L	Blg 47	Significant tree
24	*Acer platanoides*	Norway maple	18.5	Y	IM		x	G	L	Blg 47/48	Species of concern in WA
25	*Platanus occidentalis*	American sycamore	45	Y	NN		x	G	L	Blg 48	Significant tree
26	*Acer pseudoplatanus*	Sycamore maple	20	Y	NN		x	G	L	Blg 48	Species of concern in WA
27	*Platanus occidentalis*	American sycamore	23	Y	NN		x	G	L	Blg 48/49	
28	*Pinus ponderosa*	Ponderosa pine	18	Y	N		x	G	L	Blg 48/49	
29	*Acer platanoides*	Norway maple	18	Y	IM		x	G	L	Blg 49	Species of concern in WA
30	*Acer platanoides*	Norway maple	20	Y	IM		x	G	L	Blg 49	Species of concern in WA
31	*Cedrus atlantica 'Glauca'*	Blue Atlas cedar	13.5	Y	NN		x	G	L	Blg 65/51	
32	*Prunus serrulata 'Kwanzan'*	Kwanzan cherry	15	Y	NN		x	F/P	L/M	Blg 51/50	Tree very stressed
33	*Pyrus calleryana*	Callery pear	14	Y	NN		x	G/F	L	Blg 52	Poor branch structure
34	*Cedrus atlantica 'Glauca'*	Blue Atlas cedar	13.5	Y	NN		x	G	L	Blg 53	
35	*Pseudotsuga menziesii*	Douglas fir	20	Y	N		x	G	L	Blg 53	
36	*Pseudotsuga menziesii*	Douglas fir	37	Y	N		x	G	L	Blg 53	

Fircrest Tree Survey – 2018											
Tree ID Number	***Species***	**Common Name**	**Diameter at Breast Height (DBH**	**Significant Tree?**	**Native, Nonnative, Invasive Monitor*, Invasive**	**Tree Grove**	**Tree Specimen**	**Health (Good, Fair, Poor)**	**Risk (Low, Medium, High)**	**Location (By Building [Blg] Number)**	**Notes**
37	*Populus balsamifera ssp. trichocarpa*	Black cottonwood	13–20	Y	N	x		G	L	Blg 91	Understory: Natives: *Gaultheria shallon, Pteridium aquilinum, Mahonia nervosa, Rubus ursinus, Tsuga heterophylla* Invasives: *Hedera helix, Ilex aquifolium, Rubus armeniacus* , *Crataegus monogyna, Prunus*
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Acer platanoides	Norway maple		Y	IM						
	Arbutus menziesii	Pacific madrone		Y	N						
	Tsuga heterophylla	Western hemlock		Y	N						
	Thuja plicata	Western redcedar		Y	N						
38	*Pinus monticola*	Western white pine	12.5	Y	N		x	G	L	Blg 91 Parking area	
39	*Picea pungens*	Colorado blue spruce	9	N	NN		x	G	L	Blg 51	
40	*Cedrus deodara*	Deodar cedar	28	Y	NN		x	G	L	Blg 50	
41	*Acer rubrum*	Red maple	32	Y	NN		x	P	M	Blg 49	Mostly dead. Recommend removal.
42	*Platanus occidentalis*	American sycamore	41	Y	NN		x	G	L	Blg 49/48	Significant tree
43	*Platanus occidentalis*	American sycamore	39	Y	NN		x	G	L	Blg 49/48	Significant tree
44	*Acer platanoides*	Norway maple	22.5	Y	IM		x	G	L	Blg 48	Species of concern in WA
45	*Acer pseudoplatanus*	Sycamore maple	19	Y	NN		x	G	L	Blg 47	
46	*Acer pseudoplatanus*	Sycamore maple	22	Y	NN		x	G	L	Bldg 47/46	
47	*Aesculus hippocastanum*	Horse chestnut	15.5	Y	NN		x	G	L	Bldg 32/31	Invasive species in WA
48	*Prunus serrulata 'Kwanzan'*	Kwanzan cherry	15	Y	NN		x	G	L	Blg 39	
49	*Prunus serrulata 'Kwanzan'*	Kwanzan cherry	11	Y	NN		x	G	L	Blg 39	
50	*Acer platanoides*	Norway maple	14–25	Y	IM	x		G	L	Blg 85	9 trees total, 1 large beaked hazelnut shrub (*Corylus cornuta*) also in the grove.
	Acer platanoides	Norway maple		Y	IM						
	Acer platanoides	Norway maple		Y	IM						
	Acer platanoides	Norway maple		Y	IM						
	Acer platanoides	Norway maple		Y	IM						
	Aesculus hippocastanum	Horse chestnut		Y	NN						
	Aesculus hippocastanum	Horse chestnut		Y	NN						
	Malus spp.	Fruiting apple		Y	NN						
	Pyrus calleryana	Callery pear		N	NN						
51	*Ilex aquifolium*	English holly	~30	Y	IM		x	G	L	Blg 85	Invasive species in WA. Many leader tree
52	*Ilex aquifolium*	English holly	~30	Y	IM		x	G	L	Blg 85	Invasive species in WA. Many leader tree
53	*Acer platanoides*	Norway maple	18	Y	IM		x	G/F	L	Blg 85/86	Species of concern in WA
54	*Aesculus hippocastanum*	Horse chestnut	20	Y	NN		x	G	L	Blg 85/86	Invasive species in WA
55	*Acer platanoides*	Norway maple	19.5	Y	IM		x	G	L	Blg 89/90	Species of concern in WA
56	*Acer platanoides*	Norway maple	8–15	N	IM	x		G	L	Edge of property along Blg 34–39	Understory: *Rubus armeniacus, Hedera helix, Mahonia nervosa, Prunus laurocerasus, Gaultheria shallon, Symphoricarpos albus, Polystichum munitum, Thuja plicata* (sapling), *Geranium robertianum*
	Acer pseudoplatanus	Sycamore maple		N	NN						
	Aesculus hippocastanum	Horse chestnut		Y	NN						
	Arbutus menziesii	Pacific madrone		Y	N						
	Picea spp.	Spruce		Y	NN						
	Pseudotsuga menziesii	Douglas fir		Y	N						

Fircrest Tree Survey – 2018											
Tree ID Number	***Species***	**Common Name**	**Diameter at Breast Height (DBH**	**Significant Tree?**	**Native, Nonnative, Invasive Monitor*, Invasive**	**Tree Grove**	**Tree Specimen**	**Health (Good, Fair, Poor)**	**Risk (Low, Medium, High)**	**Location (By Building [Blg] Number)**	**Notes**
57	*Pseudotsuga menziesii*	Douglas fir	26	Y	N		x	G	L	Blg 39 edge	
58	*Pseudotsuga menziesii*	Douglas fir	31	Y	N		x	G	L	Blg 39 edge	
59	*Pseudotsuga menziesii*	Douglas fir	28	Y	N		x	G	L	Blg 39 edge	
60	*Acer macrophyllum*	Bigleaf maple	30	Y	N		x	G	L		
61	*Acer platanoides*	Norway maple	12–35	Y	IM	x		G	L	Edge of property adjacent to Blg 28	Understory: *Rubus armeniacus, Convolvulus arvensis, Ranunculus repens, Pteridium aquilinum, Geranium robertianum, Epilobium ciliatum, Hedera helix, Rumex crispus*
	Acer pseudoplatanus	Sycamore maple		Y	NN						
	Aesculus hippocastanum	Horse chestnut		Y	NN						
	Arbutus menziesii	Pacific madrone		Y	N						
	Prunus emarginata	Bitter cherry		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Thuja plicata	Western hemlock		Y	N						
62	*Pseudotsuga menziesii*	Douglas fir	14	Y	N		x	G	L	Blg 28	
63	*Acer macrophyllum*	Bigleaf maple	8–35	Y	N	x				Edge of property adjacent to open field	Multistem madrones. Some are partially dead. Madrones ~14" dbh. Understory: *Symphoricarpos albus, Rubus armeniacus, Rubus ursinus, Ilex aquifolium, Dactylis glomerata, Hedera helix, Mahonia nervosa, Crataegus monogyna, Mahonia aquifoium, Plantago lanceolata*
	Alnus rubra	Red alder		Y	N						
	Arbutus menziesii	Pacific madrone		Y	N						
	Arbutus menziesii	Pacific madrone		Y	N						
	Arbutus menziesii	Pacific madrone		Y	N						
	Arbutus menziesii	Pacific madrone		Y	N						
	Cornus nuttalli	Pacific dogwood		Y	N						
	Cornus nuttalli	Pacific dogwood		Y	N						
	Cornus nuttalli	Pacific dogwood		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Thuja plicata	Western redcedar		Y	N						
64	*Thuja plicata*	Western redcedar	28.5	Y	N		x	G	L	Parking lot in south	
65	*Ilex aquifolium*	English holly	19	Y	IM		x	G	L		Double leader. Invasive species in WA.
66	*Ilex aquifolium*	English holly	20	Y	IM		x	G	L		Double leader. Invasive species in WA.
67	*Pseudotsuga menziesii*	Douglas fir	26	Y	N		x	G	L		
68	*Arbutus menziesii*	Pacific madrone	12	Y	N		x	G	L		Significant tree
69	*Alnus rubra*	Red alder	40	Y	N		x	G	L		~7 leaders
70	*Prunus emarginata*	Bitter cherry	30	Y	N		x	G	L		~6 leaders, thicket

Fircrest Tree Survey – 2018											
Tree ID Number	*Species*	Common Name	Diameter at Breast Height (DBH	Significant Tree?	Native, Nonnative, Invasive Monitor*, Invasive	Tree Grove	Tree Specimen	Health (Good, Fair, Poor)	Risk (Low, Medium, High)	Location (By Building [Blg] Number)	Notes
71	*Pseudotsuga menziesii*	Douglas fir	~20	Y	N	x		G	L		10 Douglas fir and 1 Western redcedar in grove. Understory: *Ilex aquifolium, Juniperus* sp (shrub), *Acer platanoides* (sapling), ornamental rose
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Thuja plicata	Western redcedar		Y	N						
72	*Populus balsamifera ssp. trichocarpa*	Black cottonwood	18	Y	N		x	G/F	L		Suckering at base
73	*Platanus occidentalis*	American sycamore	39	Y	NN		x	G	L		Significant tree
74	*Platanus occidentalis*	American sycamore	24	Y	NN		x	G	L		Some dead branches. Recommend pruning.
75	*Prunus serrulata 'Kwanzan'*	Kwanzan cherry	15	Y	NN		x	F	L		Overtaken by Himalayan blackberry
76	*Quercus rubra*	Northern red oak	30	Y	NN		x	G	L		
77	*Platanus occidentalis*	American sycamore	~80	Y	NN		x	G	L		4 leaders
78	*Prunus serrulata 'Kwanzan'*	Kwanzan cherry	24	Y	NN		x	G/F	L		Drought stress, some dieback
79	*Acer pseudoplatanus*	Sycamore maple	22	Y	NN		x	F	L		Branch dieback
80	*Platanus occidentalis*	American sycamore	28	Y	NN		x	G	L		
81	*Ulmus spp.*	Elm	25	Y	NN		x	F	L		Dieback on the crown. Surrounded by dense invasive species.
82	*Aesculus hippocastanum*	Horse chestnut	17.5	Y	NN		x	F	L		Dieback on the crown.
83	*Acer pseudoplatanus*	Sycamore maple	28	Y	NN		x	G	L		Multistem
84	*Acer platanoides*	Norway maple	22	Y	IM		x	G	L		
85	*Acer pseudoplatanus*	Sycamore maple	25	Y	NN		x	G/F	L		Some crown dieback
86	*Acer pseudoplatanus*	Sycamore maple	35	Y	NN		x	G	L		Multistem
87	*Acer pseudoplatanus*	Sycamore maple	40	Y	NN		x	G	L		7 leaders
88	*Acer pseudoplatanus*	Sycamore maple	35	Y	NN		x	G	L		6 leaders
89	*Acer pseudoplatanus*	Sycamore maple	15	Y	NN		x	G	L		2 leaders
90	*Acer pseudoplatanus*	Sycamore maple	35	Y	NN		x	G	L		5 leaders
91	*Aesculus hippocastanum*	Horse chestnut	17	Y	NN		x	G	L		Invasive species in WA.
92	*Acer macrophyllum*	Bigleaf maple	39	Y	N		x	G	L		3 leaders
93	*Aesculus hippocastanum*	Horse chestnut	17	Y	NN		x	G	L	Located in dog park.	Invasive species in WA.

Fircrest Tree Survey – 2018											
Tree ID Number	***Species***	**Common Name**	**Diameter at Breast Height (DBH**	**Significant Tree?**	**Native, Nonnative, Invasive Monitor*, Invasive**	**Tree Grove**	**Tree Specimen**	**Health (Good, Fair, Poor)**	**Risk (Low, Medium, High)**	**Location (By Building [Blg] Number)**	**Notes**
94	*Platanus occidentalis*	American sycamore	38	Y	NN		x	G	L	Located in dog park.	
95	*Aesculus hippocastanum*	Horse chestnut	18.5	Y	NN		x	G	L	Located in dog park.	Invasive species in WA.
96	*Quercus rubra*	Northern red oak	24.5	Y	NN		x	G/F	L	Located in dog park.	Small branch dieback
97	*Quercus rubra*	Northern red oak	24	Y	NN		x	G/F	L	Located in dog park.	Small branch dieback. Recommend pruning to reduce risk of branches falling in dog park.
98	*Platanus occidentalis*	American sycamore	20	Y	NN		x	G	L	Located in dog park.	
99	*Platanus occidentalis*	American sycamore	34	Y	NN		x	G	L	Located in dog park.	
100	*Chamaecyparis lawsoniana*	Port Orford cedar	26	Y	N		x	G	L	Located in dog park.	
101	*Chamaecyparis lawsoniana*	Port Orford cedar	26	Y	N		x	F	L	Located in dog park.	Interior branches are dead (close to other tree)
102–104	*Missed using these numbers in the field*										
105	*Thuja plicata*	Western redcedar	24	Y	N		x	G	L		
106	*Acer platanoides*	Norway maple	32	Y	IM	x		G	L	NE Corner of the property	
	Acer platanoides	Norway maple	12.5–30	Y	IM						
	Chamaecyparis cultivar	Yellow-leaved cypress		Y	NN						
	Picea sylvestris	Scots pine		Y	NN						
	Prunus emarginata	Bitter cherry		Y	N						
107	*Ilex aquifolium*	English holly	~18–23	Y	IM	x		G	L	NE Corner of the property	Understory: *Corylus cornuta, Pteridium aquilinum, Gaultheria shallon*
	Pinus monticola	Western white pine		Y	N						
	Pinus sylvestris	Scots pine		Y	NN						
	Prunus emarginata	Bitter cherry		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
108	*Acer platanoides*	Norway maple	~18–27	Y	IM	x		G	L	NE Corner of the Property	Understory: *Rubus armeniacus, Pteridium aquilinum*
	Arbutus menziesii	Pacific madrone		Y	N						
	Crataegus monogyna	Common hawthorn		Y	I						
	Pseudotsuga menziesii	Douglas fir		Y	N						
109	*Arbutus menziesii*	Pacific madrone	23	Y	N		x	G	L		
110	*Pseudotsuga menziesii*	Douglas fir	10	N	N		x	G	L		
	Pinus ponderosa	Ponderosa pine	25-Nov	Y	N		x	G	L	Back strip along road	Understory: *Rubus ursinus, Hedera helix, Rubus armeniacus, Gaultheria shallon, Oemleria cerasiformis*
111	*Acer platanoides*	Norway maple	12–30	Y	IM	x		G	L		
	Thuja plicata	Western redcedar		Y	N						

Fircrest Tree Survey – 2018											
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112	*Tsuga heterophylla*	Western hemlock	20	Y	N		x	G	L		
113a	*Pseudotsuga menziesii*	Douglas fir	32	Y	N	x		G	L		Duplicate entry of 113 in the field. Have been
113b	*Thuja plicata*	Western redcedar	36.5	Y	N	x		G	L		Duplicate entry of 113 in the field. Have been relabeled as 113a and 113b to differentiate groups.
	Pinus monticola	Western white pine	20–36	Y	N			G	L		
	Alnus rubra	Red alder		Y	N			G	L		
114	*Arbutus menziesii*	Pacific madrone	22	Y	N	x		G	L	Back fence	Understory: *Gaultheria shallon*
	Thuja plicata	Western redcedar	12+	Y	N			G	L		
	Pinus ponderosa	Ponderosa pine		Y	N			G	L		
115	*Thuja plicata*	Western redcedar	15–24	Y	N	x		G	L	Woodshed area	Understory: *Vaccinium parvifolium, Pteridium aquilinum, Mahonia nervosa, Polystichum*
	Tsuga heterophylla	Western hemlock		Y	N						
116	*Arbutus menziesii*	Pacific madrone	8–25	Y	N	x		G	L		Understory: *Mahonia nervosa, Gaultheria shallon*
	Ilex aquifolium	English holly		N	IM						
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Thuja plicata	Western redcedar		Y	N						
	Tsuga heterophylla	Western hemlock		Y	N						
117	*Cedrus deodara*	Deodar cedar	20	Y	NN		x	G	L		
118	*Tsuga heterophylla*	Western hemlock	25	Y	N		x	G	L		
119	*Pseudotsuga menziesii*	Douglas fir	25	Y	N		x	G	L		
120	*Pinus monticola*	Western white pine	9–14	Y	N	x		G/F	L	North of Blg 56	Planted too close together and scraggly
	Pinus monticola	Western white pine		N	N						
	Pinus monticola	Western white pine		N	N						
	Pinus monticola	Western white pine		N	N						
	Pinus monticola	Western white pine		Y	N						
121	*Pinus sylvestris*	Scots pine		Y	NN						
122	*Acer platanoides*	Norway maple	14–25	Y	IM	x				West of Blg 55	About 35 trees. Understory: *Gaultheria shallon, Pteridium aquilinum*
	Populus balsamifera ssp. trichocarpa	Black cottonwood		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
123	*Arbutus menziesii*	Pacific madrone		Y	N	x				NW of BLg 55	Understory: *Gaultheria shallon*
	Pinus sylvestris	Scots pine		Y	NN						
	Pseudotsuga menziesii	Douglas fir			N						
124	*Pinus sylvestris*	Scots pine	30	Y	NN		x	G	L		Around 10 leaders
125	*Prunus serrulata 'Kwanzan'*	Kwanzan cherry	15	Y	NN						
126	*Alnus rubra*	Red alder	~8–28	N	N	x				NW of BLg 59	Madrones are in good condition. Large conifers. Understory: *Gaultheria shallon, Pteridium aquilinum*
	Arbutus menziesii	Pacific madrone		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Thuja plicata	Western redcedar		Y	N						

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127	*Arbutus menziesii*	Pacific madrone	~8–25	Y	N	x		F/P	M	North of Blg 60	Pines not doing well. Branch dieback around 30' up. Very large madrone.
	Pinus monticola	Western white pine		Y	N						
128	*Acer macrophyllum*	Bigleaf maple	~8–25	Y	N	x		G	L	Many large ARME at the base of the hill	Understory: *Crataegus monogyna, Rubus armeniacus, Pteridium aquilinum, Gaultheria shallon, Prunus laurocerasus*
	Aesculus hippocastanum	Horse chestnut		N	NN						
	Arbutus menziesii	Pacific madrone		Y	N						
	Ilex aquifolium	English holly		N	IM						
	Pinus monticola	Western white pine		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Thuja plicata	Western redcedar		Y	N						
	Tsuga heterophylla	Western hemlock		Y	N						
129	*Prunus laurocerasus*	English laurel	24	N	IM		x				4 leaders. Invasive species.
130	*Cercis canadensis*	Eastern redbud	12	Y	NN	x		G/F	L	South of Blg 60	1 dead, 4 live POTR.
	Picea pungens	Colorado blue spruce		Y	NN						
	Populus tremuloides	Quaking aspen		Y	N						
	Pseudotsuga menziesii	Douglas fir	~31	Y	N						
131	*Arbutus menziesii*	Pacific madrone	~10–30+	Y	N	x		G	L		
	Pinus monticola	Western white pine		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
132	*Arbutus menziesii*	Pacific madrone	~15–30	Y	N	x		G	L	Blg 65	Adjacent to the largest grove (176). No understory.
	Pinus monticola	Western white pine		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Thuja plicata	Western redcedar		Y	N						
133	*Acer pseudoplatanus*	Sycamore maple	8–22	N	NN	x				Field	Maple is dead
	Aesculus hippocastanum	Horse chestnut		N	NN						
	Platanus occidentalis	American sycamore		Y	NN						
	Thuja plicata	Western redcedar		Y	N						
134	*Quercus rubra*	Northern red oak	27.5	Y	NN		x			Field	
	Platanus occidentalis	American sycamore	12–24	Y	NN		x			Field	
135	*Platanus occidentalis*	American sycamore	25	Y	NN						
	Acer platanoides 'Crimson King'	Crimson King Norway maple	20	Y	IM						
	Pinus sylvestris	Scots pine	21	Y	NN						
	Pinus ponderosa	Ponderosa pine	20	Y	N						
136	*Abies concolor*	White fir	12	Y	NN		x	F/P	L	Planting median	Declining
	Pinus strobus	Eastern white pine	15	Y	NN	x		G	L	Planting median	4 trees
137	*Arbutus menziesii*	Pacific madrone	12	Y	N		x	G	L		
	Betula pendula	Weeping silver birch	12	Y	NN		x	G	L		
	Betula pendula	Weeping silver birch	12	Y	NN		x	G	L		
	Pinus monticola	Western white pine	24–30	Y	N	x		G	L		3 trees

Fircrest Tree Survey – 2018										
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138	*Pinus sylvestris*	Scots pine	11.5	N	NN		x	G	L	Parking median	
	Pinus sylvestris	Scots pine	11	N	NN		x	G	L		
	Pinus sylvestris	Scots pine	11	N	NN		x	G	L		
139	*Pinus contorta*	Shore pine	24	Y	N		x	F/P	L/M		Declining
140	*Chamaecyparis lawsoniana*	Port Orford cedar	20	Y	N			G	L	Little grove	
141	*Pinus monticola*	Western white pine	38	Y	N		x	G	L		
142	*Pseudotsuga menziesii*	Douglas fir	~8–25	N/Y	N	x		G	L		18 trees
	Aesculus hippocastanum	Horse chestnut	~22–24	Y	NN	x		G	L		3 trees
143	*Liquidambar styraciflua*	Sweetgum	22	Y	NN		x	G	L		
	Pinus ponderosa	Ponderosa pine	25	Y	N		x	G	L		
144	*Pinus ponderosa*	Ponderosa pine	26	Y	N		x	G	L		
145	*Acer macrophyllum*	Bigleaf maple	23	Y	N		x	G	L	Edge hedge	
	Acer macrophyllum	Bigleaf maple	30+	Y	N	x		G	L		4 trees
	Aesculus hippocastanum	Horse chestnut	20	Y	NN		x	G	L		Invasive species in WA
	Platanus occidentalis	American sycamore	15	Y	NN		x	G	L		
	Pseudotsuga menziesii	Douglas fir	12–25	Y	N	x		G	L		40+ trees
146	*Thuja plicata*	Western redcedar	18	Y	N		x	G	L		
147	*Aesculus hippocastanum*	Horse chestnut	16	Y	NN		x	G	L		Invasive species in WA
148	*Abies sp.*	Fir	24	Y	N		x	F	L	No access, end of site	Declining
	Acer platanoides 'Crimson King'	Crimson King Norway maple	15	Y	IM		x	G	L		1 dead tree in 148 grove
	Aesculus hippocastanum	Horse chestnut		Y	N		x	G	L		
	Betula pendula	European white birch		Y	N		x	G	L		
	Pinus monticola	Western white pine		Y	N		x	G	L		
	Platanus occidentalis	American sycamore	26.5	Y	NN		x	G	L		Significant tree, 3 trees total
149	*Platanus occidentalis*	American sycamore	41.5	Y	NN		x	G	L		Significant tree
150	*Acer pseudoplatanus*	Sycamore maple		Y	NN	x		G	L		13 total
	Aesculus hippocastanum	Horse chestnut	12	Y	NN		x	G	L		
	Platanus occidentalis	American sycamore	26.5	Y	NN		x	G	L		Significant tree
	Ulmus spp.	Elm		Y	NN		x	F/P	L		Dead leader, declining
151	*Acer rubrum*	Red maple	33	Y	NN		x	G	L		
	Platanus occidentalis	American sycamore	14	Y	NN		x	G/F	L		Branch dieback
	Platanus occidentalis	American sycamore	30	Y	NN		x	G	L		
	Platanus occidentalis	American sycamore	30	Y	NN		x	G	L		
	Quercus rubra	Northern red oak	22	Y	NN		x	G/F	L		Branch dieback
152	*Betula pendula*	European white birch	15	Y	NN		x	G	L		
153	*Pseudotsuga menziesii*	Douglas fir	13	Y	N		x	G	L	at stairs	
	Arbutus menziesii	Pacific madrone	12	Y	N		x	G	L		
154	*Acer macrophyllum*	Bigleaf maple	30	Y	N		x	G	L		Understory: *Hedera helix, Cistus scoparius*
155	*Robinia pseudoacacia*	Black locust	28	Y	NN		x	G	L		Invasive species in WA

Fircrest Tree Survey – 2018										
Tree ID Number	***Species***	**Common Name**	**Diameter at Breast Height (DBH**	**Significant Tree?**	**Native, Nonnative, Invasive Monitor*, Invasive**	**Tree Grove**	**Tree Specimen**	**Health (Good, Fair, Poor)**	**Risk (Low, Medium, High)**	**Location (By Building [Blg] Number)**	**Notes**
156	*Aesculus hippocastanum*	Horse chestnut	16	Y	NN		x	G	L	lot	
	Arbutus menziesii	Pacific madrone	25	Y	N		x	G	L		
	Juniperus virginiana	Eastern red cedar	30	Y	NN		x	G	L		
	Malus spp.	Fruiting apple		N	NN		x	G	L		
	Pseudotsuga menziesii	Douglas fir	25	Y	N		x	G	L		
	Robinia pseudoacacia	Black locust		N	NN		x	G	L		
157	*Populus balsamifera ssp. trichocarpa*	Black cottonwood	~90	Y	N		x	G	L	retaining wall	
158	*Acer pseudoplatanus*	Sycamore maple	17	Y	NN		x	G	L		
159	*Pinus monticola*	Western white pine	26	Y	N		x	G	L		
160	*Acer macrophyllum*	Bigleaf maple	25	Y	N		x	G	L		
161	*Arbutus menziesii*	Pacific madrone	22	Y	N		x	G	L		
162	*Aesculus hippocastanum*	Horse chestnut	23	Y	NN		x	G	L		
163	*Pseudotsuga menziesii*	Douglas fir	9.5–10	N	N	x		G	L		4 trees
164	*Pseudotsuga menziesii*	Douglas fir	23	Y	N		x	G	L	Small path median	
165	*Thuja plicata*	Western redcedar	16–21	Y	N	x		G	L		7 trees
	Tsuga heterophylla	Western hemlock		Y	N						
166	*Pinus monticola*	Western white pine		Y	N	x		G	L		Understory: *Rubus armeniacus, Gaultheria shallon*
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Thuja plicata	Western redcedar		Y	N						
167	*Pseudotsuga menziesii*	Douglas fir	22	Y	N		x	G	L		
168	*Tsuga heterophylla*	Western hemlock	26.5	Y	N		x	G	L		
169	*Pinus monticola*	Western white pine	38	Y	N		x	G	L		
170	*Pseudotsuga menziesii*	Douglas fir	18–24	Y	N	x		G	L		3 trees
	Thuja plicata	Western redcedar	24	Y	N		x	G	L		
	Prunus serrulata 'Kwanzan'	Kwanzan cherry	19	Y	NN		x	G	L		
171	*Arbutus menziesii*	Pacific madrone	20	Y	N						
	Chamaecyparis lawsoniana	Port Orford cedar	20	Y	N						
	Chamaecyparis lawsoniana	Port Orford cedar	18	Y	N						
	Paulownia tomentosa	Princess tree	12	Y	NN		x				
	Pinus sylvestris	Scots pine	12	Y	NN						
	Pinus sylvestris	Scots pine	10	N	NN						
	Pseudotsuga menziesii	Douglas fir	12	Y	N	x					3 trees
	Thuja plicata	Western redcedar	41	Y	N						
	Tsuga heterophylla	Western hemlock	23	Y	N		x				
	Tsuga heterophylla	Western hemlock	37	Y	N		x				
	Zelkova serrata	Japanese zelkova	12	Y	NN		x	G	L		

Fircrest Tree Survey – 2018											
Tree ID Number	***Species***	**Common Name**	**Diameter at Breast Height (DBH**	**Significant Tree?**	**Native, Nonnative, Invasive Monitor*, Invasive**	**Tree Grove**	**Tree Specimen**	**Health (Good, Fair, Poor)**	**Risk (Low, Medium, High)**	**Location (By Building [Blg] Number)**	**Notes**
172	*Populus tremuloides*	Quaking aspen	24	Y	N		x	G	L		multi-stem
	Populus tremuloides	Quaking aspen	20	Y	N		x	G	L		multi-stem
	Populus tremuloides	Quaking aspen	18	Y	N		x	G	L		
	Populus tremuloides	Quaking aspen	14	Y	N		x	G	L		
	Populus tremuloides	Quaking aspen	12	Y	N		x	G	L		
	Populus tremuloides	Quaking aspen	12	Y	N		x	G	L		
173	*Populus tremuloides*	Quaking aspen	14	Y	N		x	G	L		
174	*Pinus monticola*	western white pine	37	Y	N		x	G	L		
175	*Thuja plicata*	Western redcedar	36	Y	N		x	G	L		
176	*Acer macrophyllum*	Bigleaf maple	12–30+	Y	N	x		G	L	Very large grove, around chapel/ Blg 64. Pacific madrones of significant size.	Understory: *Pteridium aquilinum, Rubus armeniacus, Gaultheria shallon, Sorbus sp., Vaccinium parvifolium, Polystichum munitum*
	Arbutus menziesii	Pacific madrone		Y	N						
	Pinus monticola	Western white pine		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Thuja plicata	Western redcedar		Y	N						
177	*Acer macrophyllum*	Bigleaf maple	12–30+	Y	N	x		G	L	Along Blg 66	Understory: *Pteridium aquilinum, Rubus armeniacus, Gaultheria shallon, Polystichum munitum*
	Arbutus menziesii	Pacific madrone		Y	N						
	Pinus monticola	Western white pine		Y	N						
	Pseudotsuga menziesii	Douglas fir		Y	N						
	Tsuga heterophylla	Western hemlock		Y	N						
	Thuja plicata	Western redcedar		Y	N						

* **Invasive Monitor (IM)** refers to WA State Noxious Weed Guidelines for species that should be monitored for invasive tendencies, but it not yet listed as noxious.

APPENDIX C

Photographic Log

CRITICAL AREAS REPORT: FIRCREST SCHOOL CAMPUS MASTER PLAN—PHOTOGRAPHIC LOG

Photo Number	Photo Description
1	Fircrest campus overview
2	East Hamlin Creek site investigation
3	East Hamlin Creek site investigation
4	Typical specimen tree—London planetree (*Platanus x acerifolia*) on campus
5	Typical tree grove—mix of species and sizes with an understory
6	Example of a specimen tree growing close to campus buildings
7	Typical tree grove with Pacific madrone (*Arbutus menziesii*) and Scotch pine (*Pinus sylvestris*)
8	Population of domesticated rabbits that are feral on campus
9	Typical specimen trees adjacent to buildings
10	Specimen trees and tree groves in the outer campus


1


2

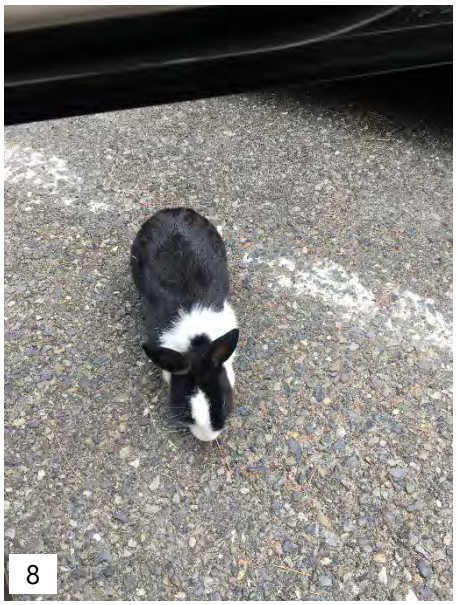

3


4


5


6

7



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REPORT OF GEOTECHNICAL ENGINEERING SERVICES

Fircrest Adult Training Program Renovation
1902 NE 150th Street
Shoreline, Washington

For
Trinity NAC
March 22, 2021

Project: NAC-1-02

March 22, 2021

Trinity NAC
2502 1st Avenue, Suite 200
Seattle, WA 98121-3131

Attention: Bill Rash, AIA, NCARB

Report of Geotechnical Engineering Services
Fircrest Adult Training Program Renovation
1902 NE 150th Street
Shoreline, Washington
Project: NAC-1-02

GeoDesign, Inc., DBA NV5 (GeoDesign) is pleased to submit our report of geotechnical engineering services for the planned improvements to the Fircrest Adult Training Program (ATP) renovation project. The project is located at the Washington State Department of Social and Health Services Fircrest facility in Shoreline, Washington. Our services for this project were conducted in accordance with our proposal dated December 9, 2020.

We appreciate the opportunity to be of continued service to you. Please call if you have questions regarding this report.

Sincerely,

GeoDesign, Inc., DBA NV5

Kevin J. Lamb, P.E.
Principal Engineer

JTW:KJL:kt
Attachments
One copy submitted (via email only)
Document ID: NAC-1-02-032221-geor-DRAFT.docx

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ACRONYMS AND ABBREVIATIONS

AC	asphalt concrete
ASCE	American Society of Civil Engineers
ATP	Adult Training Program
ASTM	American Society for Testing and Materials
BGS	below ground surface
BMP	best management practice
CEC	cation exchange capacity
CSBC	crushed surfacing base course
g	gravitational acceleration (32.2 feet/second^2)
H:V	horizontal to vertical
IBC	International Building Code
LID	low-impact development
MCE	maximum considered earthquake
meq/100 g	milliequivalent per 100 grams
OSHA	Occupational Safety and Health Administration
PCC	portland cement concrete
pcf	pounds per cubic foot
pci	pounds per cubic inch
PIT	pilot infiltration test
psf	pounds per square foot
SFZ	Seattle fault zone
SPT	standard penetration test
WSS	Washington Standard Specifications for Road, Bridge, and Municipal Construction (2020)

1.0 INTRODUCTION

This report presents the results of GeoDesign's geotechnical investigation to support the planned improvements to the Fircrest ATP renovations project. The project is located at the Washington State Department of Social and Health Services Fircrest facility in Shoreline, Washington. The project includes interior improvements to the existing ATP building and construction of a new parking area.

The site location relative to surrounding physical features is shown on Figure 1. The proposed parking area and locations of our explorations are shown on Figure 2. The existing ATP building and locations of subsurface borings completed by others is shown on Figure 3. The logs of our explorations at the site are presented in Appendix A. The analytical laboratory report of the CEC and organic content test results is presented in Appendix B. An as-built plan for the existing ATP building, which includes logs of geotechnical borings drilled at the northeast and southeast corners of the building (borings B-3 and B-4), is presented in Appendix C.

Acronyms and abbreviations used herein are defined above, immediately following the Table of Contents.

2.0 PROJECT UNDERSTANDING

We understand the proposed improvements are generally limited to interior renovations to the existing ATP building and construction of a new parking area east of the building and on the east side of Circle Drive at the former laundry building location(Figure 2, and Appendix C). The ATP building is located west of 20th Avenue NE and the first floor of the building has been benched into the toe of an east-facing slope. The west wall of the first floor is a retaining wall. Portions of the slope meet the definitions of a geologic hazard area as defined in the City of Shoreline Municipal Code (SMC) 20.80 Critical Areas. Structural improvements and a new elevator are planned for the interior of the building and updated retaining wall parameters and seismic design parameters have been requested.

We reviewed as-built plans for the existing ATP building, which also includes logs of geotechnical borings drilled at the northeast and southeast corners of the building (presented in Appendix C). The general notes on the structural sheets indicate the foundation design is based on an allowable bearing pressure of 4,000 psf and lateral earth pressures are based on an equivalent fluid density of 30 pcf. Subsurface conditions encountered in the borings generally consist of loose to medium dense, silty sand with gravel extending to depths of 5 to 6 feet BGS underlain by glacially consolidated deposits of coarse sand and gravel to silty sand with gravel (glacial till). Groundwater, likely perched above the glacial till layer, was encountered in previous boring B-3 drilled at the northeast corner of the existing ATP building.

3.0 PURPOSE AND SCOPE

The purpose of our geotechnical engineering services was to provide geotechnical information and recommendations to support design and construction of the interior and frontage

improvements and parking area as well as support evaluation of the existing retaining wall and the capacity for infiltration of stormwater below the proposed parking area. The specific scope of our services is summarized as follows:

- Reviewed existing information, including plans for the improvements and as-built plans for the existing building that include four existing borings at the existing ATP location.
- Coordinated and managed the field explorations, including public and private utility locates and scheduling of contractors and GeoDesign staff.
- Drilled one boring to a depth of 31 feet BGS and installed a monitoring well in the boring.
- Excavated three test pits to depths between 14 and 14.5 feet BGS. Completed small-scale PITs in each of the test pits at depths requested by the design team.
- Completed laboratory analysis to assist in characterization of physical parameters and water quality treatment characteristics of the soil.
- Performed engineering analysis and evaluated data derived from the subsurface investigation.
- Provided this geotechnical report that summarizes our findings and provides recommendations to support the proposed improvements.

4.0 SITE CONDITIONS

4.1 GENERAL

The site is located at the Washington State Department of Social and Health Services Fircrest facility in Shoreline, Washington. The ATP building is located west of 20th Avenue NE. The proposed parking area is located at the former location of the laundry building on the west side of 20th Avenue NE (Figure 2). Surficial conditions were determined during several visits to the site. Subsurface conditions were evaluated by reviewing existing boring logs, drilling one boring, and excavating three test pits. The soil boring and test pit explorations completed for this study were completed in the proposed parking area (Figure 2).

4.2 SURFACE CONDITIONS

The existing ATP building is located west of 20th Avenue NE and the first floor of the building has been benched into the toe of an east-facing slope. The surrounding area on the northwest and south sides of the building is relatively level. The area north of the building is s landscaped lawn area with a hardscape-surfaced area and planters and is where the geothermal well field is proposed. East the ATP building are residential units with landscaped lawn areas between them. South of the ATP building is a small AC-paved parking area. The west wall of the first floor is a retaining wall and the engineered steep slope above the retaining wall is covered with landscaping and mature evergreen trees. Concrete walkways traverse the slope northwest of the ATP building.

The proposed new parking area is located east of the ATP building on the east side of Circle Drive at the former laundry building location. The laundry building burned down in 2018 and all that remains is the concrete floor slab. Around the perimeter of the slab are AC- and gravel-covered parking areas.

4.3 SLOPES

West of the ATP building the ground surface slopes up to the upland area on the western half of the Fircrest campus. The slope varies from 20 percent to approximately 50 percent, with the steeper slope areas west of the central and southern portions of the ATP building. The vertical elevation change from the ATP building up to the top of the slope is approximately 30 feet.

The slope is well vegetated with brush and trees. Surficial indications of erosion were not observed. The slope appears stable and surficial indicators of deep or shallow slope instability were not observed.

The slope meets the City of Shoreline SMC 20.80.220 classification for Moderate to High Risk geologic hazard areas. The proposed ATP building improvements are not expected to extend into the geologic hazard area and no impacts are anticipated or will require mitigation.

4.4 SUBSURFACE CONDITIONS

4.4.1 General

Our subsurface exploration program consisted of drilling one boring (B-1) to a depth of 31 feet BGS and excavating three test pits (TP-1 through TP-3) to depths between 14 and 14.5 feet BGS. The approximate locations of our explorations are shown on Figure 2. A description of the field exploration program and the exploration logs are presented in Appendix A. We also reviewed as-built plans for the existing ATP building, which include logs of geotechnical borings drilled at the northeast and southeast corners of the building. The as-built plans with the logs are presented in Appendix C.

The test pits were completed around the perimeter of the former laundry building and the boring was completed near the center of the former building area. We encountered approximately 7 inches of concrete in the boring (existing slab) and approximately 6 inches of aggregate base in the test pits.

Fill consisting of medium dense, silty sand with gravel was encountered to depths between approximately 1 foot and 2 feet BGS.

Glacial till consisting of dense to very dense, silty sand with gravel and variable amounts of cobbles was encountered below the fill to depths between 8 and 10 feet BGS. The upper 2 to 3.5 feet of the glacial till in the test pits has been weathered and is distinguished on the logs as "weathered glacial till." It is similar in character to the underlying glacial till but is less dense due to weathering and disturbance. Based on SPT blow counts and excavation difficulty, the glacial till is generally dense to very dense and increases in density with depth.

Advance outwash, generally consisting of dense to very dense, silty sand with some gravel, is present below the glacial till at our exploration locations to the maximum depth in the test pits of 14.5 feet BGS and to 25 feet BGS in boring B-1.

For the existing ATP building, the existing borings generally indicate the subsurface conditions are loose to medium dense, silty sand with gravel extending to depths between 5 and 6 feet BGS underlying glacially consolidated deposits consisting of coarse sand and gravel to silty sand with gravel (glacial till) (Appendix C).

Environmental screening for the presence of volatile organic compounds was completed during excavation of the test pits. Odors or sheens were not noted or observed at the exploration locations.

4.4.2 Groundwater

Groundwater, likely perched above the glacial till layer, was encountered in the existing boring B-3 completed near the northeast corner of the ATP building at depths between 8 and 10 feet BGS.

In our explorations in the proposed parking area, groundwater seepage was not observed in the test pit explorations to the maximum depth explored of 14.5 feet BGS. Groundwater was encountered in boring B-1 at a depth of approximately 20 feet BGS during drilling. A 2-inch-diameter standpipe piezometer was installed in boring B-1 to monitor groundwater levels.

A data logger was installed in the well at a depth of approximately 29.5 feet BGS to record regular groundwater measurements. Depth to groundwater varied from approximately 19 to 20 feet BGS during the monitoring period that extended from February 3, 2021 through March 10, 2021. Groundwater measurements obtained from the well for the monitoring period are shown on Figure 4.

5.0 INFILTRATION TESTING

Small-scale PITs were performed in the three test pits in general accordance with the 2016 City of Shoreline Engineering Development Manual (City of Shoreline, 2016). The test pits were excavated using a mini excavator. The size of test pits was generally rectangular and approximately 2.5 feet wide by 6 feet long. The PITs were performed near the anticipated bottom of the infiltration/detention system at a depth of 8 feet BGS. Soil conditions encountered at the base of the infiltration tests consist generally of dense, silty sand with gravel glacial till (TP-1) or advance outwash (TP-2 and TP-3) material.

An electronic pressure transducer and data logger were placed in the test pits to measure groundwater levels at regular short-term intervals throughout the saturation period and during the test. The test was repeated as time and the infiltration rate permitted. Up to approximately 12 to 18 inches of water was established in the test pit during the test. The infiltration rate measured near the end of the test, which allows for the longest saturation period, is used to calculate the short-term infiltration rate, as summarized in Table 1.

Table 1. Soil Infiltration Rate Analysis

Infiltration Location	Soil Type	Test Depth (feet BGS)	Averaged Measured Short-Term Infiltration Rate (inches per hour)
TP-1	Dense, silty SAND with gravel	8	1.3
TP-2	Dense, silty SAND, trace gravel	8	2.2
TP-3	Dense, silty SAND, minor gravel	8	0.7

6.0 DESIGN RECOMMENDATIONS AND CONCLUSIONS

6.1 GENERAL

Based on our review of the proposed preliminary development plans and the results of our exploration and analyses, it is our opinion that the proposed development is geotechnically feasible. Our recommendations are provided in the following sections.

6.2 SEISMIC DESIGN CRITERIA

6.2.1 Seismicity

Washington State is situated at a convergent continental margin and is susceptible to subduction zone, intraplate, and shallow crustal source earthquakes. We reviewed published geologic maps for the site vicinity to evaluate seismic hazards. The site is approximately 10 miles north of the SFZ.

The SFZ represents a 2- to 4-mile-wide zone, extending from the Kitsap Peninsula near Bremerton to the Sammamish Plateau. Within the SFZ are several east to west-trending fault splays of the Seattle fault (Johnson et al., 1999). The Seattle fault is thought to be a reverse fault, with the south side "shoved up." The SFZ is considered an active major fault and can produce earthquakes of Magnitude ~7 with associated surface rupture and ground motions, posing a significant hazard to the Puget Sound Region (Sherrod et al., 2008). Geologic evidence indicates at least three episodes of movement on the fault within the last 10,000 years, with the most recent earthquake with surface rupture approximately 1,100 years ago (Nelson et al., 2000).

6.2.2 IBC Parameters

Boring B-1 encountered very dense, glacially consolidated soil within 2 feet of the ground surface with SPT blow counts exceeding 50 blows per foot. Similar conditions were encountered in the previous borings drilled for the ATP building and similar conditions are expected to extend to over 100 feet BGS, as confirmed in the geothermal test boring. We believe these conditions support classification of the site as Site Class C. Based on our explorations and analysis, the following design parameters can be applied if the building is designed using the applicable provisions of ASCE 7-16. The parameters in Table 2 should be used to compute seismic base shear forces (ASCE 7-16).

Table 2. ASCE 7-16 Seismic Design Parameters

Parameter	Short Period	1 Second
MCE Spectral Acceleration	S_s = 1.268 g	S_1 = 0.442 g
Site Class	C	
Site Coefficient	F_a = 1.2	F_v = 1.858
Adjusted Spectral Acceleration	S_{MS} = 1.521 g	S_{M1} = 0.664 g
Design Spectral Response Acceleration Parameters	S_{DS} = 1.014 g	S_{D1} = 0.442 g

6.2.3 Landslide Hazards

The site is relatively flat and underlain by dense/hard glacial till deposits. Landslide hazard risk for the site is very low.

6.2.4 Liquefaction

Liquefaction is a phenomenon caused by a rapid increase in pore water pressure that reduces the effective stress between soil particles to near zero. The excessive buildup of pore water pressure results in the sudden loss of shear strength in a soil. Granular soil, which relies on interparticle friction for strength, is susceptible to liquefaction until the excess pore pressures can dissipate.

Based on the results of our explorations, the site in underlain by dense to very dense/hard glacial till consisting of silty sand and sandy silt. We anticipate the potential for liquefaction is very low for this site.

6.2.5 Lateral Spreading

Lateral spreading is a liquefaction-related seismic hazard and occurs on gently sloping or flat sites underlain by liquefiable sediment adjacent to an open face (such as riverbanks). Liquefied soil adjacent to an open face will tend to flow, resulting in surface cracking and lateral displacement towards the open face. The magnitude of lateral spreading decreases with distance from the open face. Based on the soil encountered at the site and distance from an open face, lateral spreading is not considered a hazard at this site.

6.2.6 Surficial Rupture

The site is approximately 10 miles north of the SFZ. The risk of surficial rupture for the site is low.

6.3 SHALLOW FOUNDATIONS

6.3.1 General

The existing ATP building foundations were design using an allowable bearing pressure of 4,000 psf based on the as-built plans. The site is underlain by dense glacial till. New foundations for upgrades within the ATP building, such as the elevator pit, and elsewhere, supported on undisturbed glacial till or outwash soil may be designed using an allowable bearing pressure of 4,000 psf. Where new foundations are located adjacent to an existing foundation, they should bear at similar bottom of foundation elevations as the existing foundations.

6.3.2 Bearing Capacity

Foundations bearing on the dense glacial till or compacted stabilization material placed over it may be sized based on an allowable bearing pressure of 4,000 psf. This is a net bearing pressure; the weight of the footing and overlying backfill can be ignored in calculating footing sizes. The recommended allowable bearing pressure applies to the total of dead plus long-term live loads and may be increased by one-third for short-term loads, such as those resulting from wind or seismic forces. Continuous wall and spread footings should be at least 18 inches wide. The bottom of exterior footings should be at least 18 inches below the lowest adjacent final grade. The bottom of interior footings should be placed at least 12 inches below the base of the floor slab.

6.3.3 Resistance to Sliding

Lateral loads on footings can be resisted by passive earth pressure on the sides of the foundation and by friction on the base of the footings. Passive earth pressure may be estimated using an equivalent fluid density of 350 pcf. Adjacent floor slabs, pavement, or the upper 12-inch depth of adjacent, unpaved areas should not be considered when calculating passive resistance. A coefficient of friction equal to 0.35 may be used when calculating resistance to sliding for footings in direct contact with the glacial till or structural fill. A safety factor of 1.5 has been applied to the recommended sliding friction and passive pressure.

6.3.4 Settlement

For foundations designed in accordance with the recommendations provided above, total post-construction settlement should be less than ½ inch and differential settlement less than ¼ inch.

6.4 FLOOR SLABS

Satisfactory subgrade support for building floor slabs supporting up to 350 psf areal loading can be obtained on subgrade that is scarified and compacted to 95 percent of the maximum dry density, as determined by ASTM D1557.

A minimum 6-inch-thick layer of crushed surfacing base course, WSS 9-03.9(3) – Crushed Surfacing, should be placed and compacted over the prepared subgrade to provide uniform support beneath the slab.

A subgrade modulus of 200 pci may be used to design the floor slab.

The near-surface soil typically has a fines content in excess of 15 percent. In areas where moisture-sensitive floor slab and flooring will be installed, the installation of a vapor barrier is warranted to reduce the potential for moisture transmission through and efflorescence growth on the slab and flooring.

6.5 RETAINING STRUCTURES

6.5.1 Conventional Below-Grade or Retaining Structures

We understand additional analysis is required to evaluate the existing retaining wall. We reviewed as-built plans for the existing ATP building. The general notes on the structural sheets

indicate that lateral earth pressures for retaining wall design are based on an equivalent fluid density of 30 pcf. This value is suitable for the dense glacial till soil encountered in the boring and for walls that are free to rotate about their base. Braced walls should be designed for at-rest conditions. Additional recommendations for below-grade walls are provided below.

6.5.1.2 Wall Design Parameters

For unrestrained retaining walls, an equivalent fluid density of 30 pcf is appropriate for design assuming drained conditions and that active earth pressure conditions develop behind the wall as a result of wall deflection. Where retaining walls are restrained from rotation prior to being backfilled, an equivalent fluid density of 45 pcf should be used for design for the at-rest condition.

A superimposed seismic lateral force should be calculated based on a dynamic force of $6.5H^2$ pounds per lineal foot of wall (where H is the height of the wall in feet) and applied a distance of 0.6H above the base of the wall.

If surcharges (e.g., building foundations, vehicles, etc.) are located within a horizontal distance from the back of a wall equal to twice the height of the wall, additional pressures will need to be accounted for in the wall design. Our office should be contacted for appropriate wall surcharges based on the actual magnitude and configuration of the applied loads.

The base of the wall footing excavations should extend a minimum of 12 inches below the lowest adjacent grade and be designed in accordance with the recommendations provided in the "Shallow Foundations" section.

6.5.1.3 Wall Backfill

Backfill material placed behind retaining walls and extending a horizontal distance of ½H (where H is the height of the retaining wall) should consist of select granular material that meets the specifications provided in WSS 9-03.12(2) – Gravel Backfill for Walls. We recommend the select granular wall backfill be separated from general fill, native soil, and/or topsoil using a geotextile fabric that meets the specifications provided in WSS 9-33.2 – Geosynthetic Properties for drainage geotextiles.

Backfill should be placed and compacted as recommended for structural fill, except for backfill placed immediately adjacent to walls. Backfill adjacent to walls should be compacted to a lesser standard to reduce the potential for generation of excessive pressure on the walls. Backfill located within a horizontal distance of 3 feet from the retaining walls should be compacted to approximately 90 percent of the maximum dry density, as determined by ASTM D1557. Backfill placed within 3 feet of the wall should be compacted in lifts less than 6 inches thick using hand-operated tamping equipment (such as a jumping jack or vibratory plate compactor). If flatwork (slabs, sidewalk, or pavement) will be placed adjacent to the wall, we recommend the upper 2 feet of fill be compacted to 95 percent of the maximum dry density, as determined by ASTM D1557.

6.5.1.4 Wall Drainage

The above design parameters have been provided assuming back-of-wall drains will be installed to prevent buildup of hydrostatic pressures behind all walls. If a drainage system is not installed, our office should be contacted for revised design forces.

Positive drainage should be provided behind below-grade walls and retaining walls by placing a minimum 1-foot-wide zone of free-draining backfill directly behind the wall. The free-draining backfill should meet the criteria for WSS 9-03.12(4) – Gravel Backfill for Drains. The free-draining backfill zone should extend from the base of the wall to within 2 feet of the finished ground surface. The top 2 feet of fill should consist of relatively impermeable or native soil to prevent infiltration of surface water into the wall drainage zone.

Perforated collector pipes should be placed at the base of the walls. The pipe should be embedded in a minimum 2-foot-wide zone of drain rock. The drain rock should meet specifications provided in the "Materials" section. The drain rock should be wrapped in a geotextile fabric that meets the specifications for drainage geotextiles as described in the "Materials" section. The collector pipes should discharge at an appropriate location away from the base of the wall. Unless measures are taken to prevent backflow into the drainage system of the wall, the discharge pipe should not be tied directly into stormwater drain systems.

6.6 INFILTRATION

6.6.1 Design Infiltration Rate

As discussed in the "Subsurface Conditions" section, the soil encountered near the base of the anticipated stormwater management systems consists of dense, glacially consolidated material generally composed of silty sand with varying gravel content.

The infiltration rate determined using the PIT procedure is a short-term infiltration rate. A correction factor is necessary to account for the small scale of the test. Additional correction factors are necessary to account for testing uncertainties, site variability, and long-term reduction in permeability due to biological activity and accumulation of fines. The recommended correction factors to be applied to the "short-term" rate measured in the tests are summarized as follows:

- Correction factor $F_{testing}$ accounts for uncertainties in testing methods. A correction factor of 0.5 is typically applied to rates from small-scale PITs.
- Correction factor $F_{variability}$ accounts for site subsurface variability and the number of locations tested. We recommend a correction factor $F_{variability}$ of 0.45.
- Correction factor F_m accounts for reduction in infiltration rates over the long term due to siltation and bio-buildup. We recommend a correction factor of 0.9.

The total correction factor to be applied is obtained by multiplying the individual correction factors. A cumulative correction factor of 0.20 should be applied to the measured infiltration rate. Table 3 summarizes the infiltration test results along with the correction factor.

Table 3. Soil Infiltration Rate Analysis[1]

Infiltration Location	Soil Type	Averaged Short-Term Infiltration Rate (inches per hour)	Recommended Long-Term Design Infiltration Rate[1] (inches per hour)
TP-1	Dense, silty SAND with gravel	1.3	0.26
TP-2	Dense, silty SAND, trace gravel	2.2	0.44
TP-3	Dense, silty SAND, minor gravel	0.7	0.14

1. Based on the recommended combined correction factor of 0.20.

We recommend the facility in the proposed parking area be designed using an average long-term infiltration rate of 0.25 inch per hour.

6.6.2 Soil Suitability for Treatment

CEC and organic content testing were also completed on samples collected at the base of the test pits to evaluate soil capacity for water quality treatment. Our subcontracted laboratory, AMTest Laboratories, performed the testing. The test results are presented in Appendix B and the results are summarized in Table 4.

Table 4. CEC and Organic Content Analytical Results Summary[1]

Exploration	Sample Depth (feet BGS)	Soil Type	CEC (meq/100 g)	Organic Content (percent)
TP-1	8	Dense, silty SAND with gravel	1.8	1.2
TP-2	1	Dense, silty SAND, trace gravel	1.0	0.7
TP-3	1	Dense, silty SAND, minor gravel	1.5	0.8

1. Suitability for Water Quality Treatment: CEC greater than 5 meq/100 g and organic content a minimum of 1.0 percent

The results of the tests indicate that the CEC for the soil at a depth of 8 feet BGS is typically less than 2 meq/100 g, which is less than the required 5 meq/100 g. The organic content of the soil ranges between 0.7 and 1.2 percent, with an average value of 0.9 percent, which is less than the 1 percent required for water quality treatment.

Based on the available test results, soil amendment will be necessary to address water quality treatment.

6.6.3 Groundwater Separation

We anticipate the depth of LID infiltration elements will be approximately 8 feet BGS. Stormwater Standards require a minimum of 5 feet of separation between the bottom of infiltration facilities or areas and groundwater. Groundwater measurements in the monitoring well on site indicate that 10-feet of separation exists.

6.7 GEOLOGIC HAZARD AREAS

As discussed in the "Slopes" section, portions of the slope west and south of the ATP building meet the City of Shoreline SMC 20.80.220 classification for Moderate to High Risk geologic hazard areas. Indications of instability were not observed in the areas and the proposed work is expected to be outside of the geologic critical area. The building is located along the toe of the slope and the proposed work will not impact existing slope stability nor impact adjacent properties.

Soil in the area generally meets the classification of "severe" erosion hazard, particularly on slopes that exceed 15 percent. The temporary increase in erosion hazard during construction, due to activities that disturb the ground surface, can be mitigated through appropriate BMPs such as stabilized construction entrances and haul roads, silt fencing, and straw wattles and by placing sediment socks in catch basins. The appropriate BMPs should be maintained after the site is restored while the permanent landscaping or surface finishes become established.

7.0 CONSTRUCTION

The proposed parking area was previously developed and what remains is a concrete floor slab surrounded with gravel or AC pavement hardscape areas. Earthwork site preparation activities will include removing the existing PCC floor slab and surrounding AC. It should include removal of previously installed utilities or foundation elements to avoid variations in subgrade consistency.

The soil to be exposed during grading operations has a high fines content, is moisture sensitive, and will deteriorate rapidly in wet weather where left exposed. If earthwork construction is expected to extend into the wet season, we recommend stabilizing exposed areas with a 12-inch-thick layer of CSBC material.

During excavation of the test pits, spoils were monitored for volatile organic compounds. Although no odors or sheens, indicating contamination, were detected, the previous development history and use as a laundry facility should be considered and impacted soil may be encountered.

7.1 SUBGRADE VERIFICATION

Exposed subgrades should be evaluated by a representative from GeoDesign to verify conditions are as anticipated and will provide the required support. Subgrade evaluation should be performed by probing with a foundation probe beneath foundations. If soft or loose zones are identified, these areas should be excavated to the extent indicated by the engineer or technician and replaced with structural fill or stabilization material.

7.2 EXCAVATION

7.2.1 General

The soil at the site can be excavated with conventional earthwork equipment. Excavations should stand vertical to a depth of approximately 4 feet, provided groundwater seepage is not observed in the trench walls.

Open excavation techniques may be used to excavate utility trenches with depths greater than 4 feet, provided the walls of the excavation are cut at appropriate cut slopes determined by the contractor. Approved temporary shoring is recommended where sloping is not possible. If a conventional shield is used, the contractor should limit the length of open trench. If shoring is used, we recommend that the type and design of the shoring system be the responsibility of the contractor, who is in the best position to choose a system that fits the overall plan of operation and the subsurface conditions. All excavations should be made in accordance with applicable OSHA, local, and state regulations.

7.2.2 Temporary Slopes

Based on soil conditions encountered during our explorations, temporary slopes for excavations of 1.25H:1V may be used to vertical depths of 15 feet or less, provided groundwater seepage is not significant, groundwater remains below the base of the excavation, surcharge loads are not present within 10 feet of the top of the slope, and the slopes are observed by the geotechnical engineer on a regular basis during construction. At this inclination, the slopes may ravel and require some on-going repair.

If seepage is encountered, it may be necessary to flatten the slopes to protect the surface from raveling or provide dewatering. All cut slopes should be protected from erosion by covering them with plastic sheeting or other stabilizing cover during the rainy season. If sloughing or instability is observed, the slope may need to be flattened or the cut supported by shoring.

Excavations should not undermine adjacent utilities, foundations, walkways, streets, or other hardscapes unless special shoring or underpinned support is provided. Unsupported excavations should not be conducted within a downward and outward 1H:1V projection starting at least 10 feet outside the edge of an adjacent structural feature.

7.2.3 Dewatering

Shallow excavations (less than 5 feet) may encounter limited seepage from perched water. In our opinion, significant dewatering operations will not likely be necessary. Dewatering systems are best designed by the contractor; however, it is our opinion that it should be possible to remove groundwater encountered by pumping from a sump. More intense use of pumps may be required at certain times of the year and where more intense seepage occurs. Removed water should be routed to a suitable discharge point.

If significant groundwater is present at the base of utility excavations, we recommend placing up to 6 inches of stabilization material at the base of the excavation.

7.3 MATERIALS

Fill material will be required for site grading, backfilling over-excavations, pavement support, installation of utilities, and drainage. Recommended fill materials are discussed below.

7.3.1 General

All material used as structural fill should be free of organic material or other unsuitable materials and (except where modified below) have a maximum particle size of 3 inches. A brief characterization of some of the acceptable material and our recommendations for their use as structural fill are provided below.

7.3.2 On-Site Soil

The on-site material encountered in our explorations has a high fines content, is sensitive to changes in moisture content, and will deteriorate under construction traffic and/or when exposed to wet weather. Although the on-site material does not meet the gradation requirements for imported structural fill, as defined below, we anticipate that some of the on-site material identified as silty sand with gravel can be used for fill but will be limited to use during the dry season and it will require moisture conditioning prior to use.

Deleterious material (such as wood, organics, and man-made material) should be removed from native soil prior to use as fill. The use of on-site soil as fill should be subject to review and approval by GeoDesign. It will be prudent to provide a 12-inch-thick cap of imported structural fill over areas where on-site soil is exposed or used as fill.

When used as structural fill, the on-site soil should be placed in lifts with a maximum uncompacted thickness of 10 inches and compacted to not less than 95 percent of the maximum dry density, as determined by ASTM D1557.

7.3.3 Imported Granular Material

Structural fill placed for general site grading in improved areas should consist of clean, free-draining granular soil (sand and gravel) that is free from organic material or other deleterious and man-made materials, with a maximum particle size of 3 inches and a maximum fines content of 5 percent by dry weight passing the U.S. Standard No. 200 sieve. The use of granular, free-draining material will increase the workability of the material during the wet season and the likelihood that the material can be placed and adequately compacted.

Imported granular material used for structural fill should be naturally occurring pit- or quarry-run rock, crushed rock, or crushed gravel and sand and should meet the specifications provided in WSS 9-03.14(1) – Gravel Borrow, with the exception that the percentage passing the U.S. Standard No. 200 sieve does not exceed 5 percent by dry weight. Structural fill should be placed in lifts with a maximum uncompacted thickness of 12 inches and compacted to not less than 95 percent of the maximum dry density, as determined by ASTM D1557.

7.3.4 Stabilization Material

Stabilization material used to backfill over-excavations below structures should consist of imported shot rock, quarry spalls, or crushed ballast. The material should have a maximum particle size of 6 inches, should have less than 5 percent by dry weight passing the U.S. Standard

No. 4 sieve, and should have at least two mechanically fractured faces. The material should be free of organic material and other deleterious materials. Materials that meet the specifications provided in WSS 9-13.7(2) – Backfill for Rock Wall, WSS 9-13.1(5) – Quarry Spalls, or WSS 9-27.3(6) – Stone are generally acceptable for use. Stabilization material should be placed in lifts between 12 and 18 inches thick and compacted to a firm condition with the bucket of an excavator.

7.3.5 Drain Rock

Drain rock used in subsurface drains or against retaining walls should consist of granular material with a maximum particle size of 1 inch and should meet the specifications provided in WSS 9-03.12(4) – Gravel Backfill for Drains. The material should be free of roots, organic material, and other unsuitable materials; should have less than 2 percent by dry weight passing the U.S. Standard No. 200 sieve (washed analysis); and should have at least two mechanically fractured faces.

7.3.6 Floor Slab and Pavement Base Rock

Imported granular material used as aggregate base for floor slabs, pavement, and beneath hardscape areas should consist of 1½-inch-minus material meeting the specifications provided in WSS 9-03.9(3) – Crushed Surfacing, Base Course, with the exception that the aggregate should have less than 5 percent by dry weight passing the U.S. Standard No. 200 sieve and at least two mechanically fractured faces. It should be placed in lifts with a maximum uncompacted thickness of 12 inches and compacted to not less than 95 percent of the maximum dry density, as determined by ASTM D1557.

7.3.7 Retaining Wall Select Backfill

Retaining wall select backfill should consist of well-graded sand or gravel with not more than 5 percent by dry weight passing the U.S. Standard No. 200 sieve and meeting WSS 9-03.12(2) – Gravel Backfill for Walls. Retaining wall backfill should be compacted in accordance with recommendations provided in the "Wall Backfill" section.

7.3.8 Geotextiles

7.3.8.1 Separation and Drainage Geotextile

We recommend using a non-woven geotextile drainage material around subsurface drains to separate drain rock from adjacent materials. The geotextile should conform to the specifications for non-woven separation material provided in WSS 9-33.2(1) – Geotextile Properties, Table 3 Geotextile for Separation or Soil Stabilization. A suitable non-woven material meeting these recommendations is Tencate Mirafi 160N.

8.0 OBSERVATION OF CONSTRUCTION

Recommendations provided in this report assume that GeoDesign will be retained to provide geotechnical consultation and observation services during construction. Satisfactory earthwork and foundation performance depends to a large degree on the quality of construction. Subsurface conditions observed during construction should be compared with those encountered during the subsurface explorations. Recognition of changed conditions requires experience with the site conditions and an understanding of the geotechnical recommendations; therefore, GeoDesign personnel should visit the site with sufficient frequency to detect whether

subsurface conditions change significantly from those anticipated and to verify that the work is completed in accordance with the construction drawings and specifications.

Sufficient observation of the contractor's activities is a key part of determining that the work is completed in accordance with the construction drawings, project specifications, and our recommendations.

We recommend that GeoDesign be retained to observe all earthwork activities, including the following:

- Excavation activities
- Subgrade preparation prior to fill placement or foundation construction
- Placement and compaction of fill, including fill placed in utility trenches, around buried structures, and around the stormwater management system
- Laboratory compaction and field moisture-density tests

9.0 LIMITATIONS

We have prepared this report for use by Trinity NAC and the design and construction team for the proposed development. The data and report can be used for bidding or estimating purposes, but our report, conclusions, and interpretations should not be construed as warranty of the subsurface conditions and are not applicable to other sites.

Exploration observations indicate soil conditions only at specific locations and only to the depths penetrated. They do not necessarily reflect soil strata or water level variations that may exist between exploration locations. If subsurface conditions differing from those described are noted during excavation and construction, re-evaluation will be necessary.

The site development plans and design details were preliminary at the time this report was prepared. When the design has been finalized and if there are changes in the site grades or location, configuration, design loads, or type of construction, the conclusions and recommendations presented may not be applicable. If design changes are made, we request that we be retained to review our conclusions and recommendations and to provide a written modification or verification.

The scope of our services does not include services related to construction safety precautions, and our recommendations are not intended to direct the contractor's methods, techniques, sequences, or procedures, except as specifically described in this report for consideration in design.

Within the limitations of scope, schedule, and budget, our services have been executed in accordance with generally accepted practices in this area at the time this report was prepared. No warranty, express or implied, should be understood.

♦ ♦ ♦

We appreciate the opportunity to be of continued service to you. Please call if you have questions concerning this report or if we can provide additional services.

Sincerely,

GeoDesign, Inc., DBA NV5

Kevin J. Lamb, P.E.
Principal Engineer

REFERENCES

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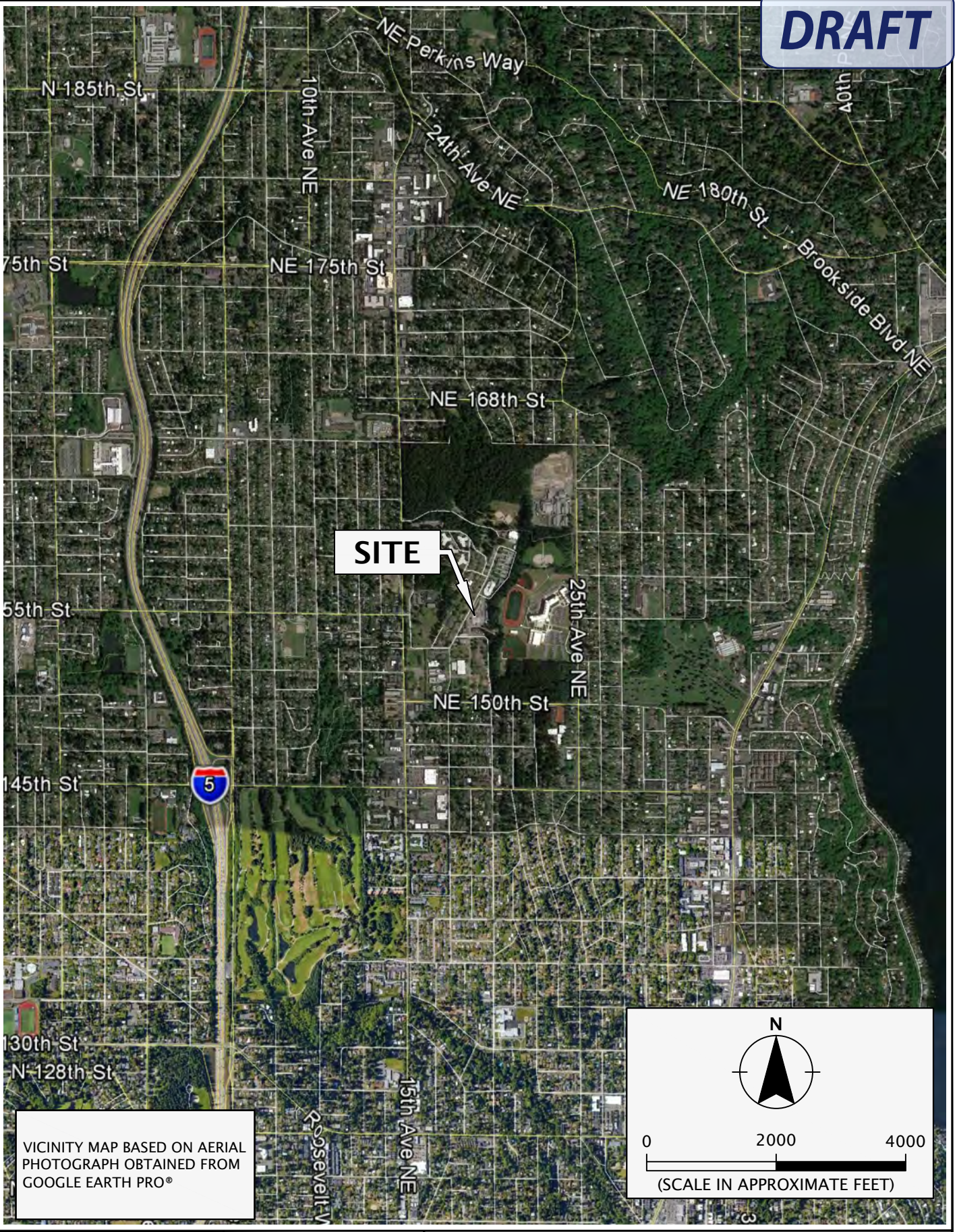
FIGURES



GeoDesign Inc. AN NV5 COMPANY	NAC-1-02	VICINITY MAP	
	MARCH 2021	FIRCREST ATP RENOVATION SHORELINE, WA	FIGURE 1

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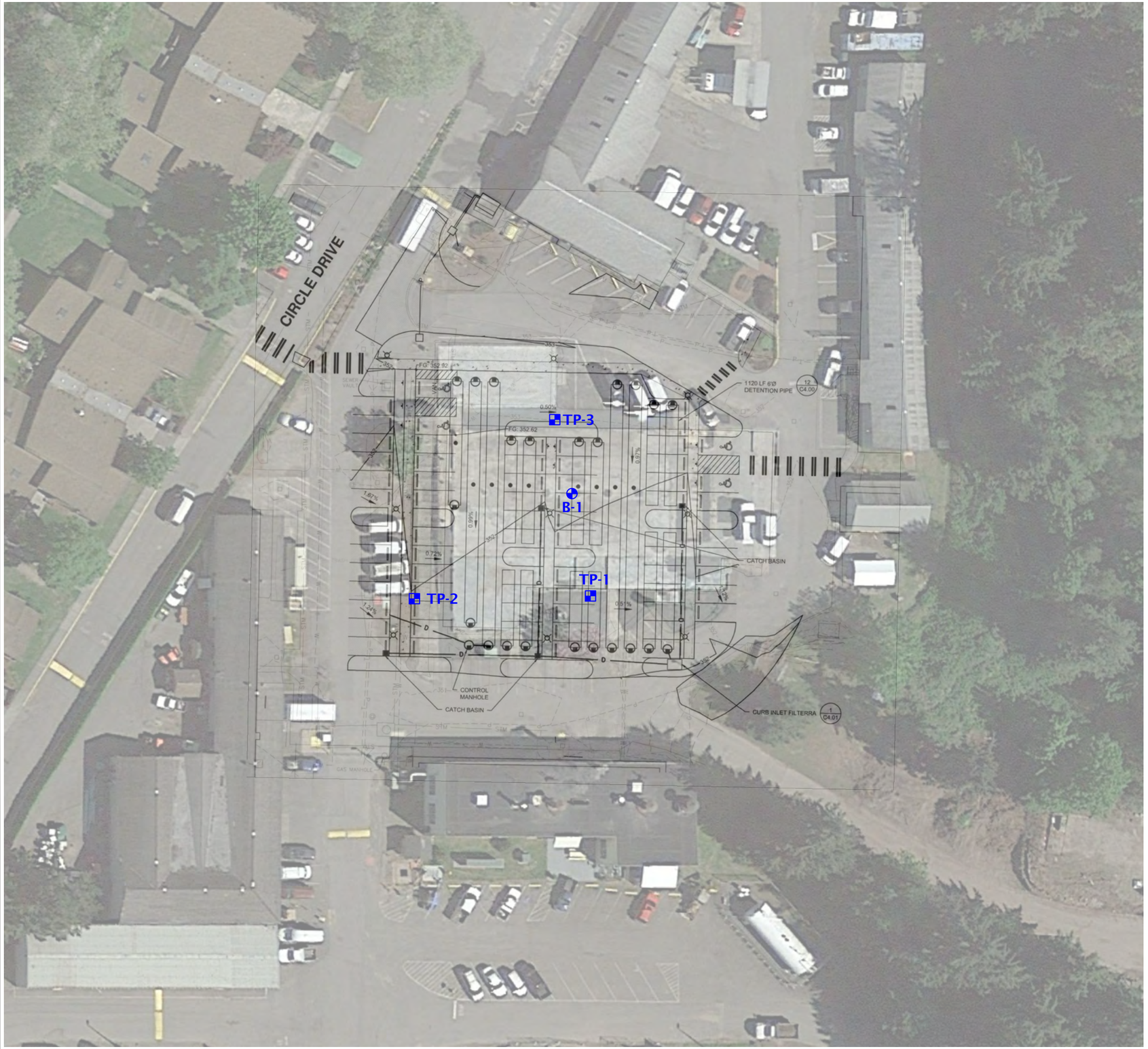

LEGEND:

- SITE BOUNDARY
- B-1 BORING
- TP-1 TEST PIT

N

0 50 100

(SCALE IN FEET)

NOTES:

1. SITE PLAN BASED ON IMAGE OF SHEET C1.01 GRADING AND DRAINAGE PLAN EAST DATED NOVEMBER 11, 2020 PREPARED BY NAC ARCHITECTURE.
2. AERIAL PHOTOGRAPH OBTAINED FROM GOOGLE EARTH PRO FEBRUARY 2, 2021.

SITE PLAN
PROPOSED PARKING AREA

FIRCREST ATP RENOVATION
SHORELINE, WA

FIGURE 2

NAC-1-02

MARCH 2021

GeoDesign NV5 COMPANY

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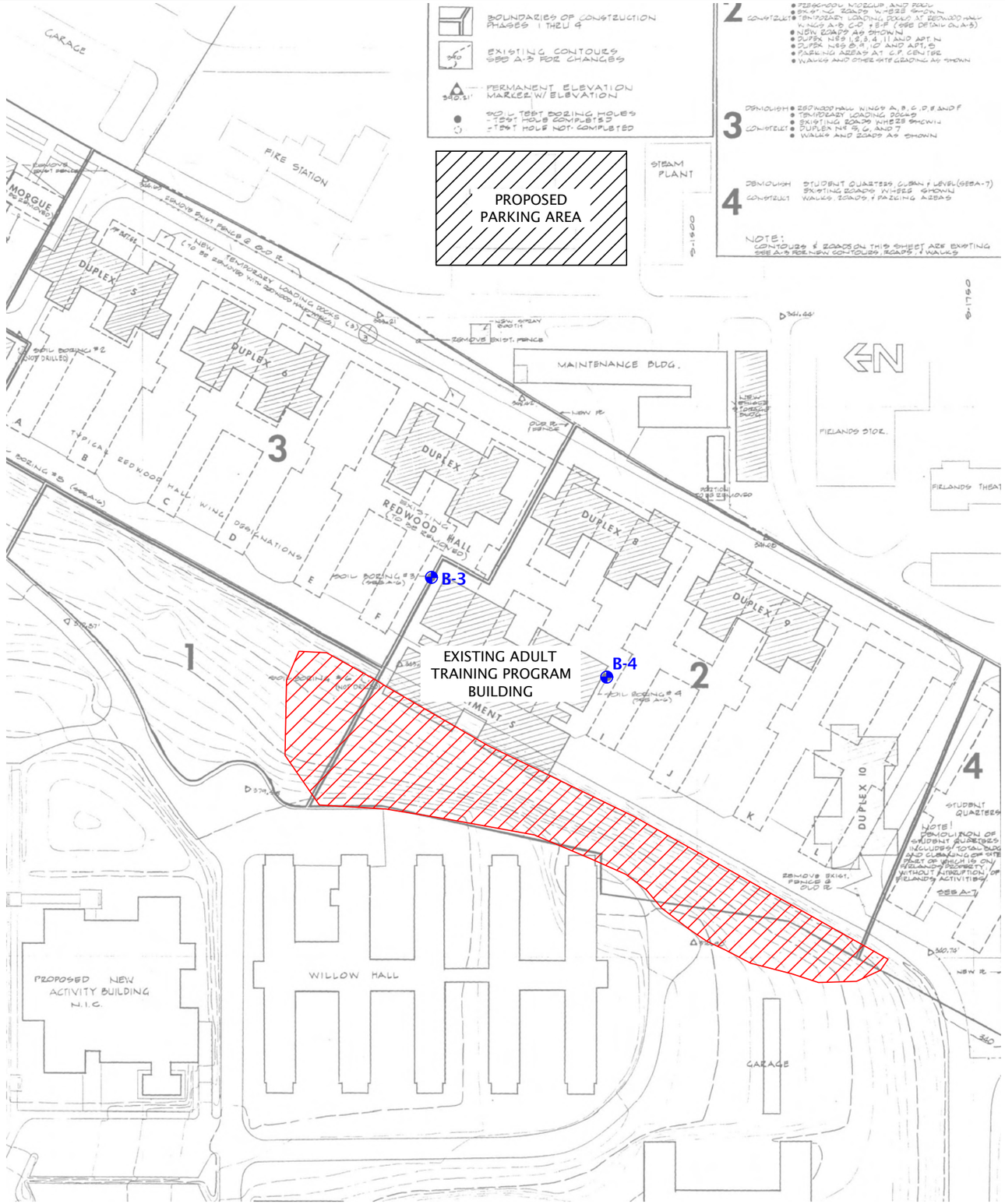

LEGEND:

MODERATE TO HIGH LANDSLIDE HAZARD AREA

B-3 EXISTING BORING DRILLED BY OTHERS

(NOT TO SCALE)

NOTE:

1. SITE PLAN BASED ON IMAGE OF SHEET A2 DATED JULY 1, 1970 PREPARED BY SHAVEY & SCHMIDT A.I.A., ARCHITECTS.

SITE PLAN
EXISTING ADULT TRAINING PROGRAM BUILDING
FIRCREST ATP RENOVATION
SHORELINE, WA

FIGURE 3

NAC-1-02

MARCH 2021

GeoDesign NW
AN NV5 COMPANY

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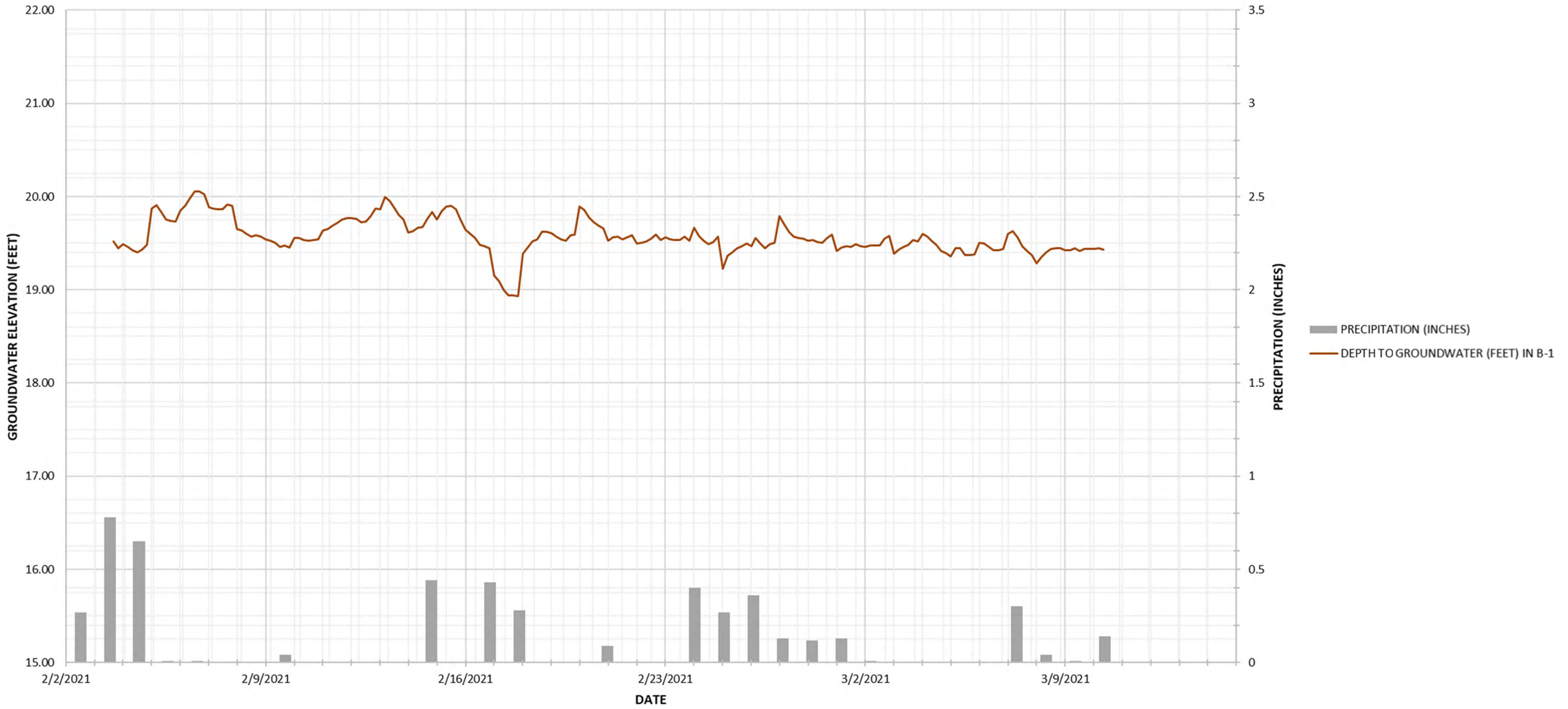
GROUNDWATER MEASUREMENTS

FIGURE 4

FIRCREST ATP RENOVATION
SHORELINE, WA



NAC-1-02

MARCH 2021

GeoDesign Inc. AN NV5 COMPANY

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APPENDIX A

APPENDIX A

FIELD EXPLORATIONS

GENERAL

Subsurface conditions at the site were explored by drilling one boring (B-1) to a depth of 31 feet BGS on January 25, 2021 and excavating three test pits (TP-1 through TP-3) to depths of up to 14.5 feet BGS on January 19, 2021. The boring was drilled by Boretec1 using hollow-stem auger drilling methods. The test pits were completed by Continental Dirt Contractors using a Komatsu PC88 rubber-tracked excavator. The exploration logs are presented in this appendix.

The approximate locations of our explorations are shown on Figure 2. The exploration locations were selected based on our project understanding communicated by the client and adjusted based on accessibility and avoidance of existing underground utilities. This information should be considered accurate only to the degree implied by the methods used.

SOIL SAMPLING

A member of our geotechnical staff observed the explorations. We collected disturbed and relatively undisturbed soil samples from the explorations for geotechnical laboratory testing.

We collected samples from the borings using 1½-inch-inside diameter, split-spoon sampler in general accordance with ASTM D1586. We used a 140-pound hammer free-falling 30 inches to drive the split-spoon samplers into the soil a total distance of 18 inches. We recorded on the exploration logs the number of blows required to drive the sampler the final 12 inches, unless otherwise noted. Representative grab samples of the soils observed in the test pit explorations were collected from the walls and/or base of the test pits using the excavator bucket. Sampling methods and intervals are shown on the exploration logs.

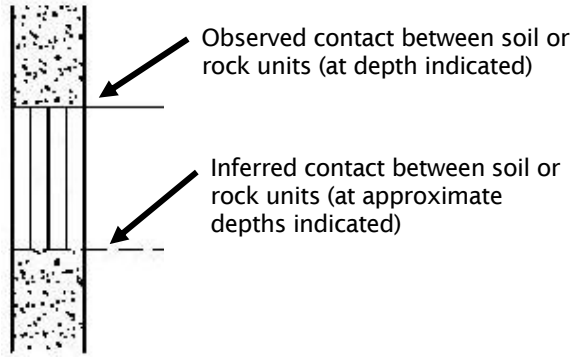
The average efficiency of the automatic SPT hammer used by Boretec1 was 91.9 percent. The calibration testing results are presented at the end of this appendix.

SOIL CLASSIFICATION

The soil samples were classified in accordance with the "Exploration Key" (Table A-1) and "Soil Classification System" (Table A-2), which are presented in this appendix. The exploration logs indicate the depths at which the soils or their characteristics change, although the change could be gradual. A horizontal line between soil types indicates an observed (visual or excavation resistance) change. If the change occurred between sample locations and was not observed or obvious, the depth was interpreted, and the change is indicated using a dashed line. Classifications are shown on the exploration logs.

SYMBOL	SAMPLING DESCRIPTION
	Location of sample collected in general accordance with ASTM D1586 using Standard Penetration Test with recovery
	Location of sample collected using thin-wall Shelby tube or Geoprobe® sampler in general accordance with ASTM D1587 with recovery
	Location of sample collected using Dames & Moore sampler and 300-pound hammer or pushed with recovery
	Location of sample collected using Dames & Moore sampler and 140-pound hammer or pushed with recovery
	Location of sample collected using 3-inch-O.D. California split-spoon sampler and 140-pound hammer with recovery
	Location of grab sample
	Rock coring interval
	Water level during drilling
	Water level taken on date shown

Graphic Log of Soil and Rock Types



GEOTECHNICAL TESTING EXPLANATIONS

ATT	Atterberg Limits	P	Pushed Sample
CBR	California Bearing Ratio	PP	Pocket Penetrometer
CON	Consolidation	P200	Percent Passing U.S. Standard No. 200 Sieve
DD	Dry Density		
DS	Direct Shear	RES	Resilient Modulus
HYD	Hydrometer Gradation	SIEV	Sieve Gradation
MC	Moisture Content	TOR	Torvane
MD	Moisture-Density Relationship	UC	Unconfined Compressive Strength
NP	Non-Plastic	VS	Vane Shear
OC	Organic Content	kPa	Kilopascal

ENVIRONMENTAL TESTING EXPLANATIONS

CA	Sample Submitted for Chemical Analysis	ND	Not Detected
P	Pushed Sample	NS	No Visible Sheen
PID	Photoionization Detector Headspace Analysis	SS	Slight Sheen
		MS	Moderate Sheen
ppm	Parts per Million	HS	Heavy Sheen

RELATIVE DENSITY - COARSE-GRAINED SOIL

Relative Density	Standard Penetration Resistance	Dames & Moore Sampler (140-pound hammer)	Dames & Moore Sampler (300-pound hammer)
Very Loose	0 – 4	0 – 11	0 – 4
Loose	4 – 10	11 – 26	4 – 10
Medium Dense	10 – 30	26 – 74	10 – 30
Dense	30 – 50	74 – 120	30 – 47
Very Dense	More than 50	More than 120	More than 47

CONSISTENCY - FINE-GRAINED SOIL

Consistency	Standard Penetration Resistance	Dames & Moore Sampler (140-pound hammer)	Dames & Moore Sampler (300-pound hammer)	Unconfined Compressive Strength (tsf)
Very Soft	Less than 2	Less than 3	Less than 2	Less than 0.25
Soft	2 – 4	3 – 6	2 – 5	0.25 – 0.50
Medium Stiff	4 – 8	6 – 12	5 – 9	0.50 – 1.0
Stiff	8 – 15	12 – 25	9 – 19	1.0 – 2.0
Very Stiff	15 – 30	25 – 65	19 – 31	2.0 – 4.0
Hard	More than 30	More than 65	More than 31	More than 4.0

PRIMARY SOIL DIVISIONS			GROUP SYMBOL	GROUP NAME
COARSE-GRAINED SOIL (more than 50% retained on No. 200 sieve)	GRAVEL (more than 50% of coarse fraction retained on No. 4 sieve)	CLEAN GRAVEL (< 5% fines)	GW or GP	GRAVEL
		GRAVEL WITH FINES (≥ 5% and ≤ 12% fines)	GW-GM or GP-GM	GRAVEL with silt
			GW-GC or GP-GC	GRAVEL with clay
		GRAVEL WITH FINES (> 12% fines)	GM	silty GRAVEL
			GC	clayey GRAVEL
			GC-GM	silty, clayey GRAVEL
	SAND (50% or more of coarse fraction passing No. 4 sieve)	CLEAN SAND (<5% fines)	SW or SP	SAND
		SAND WITH FINES (≥ 5% and ≤ 12% fines)	SW-SM or SP-SM	SAND with silt
			SW-SC or SP-SC	SAND with clay
		SAND WITH FINES (> 12% fines)	SM	silty SAND
			SC	clayey SAND
			SC-SM	silty, clayey SAND
FINE-GRAINED SOIL (50% or more passing No. 200 sieve)	SILT AND CLAY	Liquid limit less than 50	ML	SILT
			CL	CLAY
			CL-ML	silty CLAY
			OL	ORGANIC SILT or ORGANIC CLAY
		Liquid limit 50 or greater	MH	SILT
			CH	CLAY
			OH	ORGANIC SILT or ORGANIC CLAY
HIGHLY ORGANIC SOIL			PT	PEAT

MOISTURE CLASSIFICATION

Term	Field Test
dry	very low moisture, dry to touch
moist	damp, without visible moisture
wet	visible free water, usually saturated

ADDITIONAL CONSTITUENTS

Secondary granular components or other materials such as organics, man-made debris, etc.

Percent	Silt and Clay In: Fine-Grained Soil	Silt and Clay In: Coarse-Grained Soil	Percent	Sand and Gravel In: Fine-Grained Soil	Sand and Gravel In: Coarse-Grained Soil
< 5	trace	trace	< 5	trace	trace
5 – 12	minor	with	5 – 15	minor	minor
> 12	some	silty/clayey	15 – 30	with	with
			> 30	sandy/gravelly	Indicate %

GEODESIGN INC AN NV5 COMPANY

SOIL CLASSIFICATION SYSTEM

TABLE A-2

DRAFT

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION DEPTH	TESTING	SAMPLE
0.0		CONCRETE (7.0 inches)			
		Medium dense, gray-brown, silty SAND with gravel and cobbles (SM); moist - **FILL**.	0.6		
		Very dense, gray-brown, silty SAND with gravel (SM); moist - **GLACIAL TILL**.	2.0		
2.5					50-50/5"
5.0					27-50/6"
7.5					81
10.0		Dense, gray-brown, silty SAND with gravel (SM); moist - **ADVANCE OUTWASH**.	10.0		46
12.5		very dense, with cobbles at 12.5 feet			50/6"
15.0		dense, without cobbles at 15.0 feet			32
17.5					
20.0					

▲ BLOW COUNT
● MOISTURE CONTENT %
RQD% CORE REC%
0 50 100

INSTALLATION AND COMMENTS

- Flush-mount monument with 1.5 feet of concrete backfill
- Bentonite chips
- 2-inch, Schedule 40 PVC well casing
- 12/20 filter pack sand
- 2-inch, Schedule 40 PVC screen, 0.010-inch slot width
- ▽ 20.0 feet, during drilling

DRILLED BY: Boretec1 LOGGED BY: R. Hilal COMPLETED: 01/25/21

BORING METHOD: hollow-stem auger (see document text) BORING BIT DIAMETER: 8 inches

BORING LOG - GDI-NV5 - 1 PER PAGE NAC-1-02-B1-TP1_3.GPJ GDI_NV5.GDT PRINT DATE: 3/22/21:MGL:KT

GeoDesign Inc
AN NV5 COMPANY

NAC-1-02

BORING B-1

MARCH 2021

FIRCREST ATP RENOVATION
SHORELINE, WA

FIGURE A-1

DRAFT

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % RQD% CORE REC%	INSTALLATION AND COMMENTS
20.0		very dense; moist to wet at 20.0 feet				0 50 100	
22.5						50	
25.0		Very dense, gray-brown, silty SAND with gravel (SM); moist to wet, layers of interbedded sandy SILT - **GLACIAL TILL**.	25.0			73	
27.5							
30.0						29-50/6"	6-inch, threaded cap DOE I.D Well #BJI196
		Exploration completed at a depth of 31.0 feet.	31.0				Surface elevation was not measured at the time of exploration.
32.5		Hammer efficiency factor is 91.9 percent.					
35.0							
37.5							
40.0						0 50 100	

DRILLED BY: Boretec1 LOGGED BY: R. Hilal COMPLETED: 01/25/21

BORING METHOD: hollow-stem auger (see document text) BORING BIT DIAMETER: 8 inches

GeoDesign Inc
AN NV5 COMPANY

NAC-1-02

BORING B-1
(continued)

MARCH 2021

FIRCREST ATP RENOVATION
SHORELINE, WA

FIGURE A-1

BORING LOG - GDI-NV5 - 1 PER PAGE NAC-1-02-B1-TP1_3.GPJ GDI_NV5.GDT PRINT DATE: 3/22/21:MGL:KT

DRAFT

DEPTH FEET	MATERIAL DESCRIPTION	ELEVATION / DEPTH	SAMPLE	COMMENTS
0.0	AGGREGATE BASE (6.0 inches).			
	Medium dense, brown, silty SAND with gravel (SM); moist - **FILL**.	0.5		Minor caving observed from 1.0 to 3.0 feet.
	Medium dense, light brown SAND with silt and gravel (SP-SM); moist - **WEATHERED GLACIAL TILL**.	1.5		
2.5				
5.0	Dense, light gray, silty SAND with gravel (SM); moist - **GLACIAL TILL**.	5.0		
7.5				Infiltration test at 8.0 feet.
10.0	Dense, gray-brown, silty SAND with gravel (SM); moist to wet - **ADVANCE OUTWASH**.	10.0		
12.5				
	Exploration completed at a depth of 14.5 feet.	14.5		No groundwater seepage observed to the depth explored. Surface elevation was not measured at the time of exploration.
15.0				
17.5				
20.0				

GRAPHIC LOG

TESTING

● MOISTURE CONTENT %: 0 50 100

EXCAVATED BY: Continental Dirt Contractors

LOGGED BY: R. Hilal

COMPLETED: 01/19/21

EXCAVATION METHOD: excavator (see document text)

GeoDesign Inc
AN NV5 COMPANY

NAC-1-02

MARCH 2021

TEST PIT TP-1

FIRCREST ATP RENOVATION
SHORELINE, WA

FIGURE A-2

TEST PIT LOG - GDI-NV5 - 1 PER PAGE NAC-1-02-B1-TP1_3.GPJ GDI_NV5.GDT PRINT DATE: 3/22/21:MGL:KT

DRAFT

DEPTH FEET	MATERIAL DESCRIPTION	ELEVATION / DEPTH	SAMPLE	COMMENTS
0.0	AGGREGATE BASE (6.0 inches)			
	Dense, brown, silty SAND with gravel (SM); moist - **FILL**.	0.5		
	Dense, light brown SAND with silt and gravel (SP-SM); moist - **WEATHERED GLACIAL TILL**.	1.5		Minor caving observed from 2.0 to 4.0 feet.
2.5				
	medium dense at 4.0 feet			
5.0	Dense, light gray, silty SAND with gravel (SM); moist - **GLACIAL TILL**.	5.0		
7.5				
	Dense, gray-brown, silty SAND (SM), trace gravel; moist to wet - **ADVANCE OUTWASH**.	8.0		Infiltration test at 8.0 feet.
10.0				
12.5				
	Exploration completed at a depth of 14.5 feet.	14.5		No groundwater seepage observed to the depth explored. Surface elevation was not measured at the time of exploration.
15.0				
17.5				
20.0				

MOISTURE CONTENT % (0, 50, 100)

EXCAVATED BY: Continental Dirt Contractors

LOGGED BY: R. Hilal

COMPLETED: 01/19/21

EXCAVATION METHOD: excavator (see document text)

GeoDesign Inc
AN NV5 COMPANY

NAC-1-02

TEST PIT TP-2

MARCH 2021

FIRCREST ATP RENOVATION
SHORELINE, WA

FIGURE A-3

TEST PIT LOG - GDI-NV5 - 1 PER PAGE NAC-1-02-B1-TP1_3.GPJ GDI_NV5.GDT PRINT DATE: 3/22/21:MGL:KT

DRAFT

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	● MOISTURE CONTENT % (0 50 100)	COMMENTS
0.0		AGGREGATE BASE (6.0 inches).					
		Medium dense, brown, silty SAND with gravel (SM), trace organics; moist - **FILL**.	0.5 / 1.0		☒		
2.5		Medium dense, light brown, silty SAND with gravel (SM); moist - **WEATHERED GLACIAL TILL**.			☒		
		Dense, gray, silty SAND with gravel and cobbles (SM); moist - **GLACIAL TILL**.	3.0				
5.0							
7.5							
		Dense, gray-brown, silty SAND (SM), minor gravel; moist to wet - **ADVANCE OUTWASH**.	8.0		☒		Infiltration test at 8.0 feet.
10.0							
12.5					☒		
		Exploration completed at a depth of 14.0 feet.	14.0				No groundwater seepage observed to the depth explored. No caving observed to the depth explored. Surface elevation was not measured at the time of exploration.
15.0							
17.5							
20.0							

EXCAVATED BY: Continental Dirt Contractors | LOGGED BY: R. Hilal | COMPLETED: 01/19/21

EXCAVATION METHOD: excavator (see document text)

GeoDesign Inc — An NV5 Company

NAC-1-02

TEST PIT TP-3

MARCH 2021

FIRCREST ATP RENOVATION
SHORELINE, WA

FIGURE A-4

TEST PIT LOG - GDI-NV5 - 1 PER PAGE NAC-1-02-B1-TP1_3.GPJ GDI_NV5.GDT PRINT DATE: 3/22/21:MGL:KT

BORETEC-1-01 - B-1 20FT
OP: WMN

TRACK RIG EC-95
Date: 05-October-2015

AR: 1.41 in²
LE: 24.10 ft
WS: 16,807.9 f/s

SP: 0.492 k/ft³
EM: 30,000 ksi
JC: 0.00 []

ETR: Energy Transfer Ratio
EMX: Max Transferred Energy
FVP: Force/Velocity proportionality
CSX: Max Measured Compr. Stress
CSI: Max F1 or F2 Compr. Stress

CSB: Compression Stress at Bottom
BPM: Blows per Minute
VMX: Maximum Velocity
FMX: Maximum Force

BL#	depth	BLC	ETR	EMX	FVP	CSX	CSI	CSB	BPM	VMX	FMX
	ft	bl/ft	(%)	k-ft	[]	ksi	ksi	ksi	bpm	f/s	kips
8	20.00	10	93.9	0.3	0.6	25.5	25.9	0.00	56	16.575	35.9
9	20.10	10	88.4	0.3	0.6	25.7	25.9	0.00	57	16.655	36.2
10	20.20	10	90.3	0.3	0.5	25.1	25.4	0.00	54	16.925	35.5
11	20.31	10	93.3	0.3	0.6	25.8	26.2	0.00	56	16.634	36.4
12	20.41	10	86.7	0.3	0.7	26.2	26.7	0.00	56	15.753	36.9
13	20.51	10	82.5	0.3	0.7	26.6	26.6	0.00	55	16.138	37.5
14	20.61	10	89.3	0.3	0.6	23.7	24.7	0.00	55	17.030	33.4
15	20.71	10	84.5	0.3	0.6	23.5	24.9	0.00	56	16.260	33.1
16	20.82	10	86.3	0.3	0.6	23.6	24.5	0.00	56	17.248	33.3
17	20.92	10	88.3	0.3	0.5	26.7	27.1	0.00	55	17.003	37.7
18	21.02	10	90.6	0.3	0.6	26.2	26.2	0.00	56	17.131	36.9
19	21.12	10	90.4	0.3	0.6	25.3	25.6	0.00	56	17.131	35.6
20	21.22	10	91.4	0.3	0.5	24.9	25.6	0.00	57	17.302	35.2
21	21.33	10	92.2	0.3	0.6	25.3	25.7	0.00	55	17.584	35.7
22	21.43	10	86.0	0.3	0.6	24.4	24.5	0.00	56	16.086	34.4
23	21.53	10	89.3	0.3	0.7	25.5	25.7	0.00	55	16.791	35.9
24	21.63	10	90.2	0.3	0.6	24.1	24.5	0.00	55	16.422	34.0
25	21.73	10	82.8	0.3	0.6	24.5	25.8	0.00	56	16.371	34.5
26	21.84	10	84.9	0.3	0.5	24.6	25.6	0.00	56	16.824	34.7
27	21.94	10	91.7	0.3	0.6	25.9	26.9	0.00	55	17.706	36.5
28	22.04	10	89.4	0.3	0.6	25.6	26.9	0.00	56	17.223	36.1
29	22.14	10	84.9	0.3	0.6	25.6	26.7	0.00	56	17.130	36.1
30	22.24	10	88.0	0.3	0.5	25.4	25.9	0.00	56	17.228	35.8
31	22.35	10	89.6	0.3	0.5	26.6	27.3	0.00	55	16.948	37.5
32	22.45	10	89.9	0.3	0.6	25.8	26.5	0.00	56	17.692	36.3
33	22.55	10	92.1	0.3	0.6	25.5	26.0	0.00	55	17.539	36.0
34	22.65	10	91.0	0.3	0.6	24.7	25.2	0.00	55	16.685	34.8
35	22.76	10	90.5	0.3	0.6	25.3	25.7	0.00	57	17.032	35.7
36	22.86	10	91.5	0.3	0.6	25.2	26.7	0.00	56	17.461	35.5
37	22.96	10	87.3	0.3	0.6	25.3	26.8	0.00	56	17.394	35.6
38	23.06	10	89.6	0.3	0.6	24.3	24.9	0.00	56	16.758	34.2
39	23.16	10	90.6	0.3	0.5	24.6	25.9	0.00	56	17.063	34.7
40	23.27	10	86.8	0.3	0.7	25.8	27.4	0.00	56	16.481	36.3
41	23.37	10	88.6	0.3	0.6	25.3	26.9	0.00	55	17.395	35.6
42	23.47	10	88.6	0.3	0.6	25.9	27.2	0.00	57	17.135	36.5
43	23.57	10	91.0	0.3	0.5	26.9	27.7	0.00	56	17.975	37.9
44	23.67	10	89.3	0.3	0.6	25.2	27.0	0.00	56	17.433	35.6
45	23.78	10	84.0	0.3	0.6	26.0	28.4	0.00	55	17.365	36.7
46	23.88	10	87.6	0.3	0.5	25.8	27.7	0.00	57	17.391	36.4
47	23.98	10	88.2	0.3	0.6	26.3	28.6	0.00	56	17.397	37.1
48	24.08	10	84.0	0.3	0.6	26.5	28.4	0.00	55	17.536	37.3
57	25.00	10	103.1	0.4	0.5	27.4	31.1	0.00	55	19.420	38.6
58	25.28	4	87.0	0.3	0.5	27.0	30.5	0.00	56	19.110	38.1
59	25.56	4	87.8	0.3	0.7	26.0	29.5	0.00	55	17.983	36.7
60	25.83	4	85.1	0.3	0.5	26.6	30.9	0.00	57	18.220	37.5

BORETEC-1-01 - B-1 20FT
OP: WMN

TRACK RIG EC-95
Date: 05-October-2015

BL#	depth	BLC	ETR	EMX	FVP	CSX	CSI	CSB	BPM	VMX	FMX
	ft	bl/ft	(%)	k-ft	□	ksi	ksi	ksi	bpm	f/s	kips
61	26.11	4	86.9	0.3	0.5	26.8	30.5	0.00	56	19.337	37.7
62	26.39	4	89.7	0.3	0.5	27.4	30.3	0.00	55	19.459	38.6
63	26.67	4	88.1	0.3	0.5	27.3	30.9	0.00	56	19.451	38.4
64	26.94	4	88.6	0.3	0.5	26.0	29.3	0.00	56	18.572	36.7
65	27.22	4	95.3	0.3	0.4	26.8	30.2	0.00	56	19.280	37.7
66	27.50	4	92.5	0.3	0.5	26.8	30.7	0.00	56	19.630	37.8
67	27.78	4	87.7	0.3	0.5	27.1	30.7	0.00	56	19.739	38.3
68	28.06	4	88.9	0.3	0.4	27.2	30.3	0.00	55	19.655	38.3
75	30.00	4	89.0	0.3	0.6	30.6	33.9	0.00	56	17.359	43.1
76	30.15	7	97.9	0.3	0.6	30.3	32.7	0.00	55	17.416	42.8
77	30.29	7	92.1	0.3	0.6	31.6	36.1	0.00	56	17.529	44.6
78	30.44	7	93.9	0.3	0.6	31.8	36.1	0.00	55	17.712	44.9
79	30.59	7	98.1	0.3	0.6	30.2	32.9	0.00	56	17.551	42.5
80	30.74	7	94.5	0.3	0.6	31.7	36.3	0.00	55	17.653	44.7
81	30.88	7	97.0	0.3	0.6	31.2	35.2	0.00	56	17.942	43.9
82	31.03	7	97.9	0.3	0.6	31.4	36.1	0.00	55	18.048	44.2
83	31.18	7	92.5	0.3	0.6	31.4	35.6	0.00	57	17.902	44.2
84	31.32	7	95.6	0.3	0.8	28.9	31.3	0.00	55	16.198	40.7
85	31.47	7	95.9	0.3	0.5	31.0	35.3	0.00	55	17.957	43.7
86	31.62	7	100.9	0.4	0.6	31.7	36.0	0.00	55	17.571	44.7
87	31.76	7	95.5	0.3	0.6	31.4	35.6	0.00	57	17.729	44.3
88	31.91	7	101.4	0.4	0.7	30.5	34.1	0.00	55	17.089	43.0
89	32.06	7	95.1	0.3	0.6	32.1	36.4	0.00	56	17.729	45.2
90	32.21	7	93.3	0.3	0.6	31.0	35.1	0.00	55	17.368	43.7
91	32.35	7	94.1	0.3	0.6	31.4	35.1	0.00	56	17.399	44.3
92	32.50	7	93.8	0.3	0.5	30.8	34.8	0.00	56	17.457	43.4
93	32.65	7	96.8	0.3	0.5	31.0	35.6	0.00	55	17.609	43.7
94	32.79	7	96.3	0.3	0.6	31.2	34.7	0.00	56	17.409	43.9
95	32.94	7	96.4	0.3	0.6	31.6	35.8	0.00	55	17.378	44.6
96	33.09	7	96.6	0.3	0.6	31.1	34.4	0.00	55	17.449	43.8
97	33.24	7	93.4	0.3	0.6	32.0	35.7	0.00	55	17.550	45.2
98	33.38	7	94.6	0.3	0.6	30.9	34.1	0.00	56	16.940	43.6
99	33.53	7	93.2	0.3	0.6	32.0	35.8	0.00	56	17.159	45.1
109	35.00	7	86.5	0.3	0.7	31.0	32.9	0.00	56	16.563	43.7
110	35.15	7	99.0	0.3	0.6	30.5	31.1	0.00	55	17.381	42.9
111	35.29	7	95.2	0.3	0.7	30.6	31.8	0.00	58	17.089	43.2
112	35.44	7	89.1	0.3	0.7	30.8	32.1	0.00	56	16.936	43.5
113	35.59	7	94.9	0.3	0.7	31.7	33.0	0.00	56	17.320	44.8
114	35.74	7	87.5	0.3	0.7	31.2	33.3	0.00	57	17.189	44.0
115	35.88	7	101.6	0.4	0.7	30.9	32.3	0.00	55	17.022	43.6
116	36.03	7	92.3	0.3	0.6	32.1	34.8	0.00	56	17.318	45.2
117	36.18	7	108.0	0.4	0.5	31.1	32.8	0.00	55	17.741	43.8
118	36.32	7	98.2	0.3	0.7	29.5	32.4	0.00	56	16.443	41.6
119	36.47	7	97.7	0.3	0.6	30.4	33.2	0.00	56	17.030	42.9
120	36.62	7	102.1	0.4	0.7	28.8	30.1	0.00	56	17.030	40.7
121	36.76	7	99.7	0.3	0.6	29.3	32.6	0.00	56	16.624	41.3
122	36.91	7	95.3	0.3	0.6	29.1	32.2	0.00	56	16.424	41.1
123	37.06	7	87.6	0.3	0.7	28.1	29.9	0.00	56	16.646	39.6
124	37.21	7	96.3	0.3	0.8	26.9	27.6	0.00	55	15.949	38.0
125	37.35	7	96.5	0.3	0.6	29.1	30.5	0.00	55	17.299	41.1
126	37.50	7	93.3	0.3	0.6	29.5	30.9	0.00	56	17.425	41.6
		Average	91.9	0.3	0.6	27.9	30.1	0.00	56	17.398	39.4
		Std. Dev.	4.9	0.0	0.1	2.7	3.8	0.00	1	0.833	3.8

BORETEC-1-01 - B-1 20FT
OP: WMN

TRACK RIG EC-95
Date: 05-October-2015

BL#	depth	BLC	ETR	EMX	FVP	CSX	CSI	CSB	BPM	VMX	FMX
	ft	bl/ft	(%)	k-ft	[]	ksi	ksi	ksi	bpm	f/s	kips

Total number of blows analyzed: 96

BL#	Sensors
8-48	F3: [SPT B2] 218.9 (1.00); F4: [SPT B1] 217.8 (1.00); A3: [K0035] 295.0 (1.00); A4: [K5175] 354.0 (1.00)
57-126	F3: [SPT B1] 217.8 (1.00); F4: [SPT B2] 218.9 (1.00); A3: [K5175] 354.0 (1.00); A4: [K0035] 295.0 (1.00)

BL#	Comments
48	N: 6, 11, 28
57	LE = 29.20 ft; WC = 16,778.2 f/s
68	N: 7, 7, 6
75	LE = 34.30 ft; WC = 16,781.6 f/s
99	N: 5, 11, 14
109	LE = 39.30 ft; WC = 16,731.7 f/s
126	N: 8, 8, 10

Time Summary

Drive	43 seconds	2:08 PM - 2:09 PM (10/5/2015) BN 8 - 48
Stop	14 minutes 9 seconds	2:09 PM - 2:23 PM
Drive	11 seconds	2:23 PM - 2:23 PM BN 57 - 68
Stop	12 minutes 12 seconds	2:23 PM - 2:36 PM
Drive	25 seconds	2:36 PM - 2:36 PM BN 75 - 99
Stop	11 minutes 49 seconds	2:36 PM - 2:48 PM
Drive	18 seconds	2:48 PM - 2:48 PM BN 109 - 126

Total time [00:39:50] = (Driving [00:01:38] + Stop [00:38:11])

APPENDIX B

APPENDIX B

LABORATORY TESTING

CEC

CEC tests were completed by AMTest Laboratories in Kirkland, Washington, to help assess the suitability of on-site soil for water quality treatment.

ORGANIC CONTENT

Organic content tests were completed by AMTest Laboratories in Kirkland, Washington, to help assess the suitability of on-site soil for water quality treatment.

Am Test Inc.
13600 NE 126TH PL
Suite C
Kirkland, WA 98034
(425) 885-1664
www.amtestlab.com

Professional Analytical Services

ANALYSIS REPORT

GeoDesign, Inc.
19201 120TH AVE NE
BOTHELL, WA 98011
Attention: ROBBIE HILAL
Project Name: FIRCREST ATP RENNOVATION
Project #: NAC_1_02
PO Number: NAC_1_02
All results reported on an as received basis.

Date Received: 01/22/21
Date Reported: 2/10/21

AMTEST Identification Number **21-A000954**
Client Identification **TP-1 S-3 W8'**
Sampling Date **01/19/21**

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Cation Exchange Capacity	1.8	meq/100g		0.5	SW-846 9081	JDR	02/01/21

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Organic Matter	1.2	%			SM 2540G	DM	01/25/21

AMTEST Identification Number **21-A000955**
Client Identification **TP-2 S-3 W8'**
Sampling Date **01/19/21**

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Cation Exchange Capacity	1.0	meq/100g		0.5	SW-846 9081	JDR	02/01/21

GeoDesign, Inc.
Project Name: FIRCREST ATP RENNOVATION
AmTest ID: 21-A000955

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Organic Matter	0.7	%			SM 2540G	DM	01/25/21

AMTEST Identification Number **21-A000956**
Client Identification **TP-3 S-3 W8'**
Sampling Date **01/19/21**

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Cation Exchange Capacity	1.5	meq/100g		0.5	SW-846 9081	JDR	02/01/21

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Organic Matter	0.8	%			SM 2540G	DM	01/25/21

Kathy Fugiel
President

AmTest Chain of Custody Record

AMTEST LABORATORIES
13600 NE 126th PL, Suite C, Kirkland, WA 98034
Ph (425) 885-1664 Fx (425) 820-0245
www.amtestlab.com

Chain of Custody No. [illegible]

Client Name & Address:	Invoice To:
GeoDesign Inc. (NVS company) 19201 120th Ave NE #201 Bothell, WA 98011	SAME
Contact Person: Robbie Hickel	Invoice Contact: Robbie Hickel
Phone No: (206) 459-4792	PO Number: Job NAC-1-02
Fax No:	Invoice Ph/Fax: (206) 459-4479
E-mail: robbie.hickel@NVS.com	Invoice E-mail: robbie.hickel@NVS.com
Report Delivery: (Choose all that apply) Mail / Fax / Email / Posted Online	Data posted to online account: YES / NO Web Login ID:
Special Instructions:	

Requested TAT: **(Rush must be pre-approved by lab)** Standard RUSH (5 Day / 3 Day / 48 HR / 24 HR)

Temperature upon Receipt: 11.2

Project Name: Forest ATP Remarks

Project Number: NAC-1-02

AmTest ID	Client ID (35 characters max)	Date Sampled	Time Sampled	Matrix	No. of containers	Analysis Requested									QA/QC
						NWTPH-Dx	NWTPH-Gx								
954	TP-1 3-3.5'	11/19/21	AM												
55	TP-2 3-3.5'	11/19/21	AM												
56	TP-3 3-3.5'	11/19/21	AM												

Collected/Relinquished By:	Date	Time	Received By:	Date	Time
[signature]	11/22/21	12:30	[signature]	11/22/21	1230
Relinquished By: Robbie Hickel	Date	Time	Received By:	Date	Time
Relinquished By:	Date	Time	Received By:	Date	Time

COMMENTS: Client

APPENDIX C

APPENDIX C

ATP BUILDING EXISTING BORING LOGS

CONSTRUCTION SEQUENCE PLAN

SCALE 1" = 50'-0"

LEGEND

- NEW BUILDING TO BE CONSTRUCTED
- EXISTING BUILDING TO BE REMOVED
- EX'STING BUILDING TO REMAIN
- BOUNDARIES OF CONSTRUCTION PHASES 1 THRU 4
- EXISTING CONTOURS SEE A-3 FOR CHANGES
- PERMANENT ELEVATION MARKER W/ ELEVATION
- SOIL TEST BORING HOLES (TEST HOLE COMPLETED / TEST HOLE NOT COMPLETED)

LAUNDRY BLDG. PROPOSED PARKING AREA

1 DEMOLISH: AREA OF STUDENT QUARTERS (CERRICK EXTENDING ACROSS CENTERLINE ZONE) (SEE A-7)
RELOCATE: ZEN'OLITE TO LIMIT OF EX. ROADS AS SHOWN; EX. STING FENCE; EX. STING PLAY EQUIP. AT C.P. CENTER; PT. REPLACE SHED AT C.P. CENTER
CONSTRUCT: WALKS & PATIOS AS SHOWN; EXTEND ROAD OR CURB TO INTERSECT EXISTING; ASPHALT OR CURB TO INTERSECT; ROAD AT END OF STUDENT QUARTERS (SEE A-7)

2 DEMOLISH: 2807 MOD HALL WINGS G, H, J, K AND L; PORTABLE MORGUE AND POOL; EX. ST. ROADS & AREAS SHOWN
CONSTRUCT: TEMPORARY LOADING DOCK AT REMOD'D HALL WINGS A-B & C-D + E-F (SEE DETAIL D, A-3); NEW ROADS AS SHOWN; SUPER. NES 1, 2, 3, 4, 11 AND APT. N; DUPL. NES 5 & 7-10 AND APTS S; PARKING AREAS AT C.P. CENTER; WALKS AND OTHER SITE GRADING AS SHOWN

3 DEMOLISH: 2807 MOD HALL WINGS A, B, C, D, E AND F; TEMPORARY LOADING DOCKS; EXISTING ROADS WHERE SHOWN
CONSTRUCT: DUPLEX NES 6, G, AND T; WALKS AND ROADS AS SHOWN

4 DEMOLISH: STUDENT QUARTERS (CERRICK) LEVEL (SEE A-7); EXISTING ROADS WHERE SHOWN
CONSTRUCT: WALKS, ROADS & PARKING AREAS

NOTE: CONTOURS & ROADS ON THIS SHEET ARE EXISTING SEE A-3 FOR NEW CONTOURS, ROADS & WALKS

LOG OF SOIL BORINGS

(SEE A-2 FOR BORING LOCATIONS)

BORING #1

ELEVATION 351±
GRAVEL SURFACING
BROWN FINE TO MEDIUM SAND WITH GRAVEL (MODERATELY COMPACT IN UPPER FEET AND COMPACT BELOW)
BROWNISH GRAY FINE SAND (COMPACT)
BROWNISH GRAY FINE TO COARSE SAND (VERY COMPACT)
68%-88 / 12%-109 / 89%-115 / 69%-110
BORING COMPLETED 11-7-69 NO GROUND WATER ENCOUNTERED

BORING #2

ELEVATION 346±
BROWN ORGANIC SILTY SAND WITH ROOTS (LOOSE) (TOPSOIL)
BROWN SILTY SAND MIXED WITH BROWN FINE TO COARSE SAND AND GRAVEL (MODERATELY COMPACT IN UPPER FEET AND COMPACT BELOW)
BROWNISH GRAY SILTY SAND WITH GRAVEL (VERY COMPACT) (GLACIAL TILL)
20.2%-96 / 14.2%-105 / 11.6%-128 / 7.7% -D.
BORING COMPLETED 11-11-69 NO GROUND WATER ENCOUNTERED

BORING #3

NORTHEAST CORNER
ELEVATION 343±
BROWN ORGANIC SILTY SAND WITH ROOTS (MODERATELY SOFT) (TOPSOIL)
BROWN SILTY SAND WITH GRAVEL (MODERATELY COMPACT IN UPPER FEET AND COMPACT BELOW)
BROWNISH GRAY FINE SAND (COMPACT)
BROWNISH GRAY FINE TO COARSE SAND WITH GRAVEL (COMPACT) WATER LEVEL 11-10-69
BROWNISH GRAY SILTY SAND WITH GRAVEL (VERY COMPACT) (GLACIAL TILL)
BORING COMPLETED 11-10-69
02.4%-85 / 10.2%-103 / 10.8%-128 / 11.7%-131

BORING #4

SOUTHEAST CORNER
ELEVATION 343±
BROWN ORGANIC SILTY SAND WITH ROOTS (LOOSE) (TOPSOIL)
BROWN SILTY SAND MIXED WITH BROWN FINE TO COARSE SAND AND GRAVEL (MODERATELY COMPACT IN UPPER FEET AND COMPACT BELOW)
BROWNISH GRAY SILTY SAND WITH GRAVEL (VERY COMPACT) (GLACIAL TILL)
BORING COMPLETED 11-11-69 NO GROUND WATER ENCOUNTERED

BORING #5

ELEVATION 346±
BROWN SILTY SAND WITH ROOTS (LOOSE) (TOPSOIL)
BROWN SILTY SAND MIXED WITH BROWN FINE TO COARSE SAND WITH OCCASIONAL GRAVEL (MODERATELY COMPACT)
BROWNISH GRAY FINE SAND (COMPACT)
GRAY FINE TO MEDIUM SAND OCCASIONAL GRAVEL (COMPACT)
BROWNISH GRAY SILTY FINE TO COARSE SAND WITH GRAVEL (VERY COMPACT) (GLACIAL TILL)
4.6%-116 / 7.4%-113 / 6.6%-122 / 8.9%-127

01706

Revisions:
5-1-72 DUPLEX 11 : DELETED PER AS-BUILT CONDITION
12-27-72 " AS-BUILT CONDITION

Sheet Contents: CONSTRUCTION SEQUENCE PLAN
Approvals: Agency: ____ Job Capt.: ____ Section Head: ____ Agency Director: ____ Supv. of Eng. & Arch.: ____
Drawn: ATWOOD
Traced: ____
Checked: 12/6/1968
Date: 7-1-70

REGISTERED ARCHITECT — STATE OF WASHINGTON — 11,694

Prepared by:
SHAVEY & SCHMIDT A.I.A., ARCHITECTS
710 CHERRY STREET SEATTLE, WASHINGTON 98104

Project Title:
REPLACE REDWOOD HALL
FIRCREST SCHOOL
SEATTLE, WASHINGTON

State Job No.: 67.366
Sheet No.: A2

STATE OF WASHINGTON — DEPARTMENT OF GENERAL ADMINISTRATION — DIV. OF ENGINEERING & ARCHITECTURE

01702

67-366

1702

Appendix C

Permanent Stormwater Control Calculations

C-1 TYPICAL FLOW CONTROL CALCULATION

MGS FLOOD
PROJECT REPORT

Program Version: MGSFlood 4.57
Program License Number: 201710010
Project Simulation Performed on: 04/08/2022 3:55 PM
Report Generation Date: 04/08/2022 3:55 PM

Input File Name: Fircrest FC Modeling.fld
Project Name: Fircrest Flow Control
Analysis Title:
Comments:

PRECIPITATION INPUT

Computational Time Step (Minutes): 15

Extended Precipitation Time Series Selected
Climatic Region Number: 15

Full Period of Record Available used for Routing
Precipitation Station : 96004005 Puget East 40 in_5min 10/01/1939-10/01/2097
Evaporation Station : 961040 Puget East 40 in MAP
Evaporation Scale Factor : 0.750

HSPF Parameter Region Number: 1
HSPF Parameter Region Name : Ecology Default

********** Default HSPF Parameters Used (Not Modified by User) **********

********** **WATERSHED DEFINITION** **********

Predevelopment/Post Development Tributary Area Summary

	Predeveloped	Post Developed
Total Subbasin Area (acres)	10.810	10.810
Area of Links that Include Precip/Evap (acres)	0.000	0.000
Total (acres)	10.810	10.810

----------SCENARIO: PREDEVELOPED
Number of Subbasins: 1

---------- Subbasin : Existing Condition ----------

	-------Area (Acres) --------
C, Forest, Mod	10.810
Subbasin Total	10.810

----------SCENARIO: POSTDEVELOPED
Number of Subbasins: 1

---------- Subbasin : Developed Condition ----------

	-------Area (Acres) --------
C, Lawn, Mod	2.360
ROADS/MOD	2.810
ROOF TOPS/FLAT	5.640
Subbasin Total	10.810

********** **LINK DATA** **********

----------SCENARIO: PREDEVELOPED
Number of Links: 0

********** **LINK DATA** **********

----------SCENARIO: POSTDEVELOPED
Number of Links: 1

Link Name: FC
Link Type: Structure
Downstream Link: None

Prismatic Pond Option Used

Pond Floor Elevation (ft)	:	100.00
Riser Crest Elevation (ft)	:	103.00
Max Pond Elevation (ft)	:	104.00
Storage Depth (ft)	:	3.00
Pond Bottom Length (ft)	:	360.0
Pond Bottom Width (ft)	:	220.0
Pond Side Slopes (ft/ft)	:	Z1= 3.00 Z2= 3.00 Z3= 3.00 Z4= 3.00
Bottom Area (sq-ft)	:	79200.
Area at Riser Crest El (sq-ft)	:	89,964.
(acres)	:	2.065
Volume at Riser Crest (cu-ft)	:	253,584.
(ac-ft)	:	5.821
Area at Max Elevation (sq-ft)	:	93696.
(acres)	:	2.151
Vol at Max Elevation (cu-ft)	:	345,408.
(ac-ft)	:	7.929

Volume Required for Flow Control Treatment (Total)
Ratio of FC Volume/Impervious Area
= 253,584/(2.81+5.64)
= 30,009.94
~30,000 CF/AC

Hydraulic Conductivity (in/hr) : 0.00
Massmann Regression Used to Estimate Hydralic Gradient
Depth to Water Table (ft) : 100.00
Bio-Fouling Potential : Low
Maintenance : Average or Better

Riser Geometry

Riser Structure Type : Circular
Riser Diameter (in) : 30.00
Common Length (ft) : 0.210
Riser Crest Elevation : 103.00 ft

Hydraulic Structure Geometry

Number of Devices: 2

---Device Number 1 ---
Device Type : Circular Orifice
Control Elevation (ft) : 100.00
Diameter (in) : 1.63
Orientation : Horizontal
Elbow : No

--- Device Number 2 ---
Device Type : Vertical Rectangular Orifice
Control Elevation (ft) : 101.83
Length (in) : 2.52
Height (in) : 14.01
Orientation : Vertical
Elbow : No

**********FLOOD FREQUENCY AND DURATION STATISTICS**********

----------SCENARIO: PREDEVELOPED
Number of Subbasins: 1
Number of Links: 0

----------SCENARIO: POSTDEVELOPED
Number of Subbasins: 1
Number of Links: 1

********** Subbasin: Developed Condition **********

Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	3.711
5-Year	4.918
10-Year	5.670
25-Year	7.601
50-Year	9.024
100-Year	11.802
200-Year	12.542
500-Year	13.476

********** Link: FC ********** Link Inflow
Frequency Stats
Flood Frequency Data(cfs)

(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	3.711
5-Year	4.918
10-Year	5.670
25-Year	7.601
50-Year	9.024
100-Year	11.802
200-Year	12.542
500-Year	13.476

********** Link: FC ********** Link WSEL Stats

WSEL Frequency Data(ft)

(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	WSEL Peak (ft)
1.05-Year	100.969
1.11-Year	101.132
1.25-Year	101.239
2.00-Year	101.680
3.33-Year	101.976
5-Year	102.150
10-Year	102.402
25-Year	102.594
50-Year	102.663
100-Year	102.691

************Groundwater Recharge Summary **************

Recharge is computed as input to Perlnd Groundwater Plus Infiltration in Structures

Total Predeveloped Recharge During Simulation

Model Element	Recharge Amount (ac-ft)
Subbasin: Existing Condition	1864.432
Total:	1864.432

Total Post Developed Recharge During Simulation

Model Element	Recharge Amount (ac-ft)
Subbasin: Developed Condition	288.413
Link: FC	0.000
Total:	288.413

Total Predevelopment Recharge is Greater than Post Developed
Average Recharge Per Year, (Number of Years= 158)
Predeveloped: 11.800 ac-ft/year, Post Developed: 1.825 ac-ft/year

************Water Quality Facility Data **************

----------SCENARIO: PREDEVELOPED

Number of Links: 0

----------SCENARIO: POSTDEVELOPED

Number of Links: 1

********** Link: FC **********

Basic Wet Pond Volume (91% Exceedance): 39778. cu-ft
Computed Large Wet Pond Volume, 1.5*Basic Volume: 59667. cu-ft

2-Year Discharge Rate : 0.091 cfs

15-Minute Timestep, Water Quality Treatment Design Discharge
On-line Design Discharge Rate (91% Exceedance): 1.28 cfs
Off-line Design Discharge Rate (91% Exceedance): 0.71 cfs

Infiltration/Filtration Statistics----------
Inflow Volume (ac-ft): 4266.76
Inflow Volume Including PPT-Evap (ac-ft): 4266.76
Total Runoff Infiltrated (ac-ft): 0.00, 0.00%
Total Runoff Filtered (ac-ft): 0.00, 0.00%
Primary Outflow To Downstream System (ac-ft): 4265.61
Secondary Outflow To Downstream System (ac-ft): 0.00
Volume Lost to ET (ac-ft): 0.00
Percent Treated (Infiltrated+Filtered+ET)/Total Volume: 0.00%

************Compliance Point Results **************

Scenario Predeveloped Compliance Subbasin: Existing Condition

Scenario Postdeveloped Compliance Link: FC

***** Point of Compliance Flow Frequency Data *****
Recurrence Interval Computed Using Gringorten Plotting Position

Predevelopment Runoff		Postdevelopment Runoff	
Tr (Years)	Discharge (cfs)	Tr (Years)	Discharge (cfs)
2-Year	0.230	2-Year	9.133E-02
5-Year	0.375	5-Year	0.205
10-Year	0.506	10-Year	0.352
25-Year	0.641	25-Year	0.487
50-Year	0.819	50-Year	0.540
100-Year	0.887	100-Year	0.562
200-Year	1.381	200-Year	0.607
500-Year	2.044	500-Year	0.667

** Record too Short to Compute Peak Discharge for These Recurrence Intervals

****** Flow Duration Performance ******

Excursion at Predeveloped 50%Q2 (Must be Less Than or Equal to 0%):	-34.4%	PASS
Maximum Excursion from 50%Q2 to Q2 (Must be Less Than or Equal to 0%):	-25.6%	PASS
Maximum Excursion from Q2 to Q50 (Must be less than 10%):	-9.3%	PASS
Percent Excursion from Q2 to Q50 (Must be less than 50%):	0.0%	PASS

MEETS ALL FLOW DURATION DESIGN CRITERIA: PASS

C-2 TYPICAL WATER QUALITY CALCULATION

MGS FLOOD
PROJECT REPORT

Program Version: MGSFlood 4.57
Program License Number: 201710010
Project Simulation Performed on: 04/08/2022 4:06 PM
Report Generation Date: 04/08/2022 4:07 PM

Input File Name: Fircrest WQ Modeling.fld
Project Name: Fircrest Water Quality
Analysis Title: Bioretention and Water Quality Flow Rates
Comments:

PRECIPITATION INPUT

Computational Time Step (Minutes): 15

Extended Precipitation Time Series Selected
Climatic Region Number: 15

Full Period of Record Available used for Routing
Precipitation Station : 96004005 Puget East 40 in_5min 10/01/1939-10/01/2097
Evaporation Station : 961040 Puget East 40 in MAP
Evaporation Scale Factor : 0.750

HSPF Parameter Region Number: 1
HSPF Parameter Region Name : Ecology Default

********** Default HSPF Parameters Used (Not Modified by User) **********

********** **WATERSHED DEFINITION** **********

Predevelopment/Post Development Tributary Area Summary

	Predeveloped	Post Developed
Total Subbasin Area (acres)	1.000	1.000
Area of Links that Include Precip/Evap (acres)	0.000	0.004
Total (acres)	1.000	1.004

----------SCENARIO: PREDEVELOPED
Number of Subbasins: 1

---------- Subbasin : Existing Condition ----------

	-------Area (Acres) --------
ROADS/MOD	1.000
Subbasin Total	1.000

----------**SCENARIO: POSTDEVELOPED**
Number of Subbasins: 1

---------- Subbasin : PGIS ----------
-------Area (Acres) --------
ROADS/MOD 1.000

Subbasin Total 1.000

********** **LINK DATA** **********

----------SCENARIO: PREDEVELOPED
Number of Links: 0

********** **LINK DATA** **********

----------SCENARIO: POSTDEVELOPED
Number of Links: 1

Link Name: Bioretention
Link Type: Ecology Bioretention Facility
Downstream Link: None

Floor Elevation (ft) : 100.00
Riser Crest Elevation (ft) : 100.50
Storage Depth (ft) : 0.50
Bottom Length (ft) : 15.0
Bottom Width (ft) : 12.0
Bottom Slope (ft/ft) : 0.000
Side Slopes (ft/ft) : Z1= 3.00 Z2= 3.00 Z3= 3.00 Z4= 3.00
Bottom Area (sq-ft) : 180.
Area at Riser Crest El (sq-ft) : 270.
(acres) : 0.006
Volume at Riser Crest (cu-ft) : 223.
(ac-ft) : 0.005

270 SF of Bioretention @ 6" ponding depth
Per 1 acre of PGIS

Infiltration on Bottom only Selected

Soil Properties

Layer No	Soil Name	Thickness (ft)
1	ASTM 100	0.250
2	SMMWW 12 in/hr (Ecol	1.500
3	GRAVEL	1.500

KSat Safety Factor: None
Native Soil Infiltration Rate (in/hr) : 0.00

Underdrain Present
Underdrain Offset (in): : 6.00
Orifice Diameter (in) : 6.000

Riser Geometry
Riser Structure Type : Circular
Riser Diameter (in) : 6.00
Common Length (ft) : 0.000
Riser Crest Elevation : 100.50 ft

Hydraulic Structure Geometry

Number of Devices: 0

**********FLOOD FREQUENCY AND DURATION STATISTICS**********

----------SCENARIO: PREDEVELOPED
Number of Subbasins: 1
Number of Links: 0

----------SCENARIO: POSTDEVELOPED
Number of Subbasins: 1
Number of Links: 1

********** Subbasin: PGIS **********

Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	0.459
5-Year	0.615
10-Year	0.775
25-Year	0.990
50-Year	1.096
100-Year	1.460
200-Year	1.641
500-Year	1.876

********** Link: Bioretention ********** Link Inflow Frequency Stats
Flood Frequency Data(cfs)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	Flood Peak (cfs)
2-Year	0.459
5-Year	0.615
10-Year	0.775
25-Year	0.990
50-Year	1.096
100-Year	1.460
200-Year	1.641
500-Year	1.876

********** Link: Bioretention ********** Link WSEL Stats

WSEL Frequency Data(ft)
(Recurrence Interval Computed Using Gringorten Plotting Position)

Tr (yrs)	WSEL Peak (ft)
1.05-Year	100.613
1.11-Year	100.620
1.25-Year	100.639
2.00-Year	100.690
3.33-Year	100.751
5-Year	100.798
10-Year	100.910
25-Year	101.063
50-Year	101.182
100-Year	101.504

*************Groundwater Recharge Summary ***************

Recharge is computed as input to Perlnd Groundwater Plus Infiltration in Structures

Total Predeveloped Recharge During Simulation

Model Element	Recharge Amount (ac-ft)
Subbasin: Existing Condition	0.000
Total:	0.000

Total Post Developed Recharge During Simulation

Model Element		Recharge Amount (ac-ft)
Subbasin: PGIS		0.000
Link:	Bioretention	0.000
Total:		0.000

Total Predevelopment Recharge Equals Post Developed
Average Recharge Per Year, (Number of Years= 158)
Predeveloped: 0.000 ac-ft/year, Post Developed: 0.000 ac-ft/year

**********Water Quality Facility Data **********

----------SCENARIO: PREDEVELOPED

Number of Links: 0

----------SCENARIO: POSTDEVELOPED

Number of Links: 1

WQ Discharge rates for preliminary sizing of underground treatment structures such as Biopod and Modular Wetland.

********** Link: Bioretention **********

2-Year Discharge Rate : 0.412 cfs

15-Minute Timestep, Water Quality Treatment Design Discharge
On-line Design Discharge Rate (91% Exceedance): 0.17 cfs
Off-line Design Discharge Rate (91% Exceedance): 0.09 cfs

Infiltration/Filtration Statistics----------
Inflow Volume (ac-ft): 451.51
Inflow Volume Including PPT-Evap (ac-ft): 452.88
Total Runoff Infiltrated (ac-ft): 0.00, 0.00%
Total Runoff Filtered (ac-ft): 413.90, 91.39%
Primary Outflow To Downstream System (ac-ft): 450.87
Secondary Outflow To Downstream System (ac-ft): 0.00
Volume Lost to ET (ac-ft): 2.02
Percent Treated (Infiltrated+Filtered+ET)/Total Volume: 91.84%

**********Compliance Point Results **********

Scenario Predeveloped Compliance Subbasin: Existing Condition

Scenario Postdeveloped Compliance Link: Bioretention

*** Point of Compliance Flow Frequency Data ***
Recurrence Interval Computed Using Gringorten Plotting Position

Predevelopment Runoff		Postdevelopment Runoff	
Tr (Years)	Discharge (cfs)	Tr (Years)	Discharge (cfs)
2-Year	0.459	2-Year	0.412
5-Year	0.615	5-Year	0.515
10-Year	0.775	10-Year	0.592
25-Year	0.990	25-Year	0.684
50-Year	1.096	50-Year	0.746
100-Year	1.460	100-Year	0.897
200-Year	1.641	200-Year	0.960
500-Year	1.876	500-Year	1.041

** Record too Short to Compute Peak Discharge for These Recurrence Intervals

****** Flow Duration Performance ******

Excursion at Predeveloped 50%Q2 (Must be Less Than or Equal to 0%):	-20.3%	PASS
Maximum Excursion from 50%Q2 to Q2 (Must be Less Than or Equal to 0%):	-9.7%	PASS
Maximum Excursion from Q2 to Q50 (Must be less than 10%):	-19.7%	PASS
Percent Excursion from Q2 to Q50 (Must be less than 50%):	0.0%	PASS

MEETS ALL FLOW DURATION DESIGN CRITERIA: PASS
