

TUKWILA PUBLIC WORKS

Maintenance and Engineering Building

Test-to-Fit Phase December 5, 2022



Hari Ponnekanti, Public Works Director

Brandon Miles, PW Project Manager

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Herrera, Landscape Architecture and Environmental Engineering

Cannon Engineering, Civil Engineering

Tres West, Electrical Engineering

PCS Structural Solutions, Structural Engineering

RC Cost, Cost Analysis

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M&E Building**

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1. Fulfill the commitment the City made to the community and staff in 2016 on Public Safety

- Justice Center**
- Two new fire stations**
- Fleet and Facilities**

2. Minkler Shops

- Too small**
- Do not meet current seismic standards**
- Adjacent to Green River levee**

3. Maximize Operational Effectiveness by consolidating Public Works operations

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Property Marketability

Operating and Maintenance Costs

Property Value

Property Attributes

Work process efficiency

Facility Quality

Location

Public

Staff

Services provided

Deliveries and Vendors

Good Neighbor

Public and Staff Experience

Public Image

Customer Service

Quality of Work Life

Facility Specifics

Meet current seismic standards

Natural disaster resiliency

Operational Flexibility

Expansion Potential

Americans with Disabilities Act Compliance

Acoustics

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“Making people happy and keeping people safe”

“We keep public safety vehicles on the road”

“Opportunity to celebrate PW successes, share stories and images of past projects.”

Safe

Functional

Efficient

Forward Looking

“Public Works keeps the City in good working order”

“Public Works is the backbone of the City. This is an opportunity to highlight this to the public.”

“Team Work”

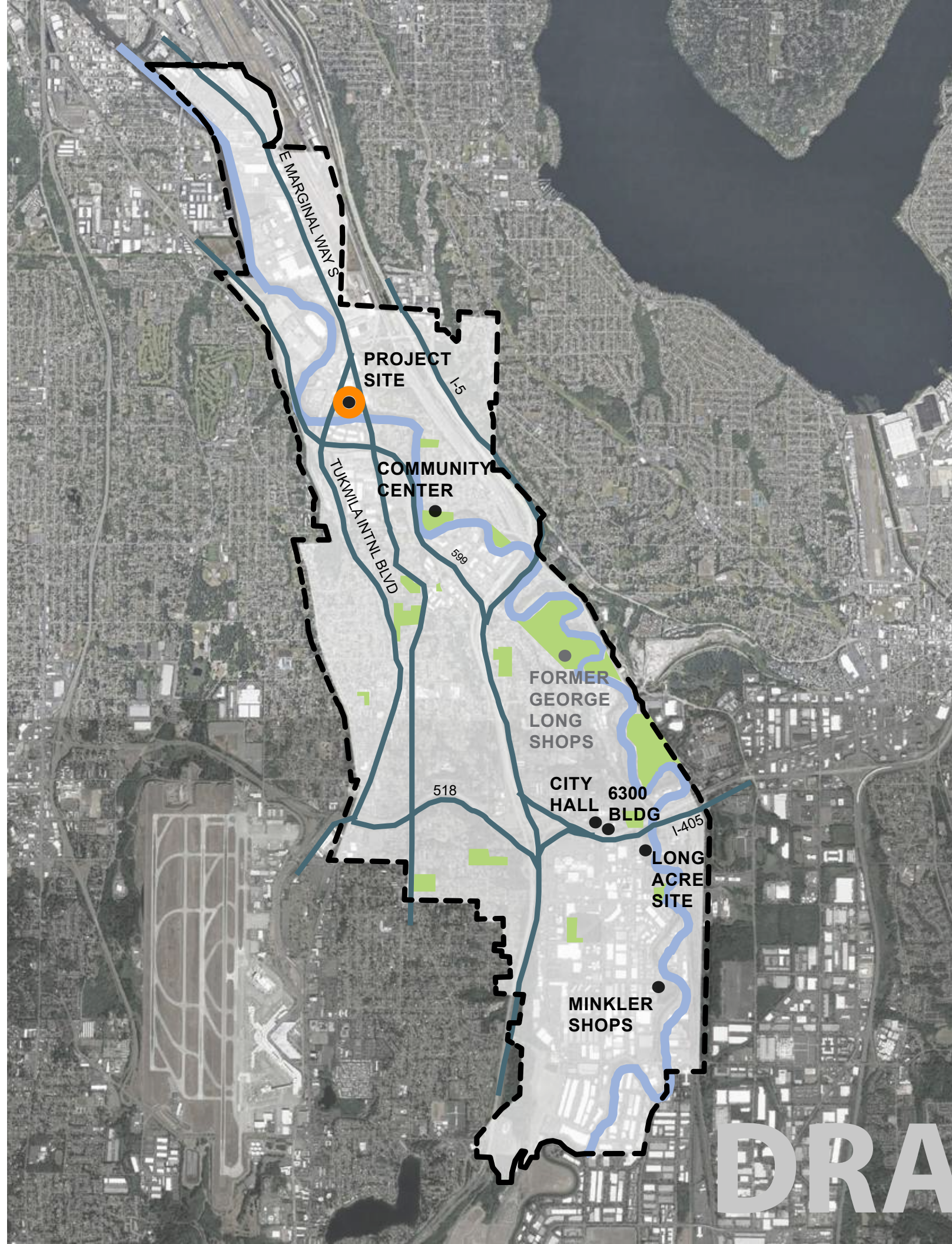
“When no one else is in the city, Public Works is on the job clearing the snow.”

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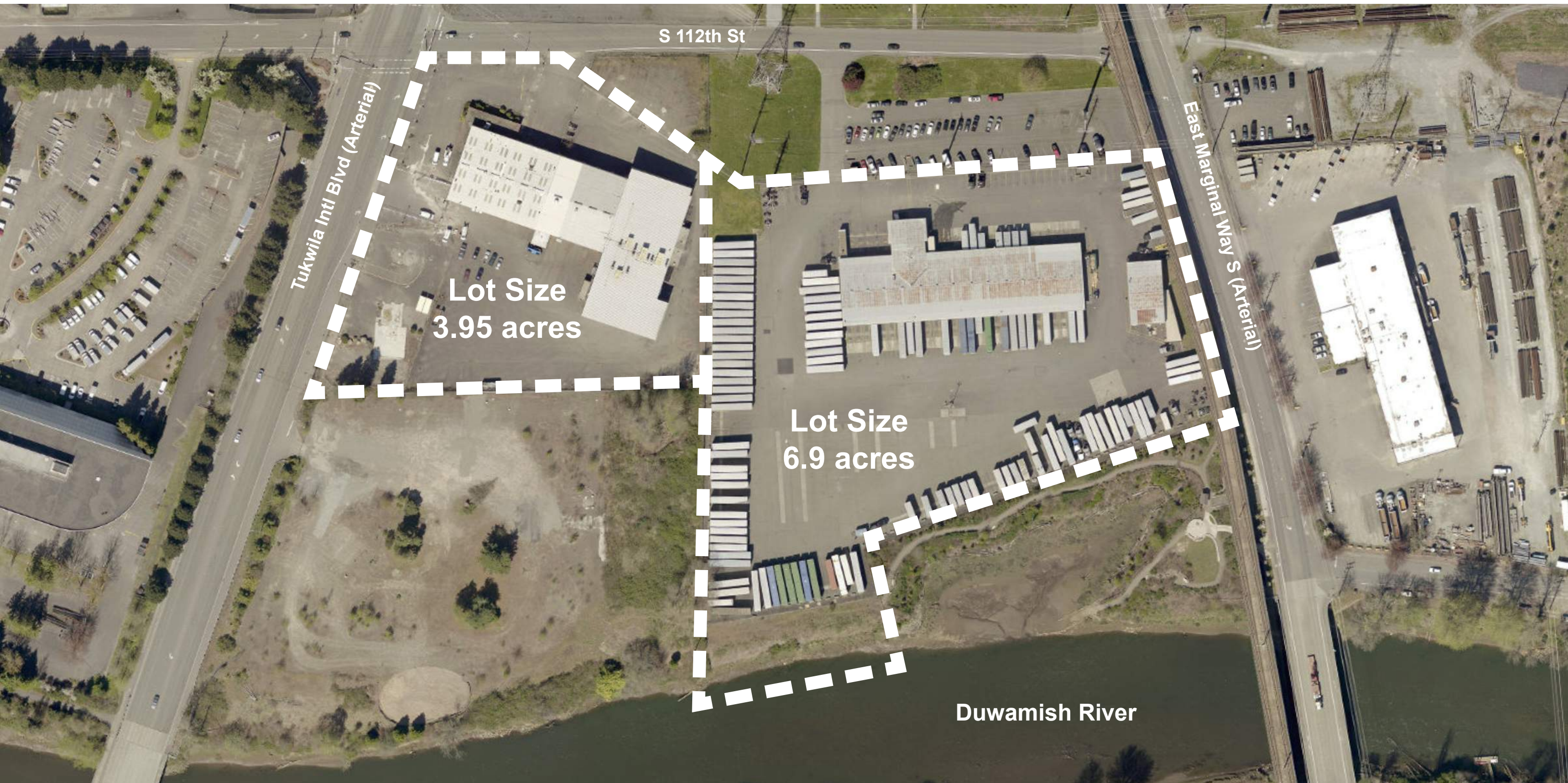


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S 112th St

Tukwila Intl Blvd (Arterial)

East Marginal Way S (Arterial)

Lot Size
3.95 acres

Lot Size
6.9 acres

Duwamish River

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SITE ATTRIBUTES



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SITE ATTRIBUTES

**Water/
Telecom
Easement**

**Seattle City Light
Easement**

**Sound Transit
Easement**

**Light Rail
Supports**

**Light Rail Track
(above)**

**Chinook Winds
Mitigation Project**

**Duwamish
Gardens Park**

**Restoration Area identified in
Dept. of Ecology Waiver Request**

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EXISTING SITE PHOTOS



NW View from Tukwila Intl Blvd



SE View from Duwamish Gardens Park



View into UPS site from E Marginal Way S



SW View from across Duwamish River

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IMPERVIOUS SURFACES

Existing
Impervious Surface
Approximately
465,000 SF



Fence & Edge of
Existing Paving

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STORY OF THE WATERSHED

THE RIVER IS OUR RELATIVE

Historically the Duwamish River watershed was a Culturally and ecologically rich corridor.

CURRENTLY LIVING WITHIN THE WATERSHED:

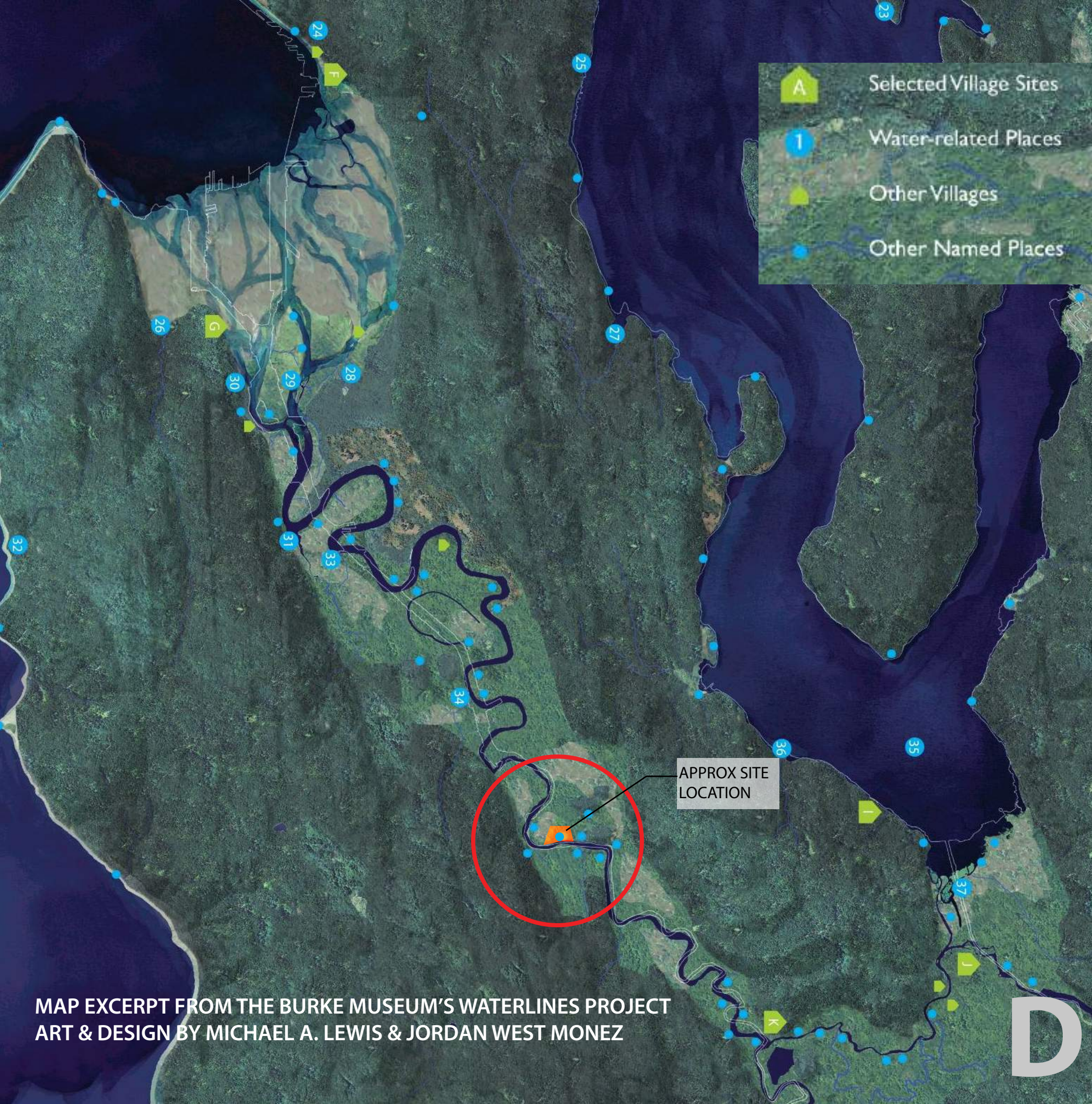
15 FISH SPECIES

76 BIRD SPECIES

34 MAMMAL SPECIES

8 AMPHIBIAN SPECIES

4 REPTILE SPECIES



MAP EXCERPT FROM THE BURKE MUSEUM'S WATERLINES PROJECT
ART & DESIGN BY MICHAEL A. LEWIS & JORDAN WEST MONEZ

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STORY OF THE WATERSHED

Floodplain Forest



Freshwater Wetlands and Bogs



- PURPLE MARTIN
- BALD EAGLE
- OSPREY
- GREAT BLUE HERON
- STELLARS JAY
- WOOD DUCK
- DOUGLAS SQUIRREL
- WESTERN GREY SQUIRREL
- FOX
- NORTHERN RIVER OTTER
- LONG-EARED WEASEL
- TOWNSEND'S CHIPMUNK
- BRUSH RABBIT
- NUTRIA
- WESTERN POND TURTLE
- WESTERN PAINTED TURTLE
- PUGET SOUND STEELHEAD
- COHO SALMON
- CHUM SALMON
- SOCKEYE
- PUGET SOUND BULL TROUT
- CHINOOK SALMON
- DRAGONFLIES
- BEEES

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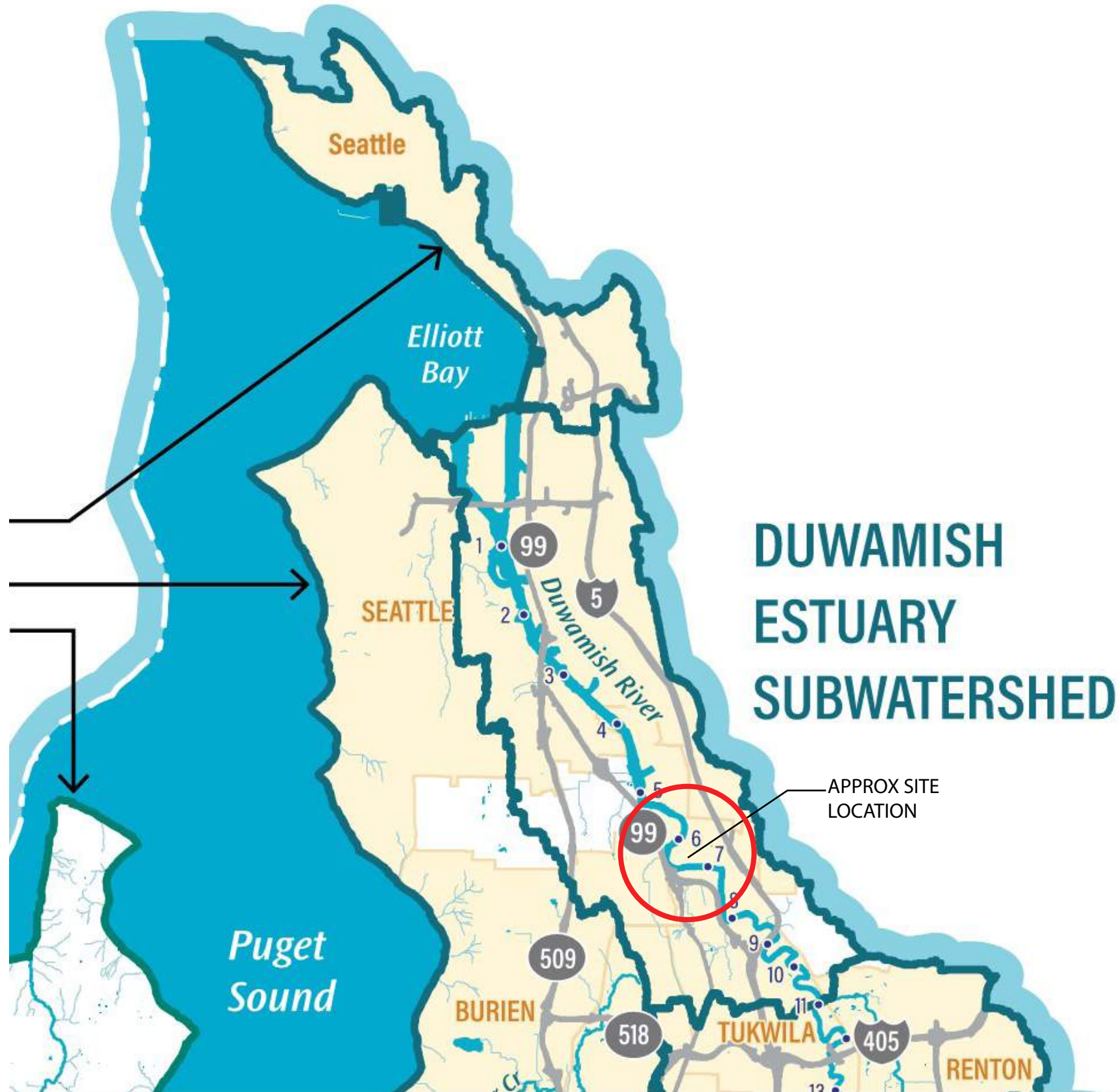
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SALMON REARING HABITAT

The site has potential to provide shallow water rearing habitat for juvenile salmonids which is critical to increasing salmonid survival and restoring this key species to the river.



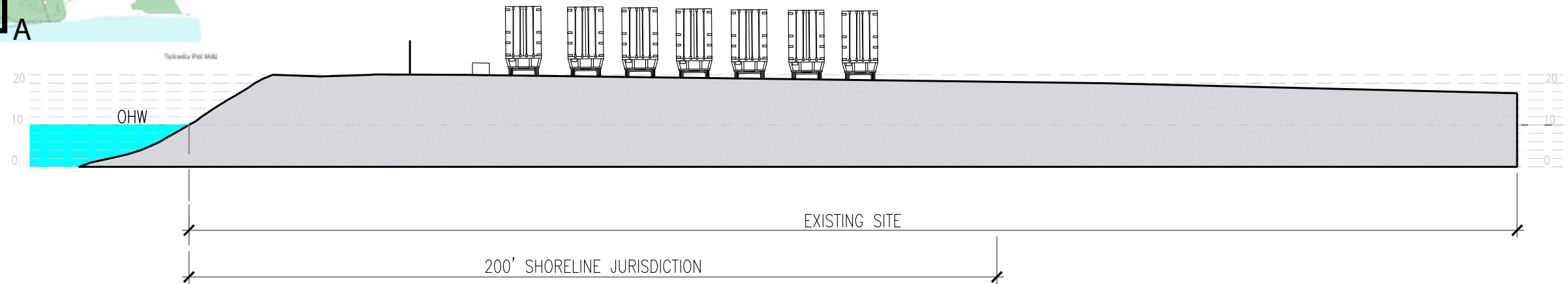
Excerpt from Green/Duwamish River Watershed; Salmon Habitat Plan 2021

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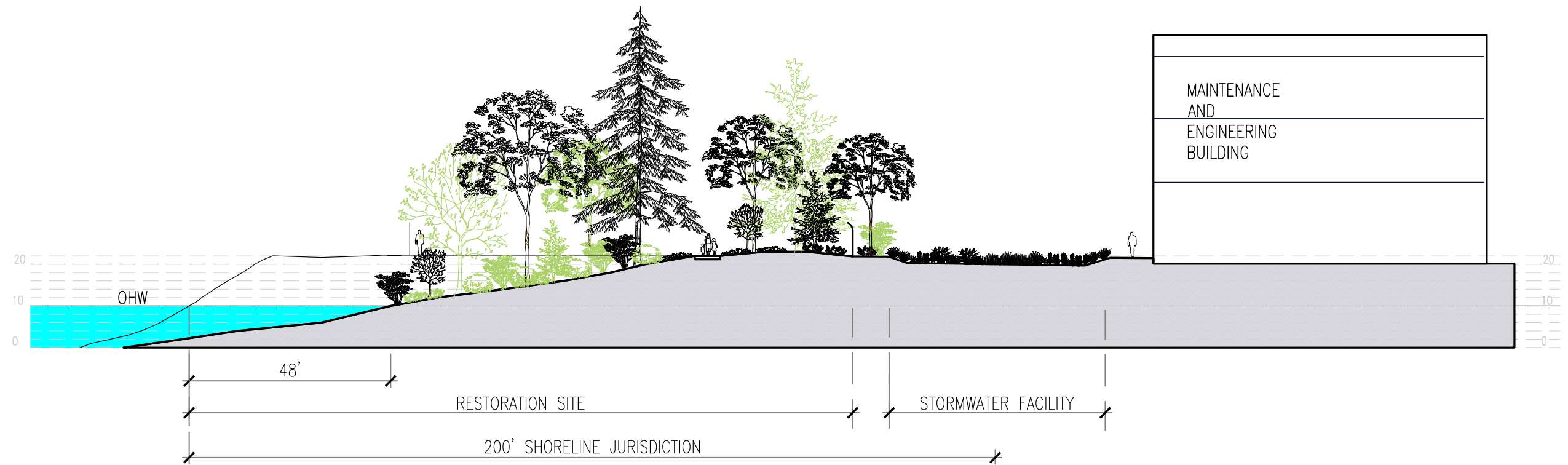
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SECTION A: EXISTING SITE SECTION THROUGH RESTORATION PARCEL
SCALE: 1:30



SECTION A': VIEW WEST FROM RESTORATION SITE
SCALE 1:30

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STORMWATER

THE FLOW OF WATER TELLS A STORY

Using stormwater features to
showcase the movement and
treatment of water onsite



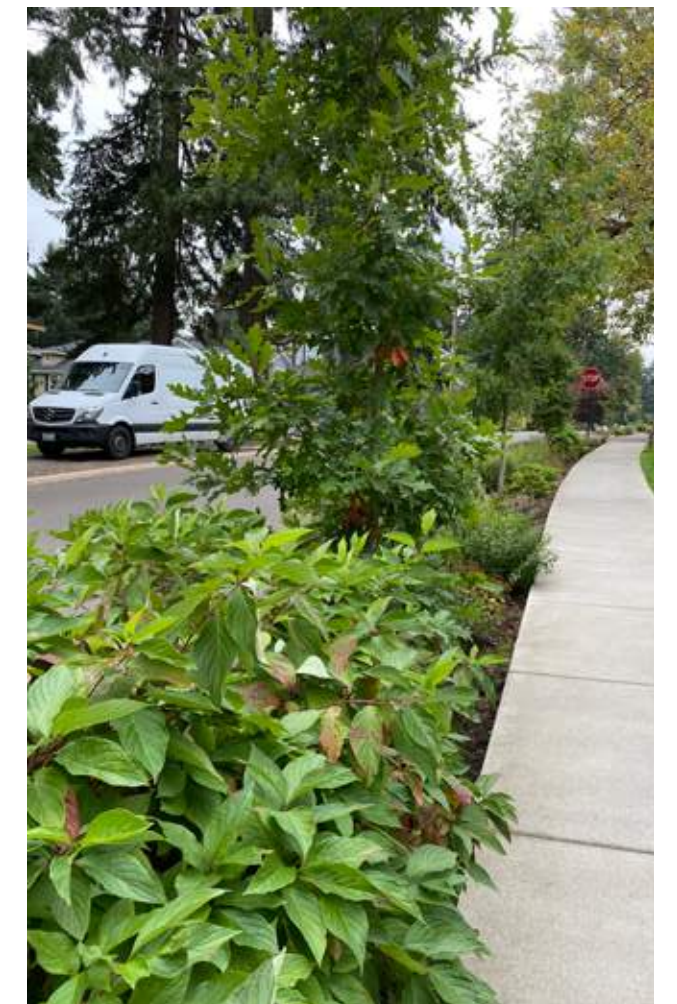
Floating Wetland



Port Of Seattle Floating Wetland Concept



Bioretention Facilities



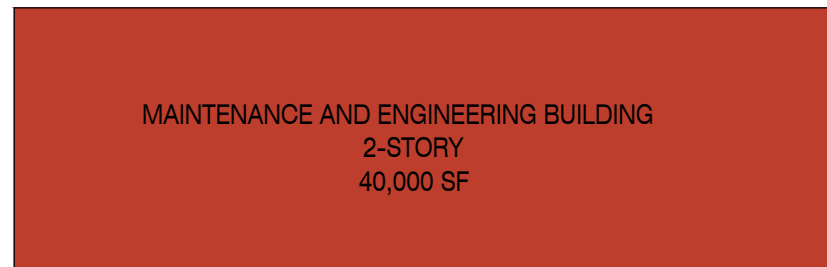
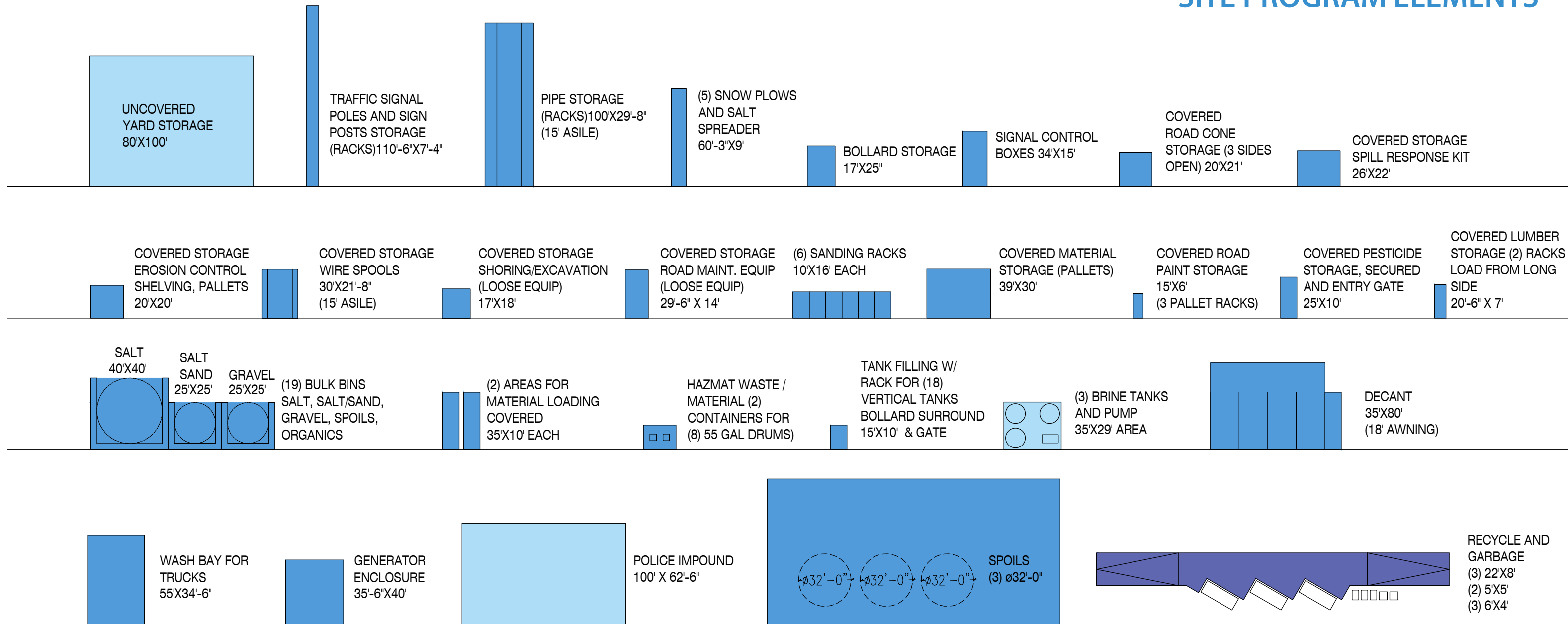
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SITE PROGRAM ELEMENTS



PARKING STALLS

TYPE	STALL SIZE	COVERED	UNCOVERED	INDOOR
FLEET	9x20	45	20	2
FLEET	10x30	57	23	3
FLEET	15x45	4	4	3
STAFF	9x19	-	77	-

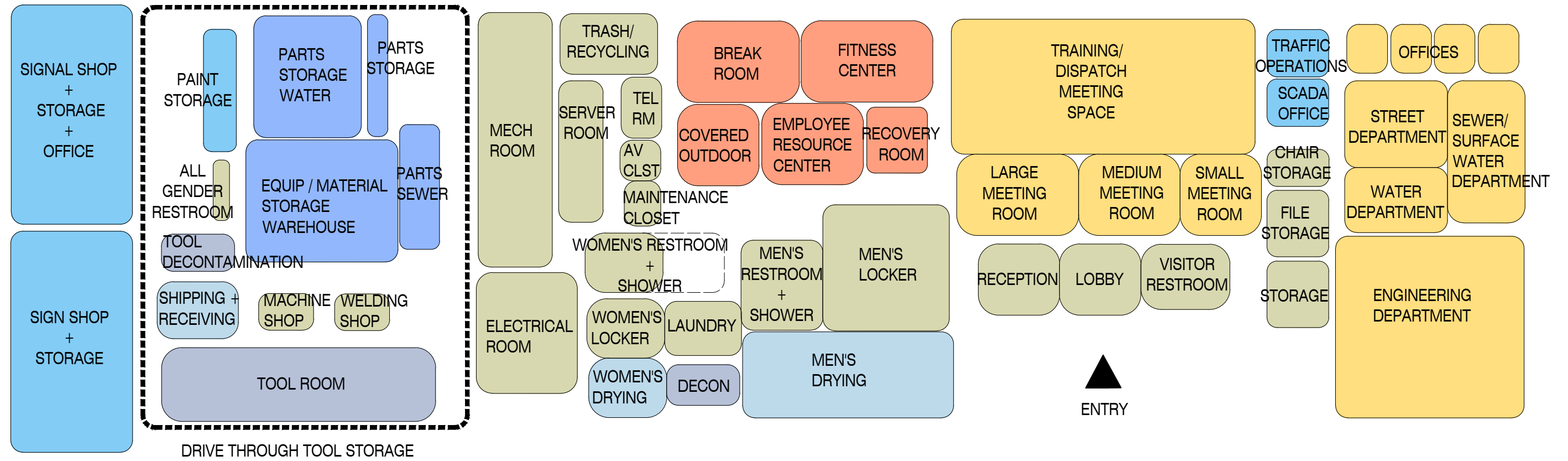
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BUILDING PROGRAM ELEMENTS



- OFFICE
- TOOL ROOM / DECON
- HEALTH & WELLBEING
- LAUNDRY / DRYING ROOM
- SHOP
- BUILDING SUPPORT
- EQUIPMENT/ STORAGE/ WAREHOUSE
- DRIVE THROUGH TOOL STORAGE

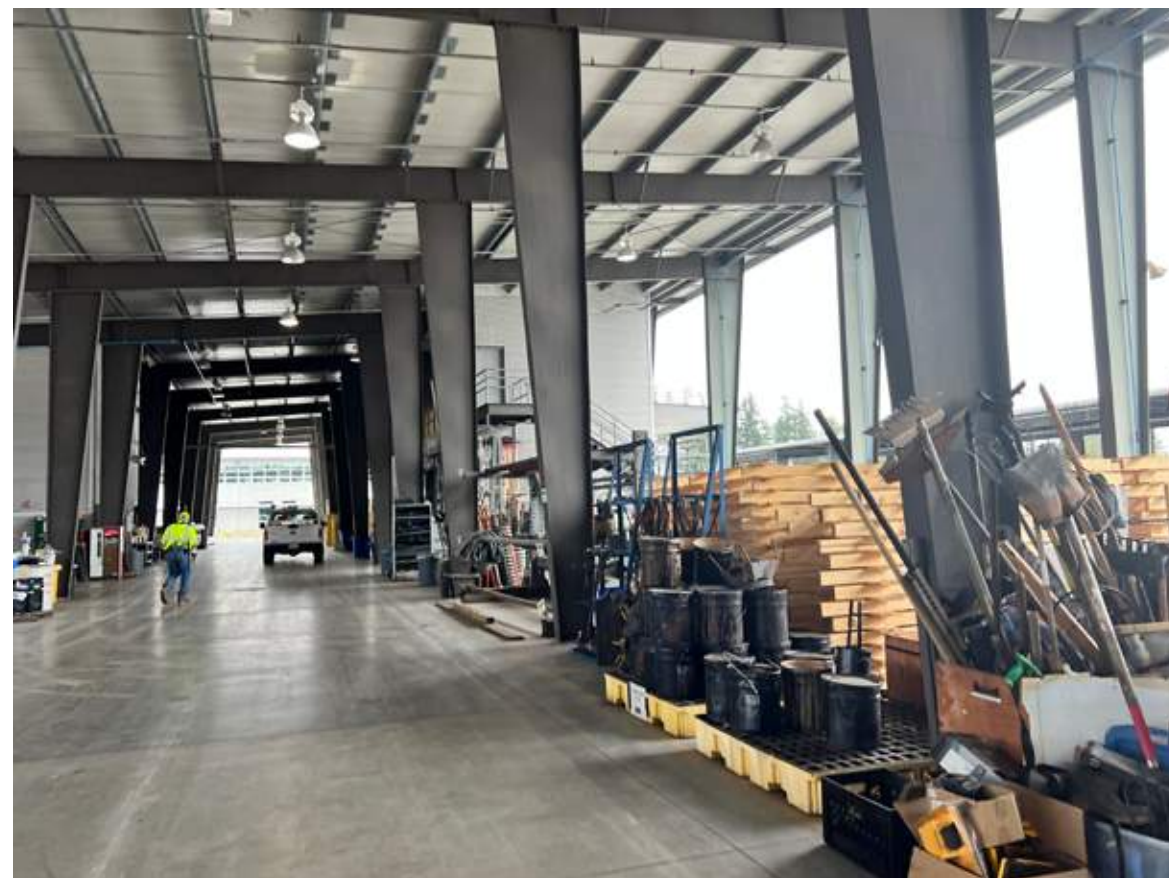
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DRIVE THROUGH TOOL STORAGE - EXAMPLE



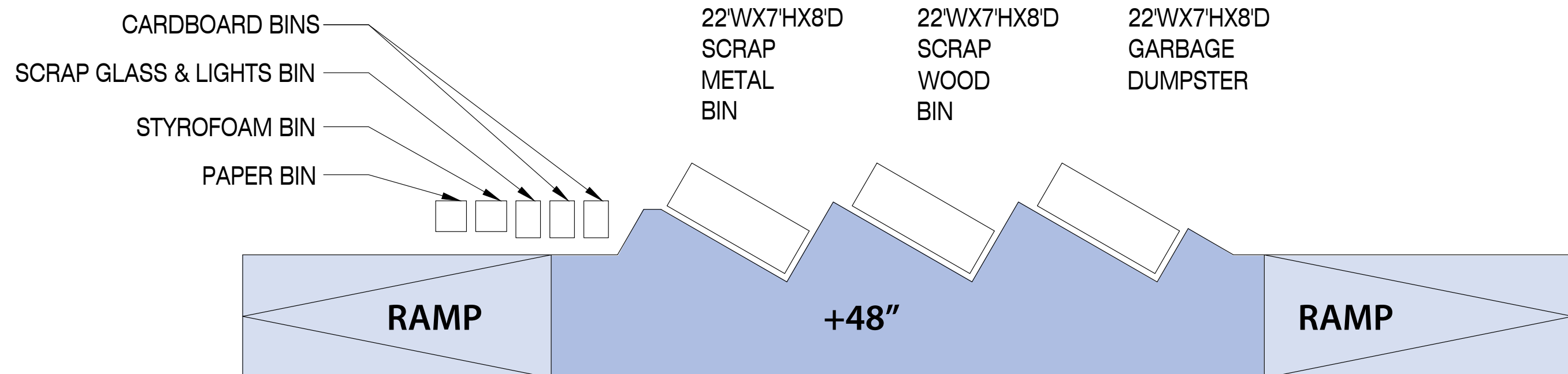
Tool Depository, Pierce County Public Works Central Maintenance Facility

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SALT / SAND STORAGE AREA/ PLAN

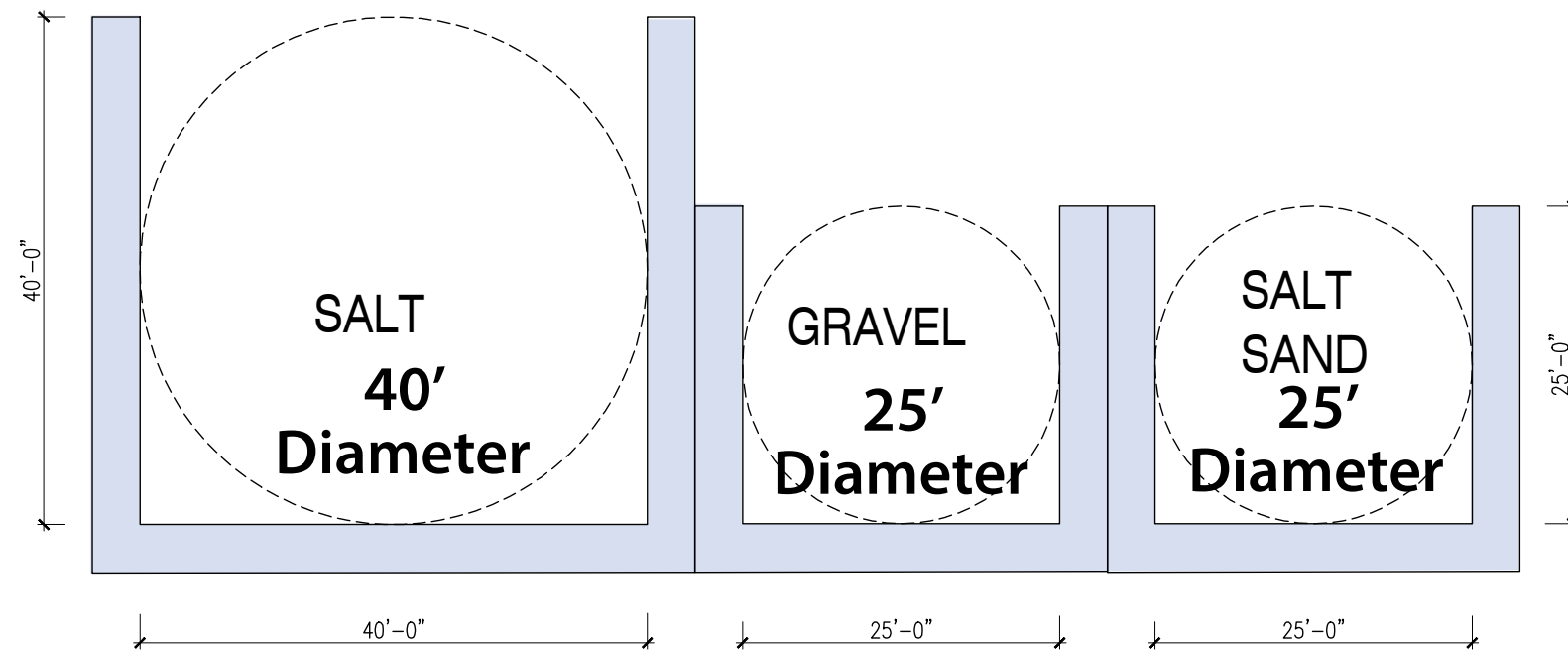


TABLE 2: STORING SALT IN CONICAL PILES

Salt Short Tons metric tons	Diameter of Pile ft m	Space Occupied by Pile ft ² m ²	Height of Pile ft m	Length of Slope from Ground to Peak ft M	Volume of Pile In ft ³ m ³	Exposed Surface Area ft ² m ²
24	19.33	295	6.0	11	600	339
21.8	5.89	27.41	1.83	3.35	17.00	31.49
50	24.67	479	8.0	15	1,250	565
45.7	7.52	44.50	2.44	4.57	35.38	52.49
80	28.92	655	9.0	17	2,000	773
72.6	8.81	60.85	2.74	5.18	56.60	71.81
100	31.17	765	10.0	18	2,500	904
90.7	9.50	71.07	3.05	5.49	70.75	83.98
200	39.33	1,213	12.5	23	5,000	143.2
81.4	11.99	112.69	3.81	7.01	141.50	133.3
300	45.00	1,595	14.0	27	7,500	1,877
272.2	13.72	148.18	4.27	8.23	212.25	174.37

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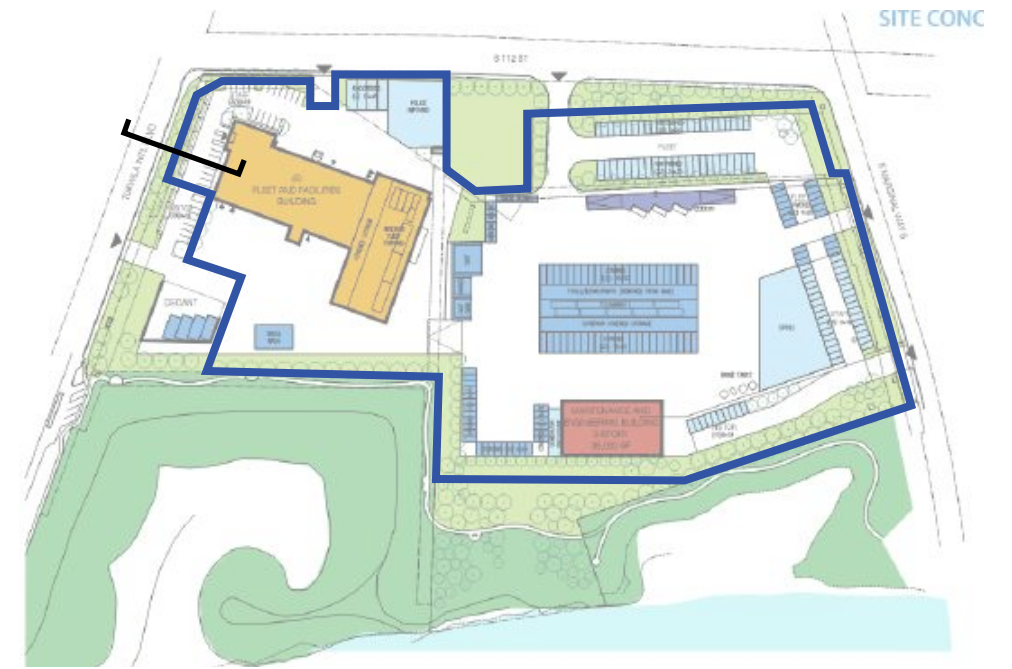
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OPEN FENCE



ALTERNATIVE MATERIALS/ ART & IDENTITY



TUKWILA INTL BLVD

PLANTER

SIDE-WALK

PLANTED MOUND

BIORETENTION

PARKING LOT DRIVE AISLE

PARKING STALL

FLEET AND FACILITIES BLDG

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STRATEGIC VIEWS FROM TRAIL AND M&E BUILDING



VEGETATED FENCE



MAHONIA AS DENSE DETERRANT

VIEW TO UPS SITE FROM DUWAMISH GARDENS

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Many of us spend 90% or more of our time indoors, and our work environments are one of the biggest determinants of our overall health.



AIR

- air quality management
- smoke-free environment
- ventilation design and particle filtration
- improve air supply



WATER

- high quality drinking water and water management
- performance metrics and monitoring
- drinking water promotion
- enhanced quality



LIGHT

- visual and circadian lighting design
- daylight design strategies
- glare control & visual balance
- electric light quality
- occupant lighting control



MOVEMENT

- circulation network
- ergonomic design
- active furnishings
- physical activity opportunities, promotion, spaces and equipment



THERMAL COMFORT

- performance metrics
- thermal zoning
- individual controls
- radiant thermal comfort
- humidity control



SOUND

- mitigate noise levels
- sound barriers
- decreased reverberation time
- sound reducing surfaces
- minimize background sound

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WELLNESS AND EMPLOYEE WELL BEING

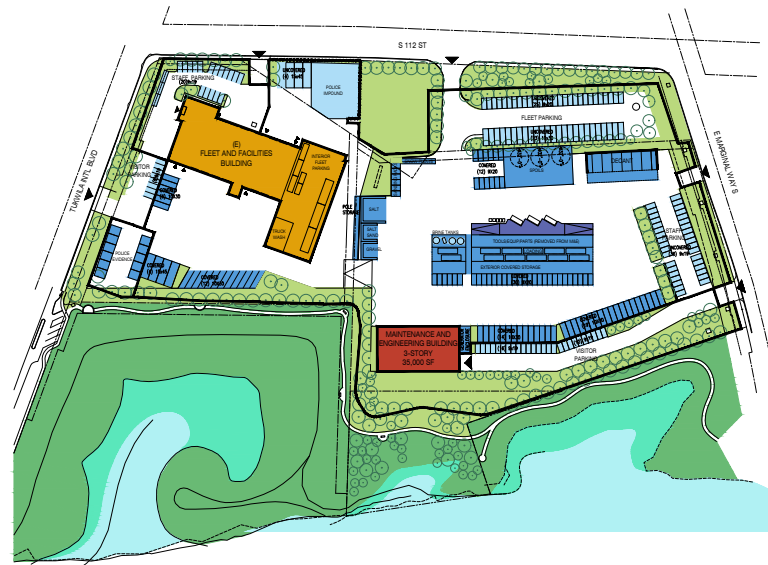


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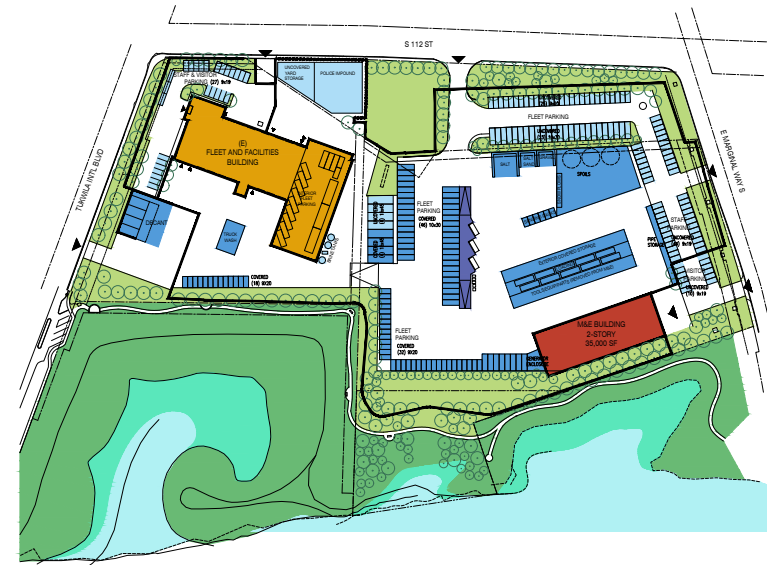
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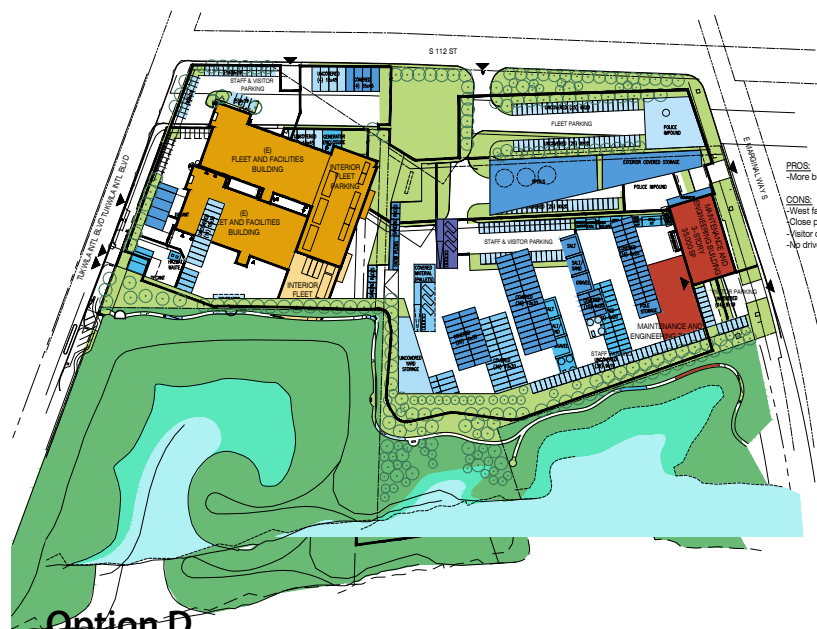
Option A



Option B



Option C



Option D

PROS:
-More buffer at wetland restoration

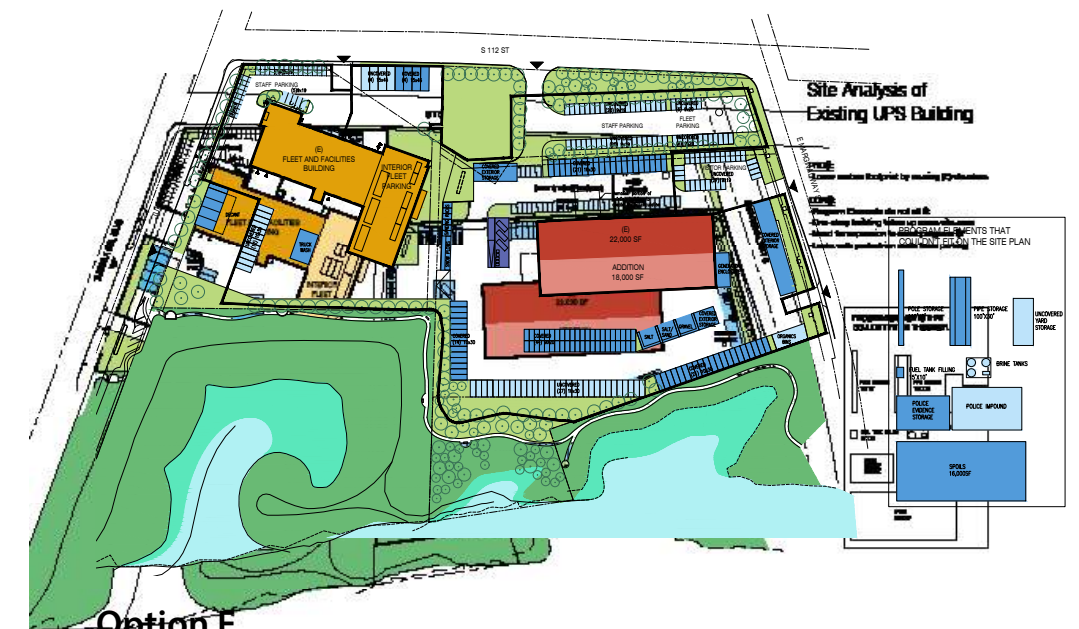
CONS:
-West facing facade, harder to control glare
-Close proximity to light rail tracks
-Yellow circulation crosses PMV yard
-No driveway at E Marginal WAY's



Option E

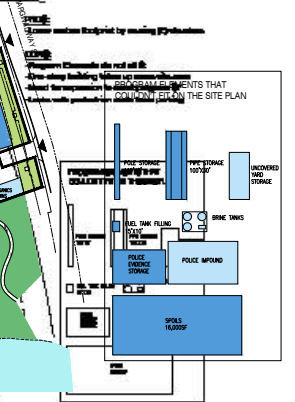
PROS:
-Consolidates buildings into adjacent campus
-Single clear point of entry for Visitors
-Minimizes building footprint
-Reduces soil improvement footprint
-New opportunity from covered roof deck

CONS:
-Disrupt location on E Marginal Way S
-Inference Storage may not be feasible location
-Parking and storage less attractive program
-Setbacks along wetland buffer (need screening)
-Green enclosure further from M&E building



Option F

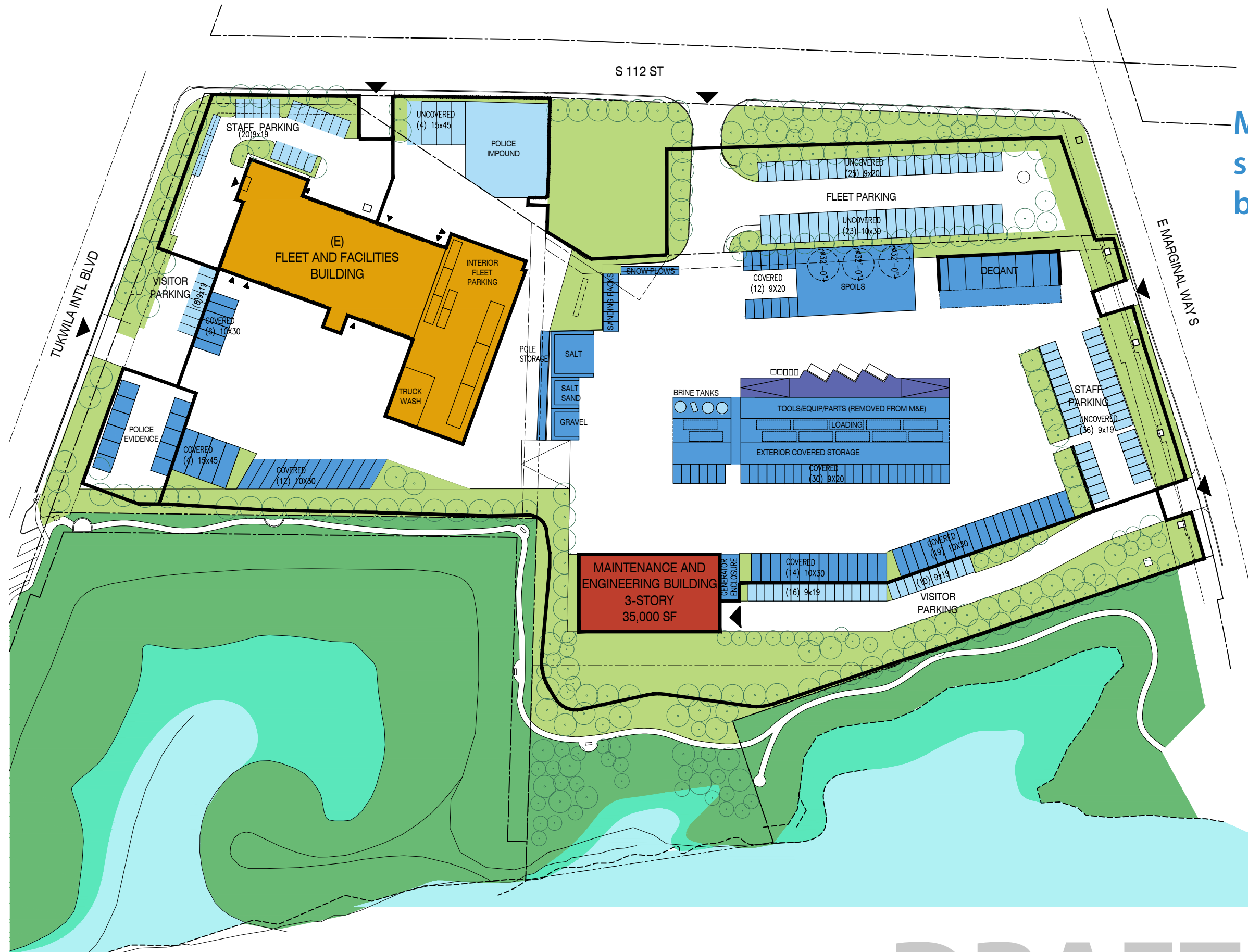
Site Analysis of Existing UPS Building



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SITE CONCEPT A

M&E Building at west side of Duwamish buffer.



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SITE CONCEPT B



M&E Building at east side of Duwamish buffer.

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SITE CONCEPT C



M&E Building as far north as possible. SCL easement prevents building from facing street front.

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SITE CONCEPT D



M&E Building at East Marginal Way S Sound Transit easement prevents building from facing street front.

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SITE CONCEPT E

M&E Building at Tukwila International Boulevard near the F&F Building.



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M&E Building

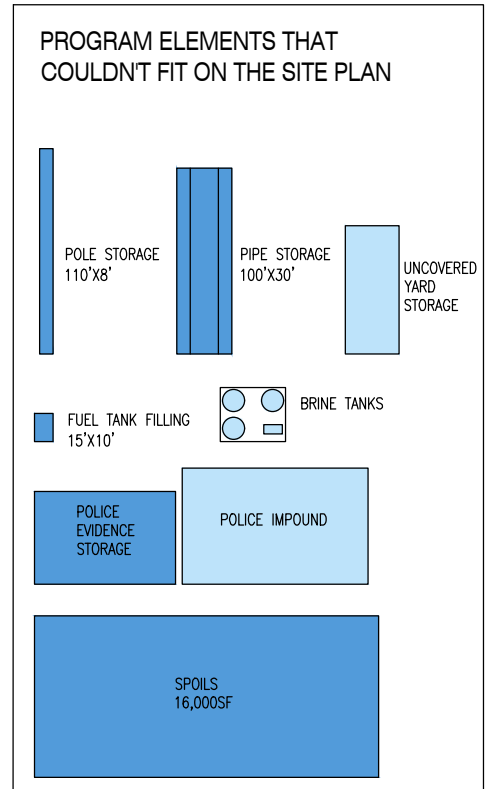
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SITE CONCEPT F



Upgrade existing loading dock structure. Add new 1-story addition for M&E program. Site program elements do not fit.



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Next Steps:

- Edit presentation to incorporate committee feedback on presentation
- Monday December 12th, Committee of the Whole meeting
- Wednesday January 11th, Public Open House
- Return to Council in January. Schedule to be coordinated.

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