

# Ship Canal

## WATER QUALITY PROJECT



**Seattle  
Public  
Utilities**



- **Seattle Design Commission - Ballard Pump Station**
- 5425 Shilshole Avenue Northwest
- SDCI Building Permit No. 6715316
- November 19, 2020

This project is funded in part by the Washington State Department of Ecology and Environmental Protection Agency through State Revolving Fund and Water Infrastructure Finance and Innovation Act loans



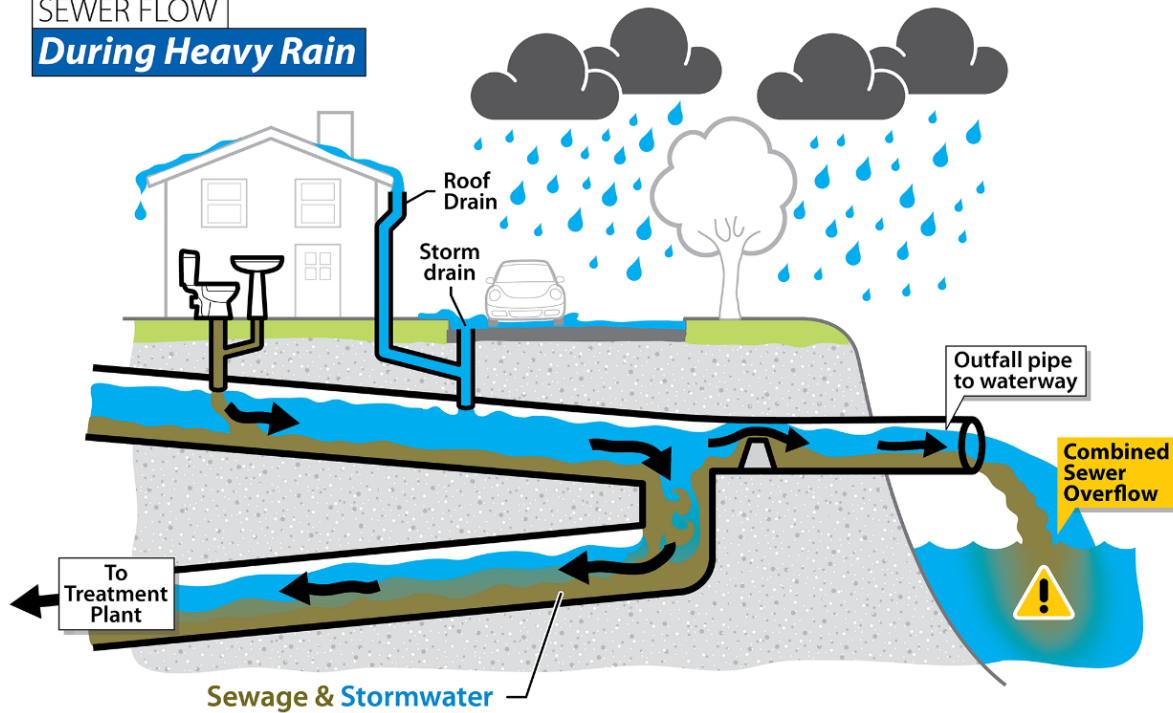
# Agenda

- Program overview
- Outreach and engagement
- Equity
- Site and Landscape design
- Public Art

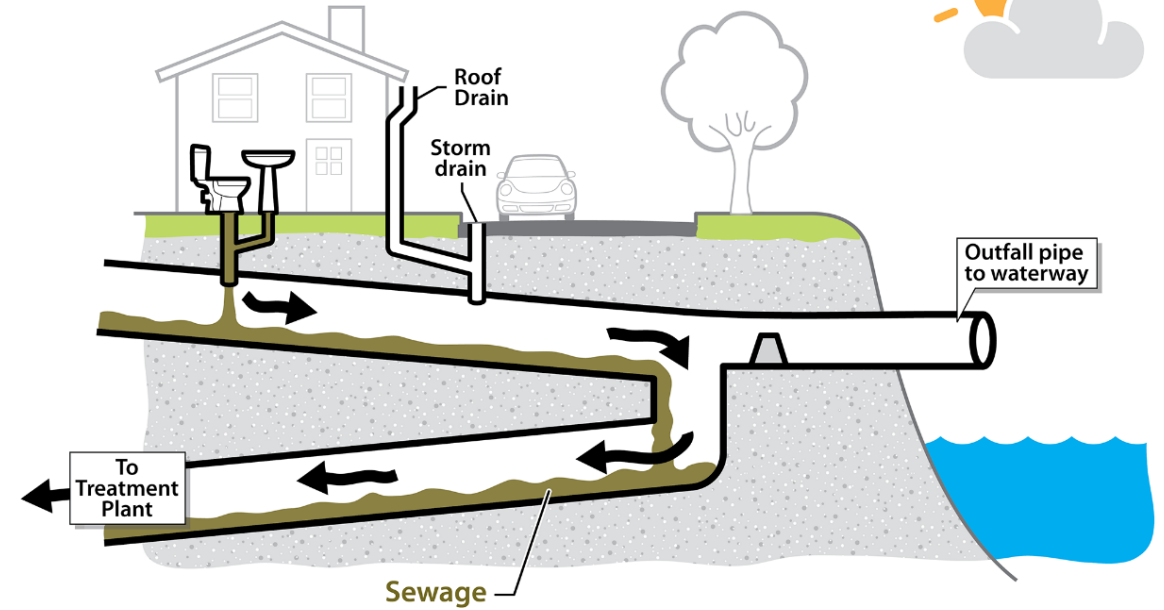


# Combined Sewer Overflows

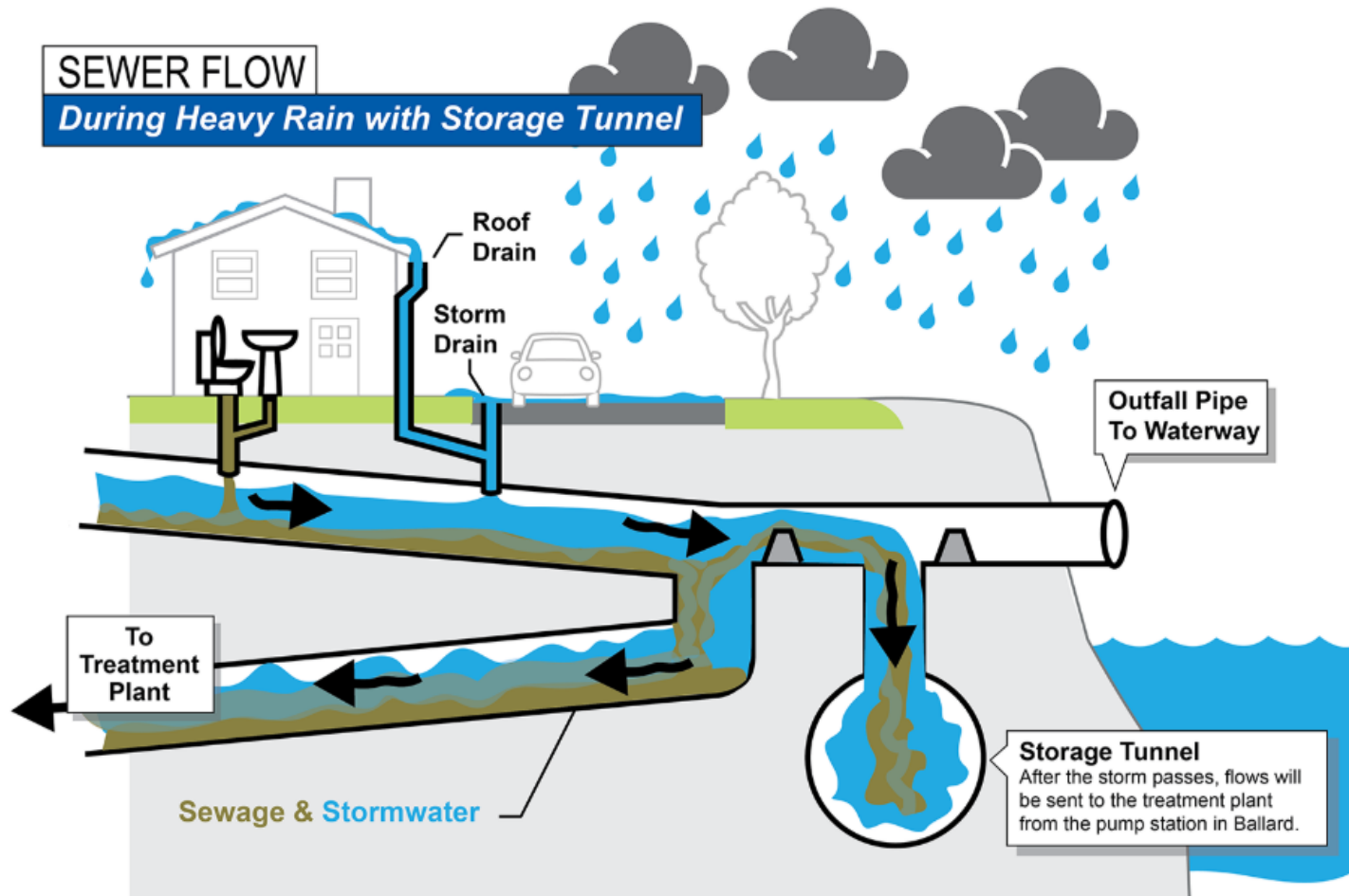
SEWER FLOW  
**During Heavy Rain**



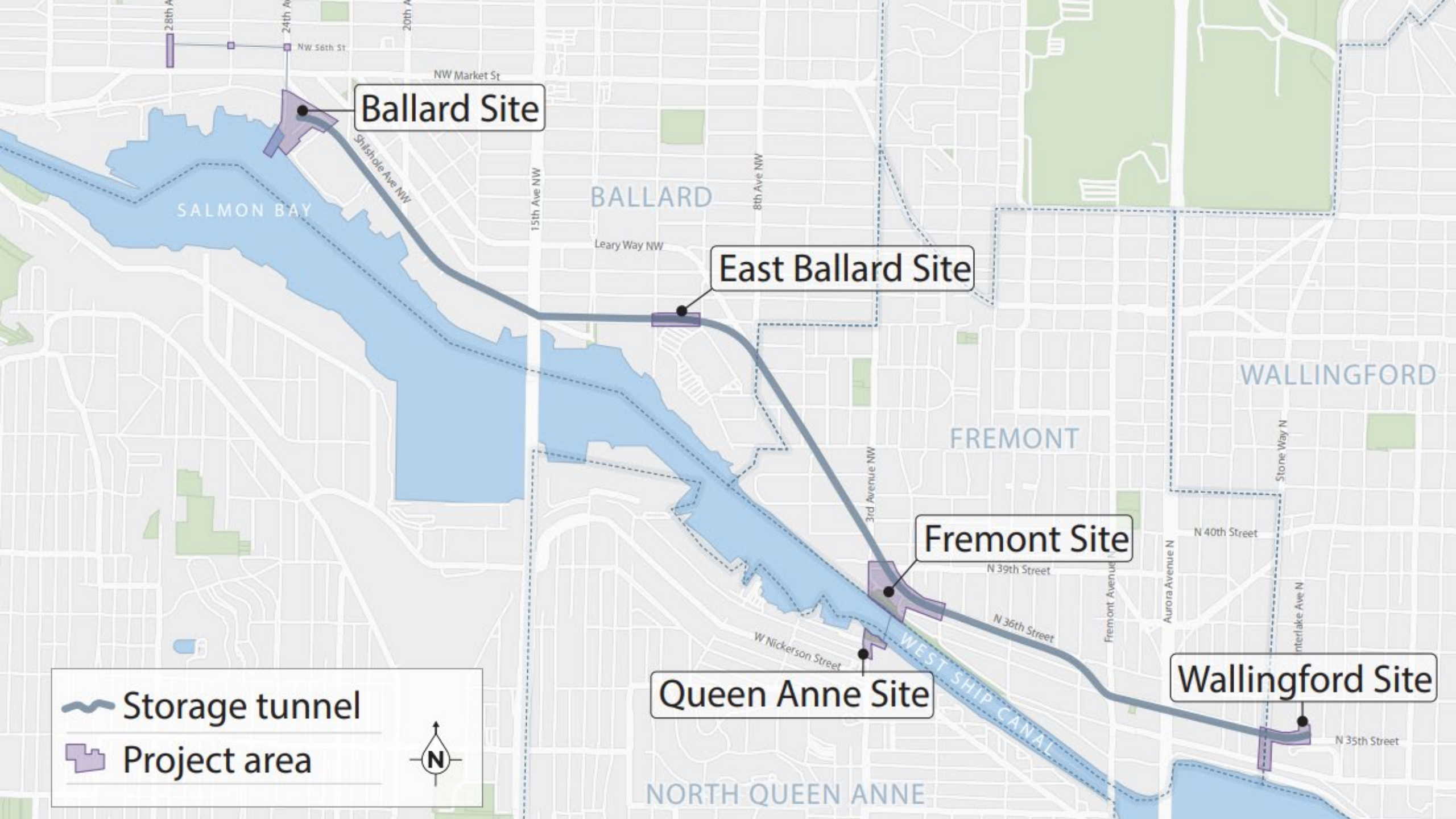
SEWER FLOW  
**During Dry Weather**

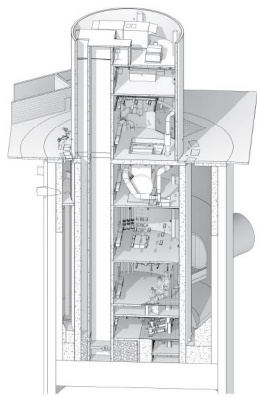
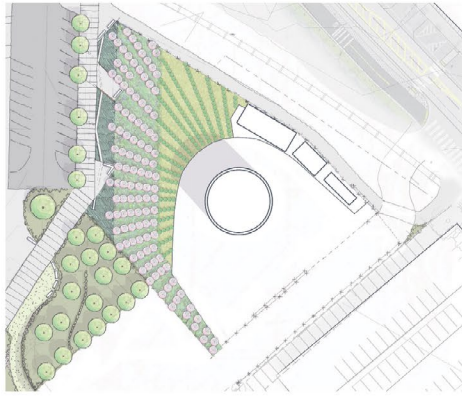
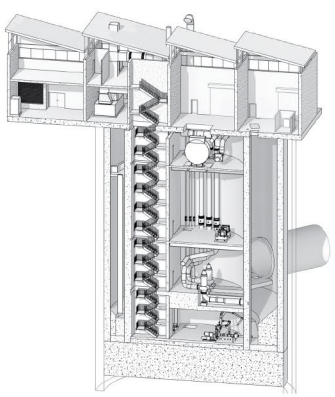


# How a tunnel helps









2015

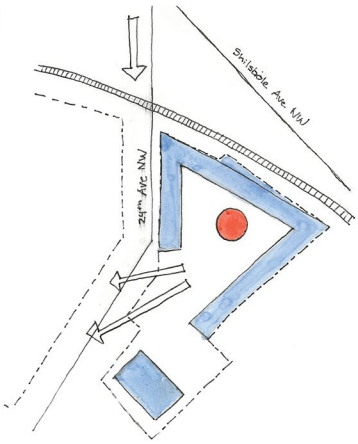
PROJECT  
START

2017

30% DESIGN  
SDC MTG

2018

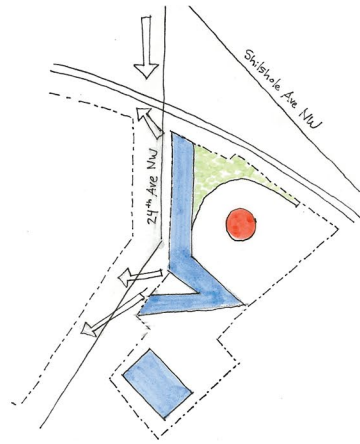
MASTER  
PLANNING



2019

30% DESIGN  
SDC MTG

2019



2020

DESIGN  
CONTINUES



DESIGN  
COMPLETE

*\*CONSENT  
DECREE  
DEADLINE\**

2021

CONSTRUCTION  
START

2022

2022

POTENTIAL  
OVERALL  
BALLARD SITE  
DESIGN



CONSTRUCTION  
COMPLETE

*\*CONSENT  
DECREE  
DEADLINE\**

2025

2026-  
2030

POTENTIAL OVERALL  
BALLARD SITE  
CONSTRUCTION





# Outreach and Engagement

- 24<sup>th</sup> Avenue survey + drop in session
- Ballard District Council
- Maritime businesses
- Friends of Street Ends
- Groundswell NW
- Friends of Ballard Waterfront Park
- Future outreach
  - Street end
  - Interpretive elements
  - Lighting



# Equity

- Interpretive services available as needed
- WMBE firms – 23.4%
- Localized construction outreach
  - Beyond single family residences
  - Community coordination with people experiencing homelessness
- SPU property hosted RV community prior to SCWQP
- Elevation of BIPOC artists through FLOW temporary art installation
- Coast Salish artwork honors Shilshole village and celebrates Native Americans place in Seattle
- Regional engagement (beyond project area) on public relations work

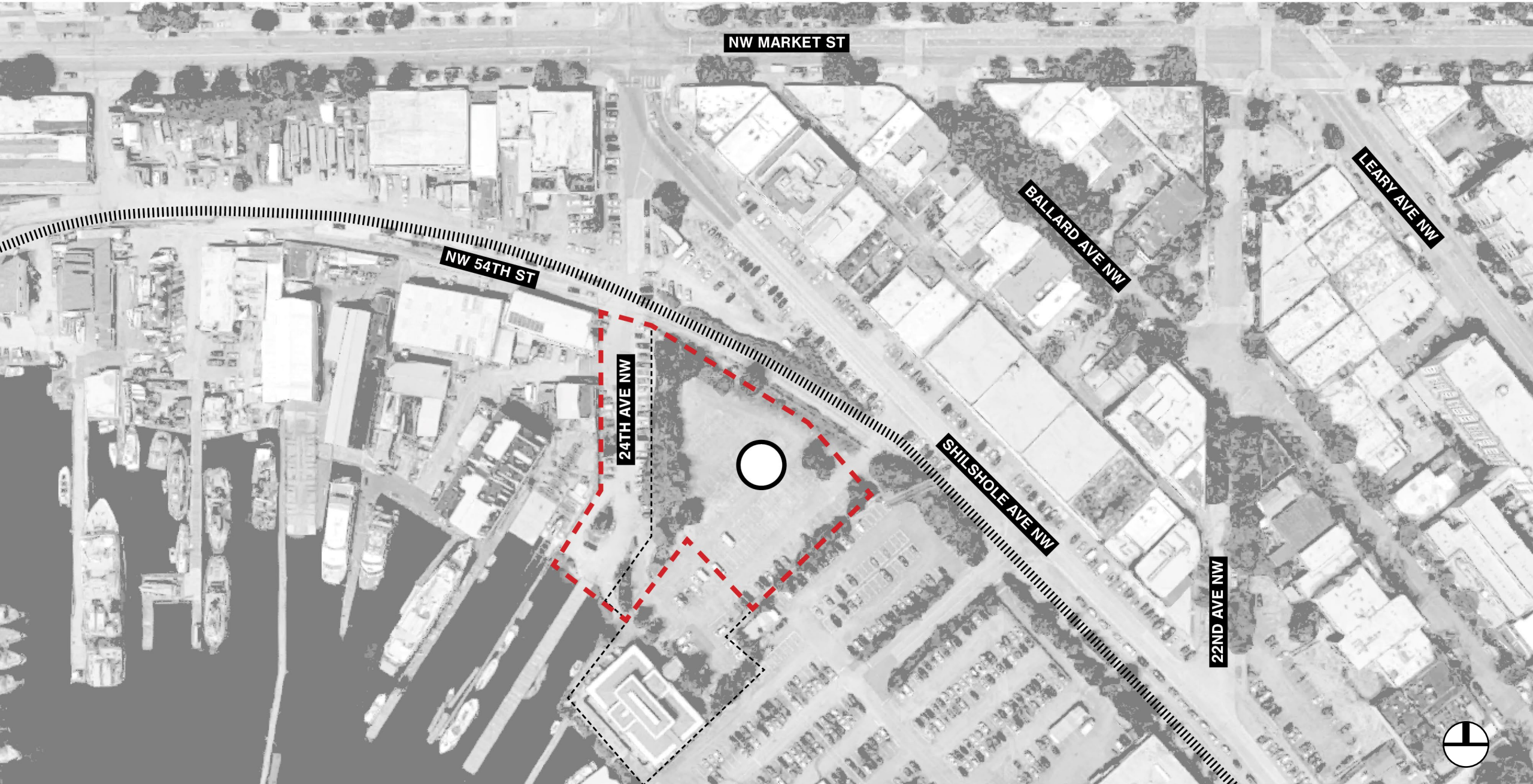


# Sustainability

- Envision certification
- Sizing for resiliency
- Design elements
  - Switched from natural gas-powered to electric
  - Temporary elements
  - Urban tree farm
  - Phytoremediation
  - Green stormwater infrastructure







# THE BALLARD SITE





1

Design for the **whole site**.

2

**Express function** of the Ballard Pump Station locally and role of SPU citywide

3

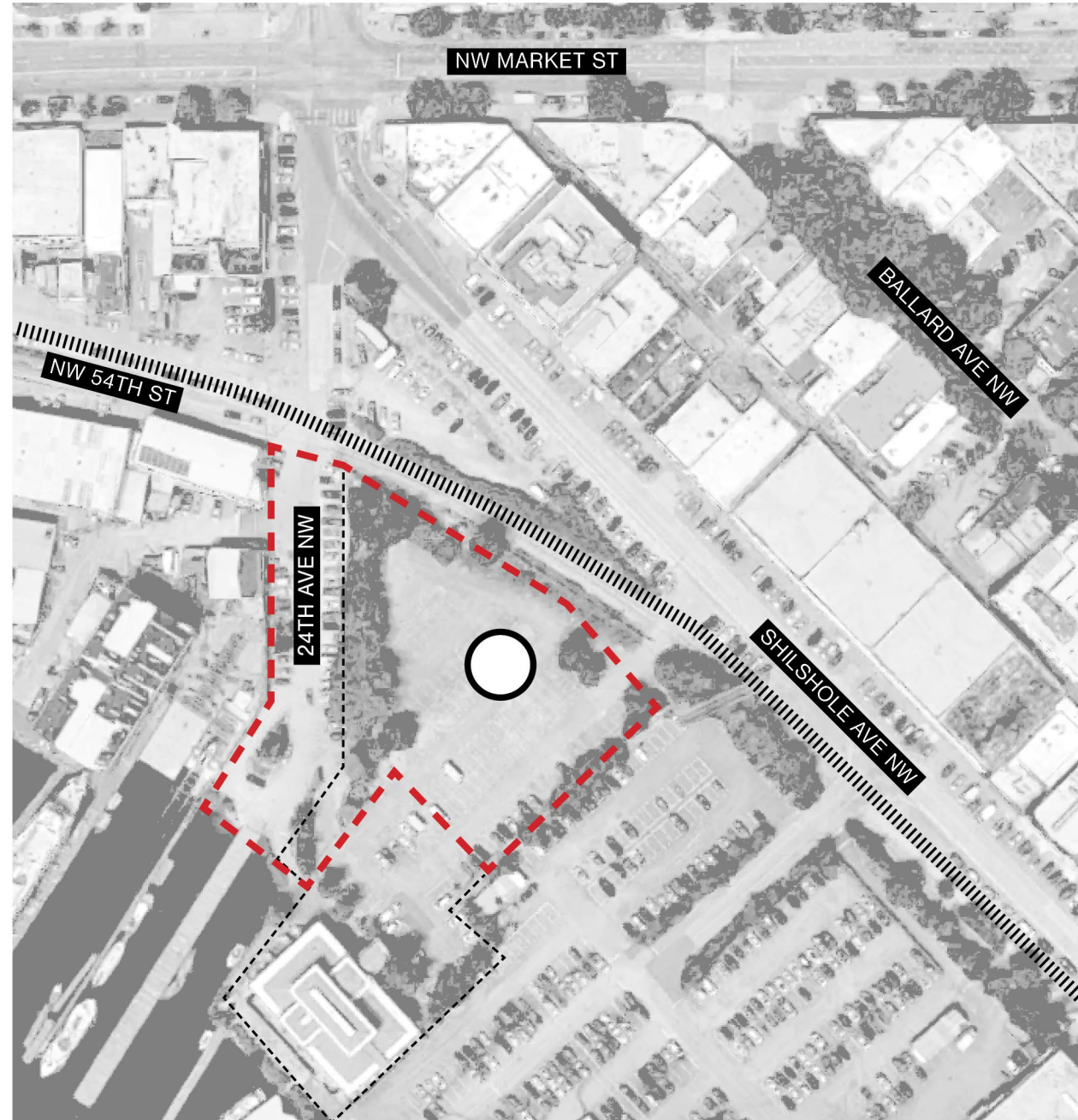
Define and **derive benefits** for the Seattle community and SPU

4

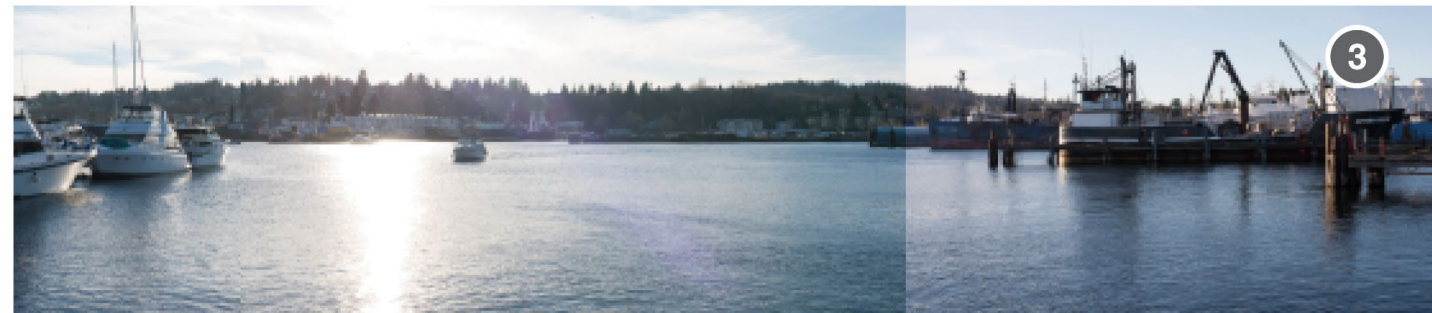
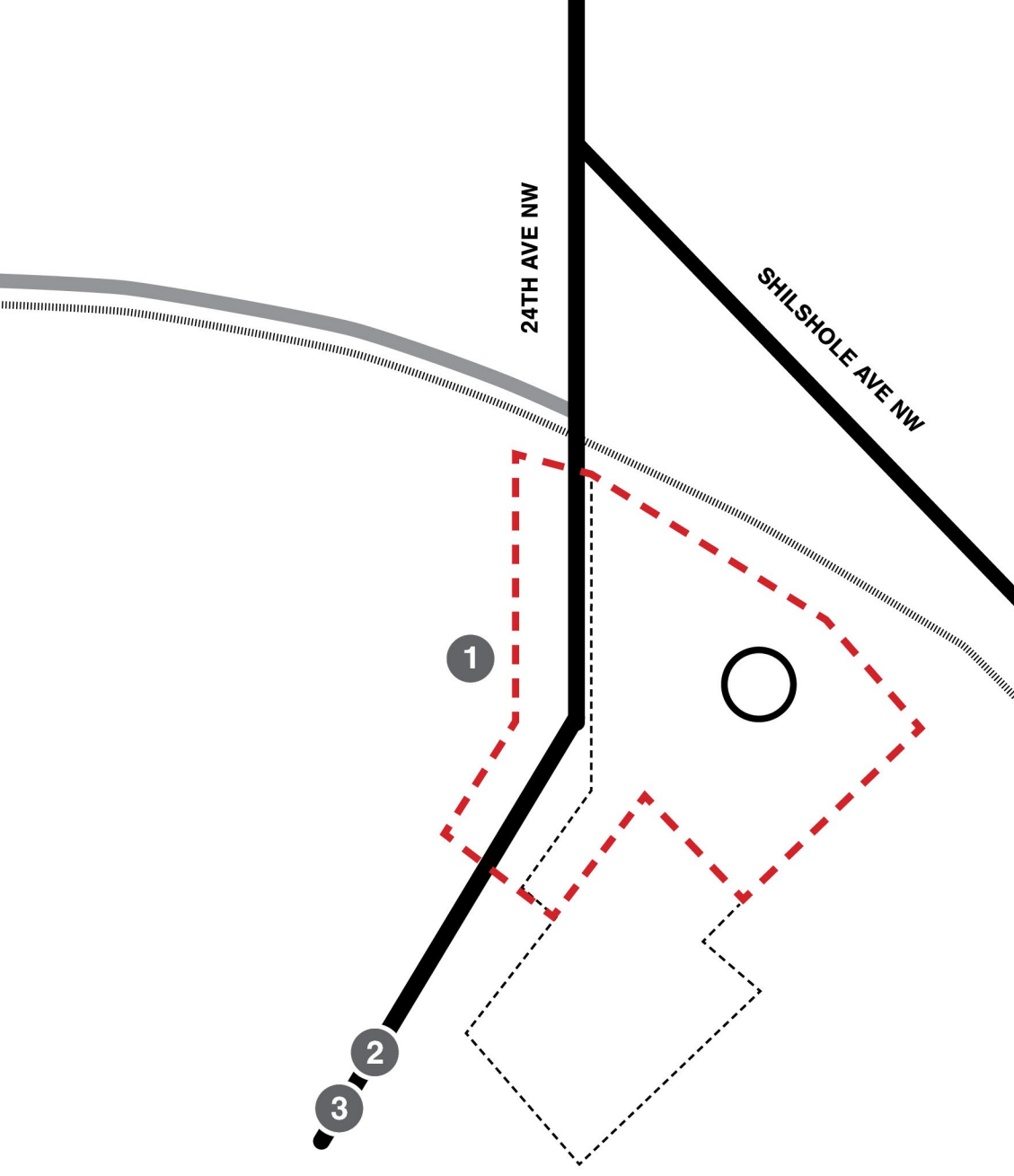
Contribute to and **recognize the place** and role of the waterfront in Ballard

5

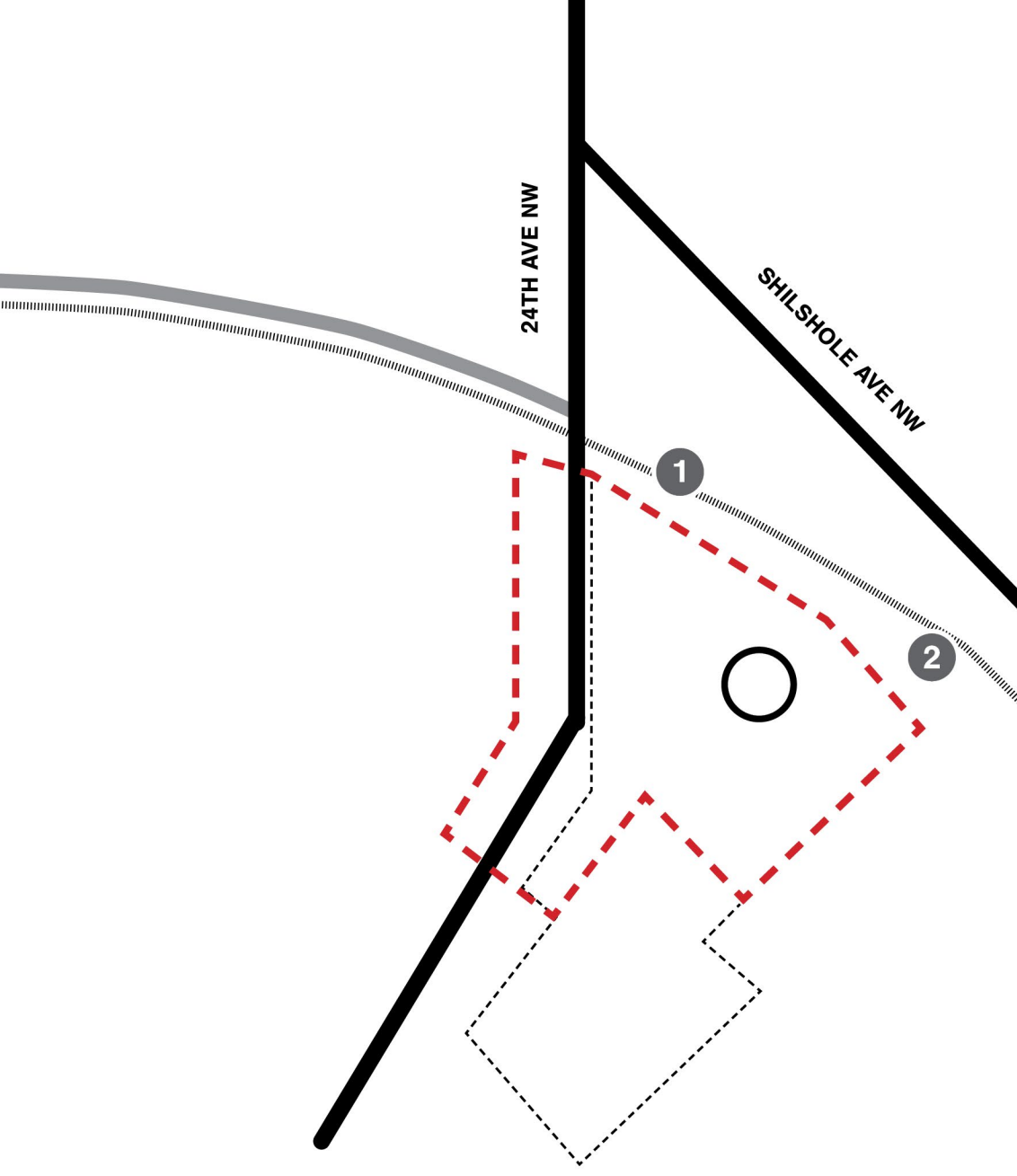
**Connect the neighborhood to the waterfront** allowing the site to become part of Ballard and the city



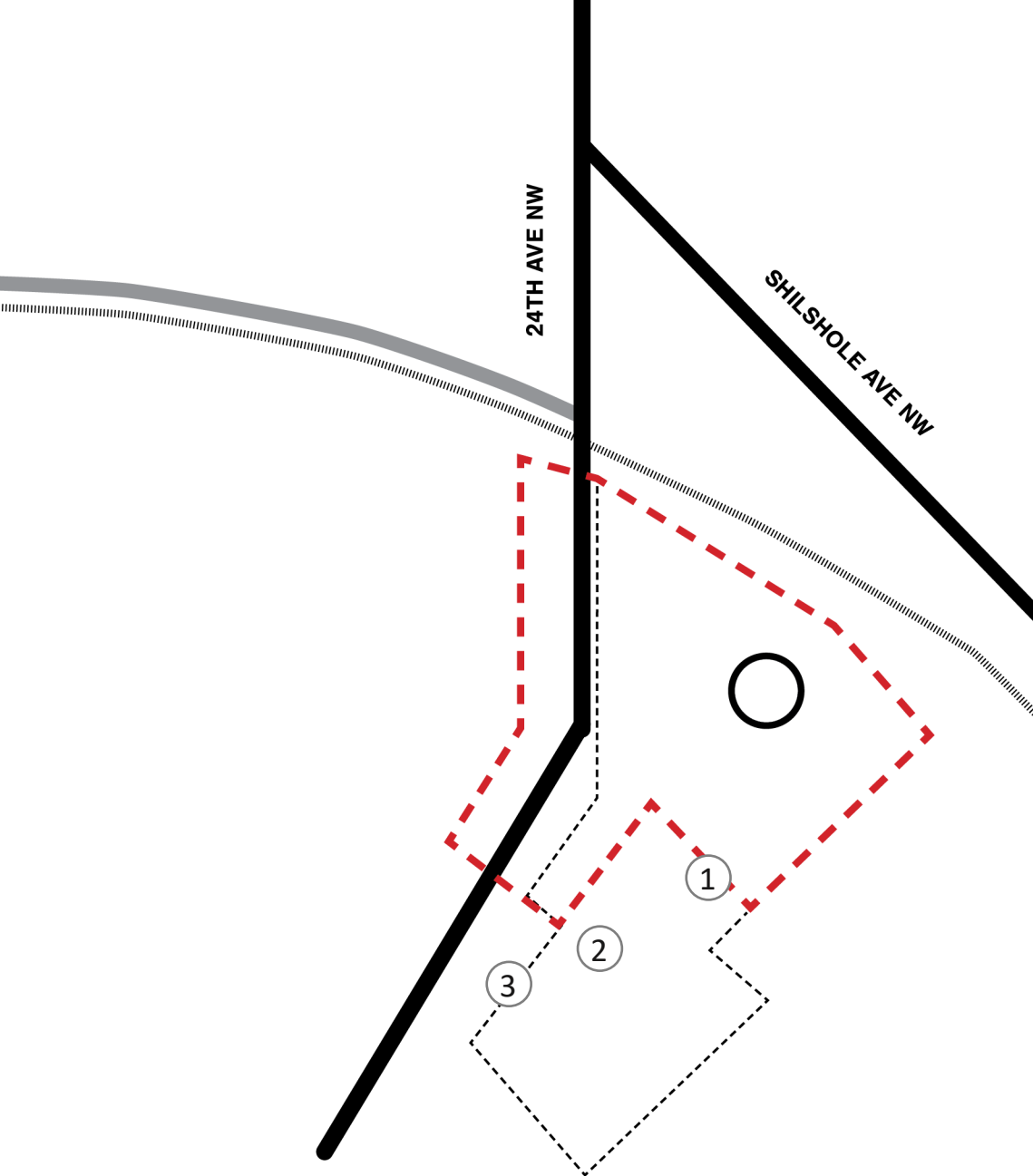








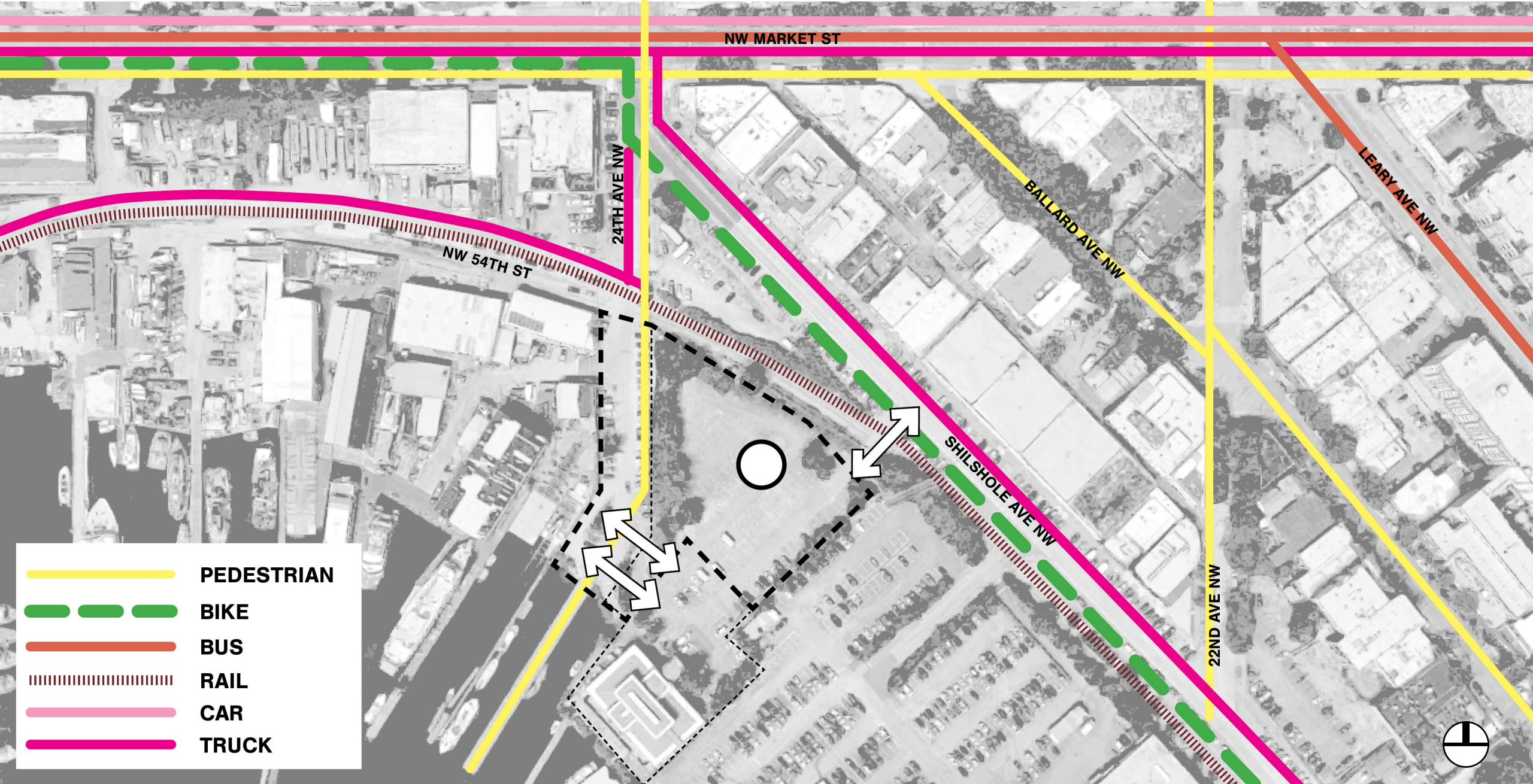
















① BALLARD YARDS



② STIMSON PROPERTY

③ 24<sup>TH</sup> AVE PUBLIC PIER

①

NW 54TH ST

24TH AVE NW

②

③

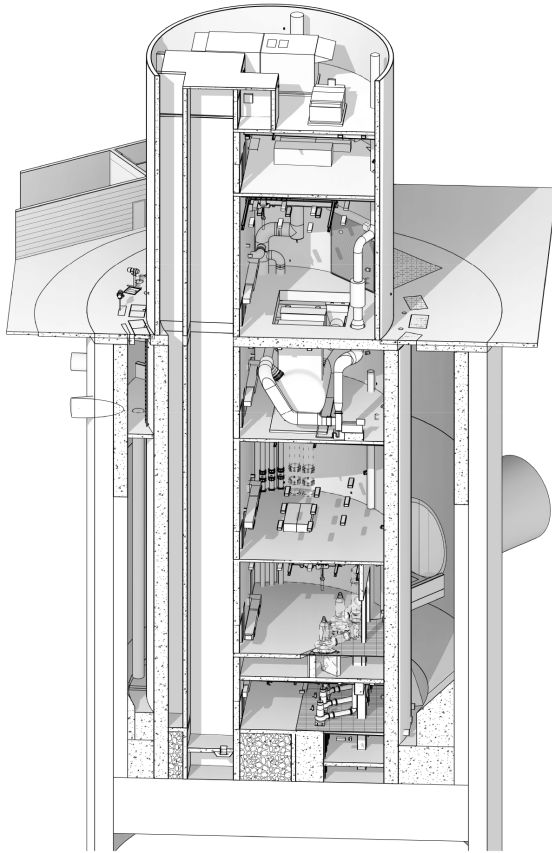
BALLARD AVE  
LANDMARK DISTRICT

SOLD

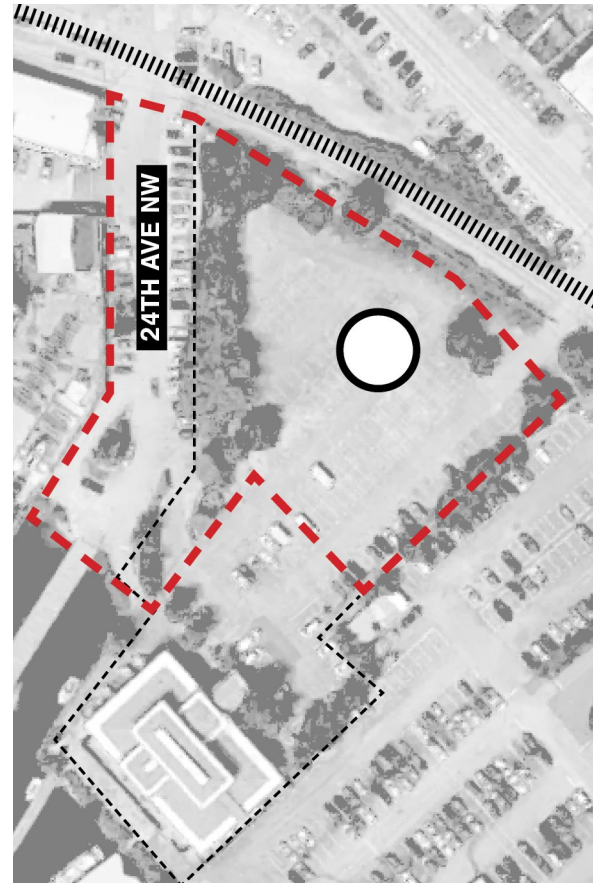
SHILSHOLE AVE NW

22ND AVE NW



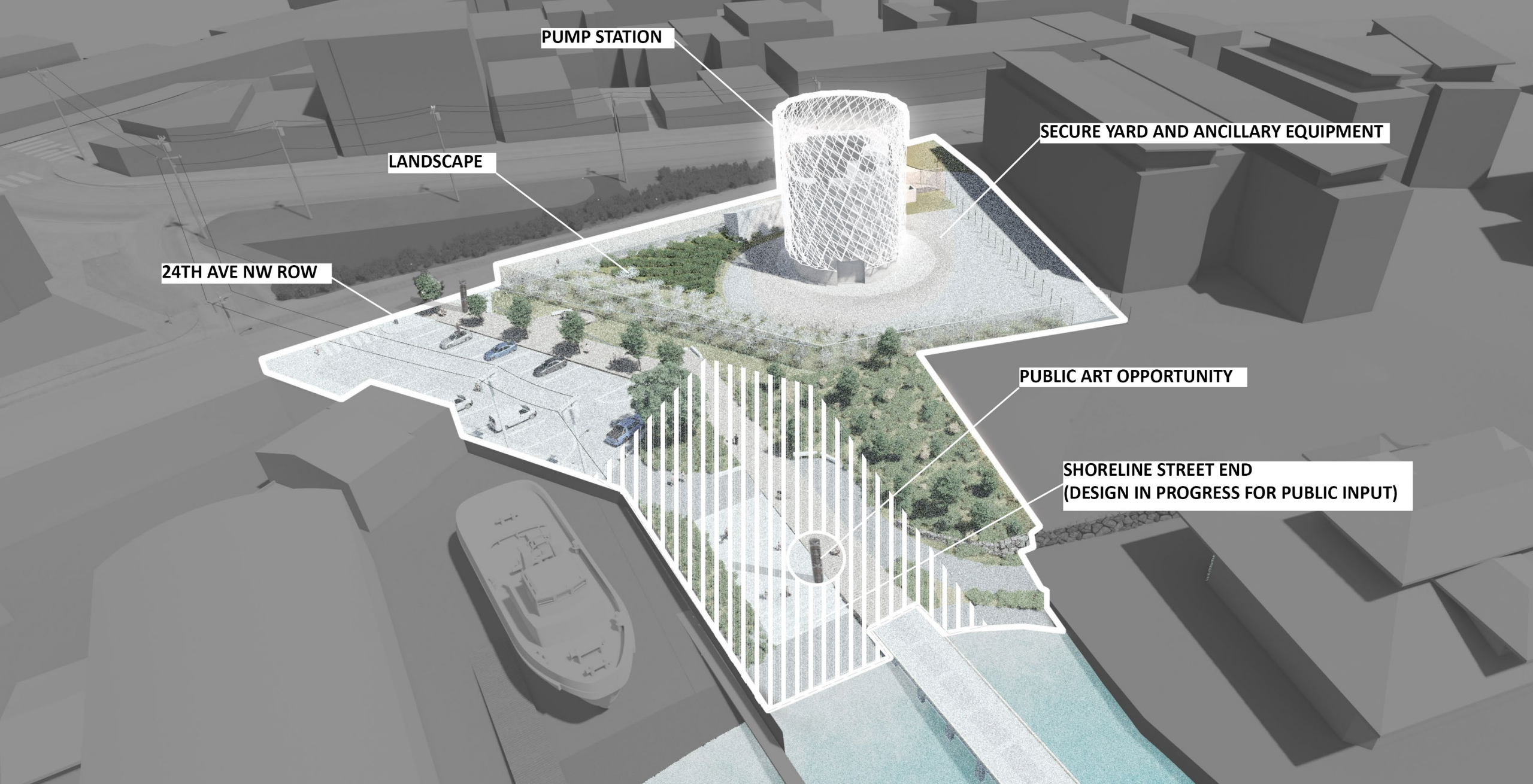


+



+

- 1
- 2
- 3
- 4
- 5



## Design-Focused Feedback from 30% SDC Presentation:

- Better integrate the three components of the project: **Pump Station, 24th Ave Shoreline Street End, Future Development Parcel.**
- Provide clearer solutions for **circulation** to and through the site for the various phases of development.
- Provide a cohesive strategy for **storytelling and interpretive elements** across the entire project site
- Provide proposed **materials options** and a long term maintenance plan for the pump station structure
- Balance **urban nature efforts** in the interim condition as well as the long term development of the site
- Use **lighting** to bridge between contrasting design elements





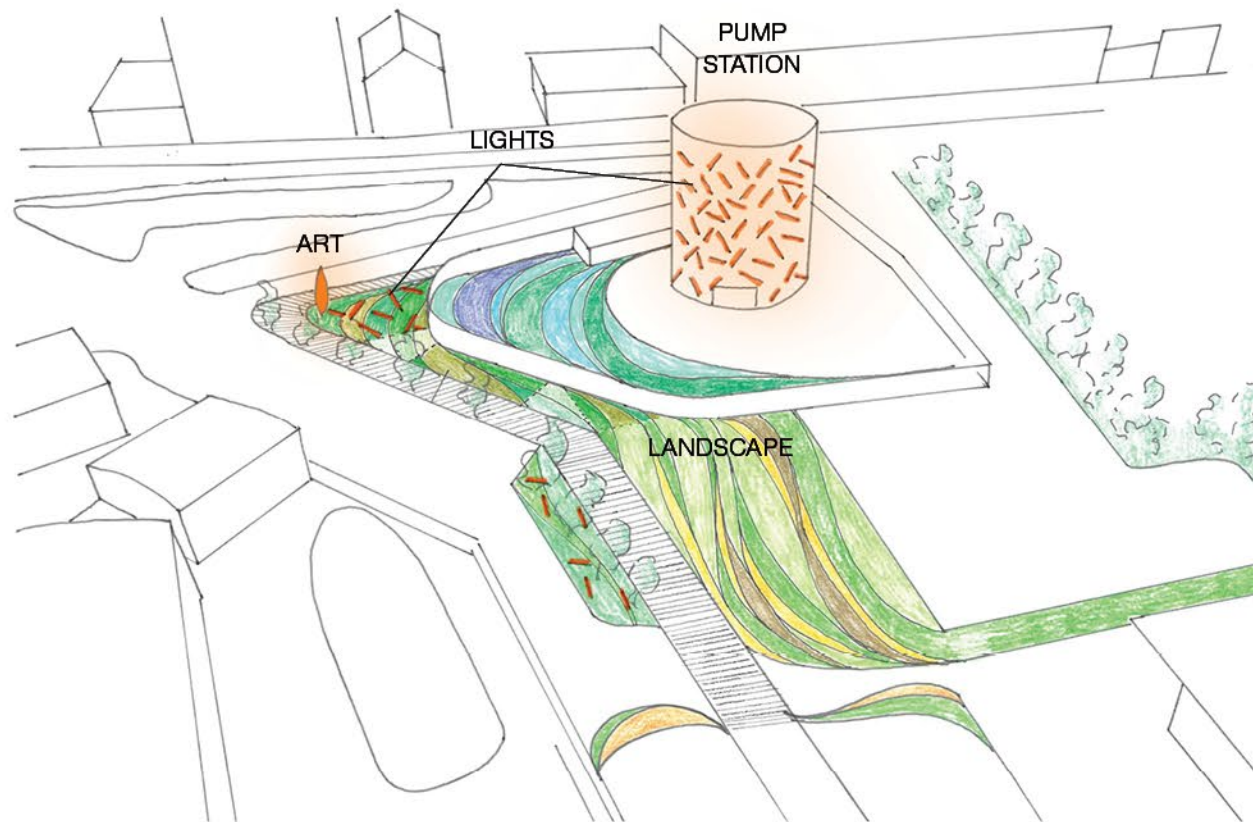


### Fluid dynamics of water

The Pump Station exerts a pull similar to that of a whirlpool on the landscape. The landscape is pulled toward and around the pump station on its way to the ship canal. The paved urban environment floats lightly on top of this seemingly fluid surface as a series of boardwalks and platforms.



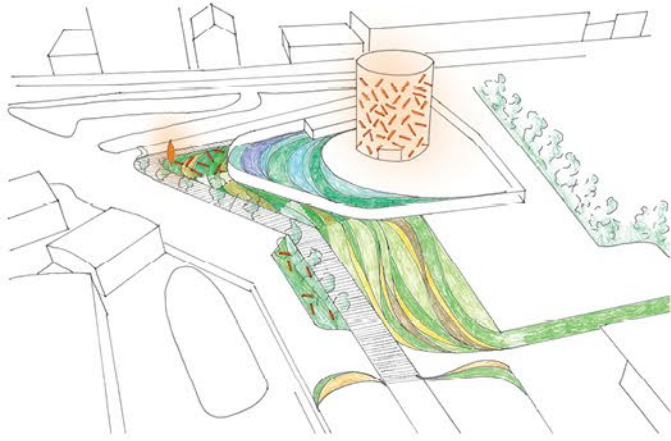




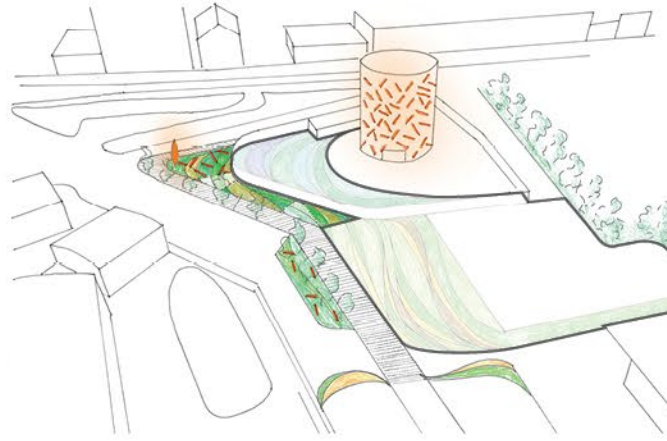
The lights on the tower and in the landscape suggest bioluminescence



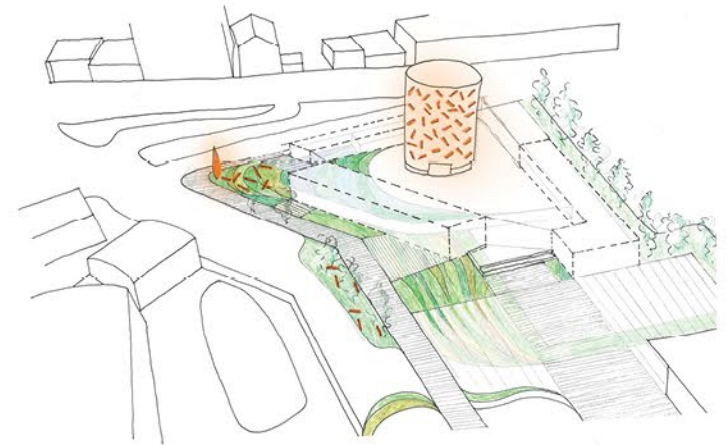
They relate to the story behind the Octopus Woman sculpture at the NW corner of the site



TEMPORARY CONDITION



AREA RESERVED FOR  
FUTURE DEVELOPMENT

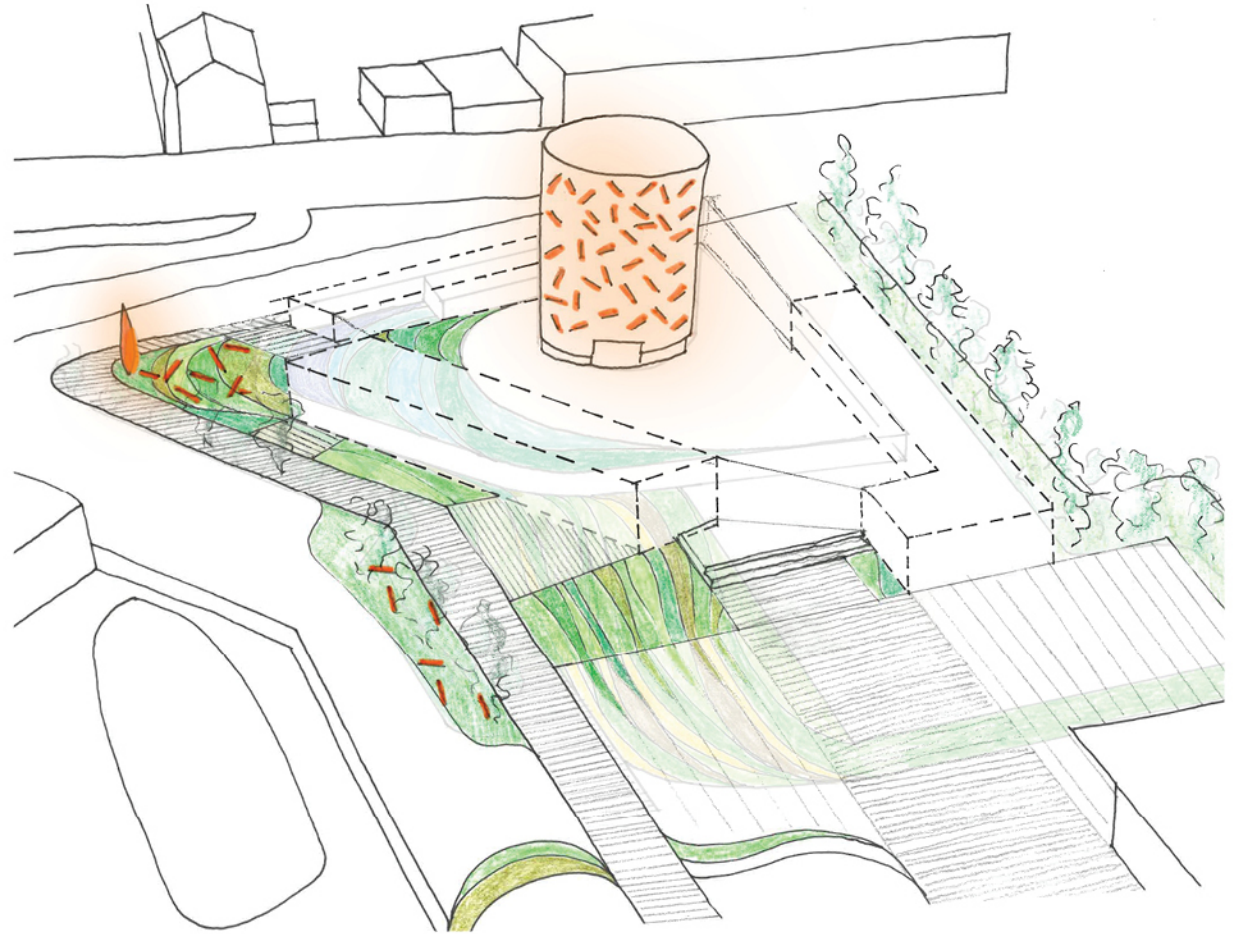
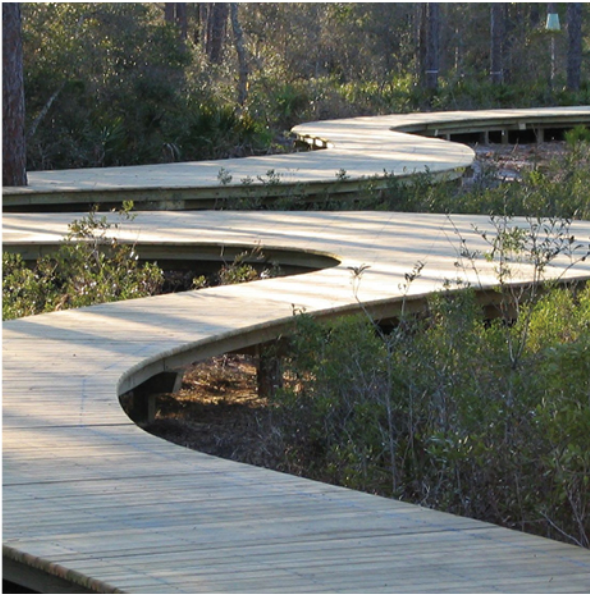


FUTURE DEVELOPMENT

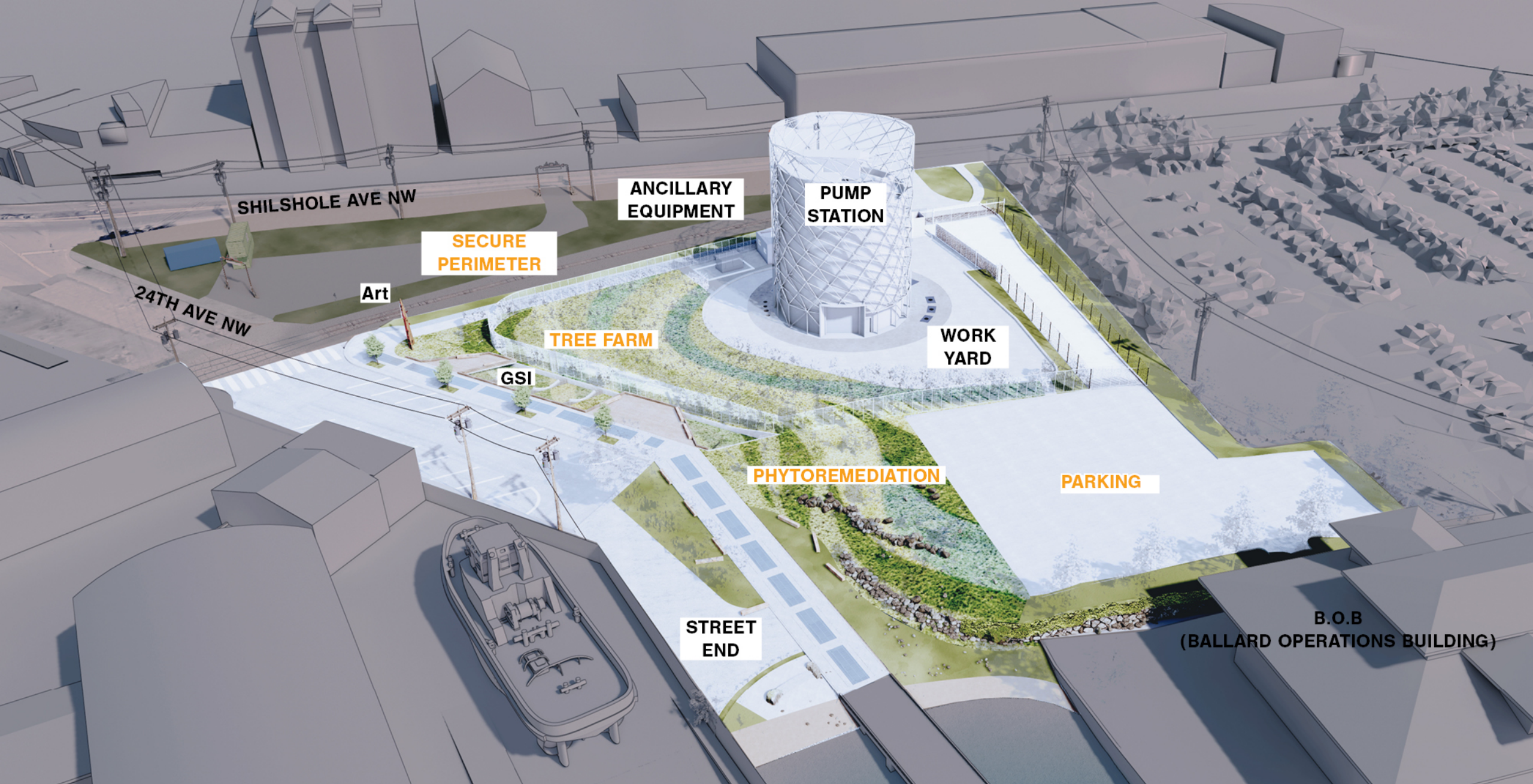


## FUTURE DEVELOPMENT WILL:

- WORK WITH THE SITE CONCEPT
- MAINTAIN A BALANCE BETWEEN LANDSCAPE AND BUILT AREA
- AND HIGHLIGHT ART/TOWER







SHILSHOLE AVE NW

ANCILLARY  
EQUIPMENT

PUMP  
STATION

SECURE  
PERIMETER

Art

TREE FARM

WORK  
YARD

GSI

PHYTOREMEDIATION

PARKING

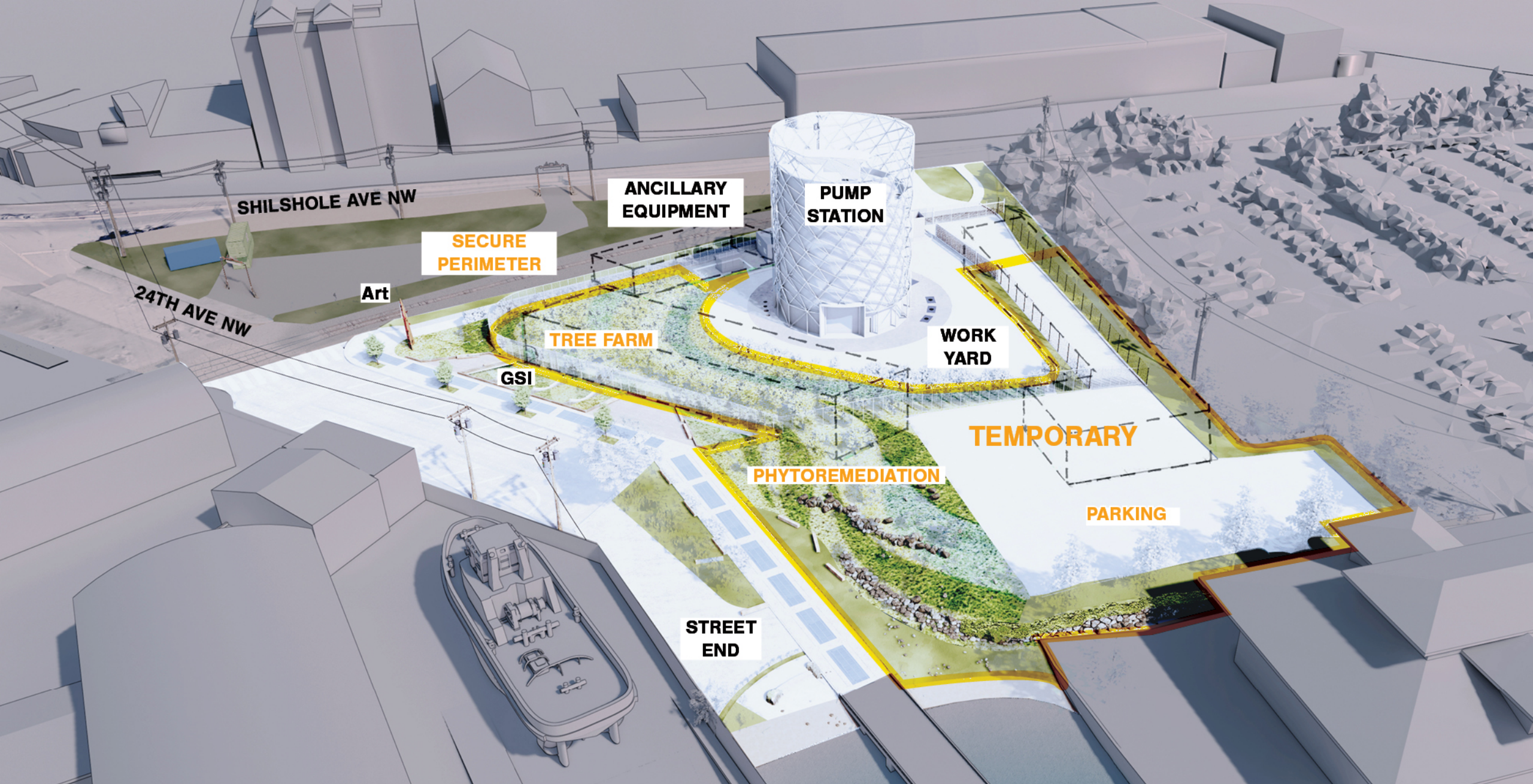
STREET  
END

B.O.B  
(BALLARD OPERATIONS BUILDING)

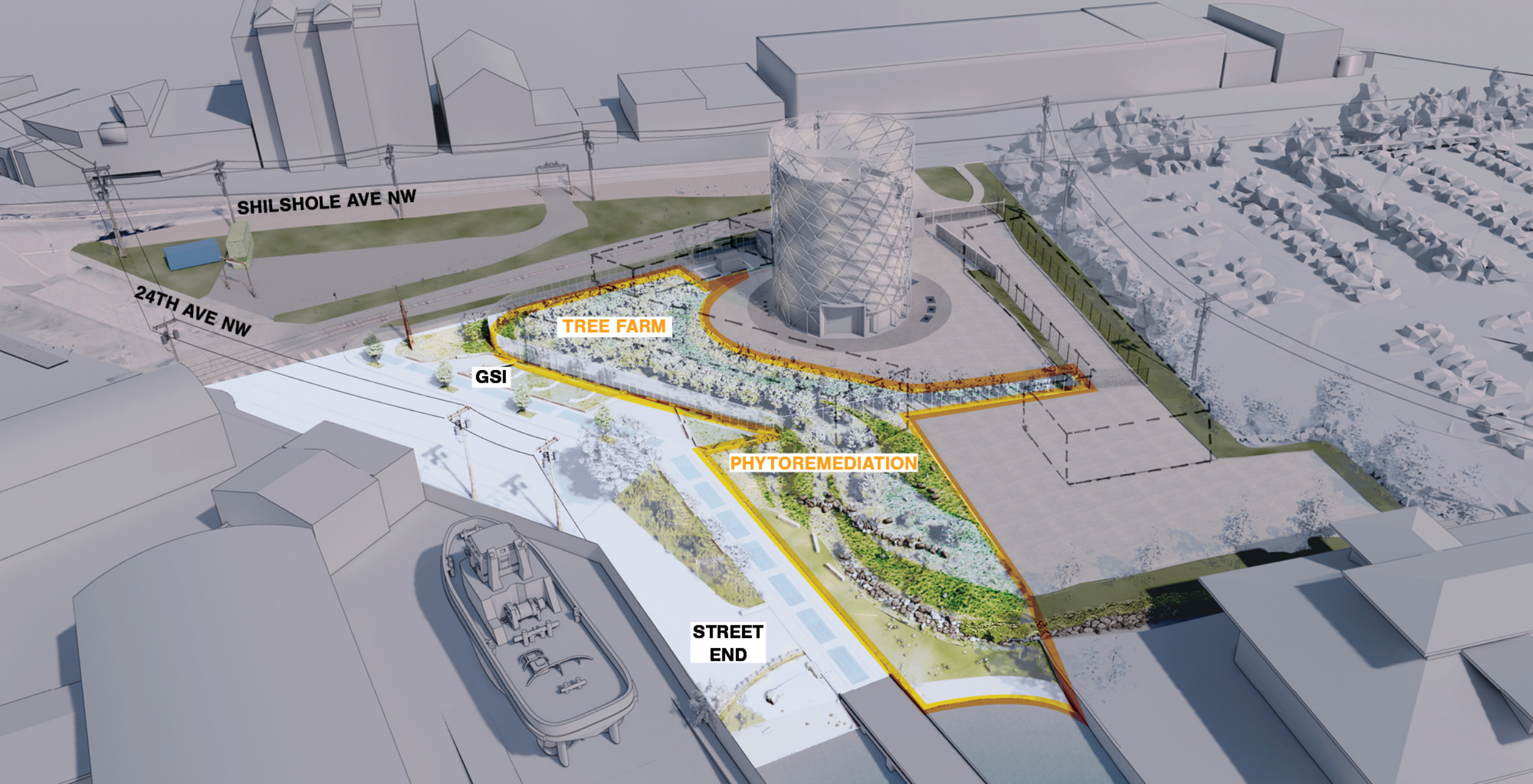
# OVERALL SITE















1905 Home of Hwehlchtid and Chilohleet'sa,  
south side of Salmon Bay  
(UW Digital Collections)



Stimson Mill



Existing Salmon Bay Marine Industries



Urban Tree Farm



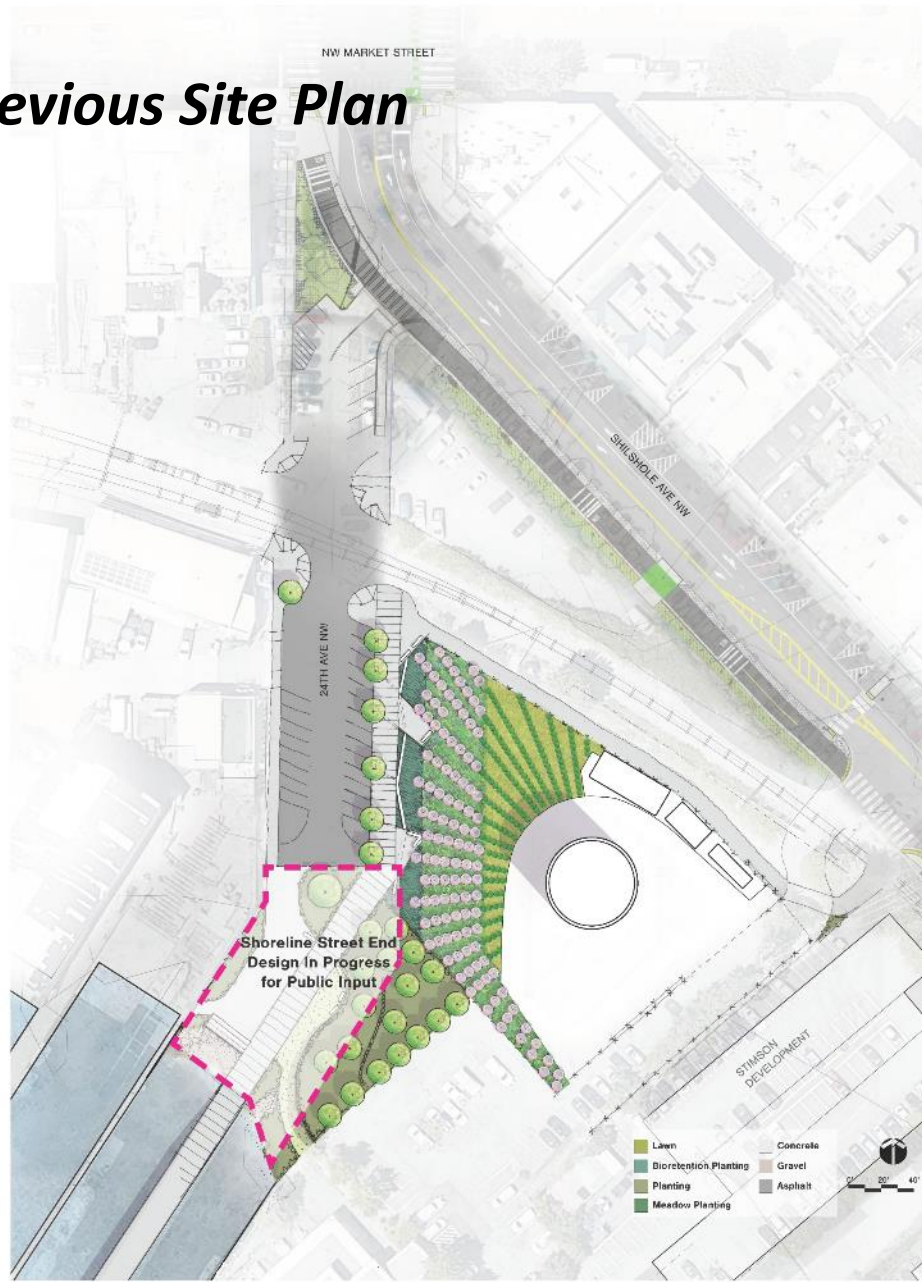
Stormwater Treatment



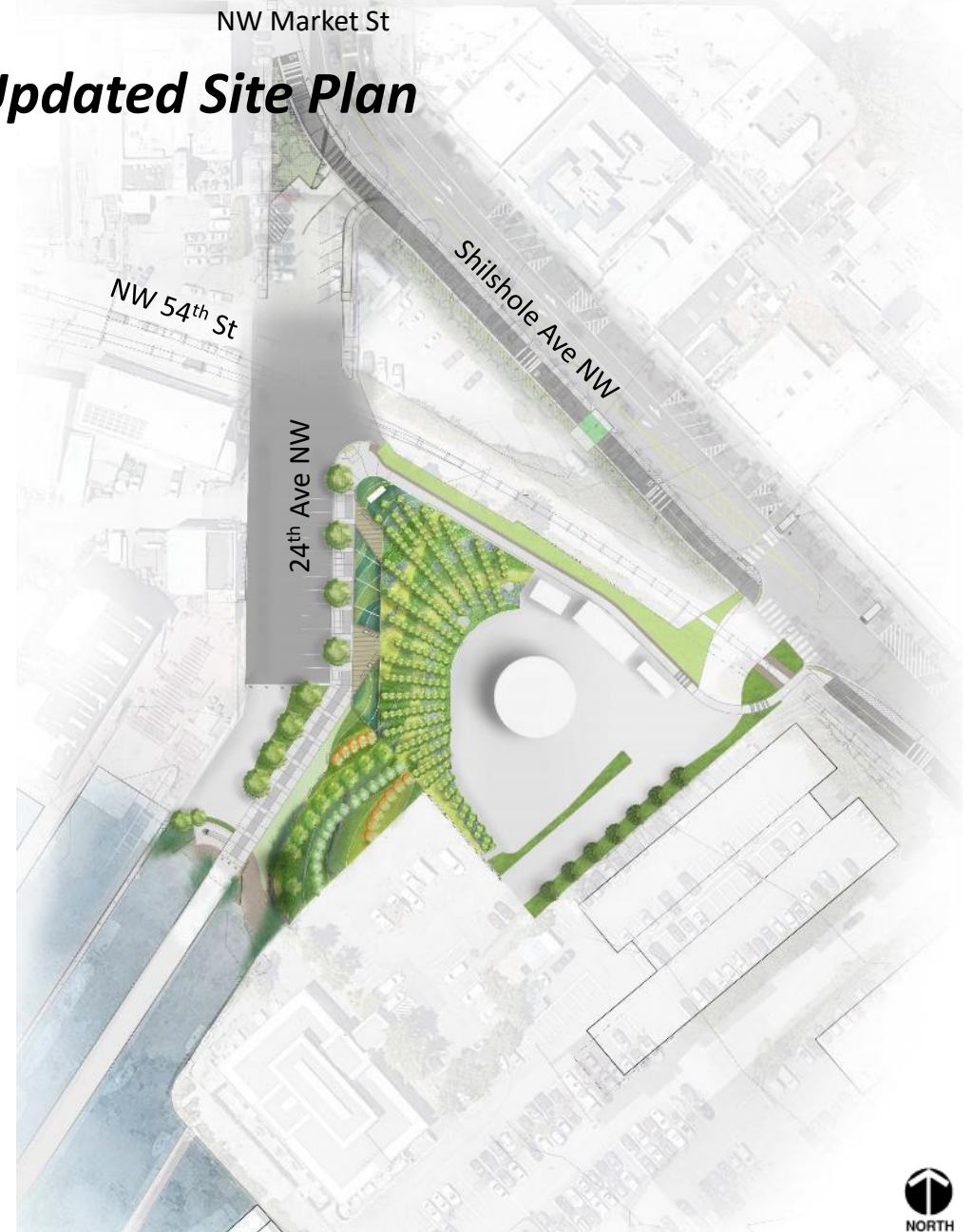
Phytoremediation



# Previous Site Plan



# Updated Site Plan





## Updates:

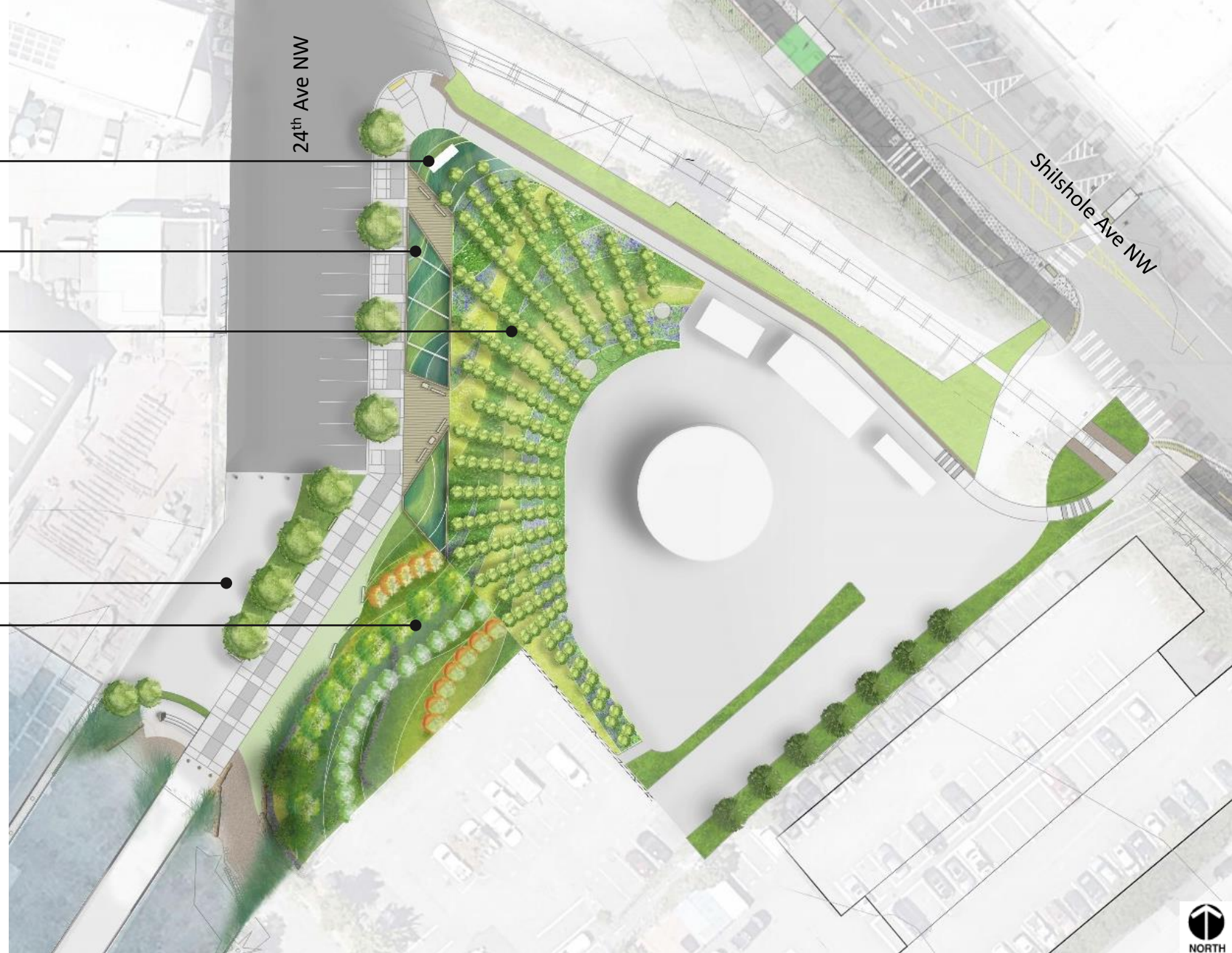
Public art & corner

24<sup>th</sup> ROW & GSI features

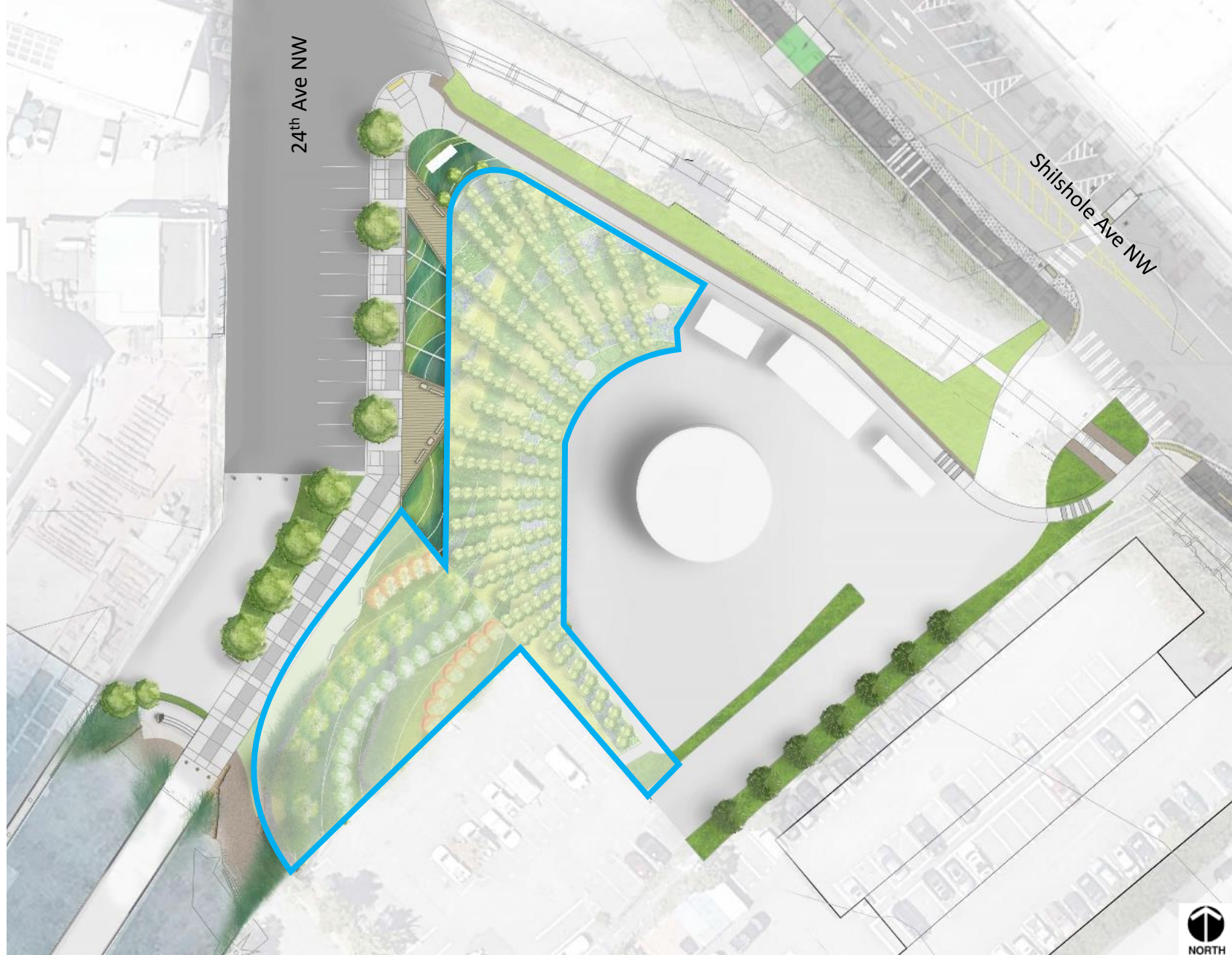
Urban tree farm

Street end

Phytoremediation

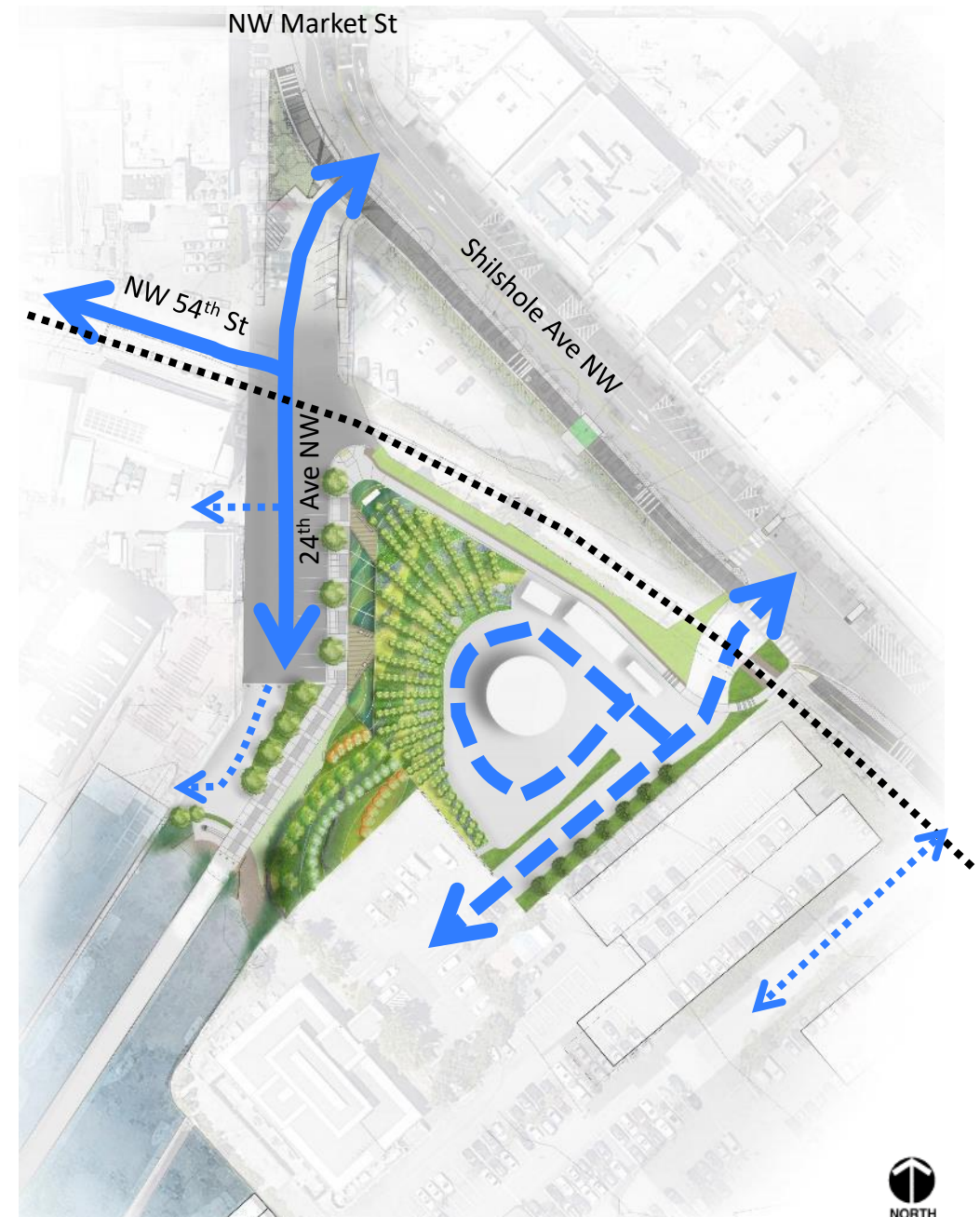






# Vehicle Circulation

- ..... Railroad
- ↔ Vehicles
- ↔ SPU vehicles
- ↔ Other vehicular access



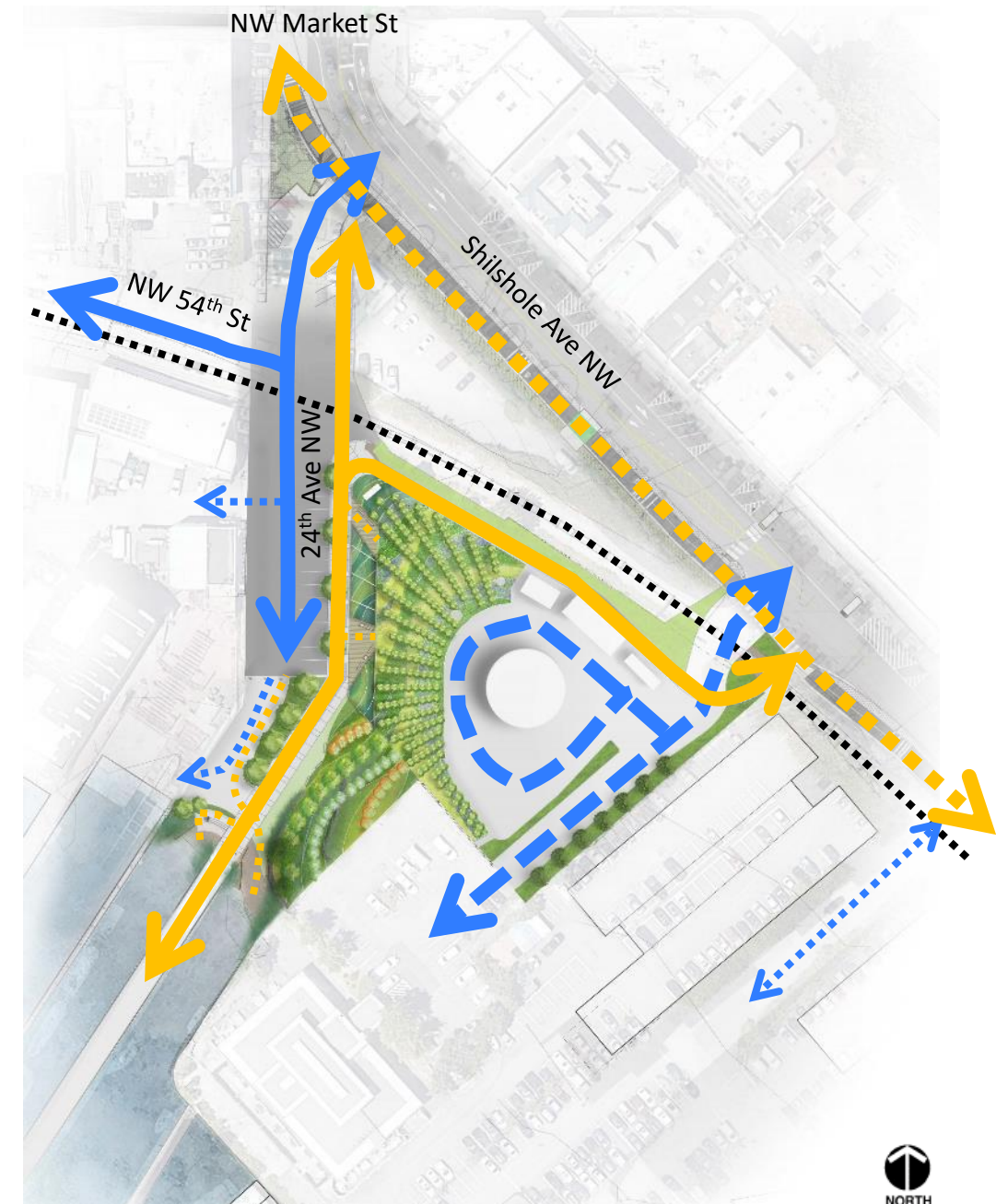


## Vehicle Circulation

- ..... Railroad
- ↔ Vehicles
- ↔ SPU vehicles
- ↔ Other vehicular access

## Pedestrian & Bike Circulation

- ↔ Ballard Multimodal Corridor (pending)
- ↔ Primary access
- ..... Secondary access





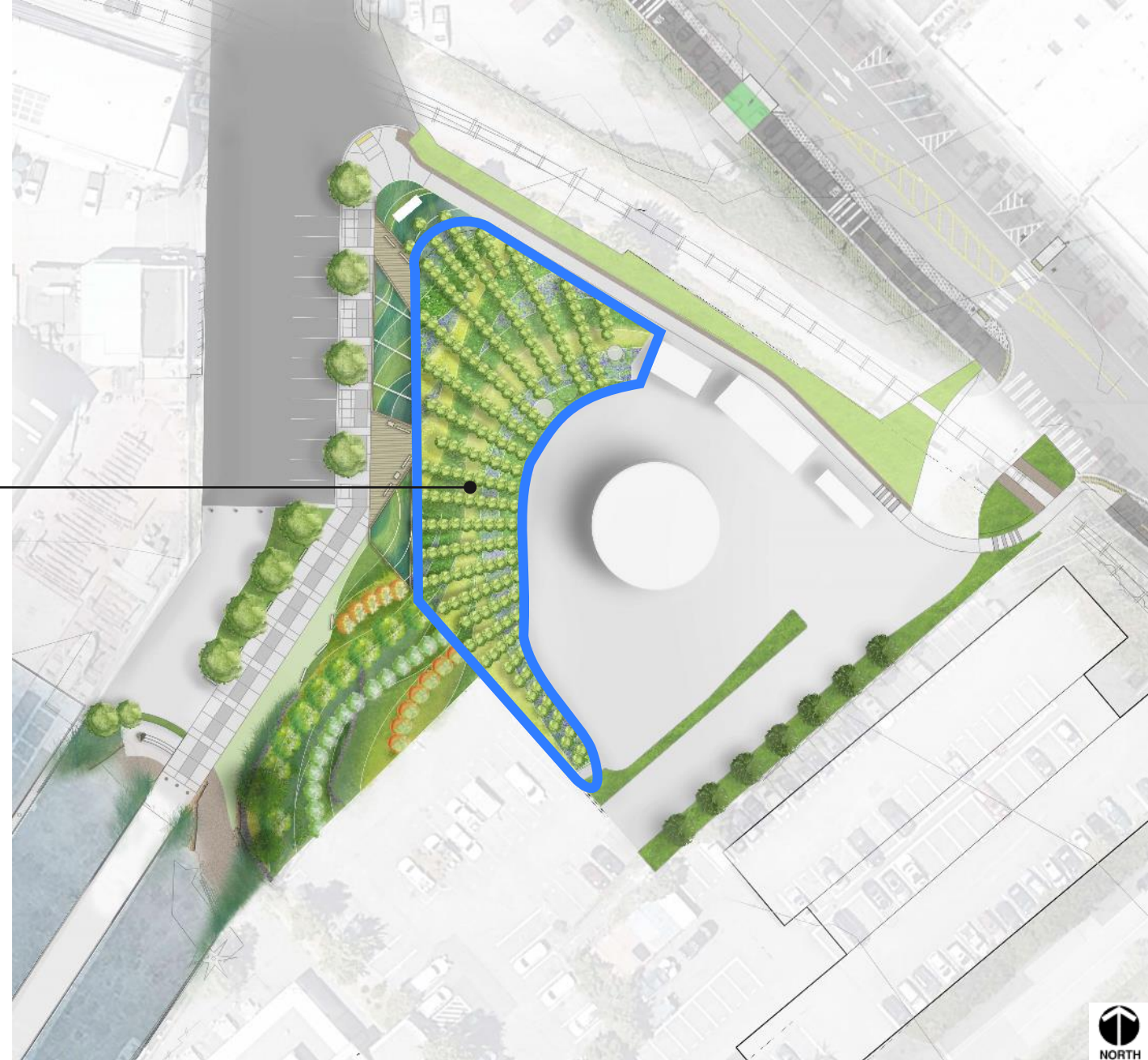




# Urban Tree Farm

## Updates:

- Replaced blueberries with additional trees
- Reinforcing water concept with flowing lines with groundcover and seed mixes
- O&M manual, and coordination with City agencies

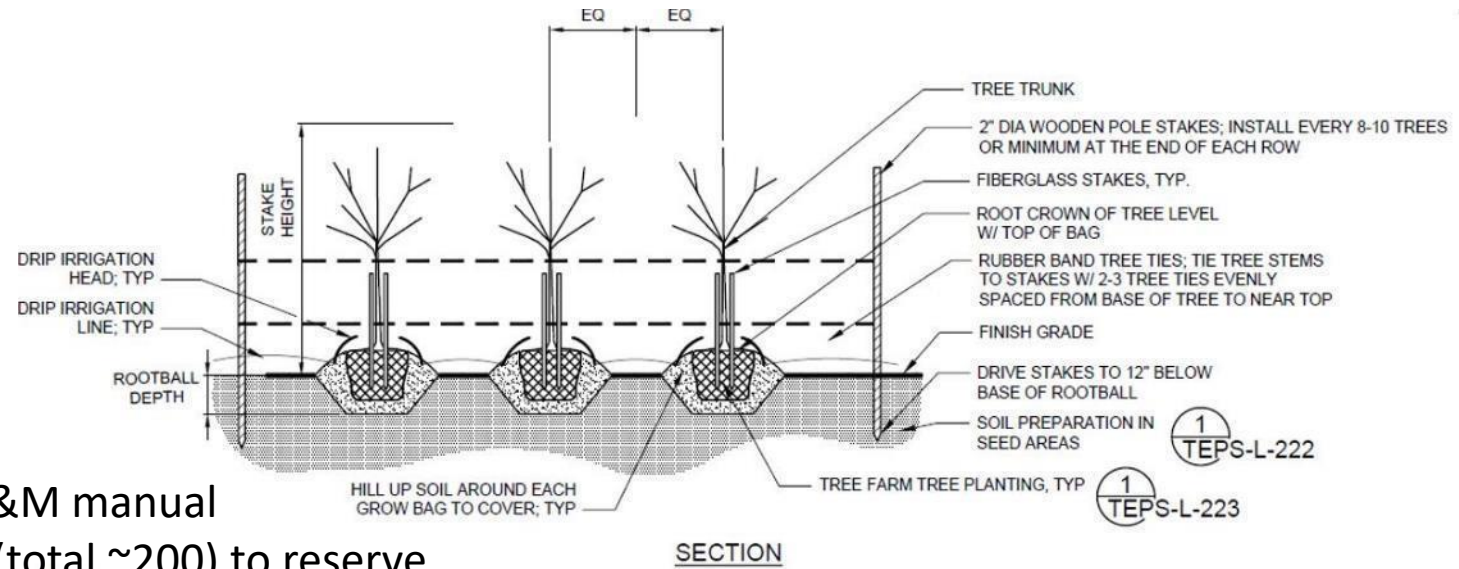




# Urban Tree Farm

## Possible City Partnerships:

- SPU restoration projects
  - SDOT Urban Forestry
  - Trees for Seattle
  - Trees for Neighborhoods
- Maintained by a contractor for 4-5 years with O&M manual
  - Coordinating tree type selection and quantities (total ~200) to reserve
  - Locate trees within Ship Canal Water Quality Project area basins





## Urban Tree Farm (current selected species)

- 3'-4' height at planting
- 5' on center spacing
- Minimum 3'-6" room for riding lawn mowers or small 4-wheel vehicles for maintenance, increases in width to 12' wide



Snowcone Snowbell (*Styrax japonica* 'Snowcone')



Vanessa Parrotia (*Parrotia persiana* 'Vanessa')



Rising Fire American Hornbeam (*Carpinus caroliniana* 'Uxbridge')

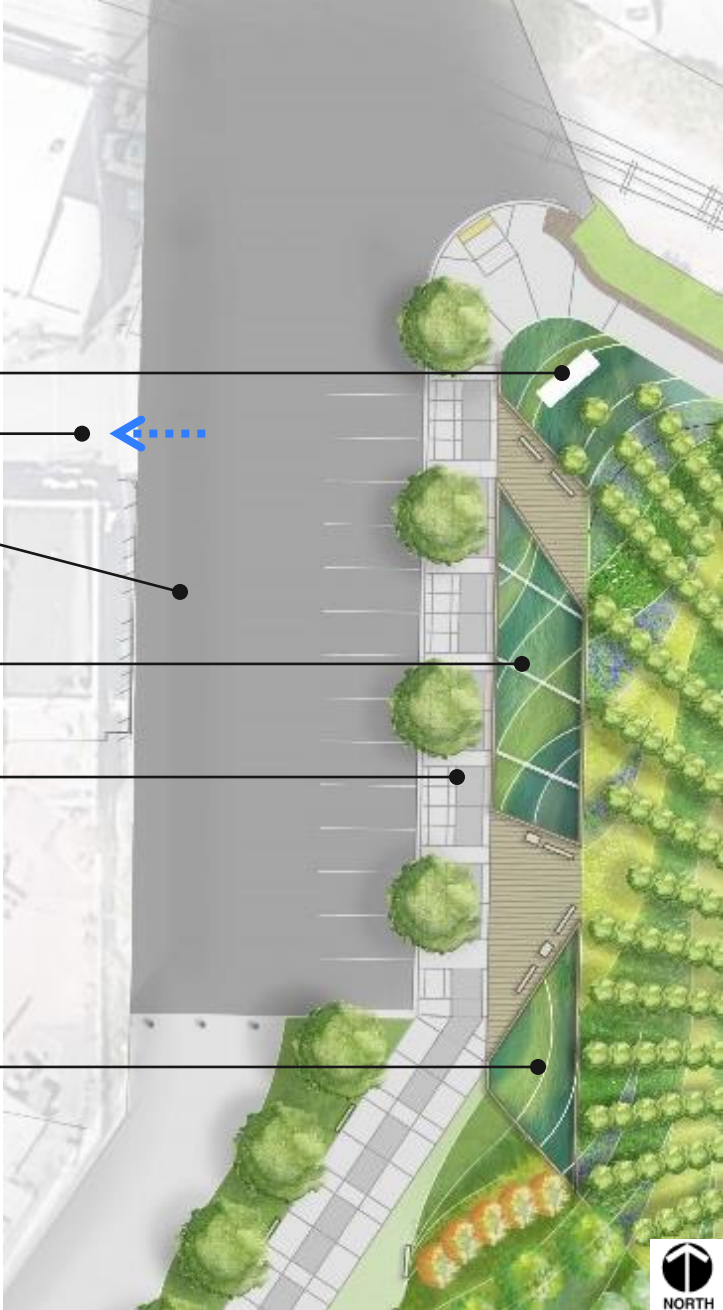


Firestarter Tupelo (*Nyssa sylvatica* 'Firestarter')

# 24<sup>th</sup> ROW & GSI

## Updates:

- Refined NW corner around Public Art
- Minimal improvements on west side of 24<sup>th</sup> in coordination with SDOT and adjacent businesses
- Removed elevated metal runnel & added weirs
- Replaced trench grates with pipes and paving treatments
- Planting layout





# 24<sup>th</sup> ROW & GSI Design Details

Benches



Public art

Fence

Bull rails with low lighting



# 24<sup>th</sup> ROW & GSI Stormwater Conveyance



Bowels Golden Sedge  
(*Carex elata aurea*)



Elk Blue Rush  
(*Juncus patens elk blue*)



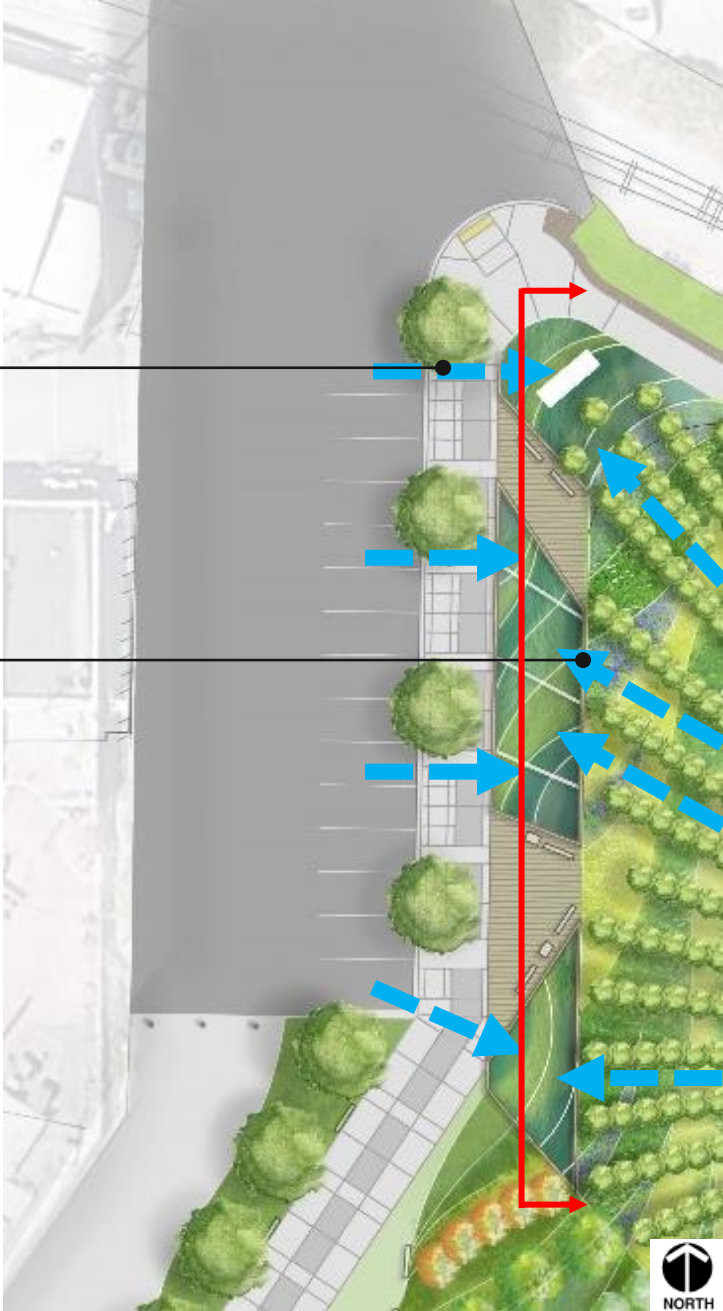
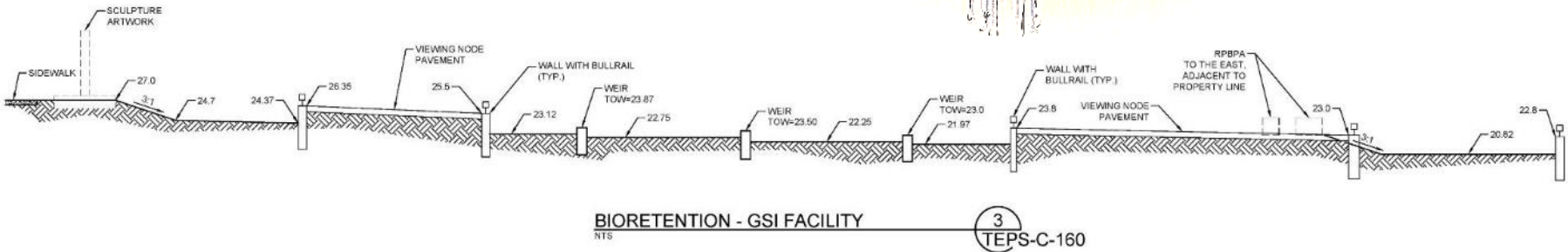
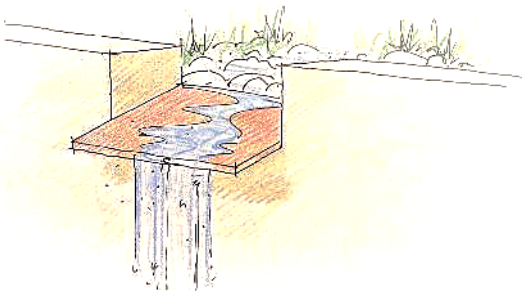
Douglas Iris  
(*Iris douglasiana*)



Common Rush  
(*Juncus effusus*)

Water from 24<sup>th</sup> ROW  
(piped under sidewalk)

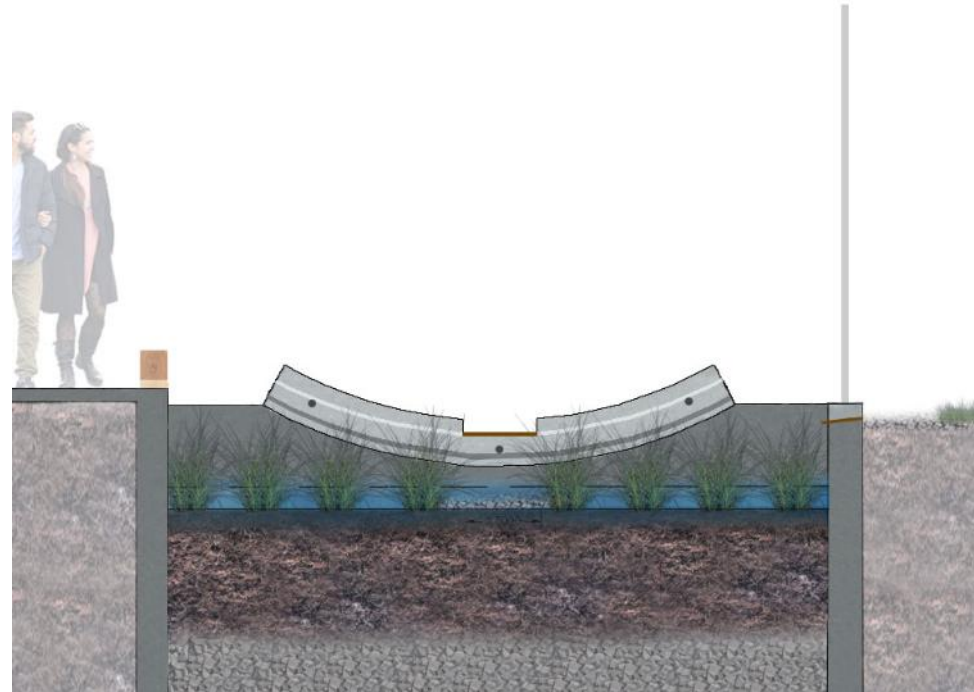
Stormwater from Pump Station yard  
(swale & scupper)



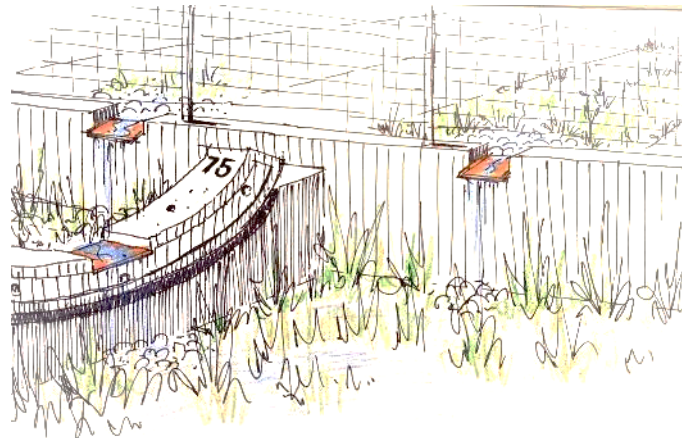
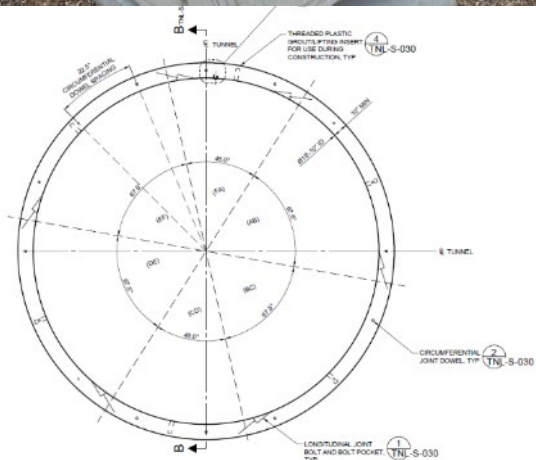


## Weirs

- Simulated tunnel segment
  - Inside diameter 18'-10"
  - Segments 11" thick
  - 5' wide, 10' long



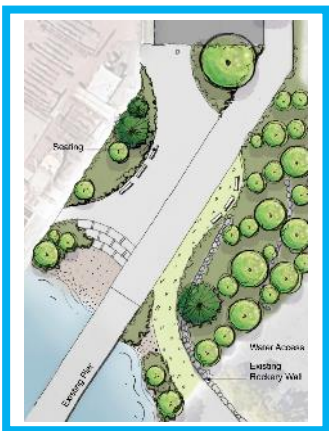
Typical Section





## What we heard (SDC Subcommittee meeting on 02/20/2020):

- Design for variety of users
- How does design accommodate future development
- Want to better understand interpretive elements
- Evaluate seating locations, orientation, and views



## Outreach

- 4 concepts
- 490 online survey responses





## Updates:

- Revised vehicular access in coordination with adjacent property owner to existing gate
- Added additional planting and seating
- Refined design elements

Removable bollards

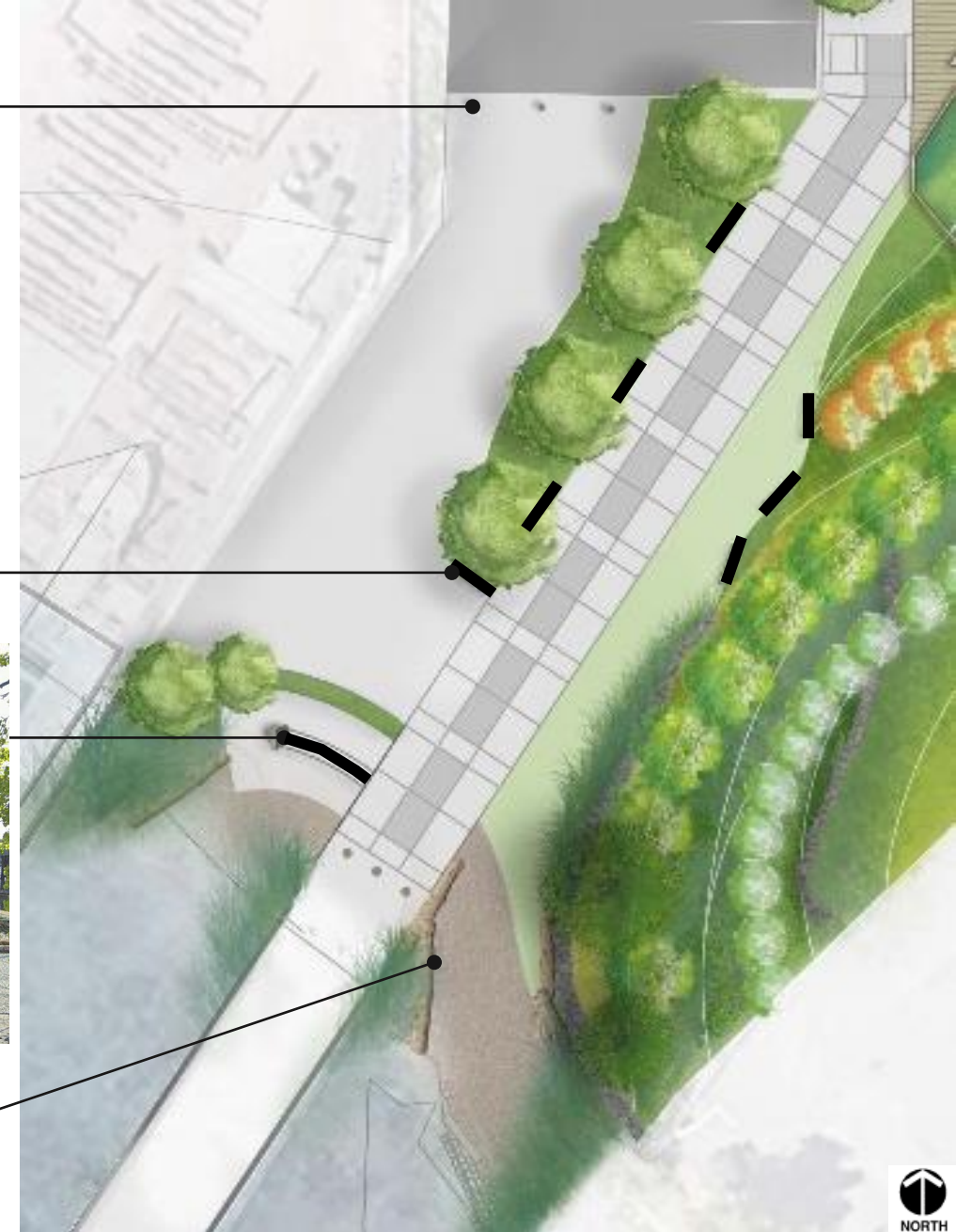


Benches



View looking to water & pier

Boulders & logs



## Vehicle Circulation



Vehicles



Other vehicular access

## Pedestrian & Bike Circulation



Primary access



Secondary access





# Phytoremediation

## Updates:

- Layout refinements in more fluid forms

### Petroleum Hydrocarbon Degraders



*Cercis canadensis*  
Eastern Redbud



*Gleditsia triacanthos var inermis*  
Thornless Honey Locust



*Festuca rubra*  
Red Fescue



*Bouteloua dactyloides*  
Buffalo Grass



*Pascopyrum smithii*  
Western Wheatgrass

### Organic Compound Degraders



*Lolium perenne*  
Ryegrass

### Metal Accumulators



*Populus tremuloides*  
Quaking Aspen

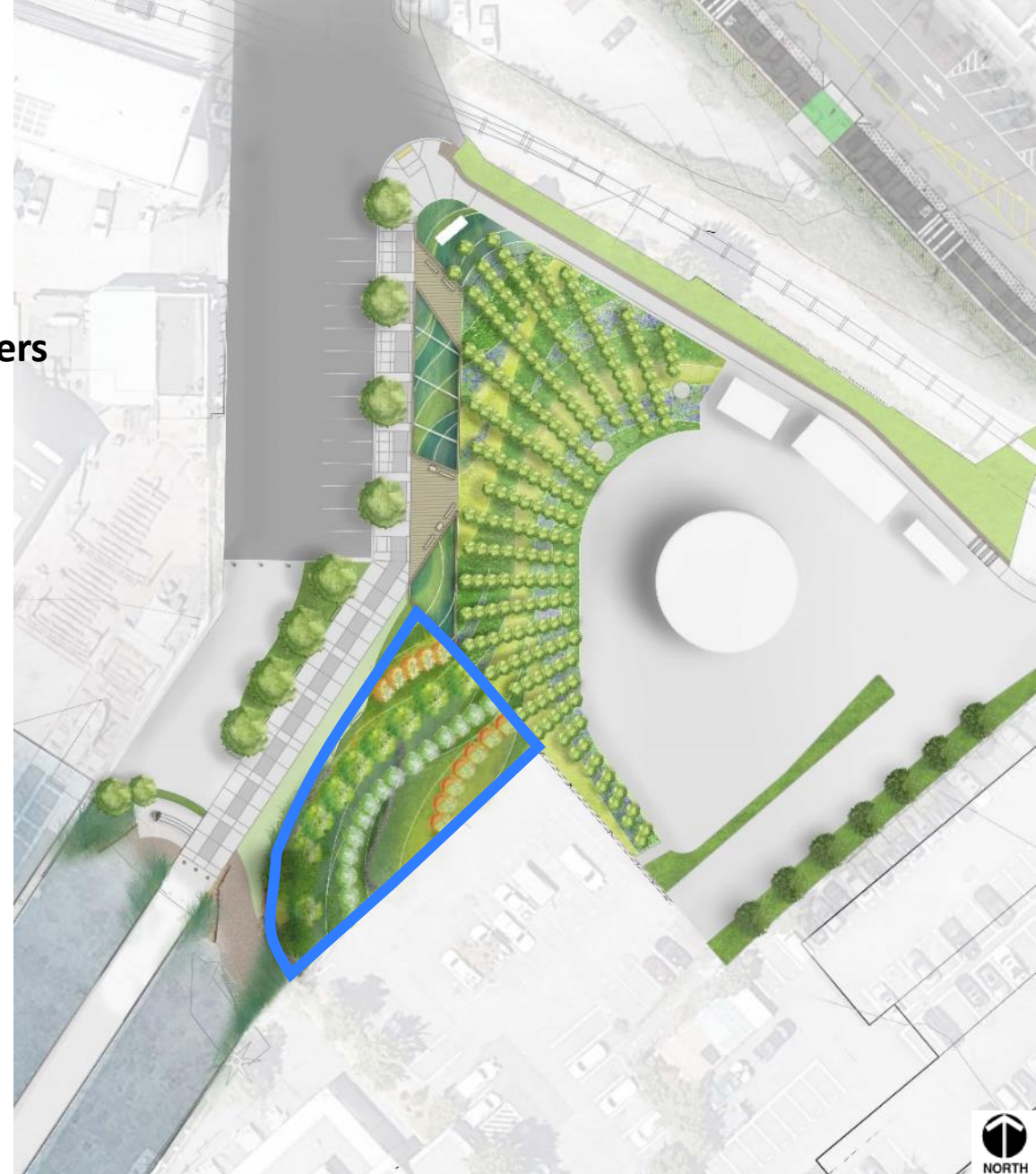


*Helianthus annuus*  
Common Sunflower

### Petroleum Tolerant



*Cistus x purpureus*  
Purple Rock Rose



## Narratives

## Direct Approach

## Subtle Approach

Coast Salish

- Narrative story

- Public Art
- Plant materials

Timber Industry

- Wood benches, bull rail, logs

Maritime Industry (past & present)

- Tower trellis

SPU Ship Canal Tunnel & Pump Station

- Interpretive sign

- Tower & lighting
- Weir tunnel segments

Stormwater aboveground

- Bioretention cells
- Conveyance swales & scuppers

Stormwater belowground

- Tower lighting
- Paving inlays in sidewalk

Working Landscape

- Interpretive sign

- Urban tree farm
- Phytoremediation
- GSI
- Tower

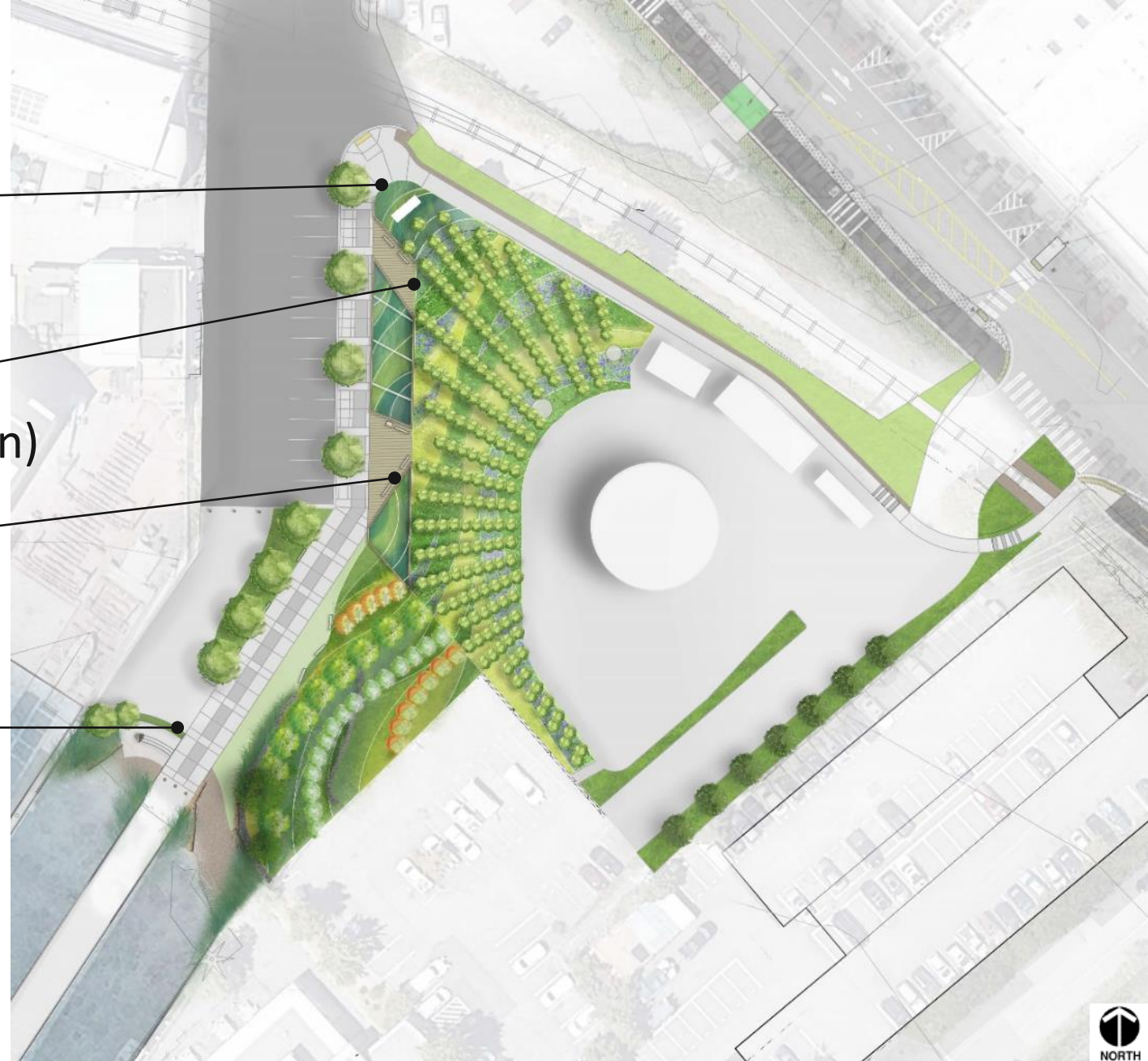
Collective history of site

- Interpretive sign

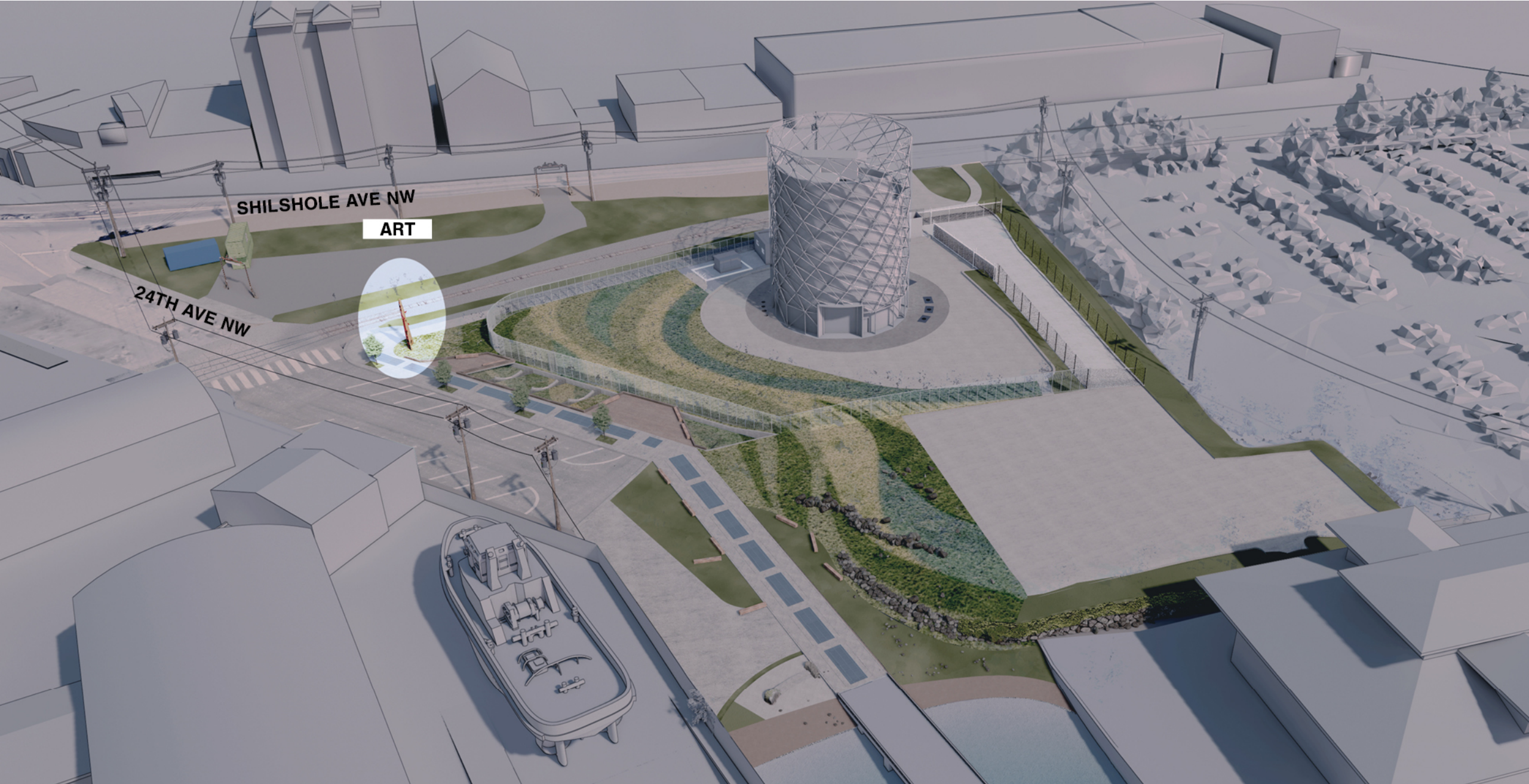




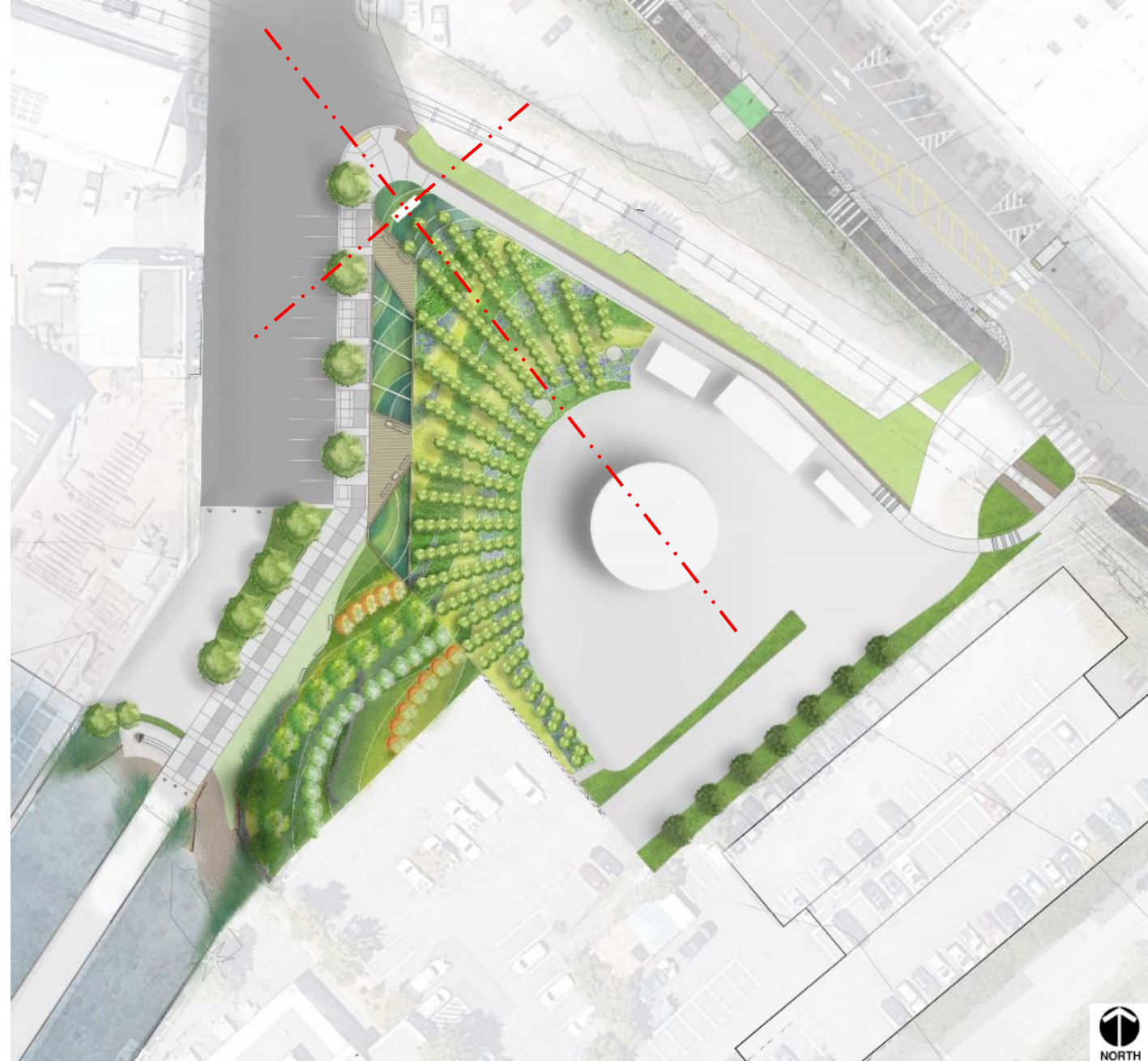
1. Narrative story  
(Public Art)
2. Interpretive sign  
(SPU Ship Canal Tunnel & Pump Station)
3. Interpretive sign  
(Working landscape)
4. Interpretive sign  
(Collective history of site)











## Ballard Water Station Concept Round 4

### Inspiration/story

#### A S'KLALLAM TALE: SEDUCTION OF THE MOON

Octopus woman, a queen of the Salish sea would go out each night and dance while gathering food for herself under the light of the Moon.

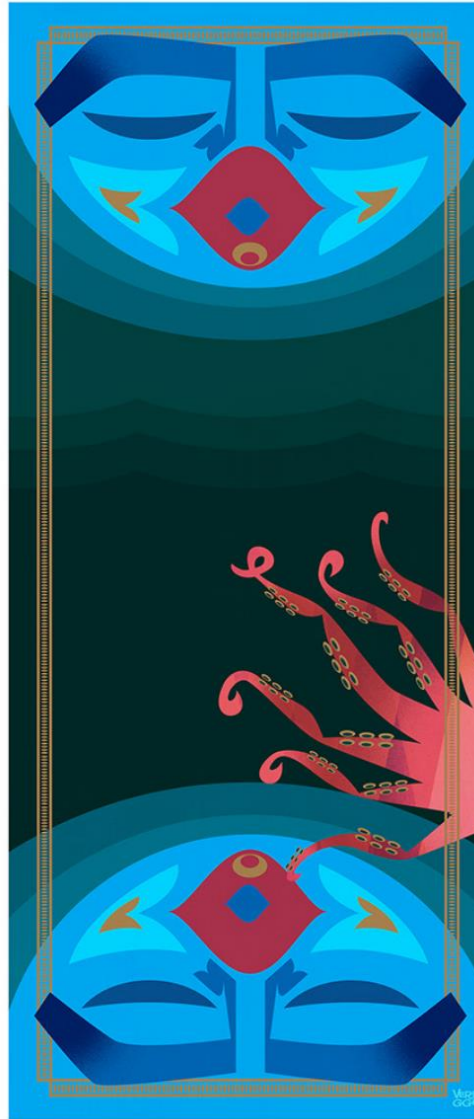
Every night while The Moon shown brightly, she would playfully dance around his reflection to show her love and gratitude for helping her hunt.

Her movements were a ballet that spoke to directly to the Moon's soul.

For hours she would perform under his light, until she had her fill and then she would sleepily return to her home

Watching her graceful movements, a beautiful seduction of motion, the Moon became smitten with Octopus Woman. He was so enraptured by her dance and beauty that he would blow her countless kisses that would land gently upon the skin of the emerald sea.

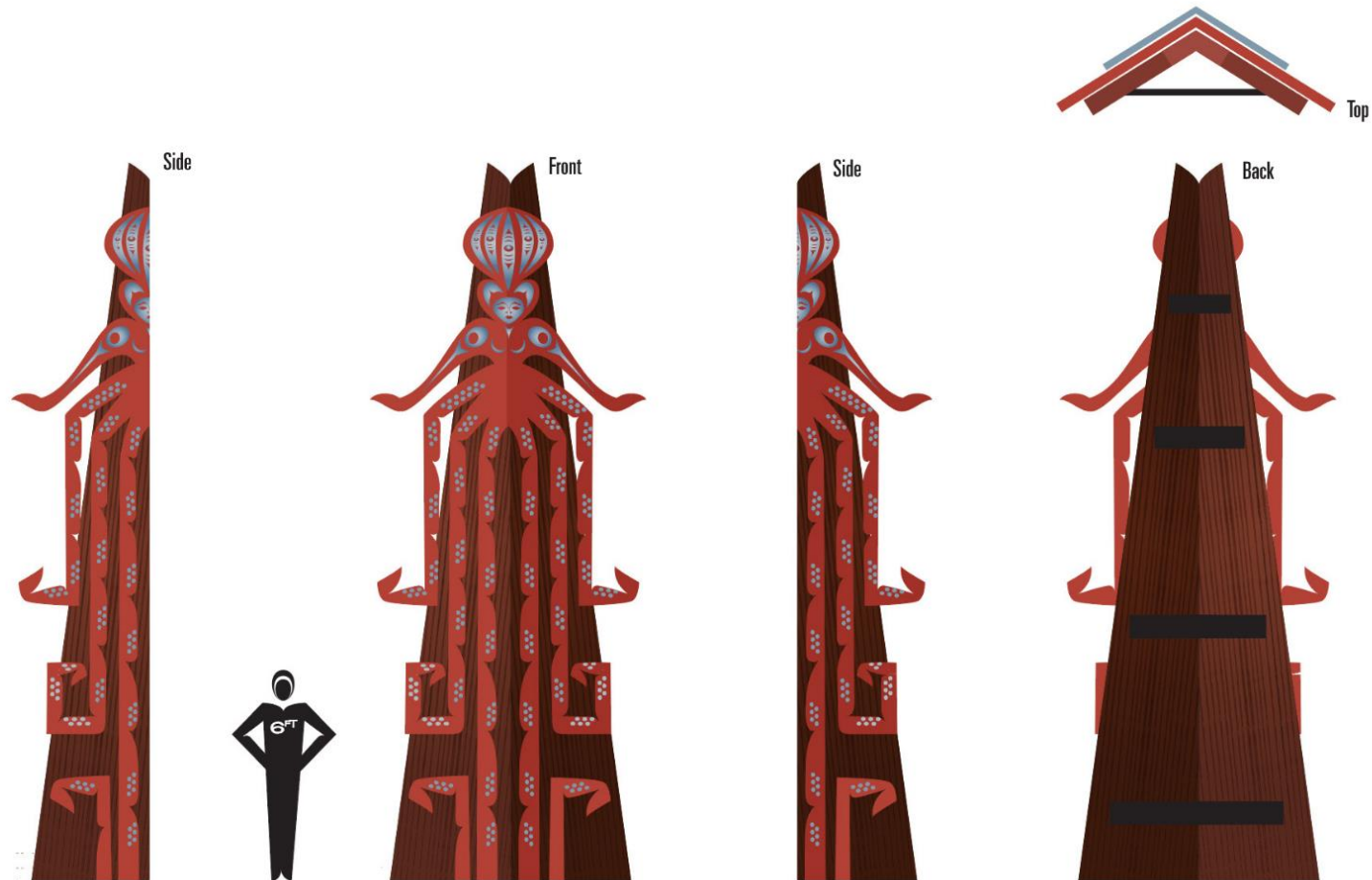
However being in love, he did not think of what his kisses might do and didn't realize that some of the sea creatures would absorb the light he sent from his heart, and as a result that is why certain fish and plankton glow at night and in the deep.





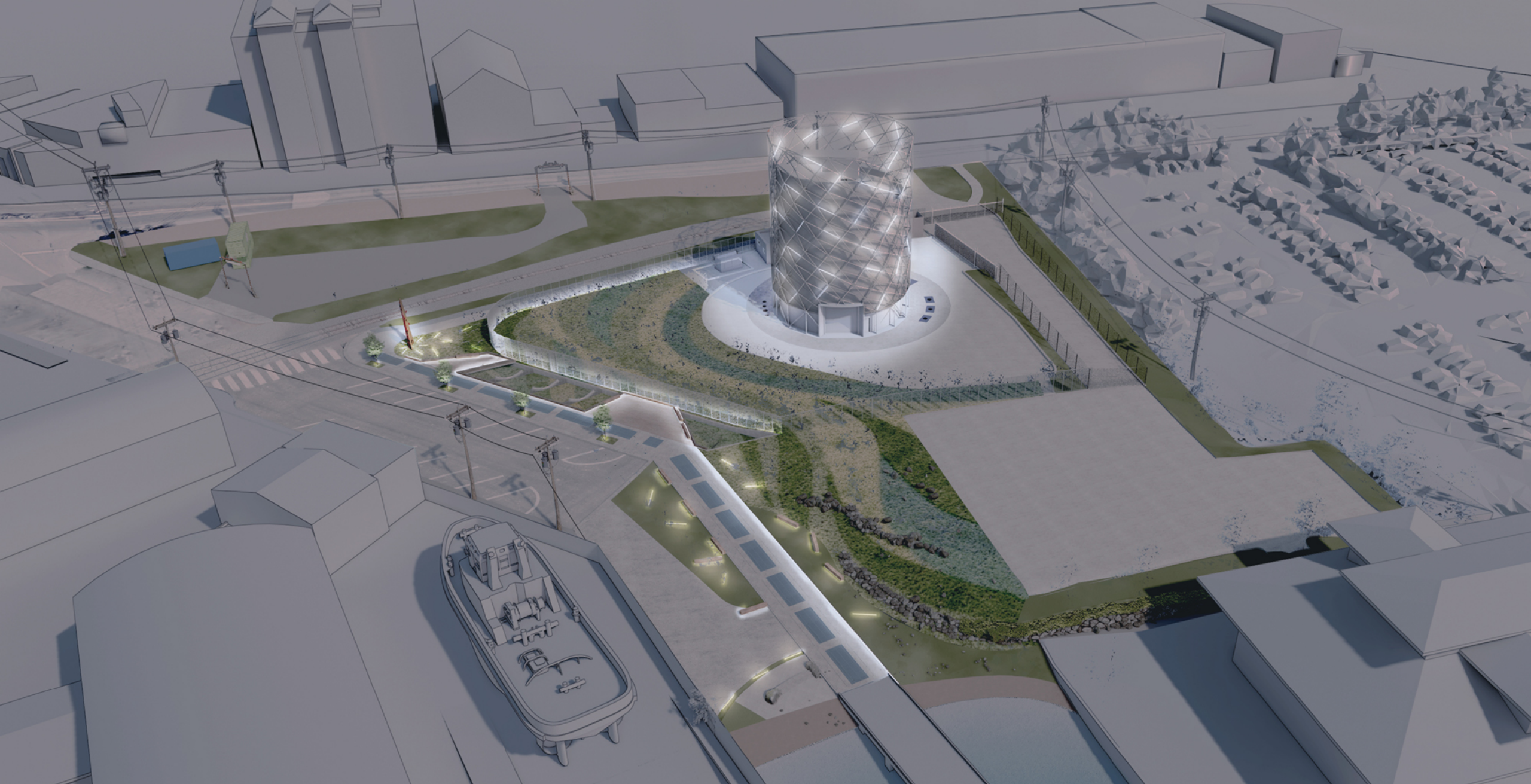
## Ballard Water Station Concept Round 4

The fourth concept is based off the first design concepts after taking in both the committee's and construction budget comments. It is a more streamlined version that honors the idea and spirit of the original while having more depth and identity that establishes it as a strong Salish voice in the community.

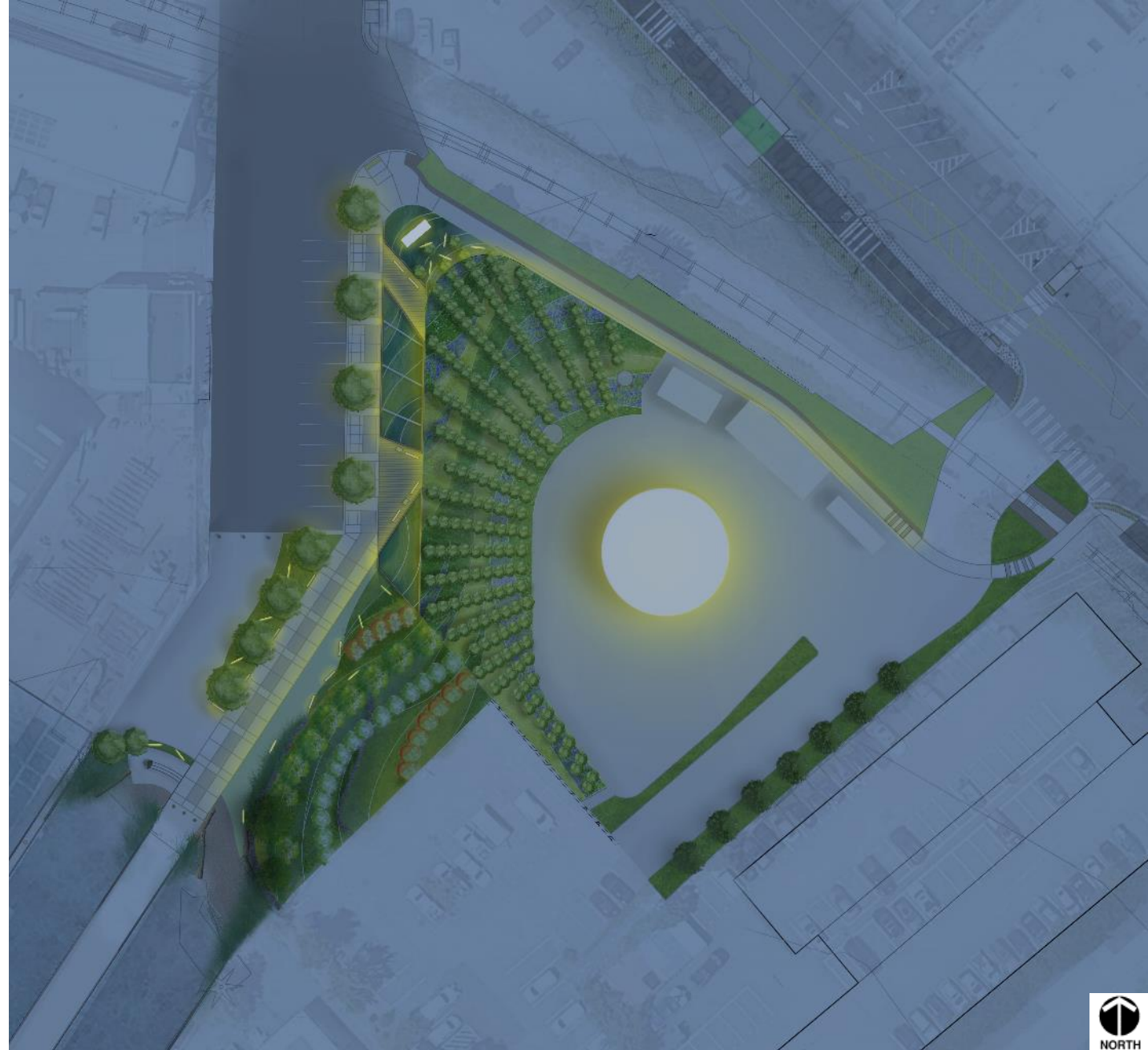
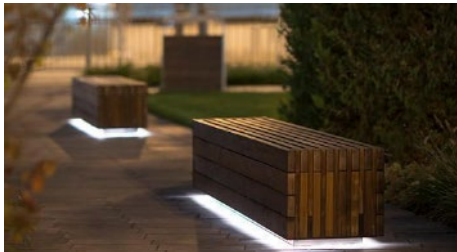
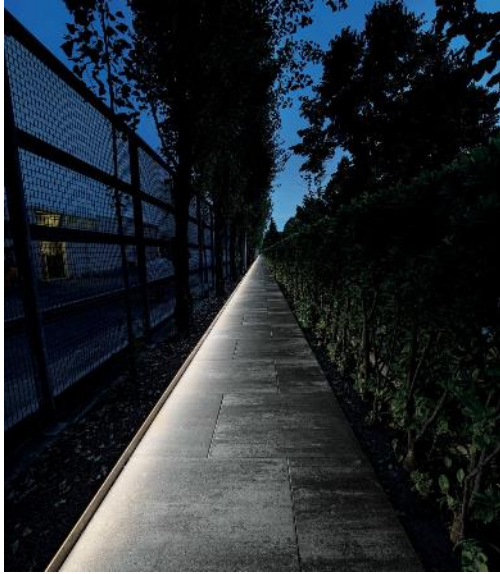


VERF<sup>20</sup>  
GGE



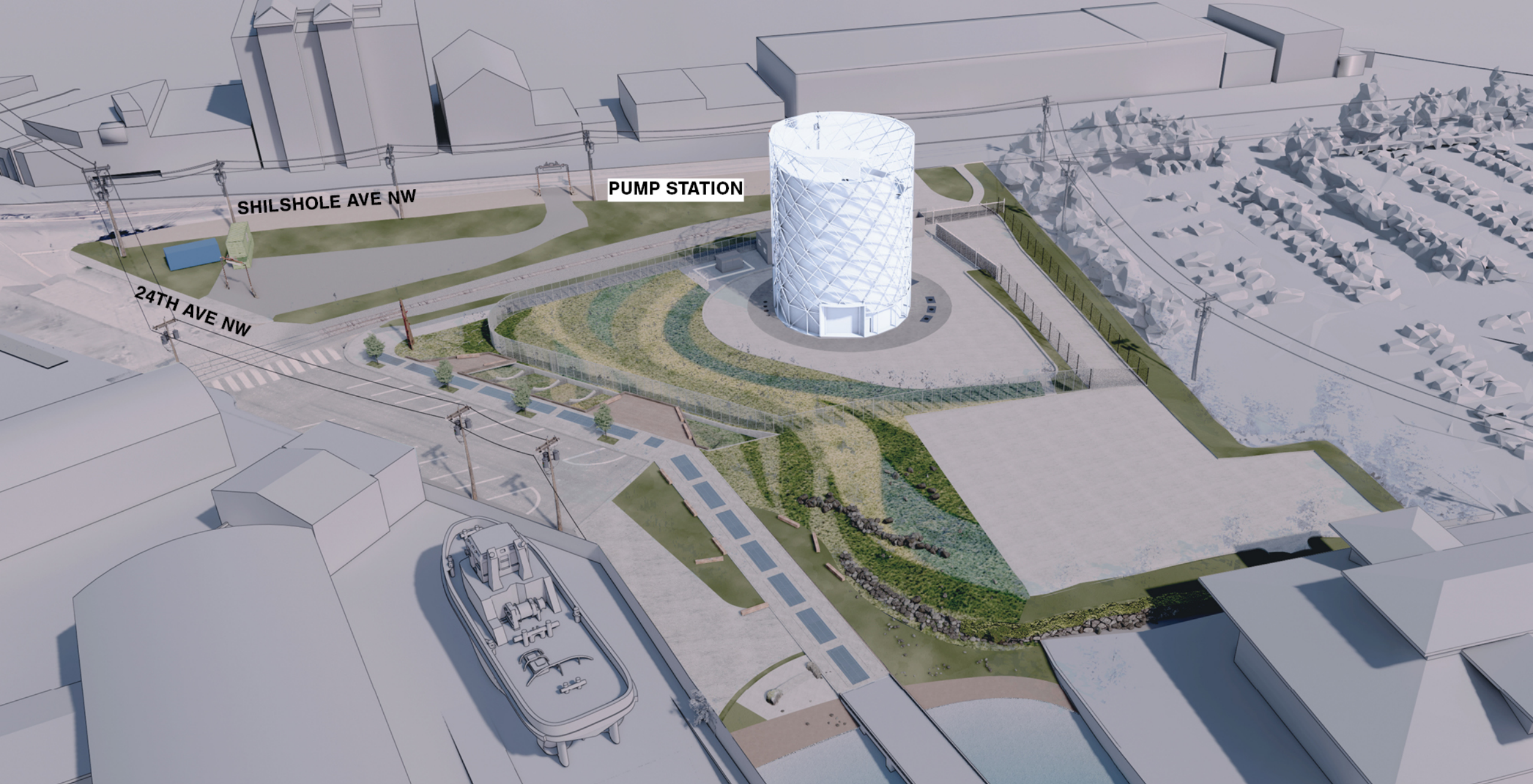






## SITE LIGHTING



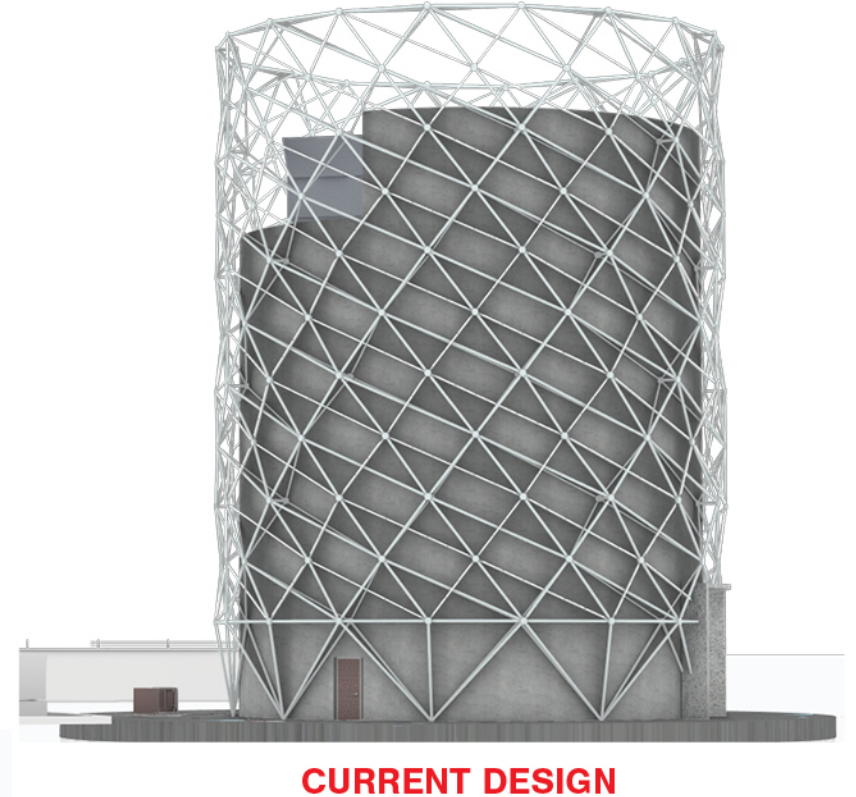
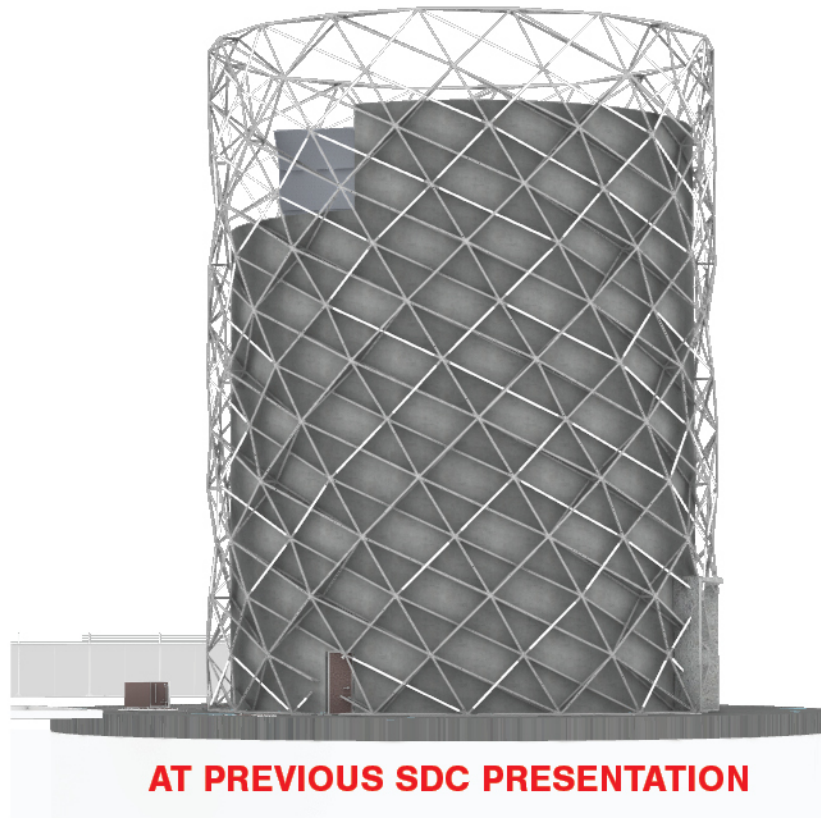




# TOWER EVOLUTION

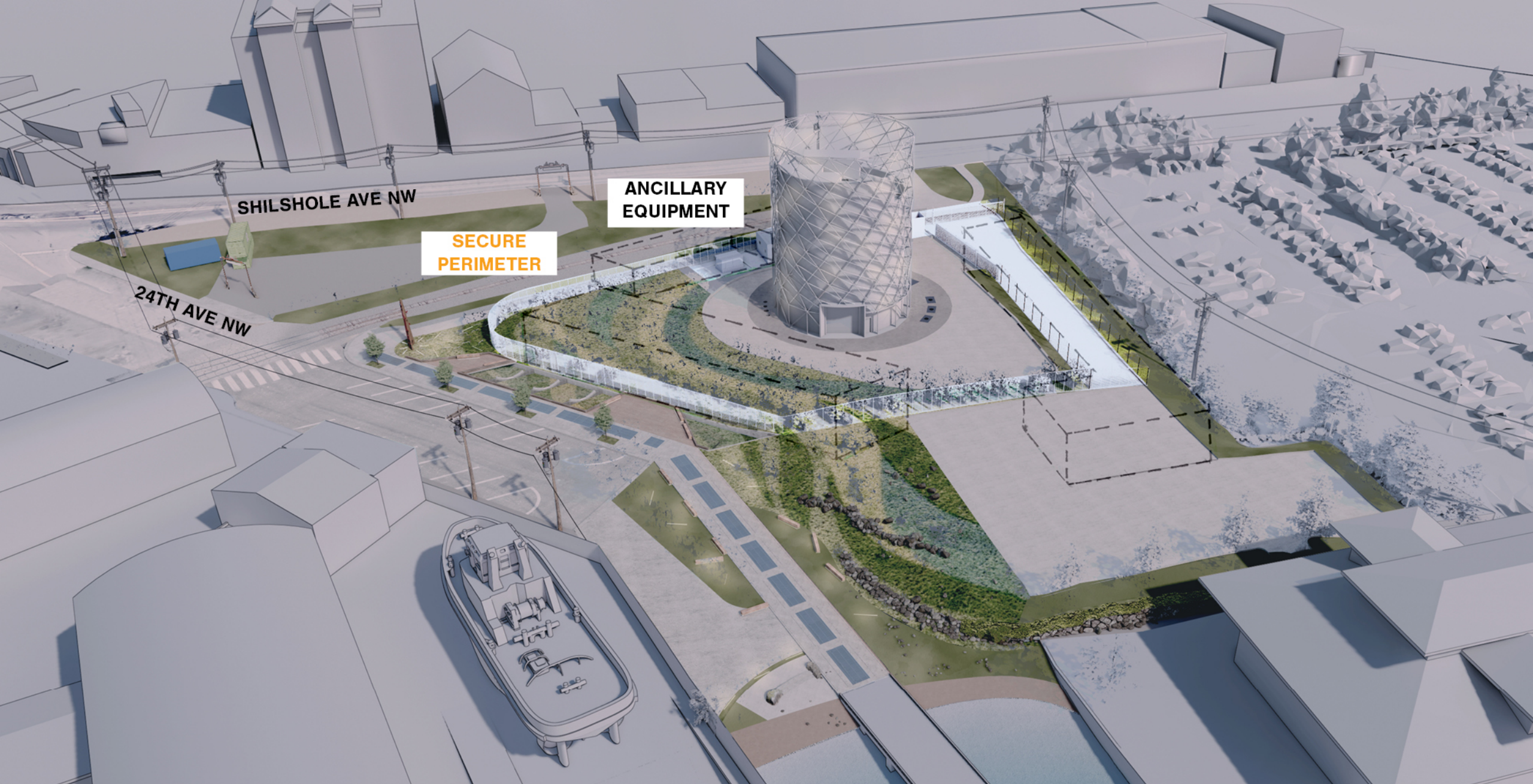
## WHAT HAS CHANGED:

- Overall height
- Connections
- Tube sizes
- Stainless steel grade at nodes



**TOWER ANIMATION STUDIES:** <https://imgur.com/a/YovWVhu>







FENCE AND ANCILLARY EQUIPMENT



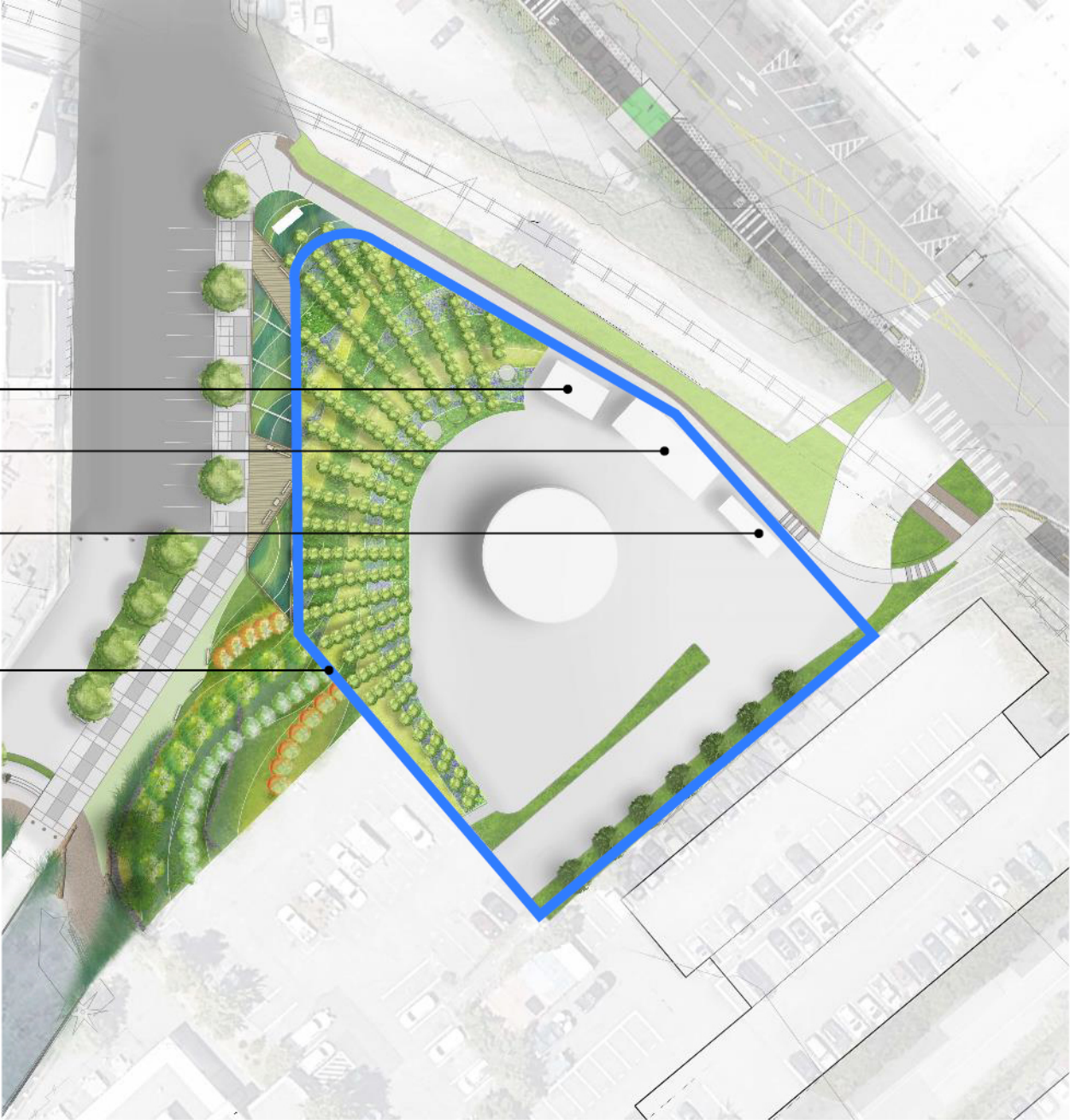
SCRIM AT FENCE

TRANSFORMER

ELECTRICAL  
BUILDING

GENERATOR

FENCE





**ANCILLARY  
EQUIPMENT  
BEHIND FENCE**



















**THANK YOU**





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