

Bitter Lake Reservoir Improvements

Seattle Design Commission,
Follow-up from Schematic (60%)

March 21, 2024

Seattle Design Commission

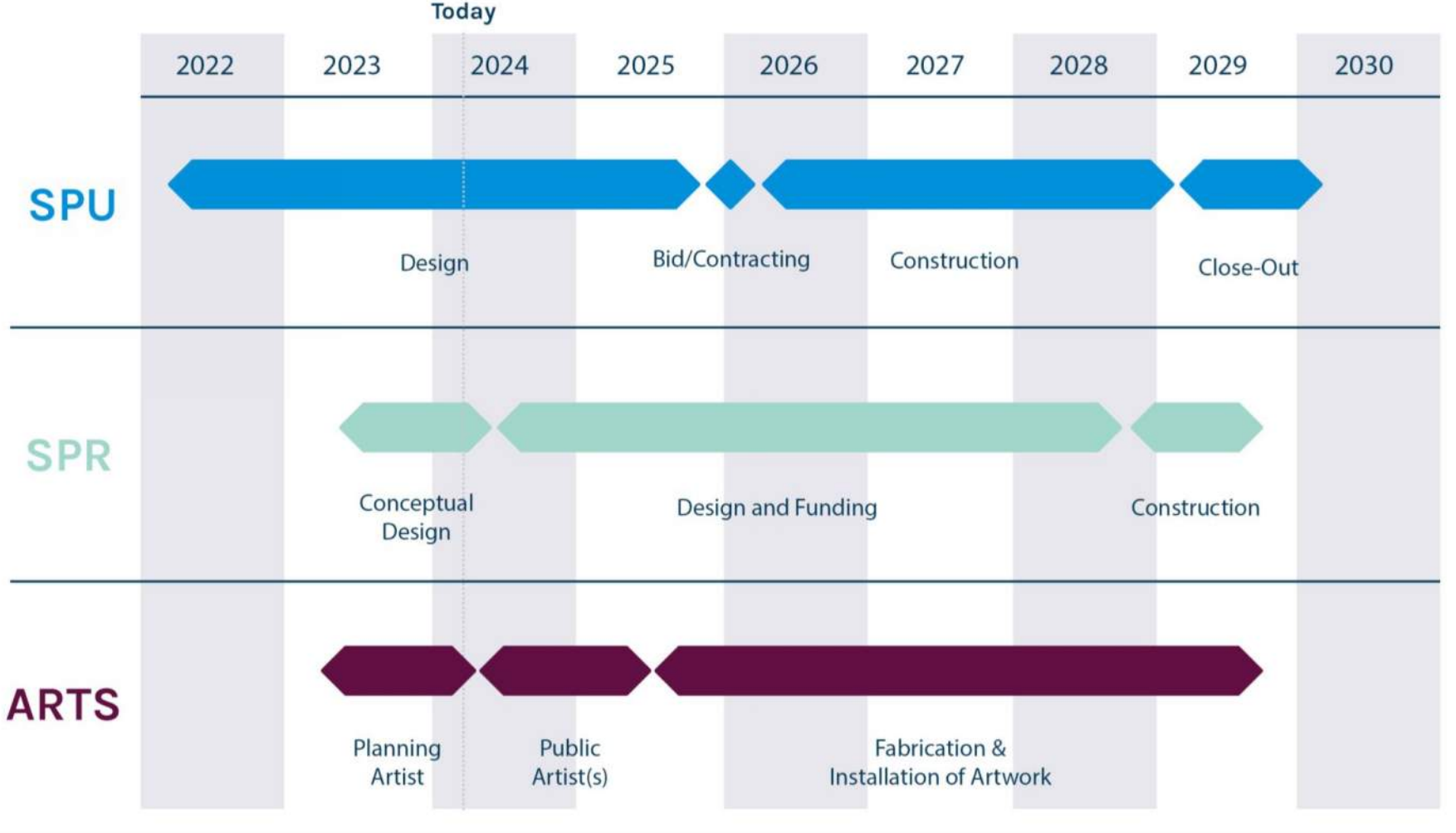
Schematic Design Comments (11/16/2023)

- 1. Community Engagement & Input**
- 2. Landscape Design & Pedestrian Circulation**
- 3. Art Integration**
- 4. Lighting and Security**
- 5. Structural Considerations**

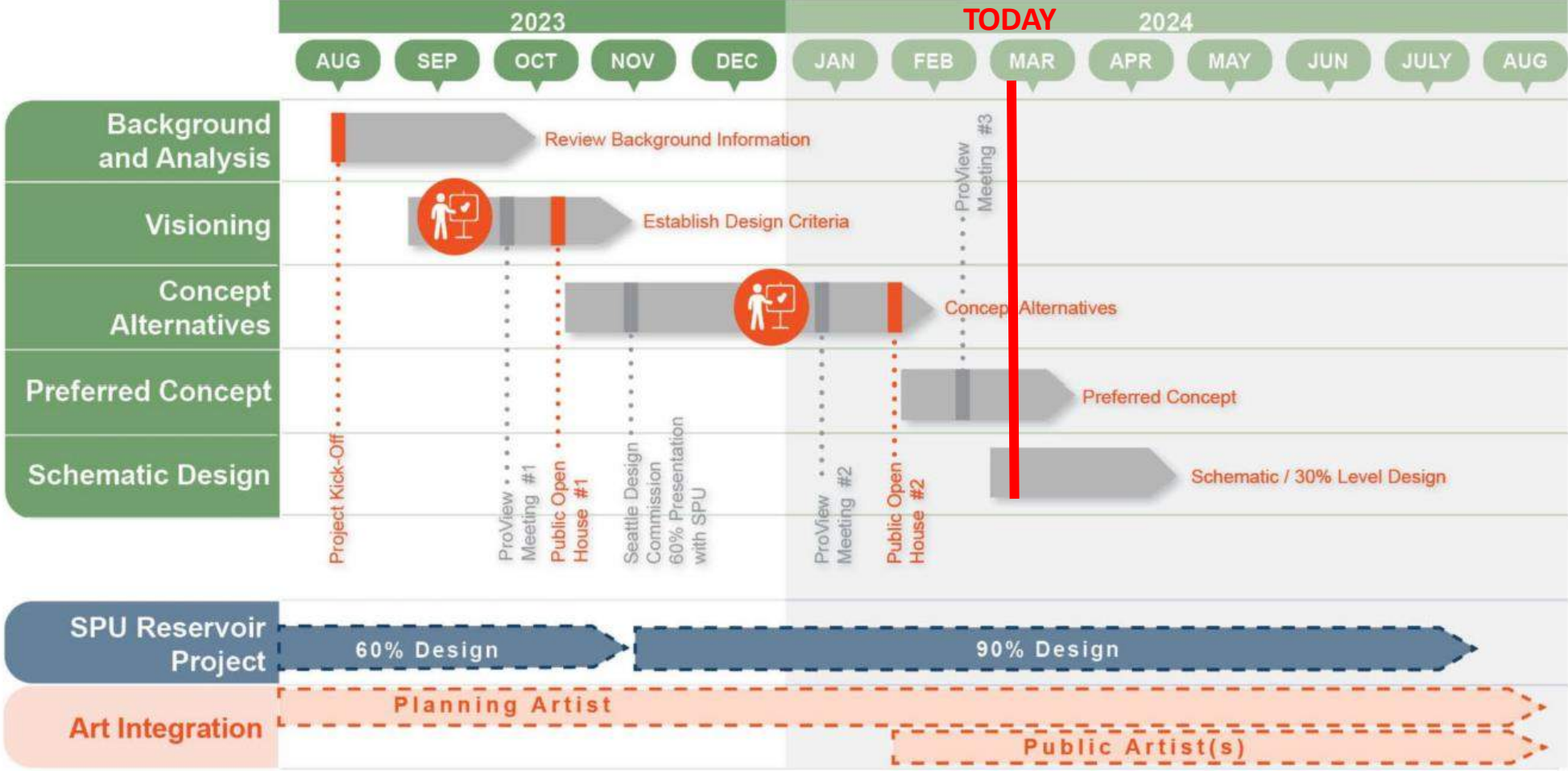
Project Scope, Budget & Maintenance

- Seattle Public Utilities
 - Scope: Design/Engineering and Construction of a new 21 MG prestressed concrete reservoir, including all required appurtenances, at the existing Bitter Lake Reservoir.
 - Budget: \$90M
- Seattle Parks & Recreation
 - Scope: Planning, Design, and Development of additional Open Space created by construction of Bitter Lake Reservoir Covering Improvements.
 - Budget: \$200K for 30% funded currently, additional \$600K for two years allocated, future funding in planning stages

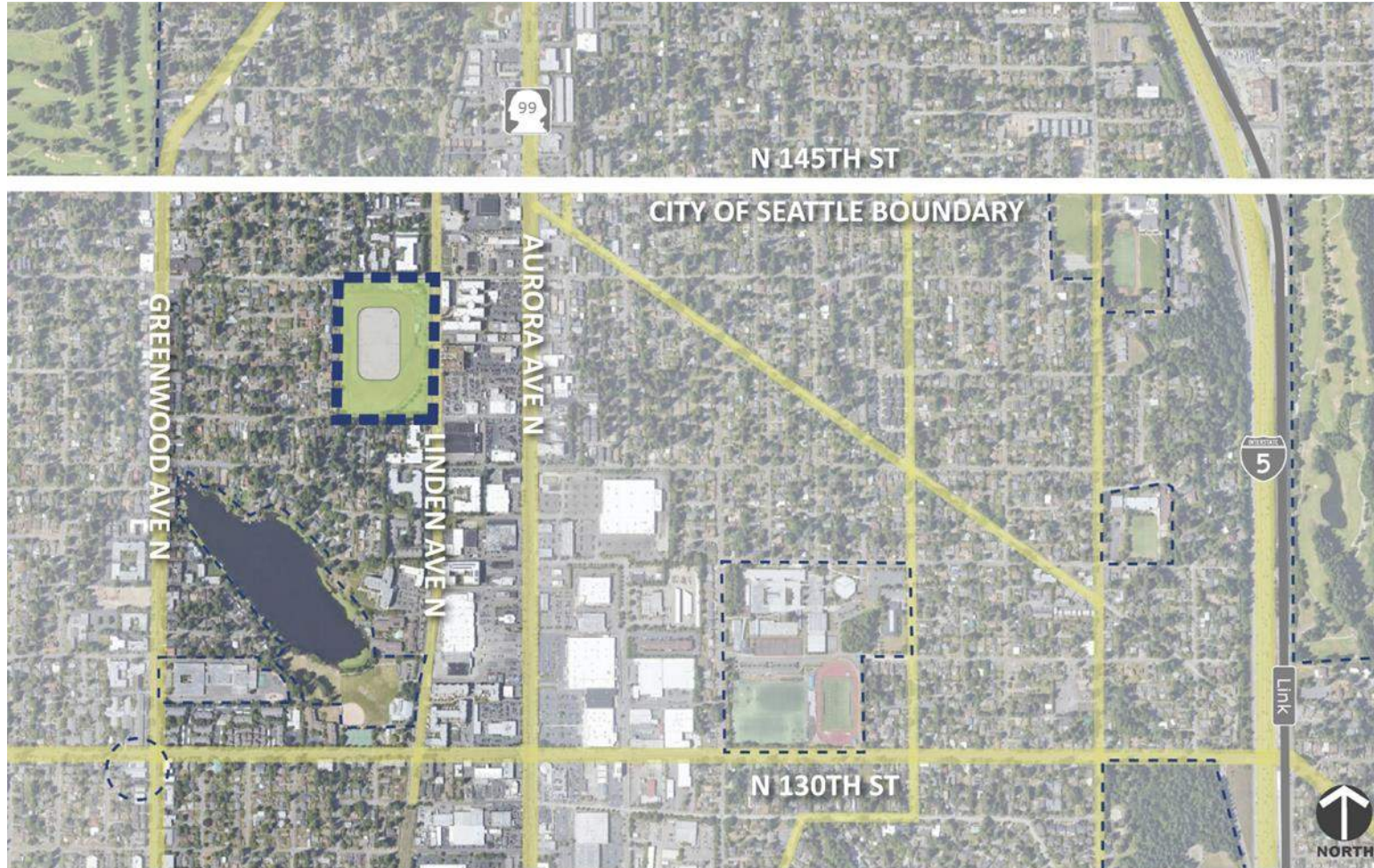
Schedule



Schedule (Parks)





Vicinity Map



KEY MAP



LEGEND

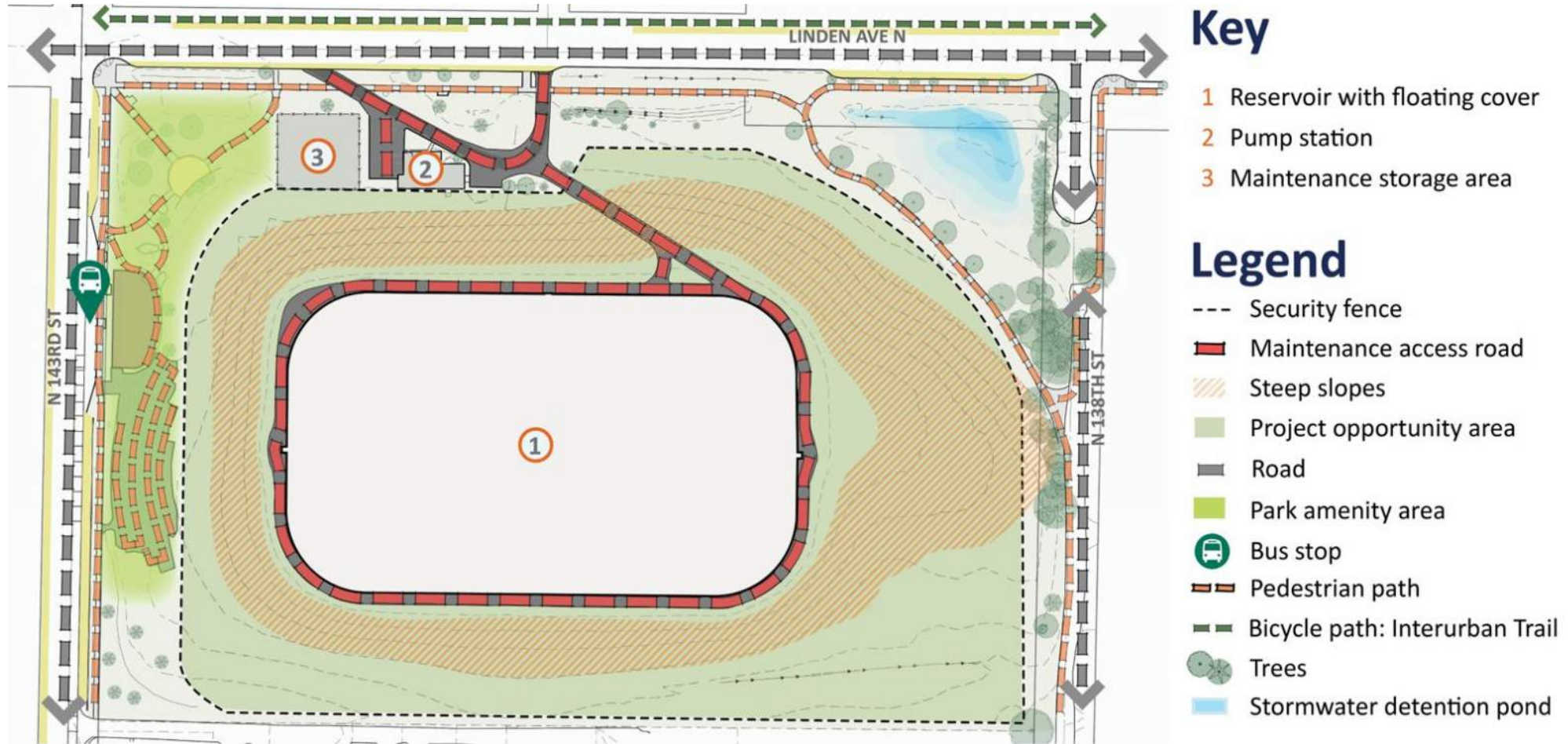
-  Bitter lake neighborhood
-  Seattle city limits

Existing Bitter Lake Reservoir Property



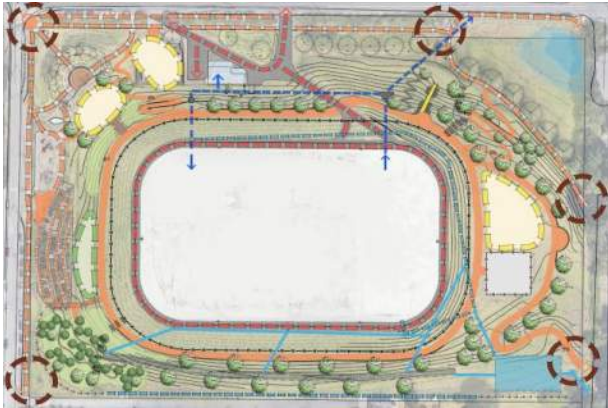
Northeast perspective. Source: Google Earth.

Site Constraints & Opportunities



Preliminary Conceptual Site Plans

Option 1, Floating Cover



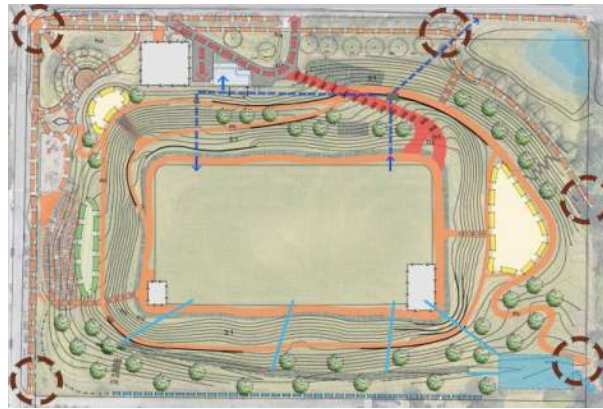
Option 2, Aluminum Roof



Option 3, Prestressed Conc Reservoir

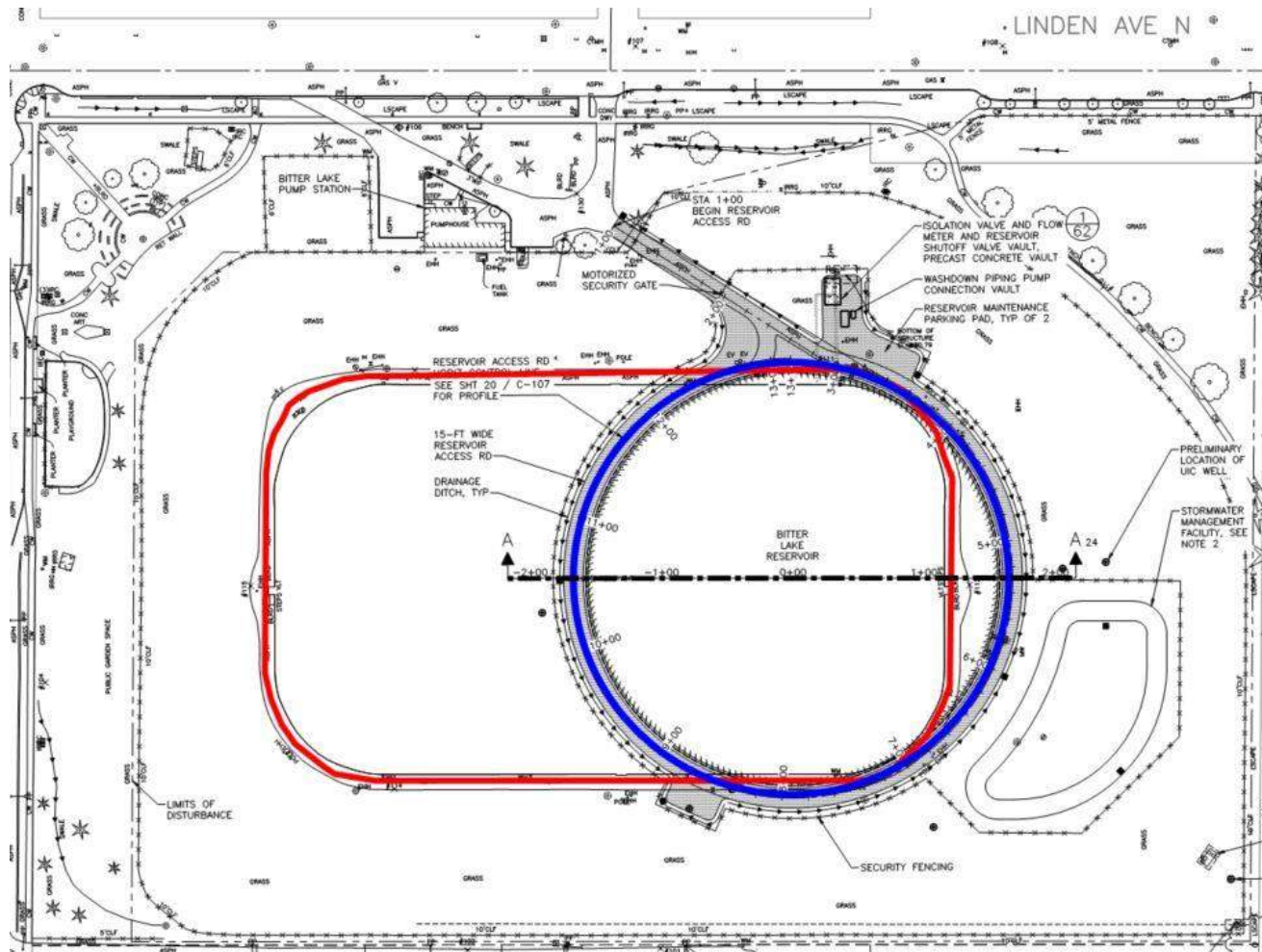


Option 4, Fully Buried Reservoir



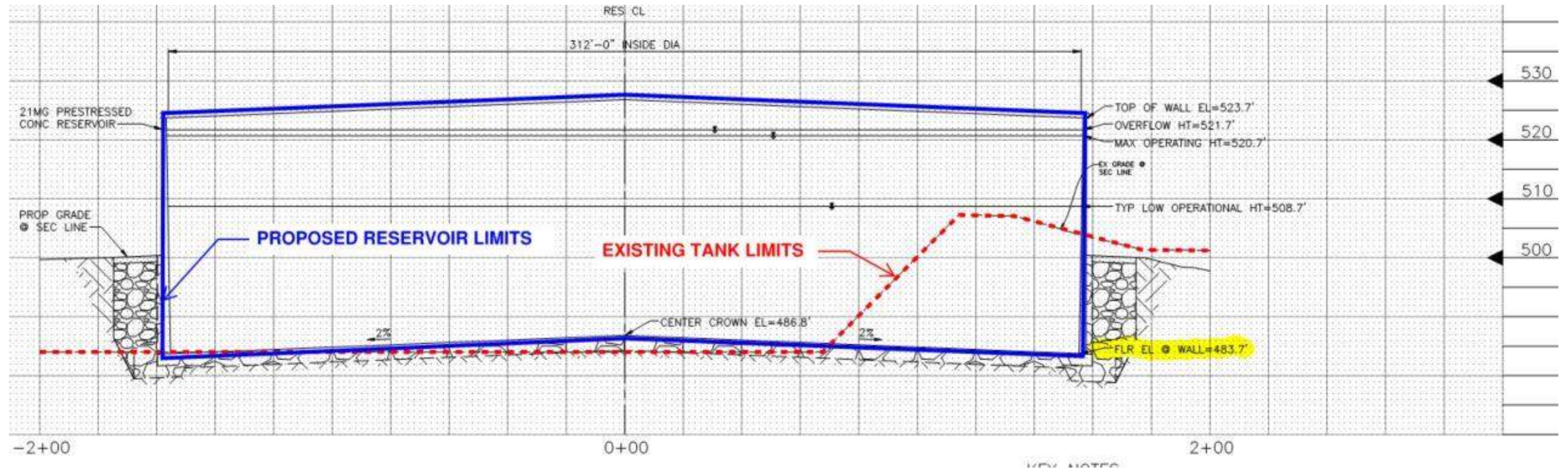
- Circular, prestressed concrete for increased seismic resiliency
- Partially buried for additional Open Space
- Site grading to minimize soil hauling
- Allows for tree planting, varied topography, variety of amenities, more accessible, and sight lines to more of park

Site Constraints, Engineering Considerations



- Reservoir Location
- Minimize soil hauling, keep soils on site
- Stormwater Management
 - Shallow Infiltration Restricted
- Site Security
- Facilities Access

Site Constraints, Engineering Considerations



- Reservoir configuration to store 21 MG

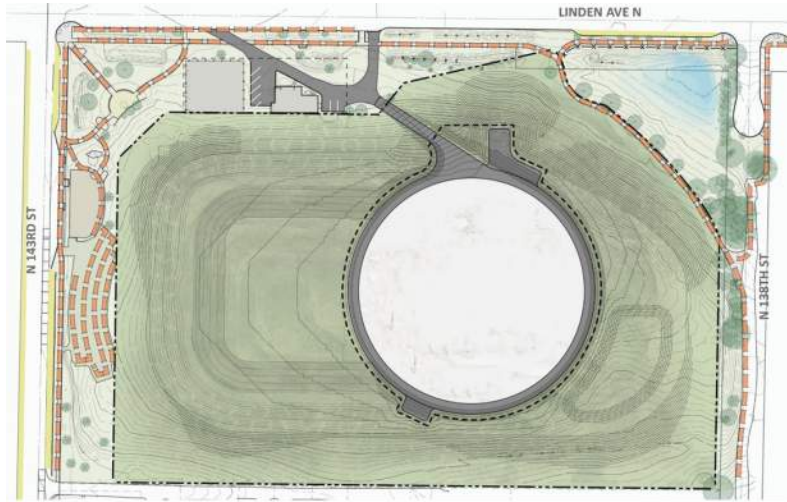
- Hydraulic Elevations
 - Bottom elev. needs to remain the same

Schematic Design Comments

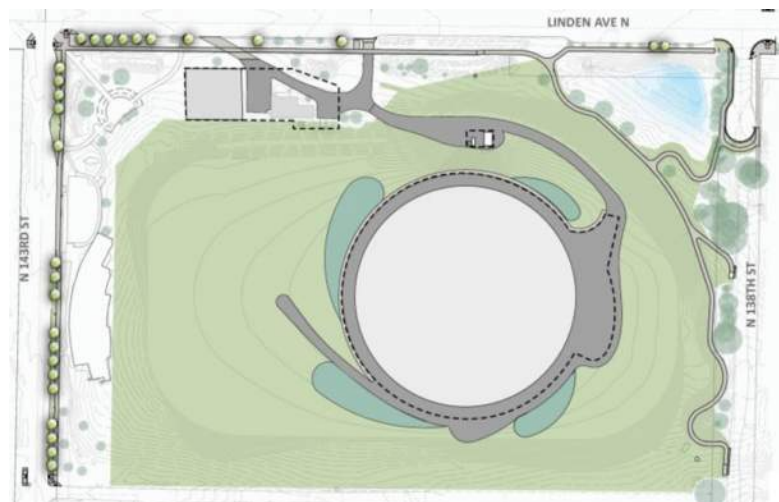
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Landscape Design & Circulation (SPU)

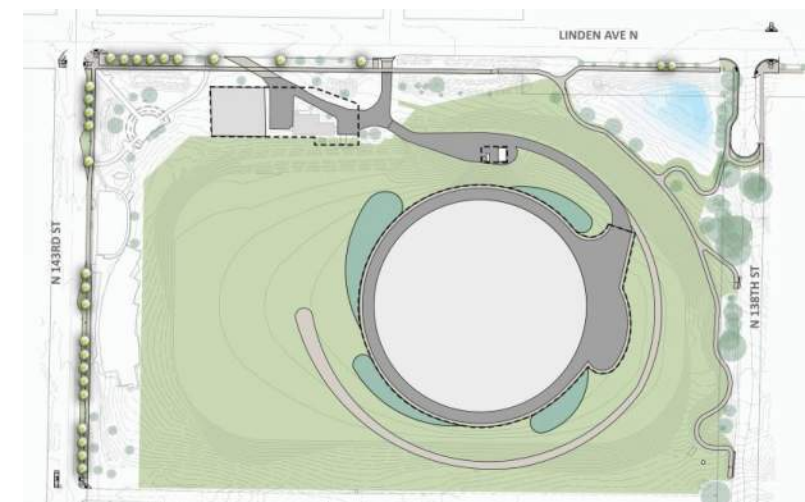
Concept (30%)
02/16/2023



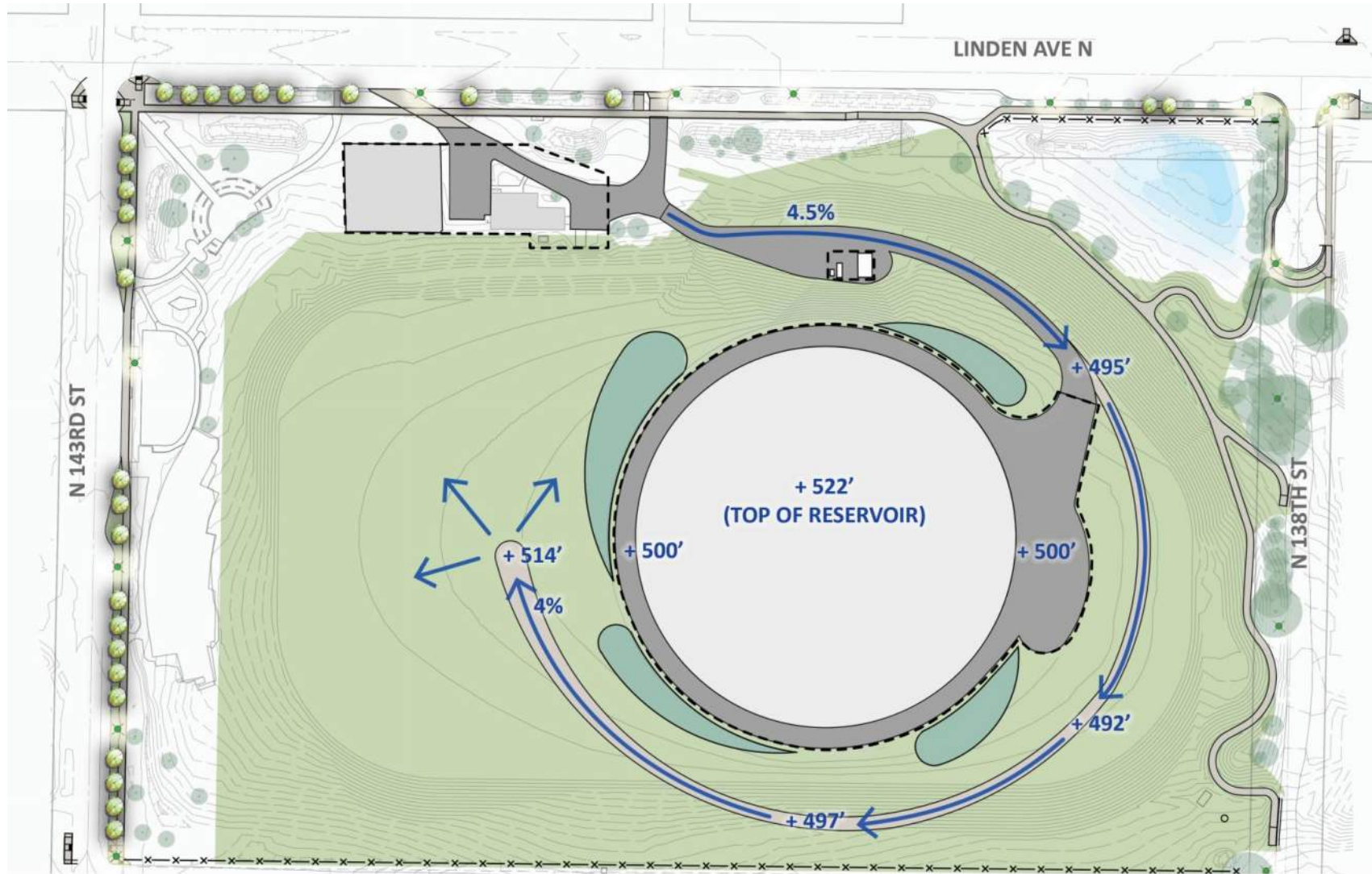
Schematic (60%)
11/16/2023



Today
03/21/2024

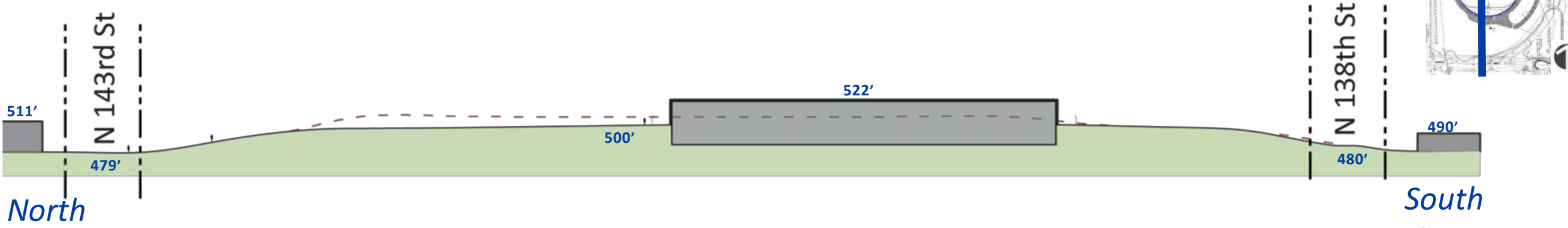
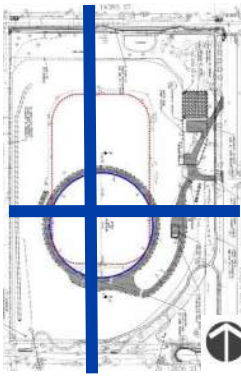


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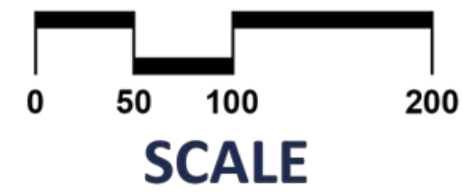
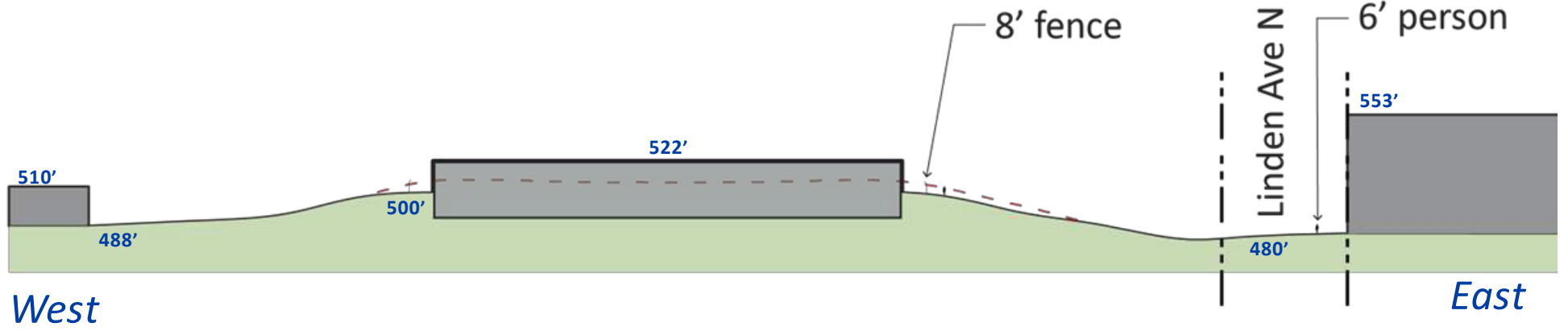


- Moved pedestrian pathway away from SPU security fence.
- Maintained accessible pathway of 4.5% or less.
- Viewpoint 14 feet above reservoir maintenance access road.

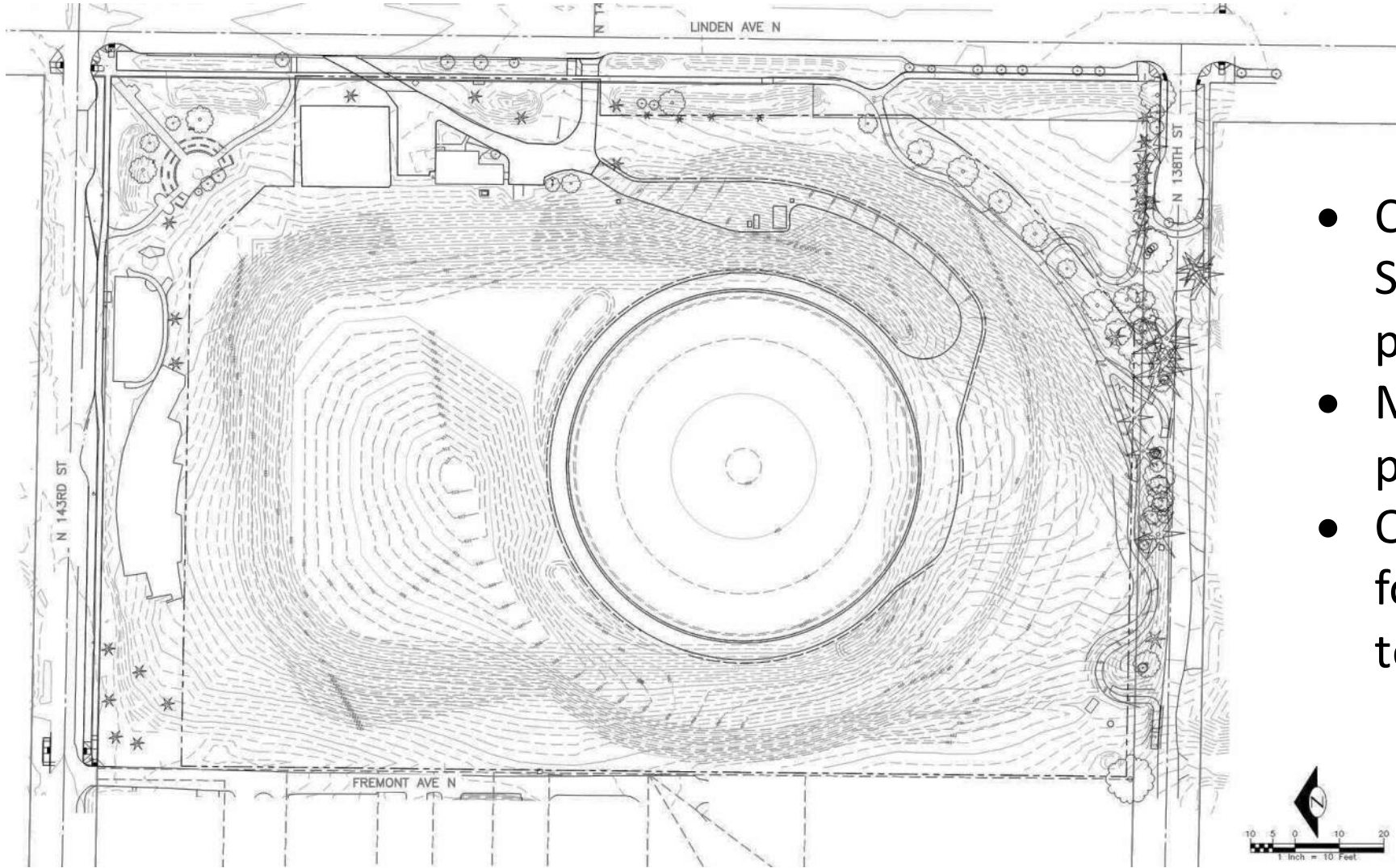
Landscape Design & Circulation (SPU)



- LEGEND**
- Proposed grade at section line
 - - - Ex grade at section line
 - - - Existing right-of-way
 - Concrete reservoir
 - Building/House

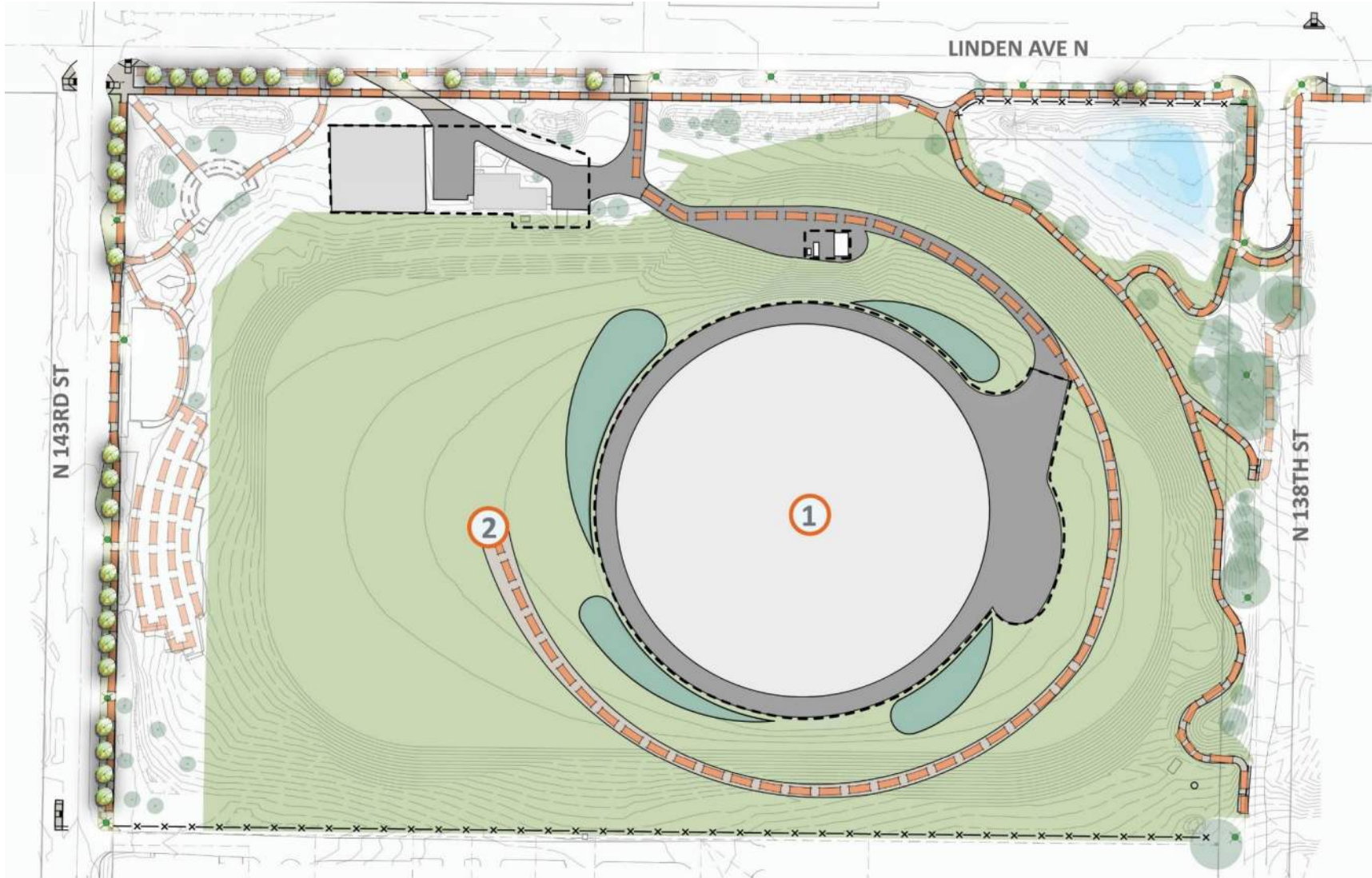


Landscape Design & Circulation (SPU)



- Collaboration between SPU and SPR on grading plan.
- Maintains fill on site for park and land art.
- On-going collaboration for SPR detailed grading to support concepts.

Landscape Design & Circulation (SPU)

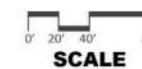


KEY

- 1 Circular reservoir, partially buried
- 2 Viewpoint

LEGEND

- Security fence
- Pedestrian path (ex & prop)
- Ex bicycle path
- Ex parking
- Ex road
- 🚌 Ex bus stop
- Asphalt paving
- Seeded lawn
- Bioretention planting
- Ex stormwater detention pond
- Proposed trees



Landscape Design & Circulation (SPR)

Public Outreach Summary (October-November 2023)

FOCUS GROUP MEETING & PUBLIC OPEN HOUSE

22 Participants

Concerns:

- Safety and visibility
- Lack of Maintenance
- Increased noise and privacy of neighboring residences to the west

Preferred Activities & Programming:

- More pathways and loop path
- Universally accessible walkways and seating
- Multiple access points and route alternatives
- More trees for shade
- Expand P-patch, accessible P-Patch
- Expand play – traditional as well as informal
- Community gathering/ amphitheater/ flexible use area
- Active sport courts

Landscape Design & Circulation (SPR)

Public Outreach Summary (October-November 2023)

ONLINE SURVEY

154 Responses

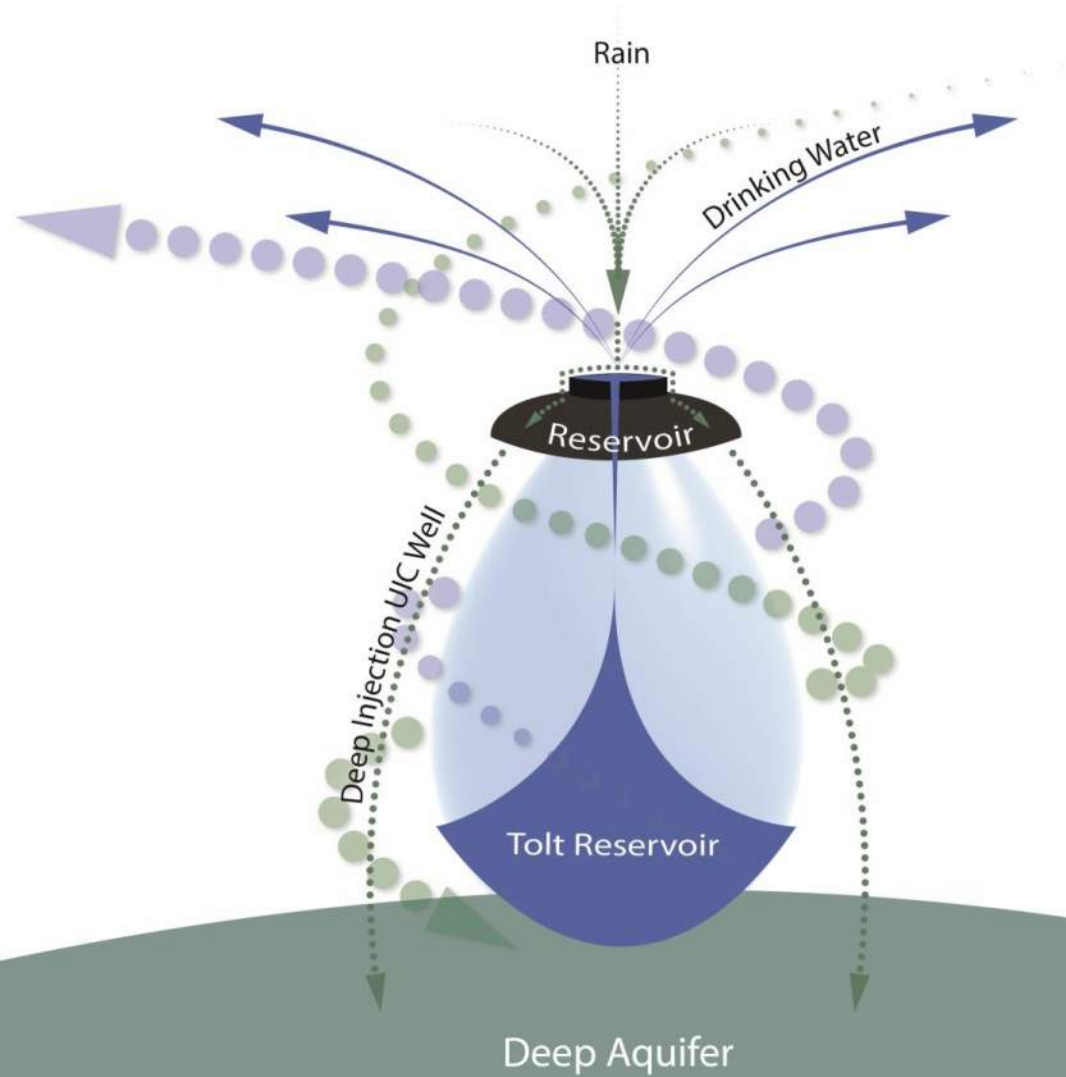
Concerns:

- Safety (encampments, drug use)
- Visibility, overgrown vegetation
- Lack of lighting
- Noise from park construction and from proposed improvements
- Privacy of neighboring residences

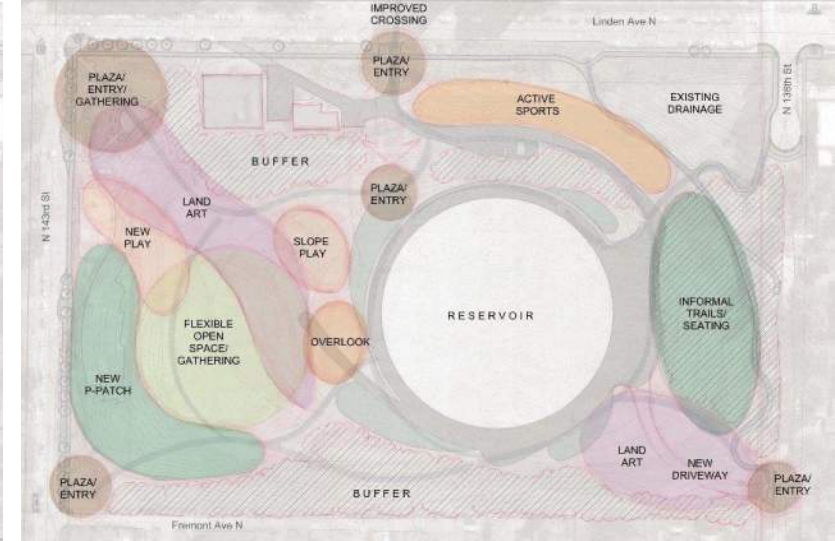
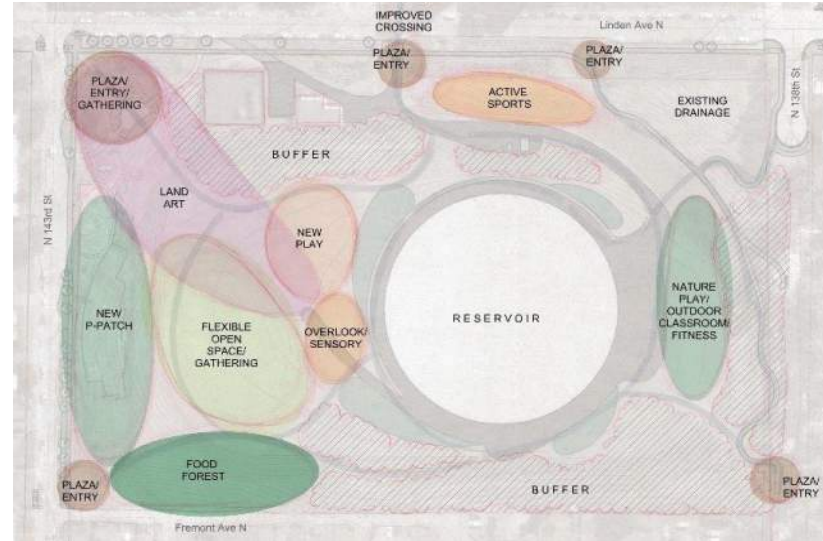
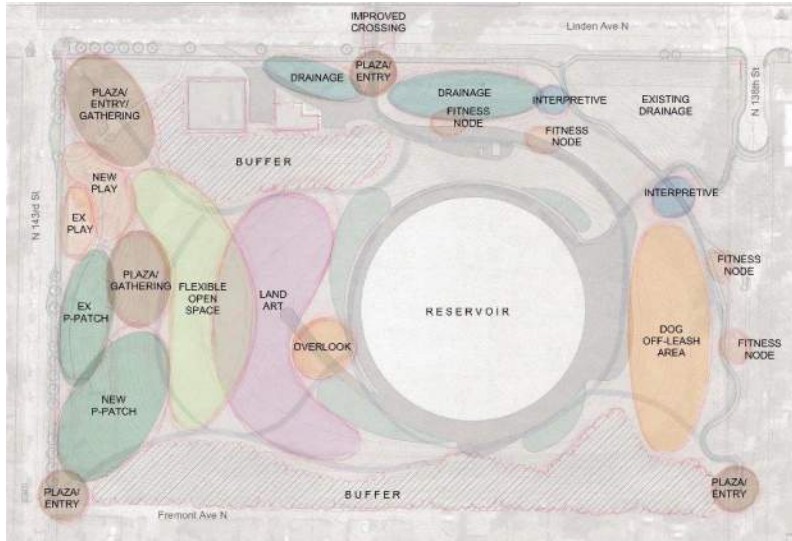
Highest Scored Activities & Programming:

- Paved and unpaved walking paths/trails
- Multi-sport courts
- Formal running track/paths
- Expand the playground
- Formal and informal play and use
- Expansion of the P-Patch
- A wading pool and splash park
- Skate park, basketball, sand volleyball courts, and cycling trails
- Pickleball (75% of “Other”)

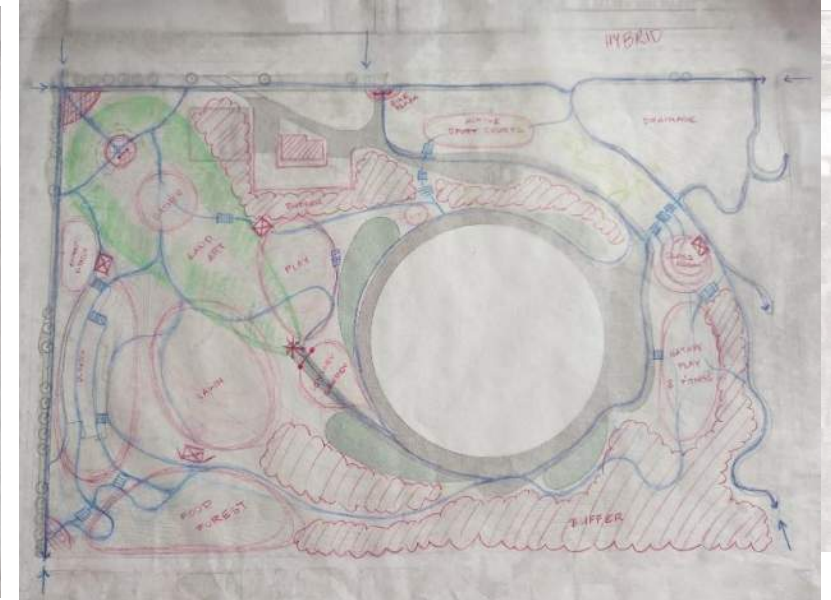
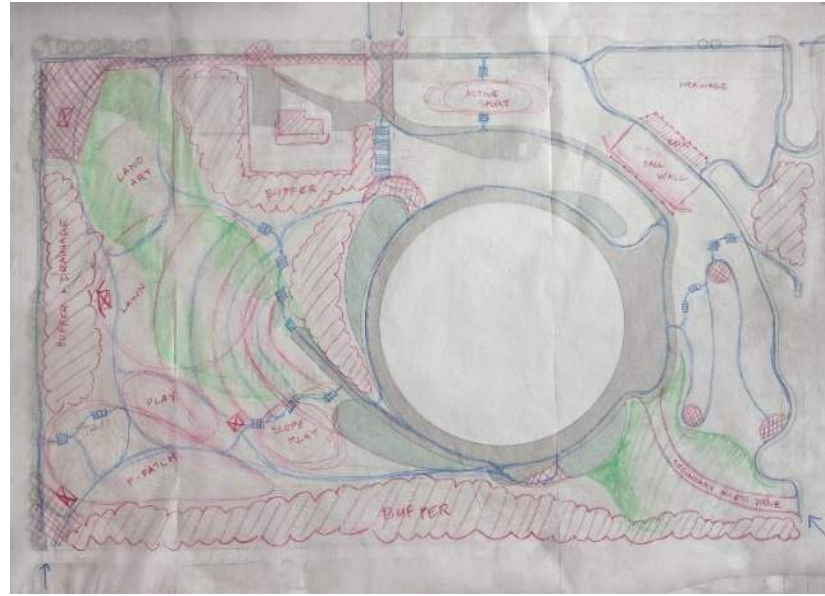
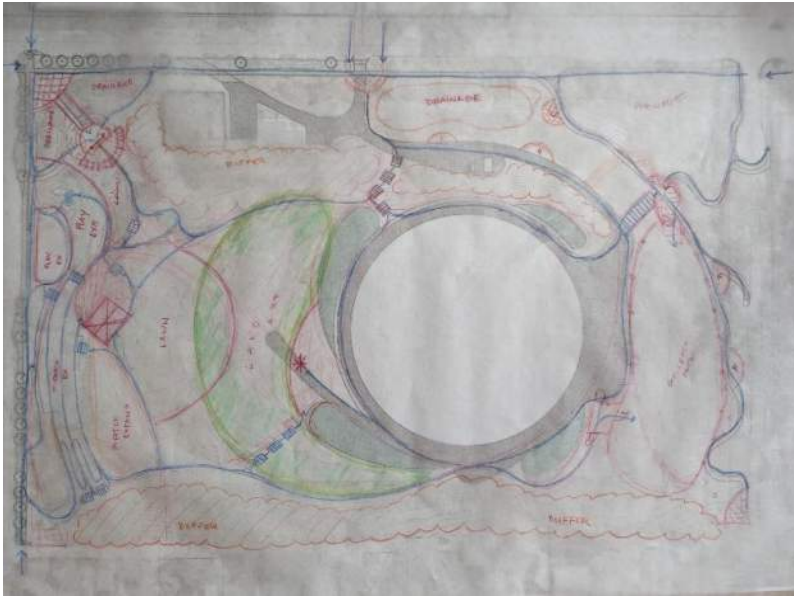
Story



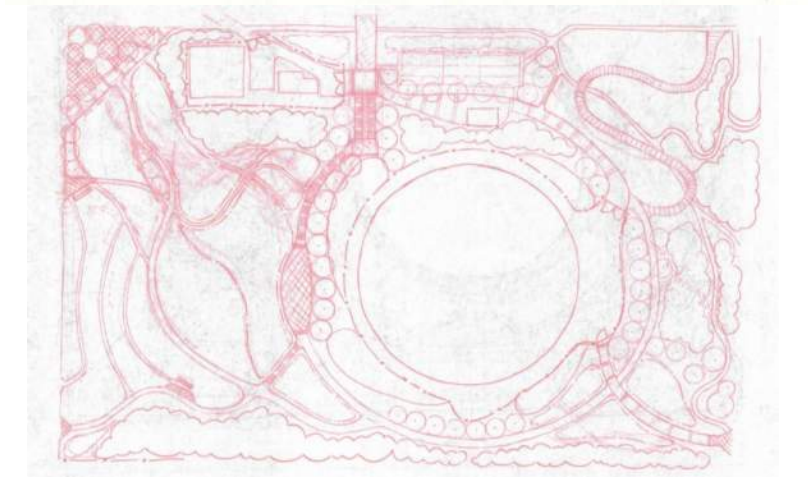
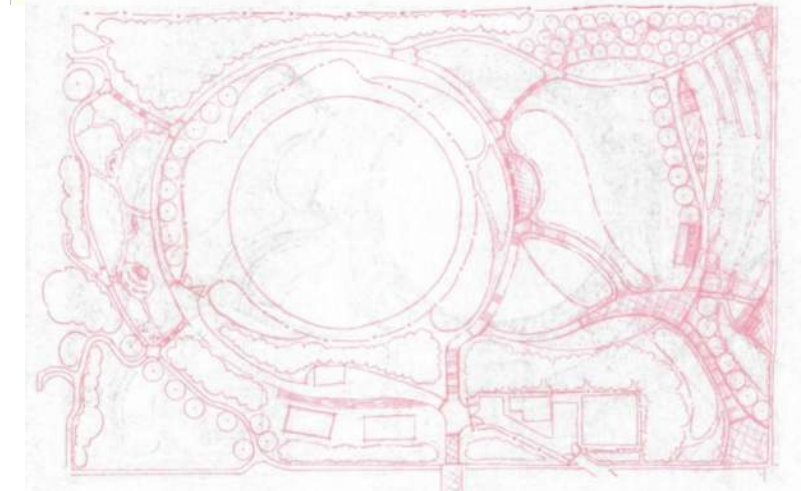
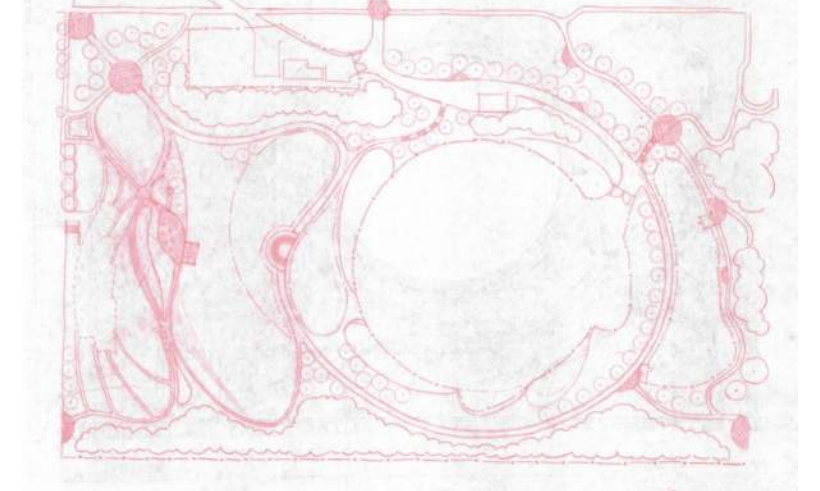
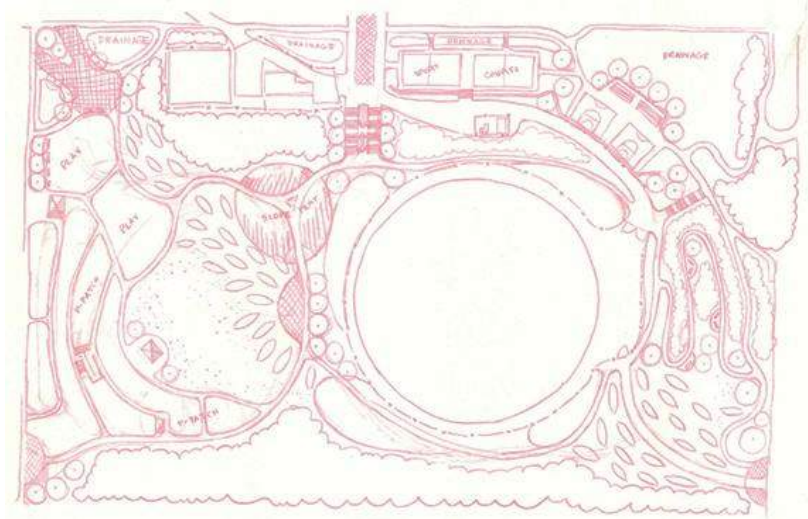
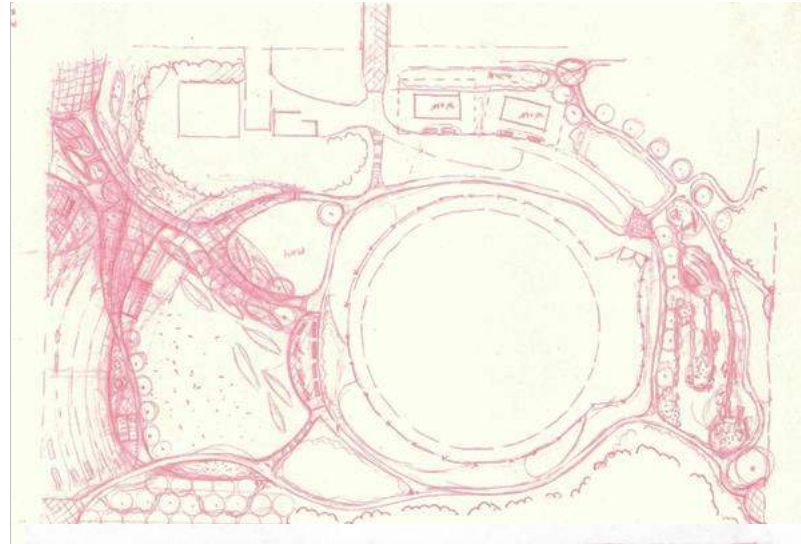
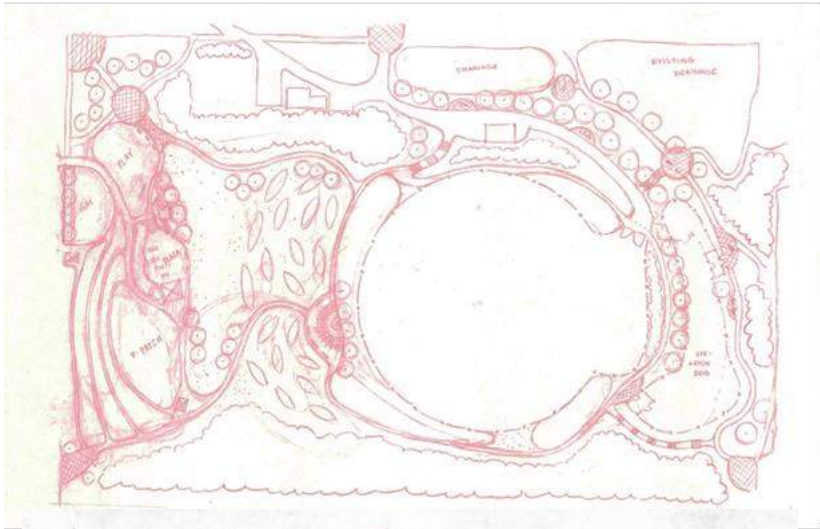
Landscape Design & Circulation (SPR)



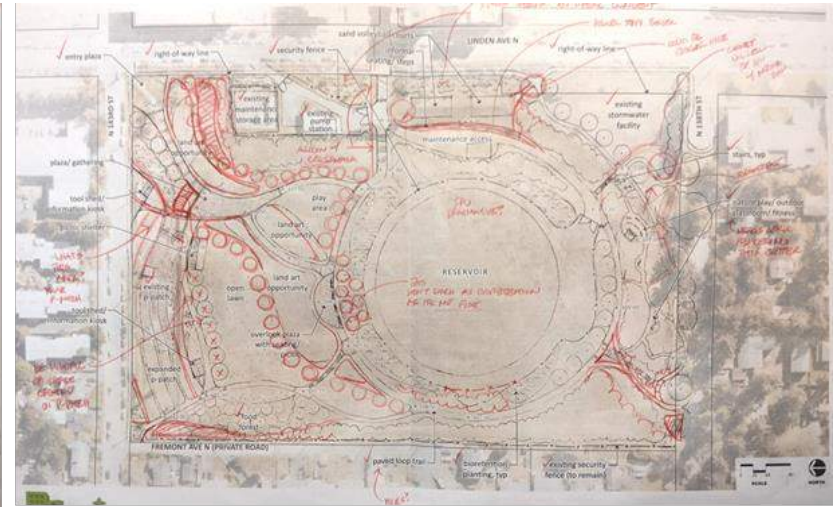
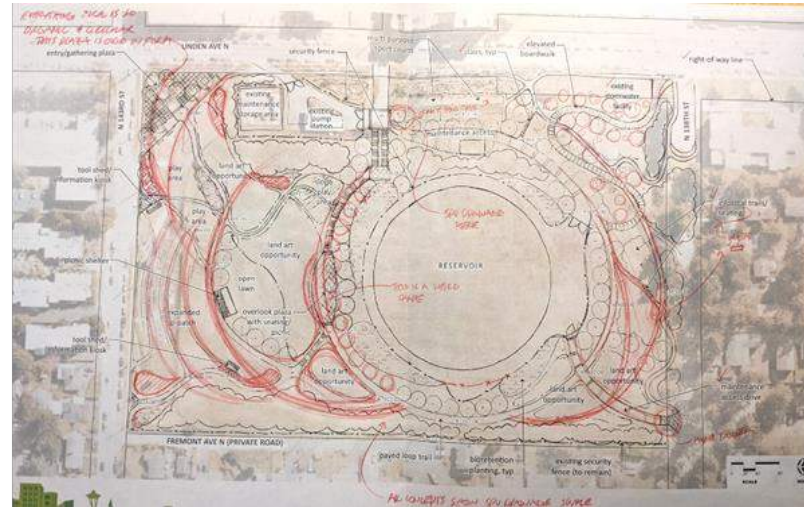
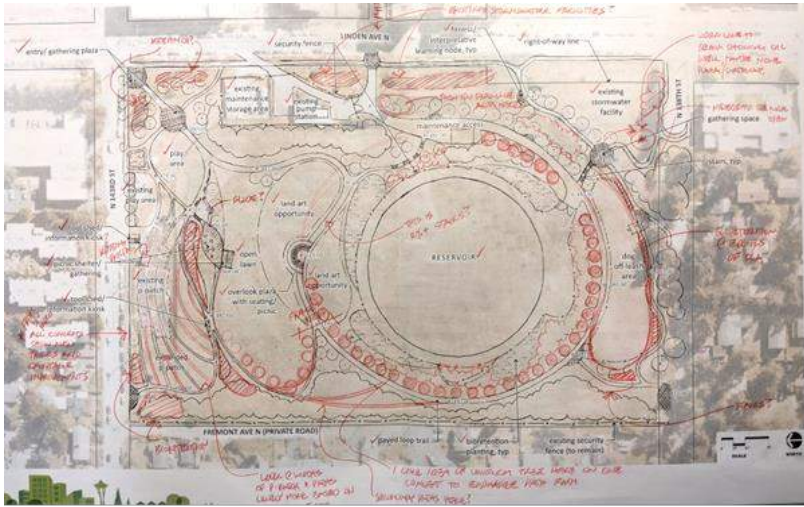
Landscape Design & Circulation (SPR)



Landscape Design & Circulation (SPR)



Landscape Design & Circulation (SPR)



Landscape Design & Circulation (SPR)

PAVED LOOP TRAIL/ INFORMAL TRAILS



ENTRY PLAZA/ GATHERING



DOG OFF-LEASH AREA



OPEN LAWN/ COMMUNITY GATHERING



LAND ART



ELEVATED BOARDWALK



FITNESS AREAS/ ACTIVE SPORTS



SHELTER/ TOOL SHED/ INFORMATION KIOSK



Landscape Design & Circulation (SPR)

PLAY AREA



SLOPE PLAY



OVERLOOK PLAZA/ PICNIC



P-PATCH/ FOOD FOREST



NATURE PLAY



INFORMAL STEPS/ SEATING



STORMWATER TREATMENT



OUTDOOR CLASSROOM/ INTERPRETIVE LEARNING



GRAND STAIRCASE/ STAIRS



Concept Alternatives: Whirl Concept (SPR)

Concept 1: Whirl

LEGEND

- ① Reservoir
- ② Existing stormwater facility
- ③ Existing pump station
- ④ Existing maintenance storage area
- ⑤ Existing play area
- ⑥ Existing p-patch
- ⑦ Maintenance access
- ⑧ Bioretention planting, typical
- ⑨ Plaza/ gathering, typical
- ⑩ Play area
- ⑪ Tool shed/ information kiosk
- ⑫ Shelter
- ⑬ Picnic tables
- ⑭ Expanded p-patch
- ⑮ Land art opportunity
- ⑯ Open lawn
- ⑰ Overlook plaza with seating/picnic
- ⑱ Paved loop trail
- ⑲ Dog off-leash area
- ⑳ Fitness/ interpretive learning, typical
- ㉑ Stairs, typical
- Right-of-way line, typical
- ✂ Security fencing, typical
- SPU drainage swale



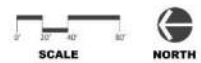
- Minimal approach
- OLA to south
- Expands existing p-patch and play area
- Land art opportunities focused near overlook
- Open lawn with picnic shelter/pavilion for events
- Smaller plazas at park entries with fitness/interpretive nodes
- Buffer along west edge

Concept Alternatives: Whirl Concept – Accessible Routes

Concept 1: Whirl

LEGEND

- ① Reservoir
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Concept Alternatives: Flow Concept (SPR)

Concept 2: Flow

LEGEND

- ① Reservoir
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- ④ Existing maintenance storage area
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- ⑥ Maintenance access
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- ⑩ Shelter
- ⑪ Tool shed/ information kiosk
- ⑫ Expanded p-patch
- ⑬ Picnic tables
- ⑭ Open lawn
- ⑮ Land art opportunity
- ⑯ Food forest
- ⑰ Overlook plaza with seating/picnic
- ⑱ Paved loop trail
- ⑲ Nature play/ outdoor classroom
- ⑳ Fitness/ interpretive learning
- ㉑ Sand volleyball courts
- ㉒ Informal seating/ steps
- ㉓ Stairs, typical
- Right-of-way line, typical
- - - Security fencing, typical
- - - SPU drainage swale



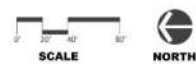
- Moderate approach
- Nature play/outdoor classroom and fitness to south
- Land art opportunities extend from overlook to NE entry
- Larger plaza at NE entry
- Expands existing p-patch and adds a Food Forest
- New and larger play area near land art
- Staircase from Linden in middle of site from 141st St
- Sand volleyball or smaller courts near Linden
- Buffer along west edge

Concept Alternatives: Flow Concept – Accessible Routes

Concept 2: Flow

LEGEND

- ① Reservoir
- ② Existing stormwater facility
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Concept Alternatives: Wave Concept (SPR)

Concept 3: Wave

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- ⑥ Maintenance access
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- ⑧ Plaza/ gathering, typical
- ⑨ Play area
- ⑩ Shelter
- ⑪ Tool shed/ information kiosk
- ⑫ Land art opportunity
- ⑬ Open lawn
- ⑭ Overlook plaza with seating/picnic
- ⑮ Slope play area
- ⑯ Paved loop trail
- ⑰ New maintenance access
- ⑱ Informal trails/ seating
- ⑲ Elevated boardwalk
- ⑳ Multi-purpose sport courts
- ㉑ Grand staircase
- ㉒ Stairs, typical
- Right-of-way line, typical
- - - Security fencing, typical
- - - SPU drainage swale



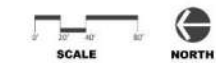
- Extensive approach
- Land art opportunities extend from NE to SW corners
- Entirely new p-patch that is completely accessible
- New and larger play areas
- Larger plaza at NE corner
- Grand staircase from Linden in middle of site from 141st
- Elevated boardwalk through new tree canopy in SE corner to entry of park
- Multipurpose sport courts near Linden
- Maintenance access drive from SW corner

Concept Alternatives: Wave Concept – Accessible Routes

Concept 3: Wave

LEGEND

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- Maintenance access drive from SW corner

Concept Alternatives (SPR)

Concept 1: Whirl



- OLA to south
- Expands existing play area
- Fitness/interpretive nodes

Concept 2: Flow



- Nature play/outdoor classroom
- Food forest
- Sand volleyball
- New and larger play area near land art

Concept 3: Wave



- Entirely new accessible p-patch
- Slope play
- Grand staircase
- Elevated boardwalk through tree canopy
- Multi-sport courts
- Maintenance access drive

Schematic Design Comments

- 1. Community Engagement & Input**
2. Landscape Design & Pedestrian Circulation
3. Art Integration
4. Lighting and Security
5. Structural Considerations

Community Engagement Events

- February 2-26, 2024 • Online Open House + Survey
- February 3, 2024 • North Helpline Food Bank
- February 5, 2024 • Asian Family Market
- February 8, 2024 • Cooper Apartments Lobby
- February 11, 2024 • Pancake Breakfast at Bitter Lake Community Center
- February 11, 2024 • Broadview Branch Library
- February 15, 2024 • SHAG Interurban Apartments
- February 17, 2024 • Bitter Lake Reservoir Park + door to door outreach
- February 22, 2024 • Focus Group Meeting with Councilmember Moore

Community Engagement Summary



Engagement Efforts, Feb 2–26, 2023	Participation
Project information website	<i>Ongoing</i>
Cross-Posting on Social Media	Online views
Online Open House	1,800 unique users
Seven in-person events:	361 people attended
Preliminary Design feedback survey	116 people responded



Community Engagement Summary

Community Liaisons

- Chinese – Mandarin • Linda Li
- Chinese – Cantonese • Howard Chou
- Spanish • Mariela Barriga
- Amharic & Oromo • Abdu Gobeni and Mergia Sonessa
(both speak both languages)

Summary:

- Talked to 22 businesses, 175 people at 6 different religious congregations, social media outreach
- Liked expanded p-patch with play areas for kids adjacent
- Curious on reservoir, budget and schedule
- Liked the raised wood trail elements



Community Engagement Summary

Online Open House



From Seattle

- 1,800 unique visitors
- 36% visiting the site via QR code, about 50% coming from social media ads, 14% from GovDelivery
- 82% using mobile device
- Translated: Traditional Chinese, Spanish, Amharic, and Oromo

Survey Feedback

Concept ratings out of 5:



- 116 respondents
- Demographics: Majority live in zip code 98133, are white & high-income homeowners.

In-person engagement:

Heard **positive opinions** about the following aspects of the site and conceptual park designs:

- Walking paths and trails
- Trees for shade and native plants
- Expanding the existing P-Patch and play areas
- Food forest
- Benches and picnic tables
- Areas designed for gathering and for activating the site
- Steeper grassy areas for kids to play and sled
- Natural play areas
- Reservoir viewpoint
- Fitness areas
- Land art opportunities
- Boardwalk

361
People engaged

Preferred Concept Progress (SPR)

Concept 1: Whirl



Concept 2: Flow



Concept 3: Wave



- Open access points from Linden
- Gathering space at NE corner
- OLA dog park
- Accessible loop path
- Contiguous land art connecting entrance to play area to open lawn to overlook
- Multi-purpose shelter connecting activation spaces
- Keep and expand p-patch
- Food forest
- Specialized senior activities
- Expanded play area in NE
- Integrated nature play near play area and p-patch
- Integrated fitness/ sport areas in gathering spaces

Draft Preferred Concept (SPR)

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 - ⑲ Paved path, typical
 - ⑳ Dog off-leash area
 - ㉑ Elevated boardwalk
 - ㉒ Outdoor games
 - ㉓ Basketball court
 - ㉔ Stairs, typical
 - Right-of-way line, typical
 - ✂ Security fencing, typical
 - SPU drainage swale
- 0' 20' 40' SCALE
- NORTH



- Open access points from Linden
- Gathering space at NE corner
- OLA dog park
- Accessible 1/3-mile loop path
- Contiguous land art connecting entrance to play area to open lawn to overlook
- Multi-purpose shelter connecting activation spaces
- Keep and expand p-patch
- Food forest
- Specialized senior activities
- Expanded play area in NE
- Integrated nature play near play area and p-patch
- Integrated fitness/ sport areas in gathering spaces

Schematic Design Comments

1. Community Engagement & Input
2. Landscape Design & Pedestrian Circulation
- 3. Art Integration**
4. Lighting and Security
5. Structural Considerations

Art Integration

- Contract adjustment by *ARTS* for planning artist to design land art and fence enhancements.
- On going collaboration with design team on site topography, including land art and fence opportunities.
- Land art opportunity area varies with each park concept.
- Future public artist(s) still to be selected for 1% for Art.



Art Integration

Earthwork Precedents



Robert Morris *Untitled Earthwork (Johnson Pit #30)*, 1979



Maya Lin *Wave Field*, 1995

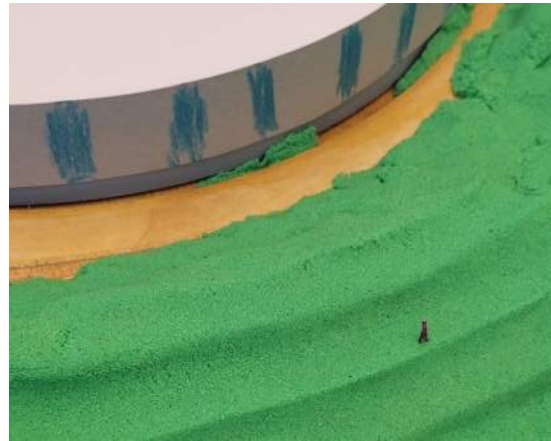


Studio 31 *Grass Amphitheater*, 2017



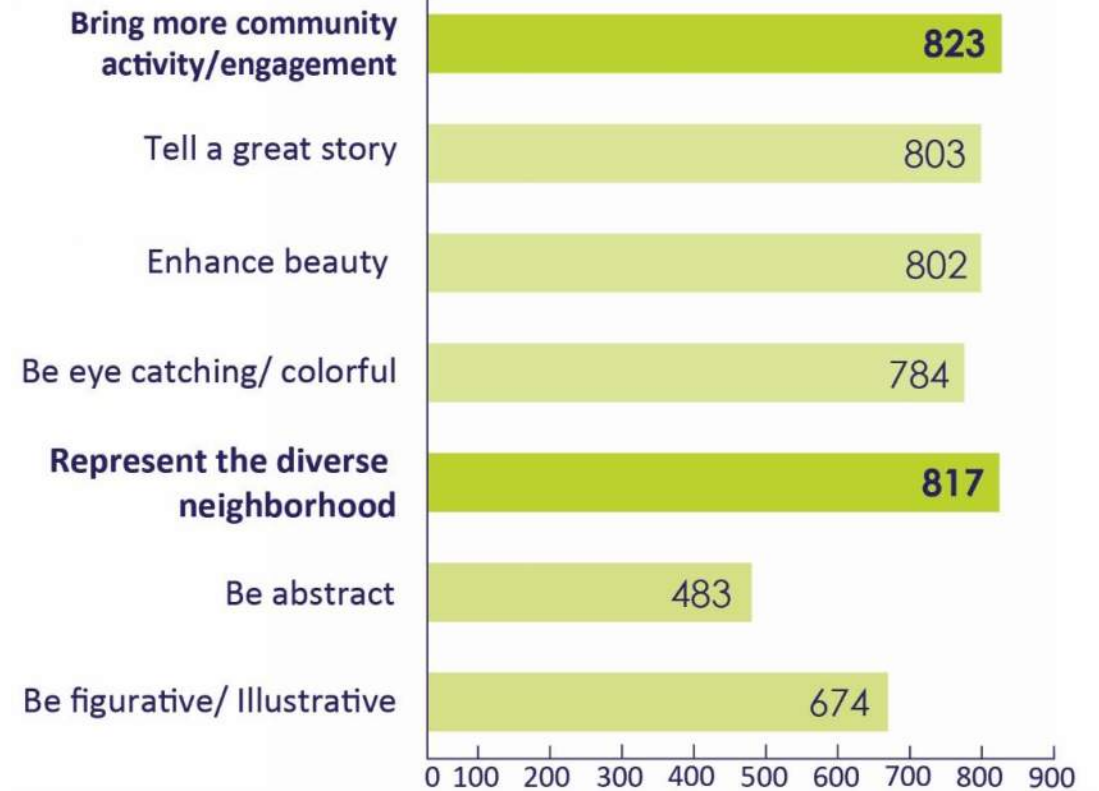
Studio Nucleo, *Terra!*, 2002

Art Integration



Public art prioritization:

Surveyed 99 people (rating 1-10)



Schematic Design Comments

1. Community Engagement & Input
2. Landscape Design & Pedestrian Circulation
3. Art Integration
- 4. Lighting and Security**
5. Structural Considerations

Lighting and Security

- Met with SPU Security and Seattle Police Department.
- On going conversations with public about safety.
- Site lighting supported by portions of public and Seattle Police Department.
- SPR design team exploring site lighting for park.



Schematic Design Comments

1. Community Engagement & Input
2. Landscape Design & Pedestrian Circulation
3. Art Integration
4. Lighting and Security
5. **Structural Considerations**


Solar Panels

- SPU approved use on top of reservoir based on feasibility study.
- Panels secured to roof with a ballast system, no permanent attachment to roof.
- Approximate 13,250 SF coverage. (~20% of roof)
- Distribution allows for SPU access to top of reservoir infrastructure.
- Oriented to south and west to avoid glare.



Solar Panels

- SCL offers a net metering system for SPU to offset approximately 80% of the site's future power use.
- 100+ kW system.

 **Seattle City Light**
SOLAR BILL GUIDE—NET METERING
Look below for help reading your Seattle City Light bill!

CITY OF SEATTLE

Account Number
0000000000

MARINER MOOSE
2030 CLEAN ENERGY WAY
SEATTLE WA 98103-3103

Service Address
2030 CLEAN ENERGY WAY

Rates include a 1.5 percent RSA Surcharge in effect as of August 1st, 2016
To pay by phone or to establish a pay plan, call (206) 684-3000 (Budget Billing accounts are not eligible for pay plans).
* Rate discounts available for income eligible seniors and other customers. Call 206-684-3000.
Winter rates are in effect October 1 through March 31

Seattle City Light Bill
Pay your bill online at www.seattle.gov/energy/lightbill
Questions? Visit us on the web at www.seattle.gov/light
Or call 206-684-3000 or 1-800-862-1181 (out of area calls only)

Summary of charges as of March 11, 2019
Payments received after March 11, 2019 are not reflected

Previous balance:	219.78
Payments applied - THANK YOU:	219.78 CR
Balance:	0.00
Current billing:	126.04
TOTAL AMOUNT DUE ON April 01, 2019	\$126.04

DETAILED BILLING INFORMATION

Electric Service

Service From	Service Through	Previous Reading	Current Reading	kWh Multiplier	kWh Usage
Jan 08, 2019	Mar 11, 2019	20000.00	21500.00	1	3 +1500.00
Jan 08, 2019	Mar 11, 2019	1200.00	1400.00	1	4 -200.00

Meter Number: 2111111 Service Category: KWH

6 Your Net Meter kWh Statement

Beginning net meter balance	50.00 kWh
kWh added/subtracted this period	-50.00 kWh
Ending net meter balance	0.00 kWh

5 Base Service Charge

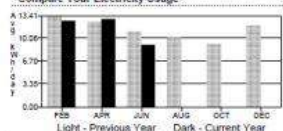
Winter Residential Energy	1187.00 KWH x \$0.0902 per KWH	10.62
Winter Residential Energy	63.00 KWH x \$0.1326 per KWH	2 14.98
Jan 08, 2019 Mar 11, 2019	500.00 1000.00 1	1 500.00

Meter Number: 2222222 Service Category: KWH

Current Electric Service: 126.04

CURRENT BILLING: 126.04

Compare Your Electricity Usage



No. of days this period:	63	Same period last year:	63
kWh consumption this period:	1800	Same period last year:	1400
Avg. kWh per day:	28.63	Same period last year:	22.22 kWh
Avg. kWh cost this period:	\$1.94/day		

Please tear off remittance stub below and mail it with your payment in the enclosed return envelope.
Please do not write messages on the bill stub, which is machine processed.


Seattle City Light Bill
Service Address: 2030 CLEAN ENERGY WAY
Account Number: 0000000000

Make check payable and mail to:

MARINER MOOSE
2030 CLEAN ENERGY WAY
SEATTLE WA 98103-3103

DUE DATE: April 01, 2019
TOTAL AMOUNT DUE: \$126.04
Enter Amount Paid: \$ _____
Write account number on check. Please do not send cash.

Make check payable and mail to:


CITY OF SEATTLE
PO BOX 35178
SEATTLE WA 98124-5178

Thank you, questions?

Contact:

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Program Manager
City of Seattle, Seattle Public Utilities
206-684-4643
andrew.karch@seattle.gov