

TEAM 4: MOTION OF NATURE

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PROJECT DESCRIPTION

This proposal will explore locating an Aquatic Research Center in the Union Bay Natural Area. We developed the design concept in terms of story-telling lines focusing on three key points: Researching, Learning and Activating.

Three story-telling lines went through our proposal for the purpose of educating people, infrastructure including fish rearing and non-fish rearing period, as well as outreach to neighbors, including elders and children.

The name we gave our proposal is 'Motion of Nature,' in order to give a general sense of our proposal on the Union Bay Natural Area site. It is designed not only for the movement of salmon but also for the movement of nature's systems.

GOALS

- To conserve and protect salmon by creating a self-sustaining environment
- To demonstrate the impacts and importance of self-sustaining environments;
- To serve the community with educational knowledge through experience;
- To provide social gathering areas/activities for the community.
- Implement green stormwater infrastructure techniques and utilize native plant species;
- Provide knowledge and experience at educational facilities.

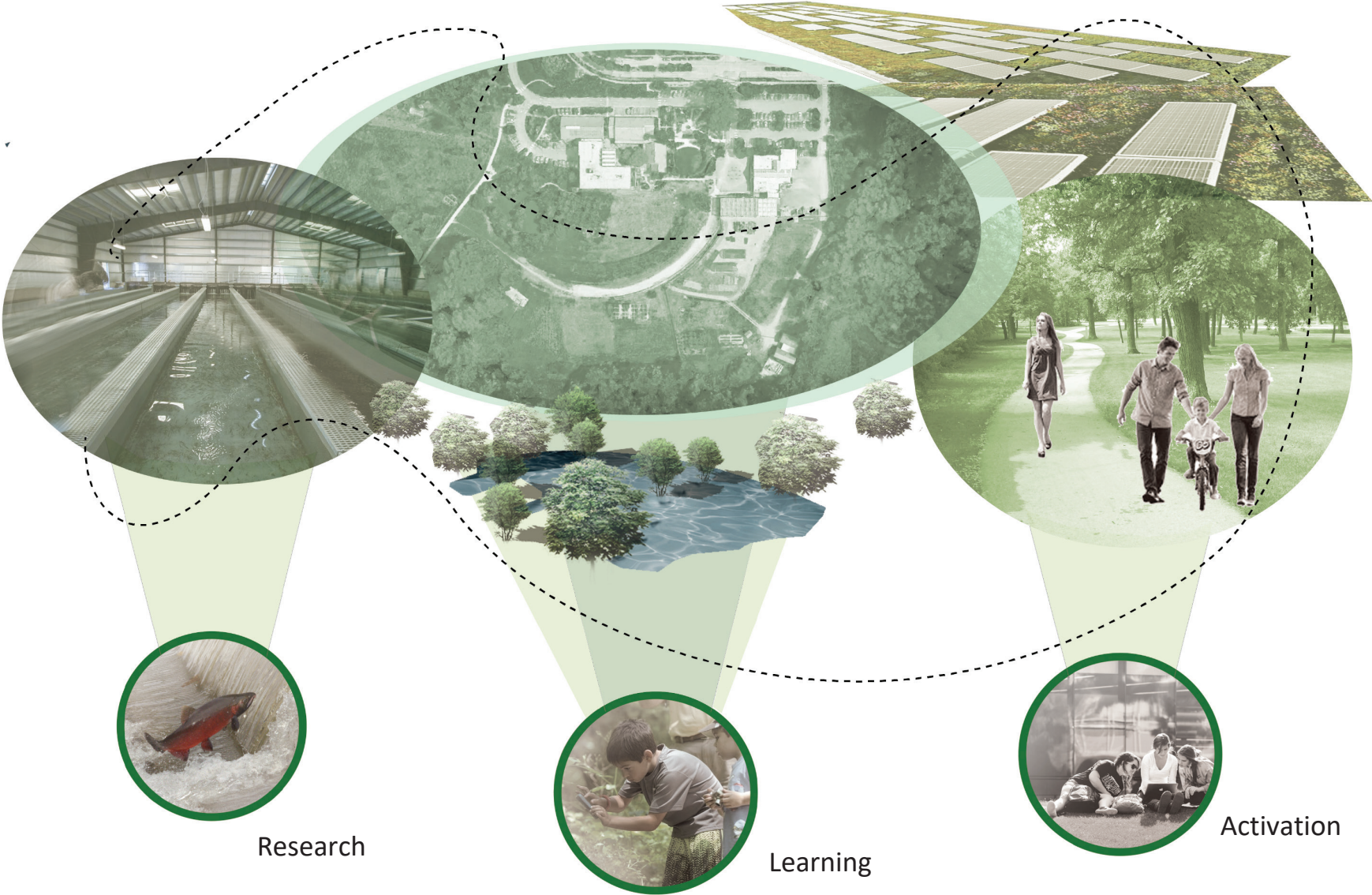
KEY WORDS

- RESEARCH
- EDUCATION
- ACTIVATION

CONCEPTUAL DIAGRAM

Three key points, three story-telling lines:

Three story lines in terms of educating people, infrastructure (fish rearing + non-fish rearing), and outreach to neighbors, including elders and children.



The UW's East Campus currently accommodates athletics and recreational activities with parking to support sporting events and campus commuters, along with the Union Bay Natural Area, UW Farm, and the Center for Urban Horticulture.

According to the *2018 UW Campus Master Plan*, East Campus will remain largely a restoration and conservation area, with added academic and athletic use where possible.

For the precedents studies, we are focusing on activation for education and research.



Figure 1. Aquatic Research Center



Figure 2. Horticultural Education



Figure 3. Hatchery Research

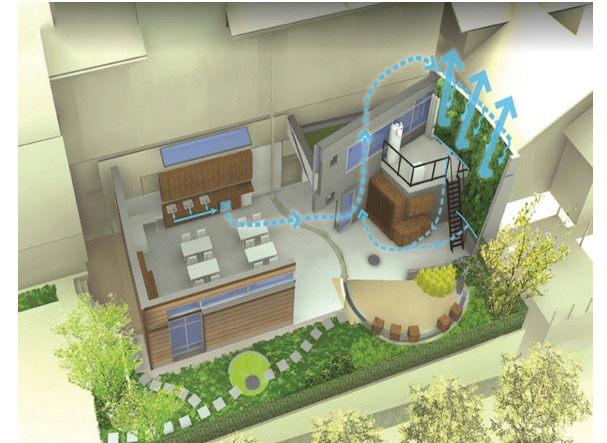


Figure 4. Water Re-use (example from the Bertschi School, Seattle)

EDUCATIONAL ACTIVATION

Precedent studies of educational, interpretive outreach and activation.



Figure 5. Fish and Game Clubs Encourage Future Generations



Figure 6. Salmon Art School



Figure 7. Homeschool Classes and Field Trips



Figure 8. Child-friendly Fish Ladder



Figure 9. Homing Pond Viewing Area



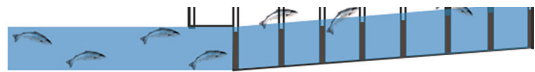
Figure 10. Community Education at the Auditorium

SITE PLAN

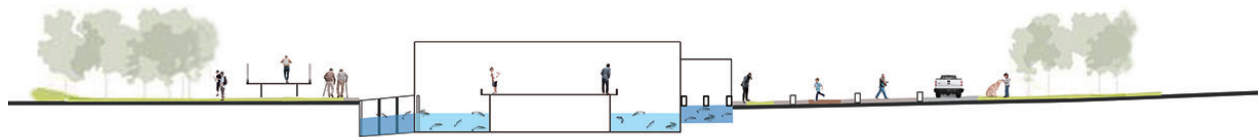
The plan shows exterior site context, new landscape features, and relevant research infrastructure.



FACILITY AND SITE SECTIONS



Section Showing Fish Ladder



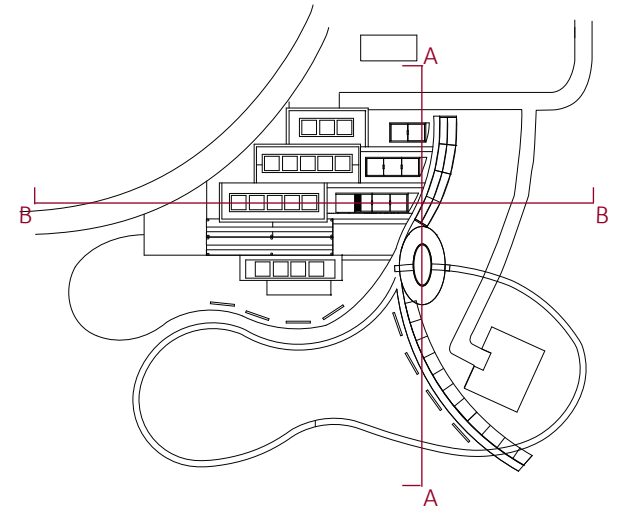
Fish Ladder Homing Pond Spawning Channels

Section A-A Showing Public Areas



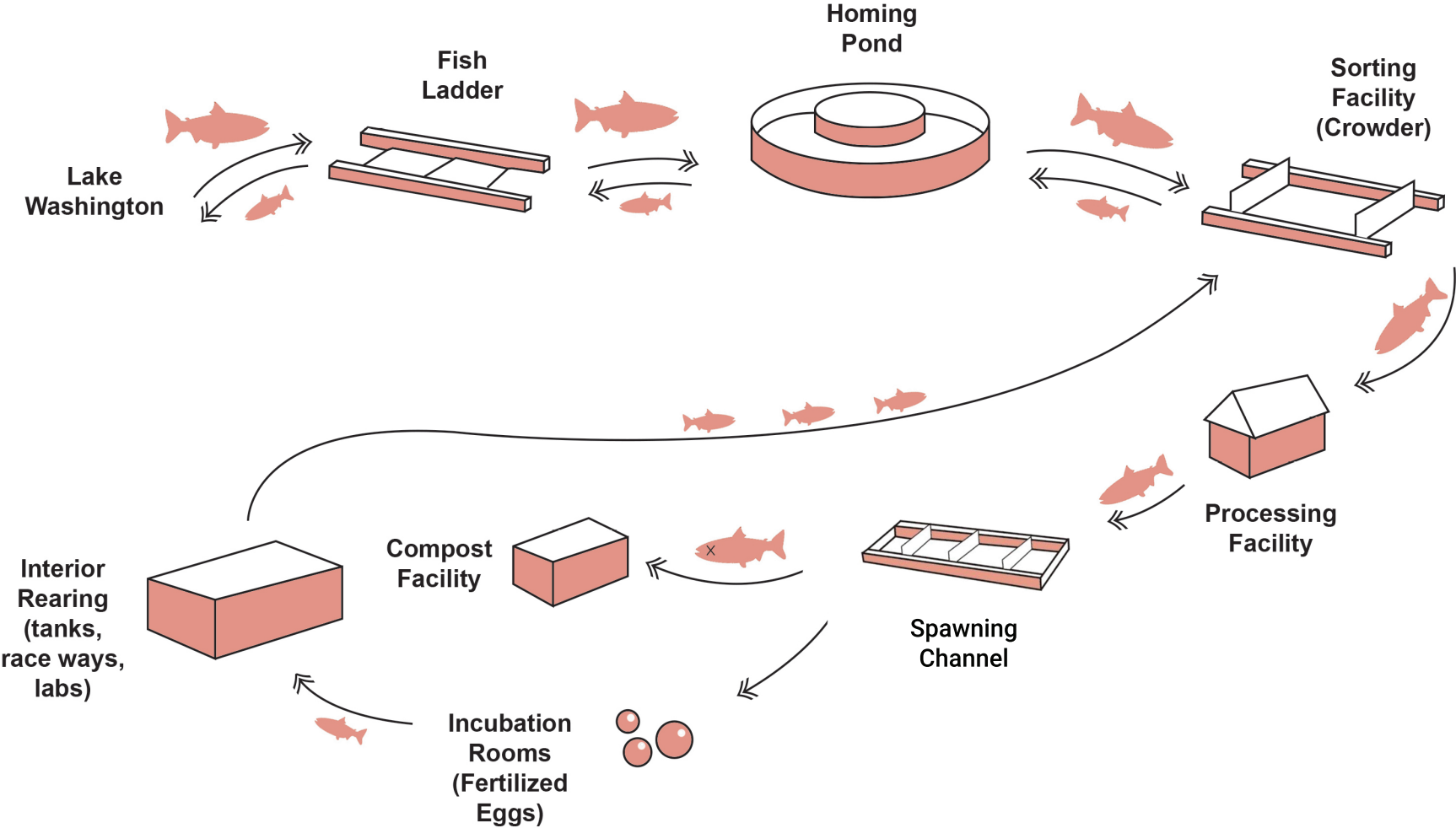
Greenroof Buildings with underground tank Incubation Room Raceways Spawning Channels

Section B-B Showing Research Facilities

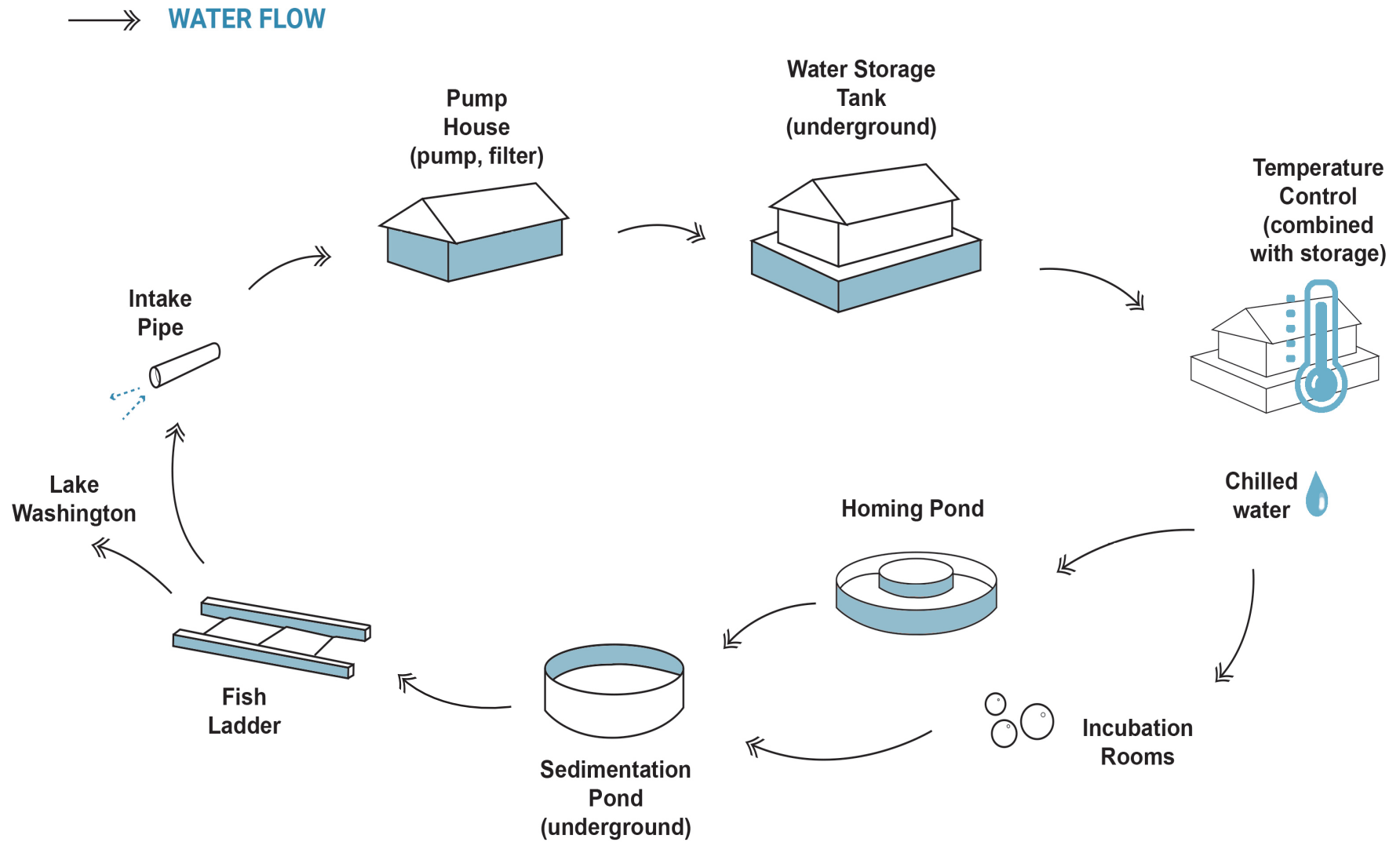


SALMON FLOW DIAGRAM

→ SALMON MOVEMENT



WATER SYSTEMS DIAGRAM



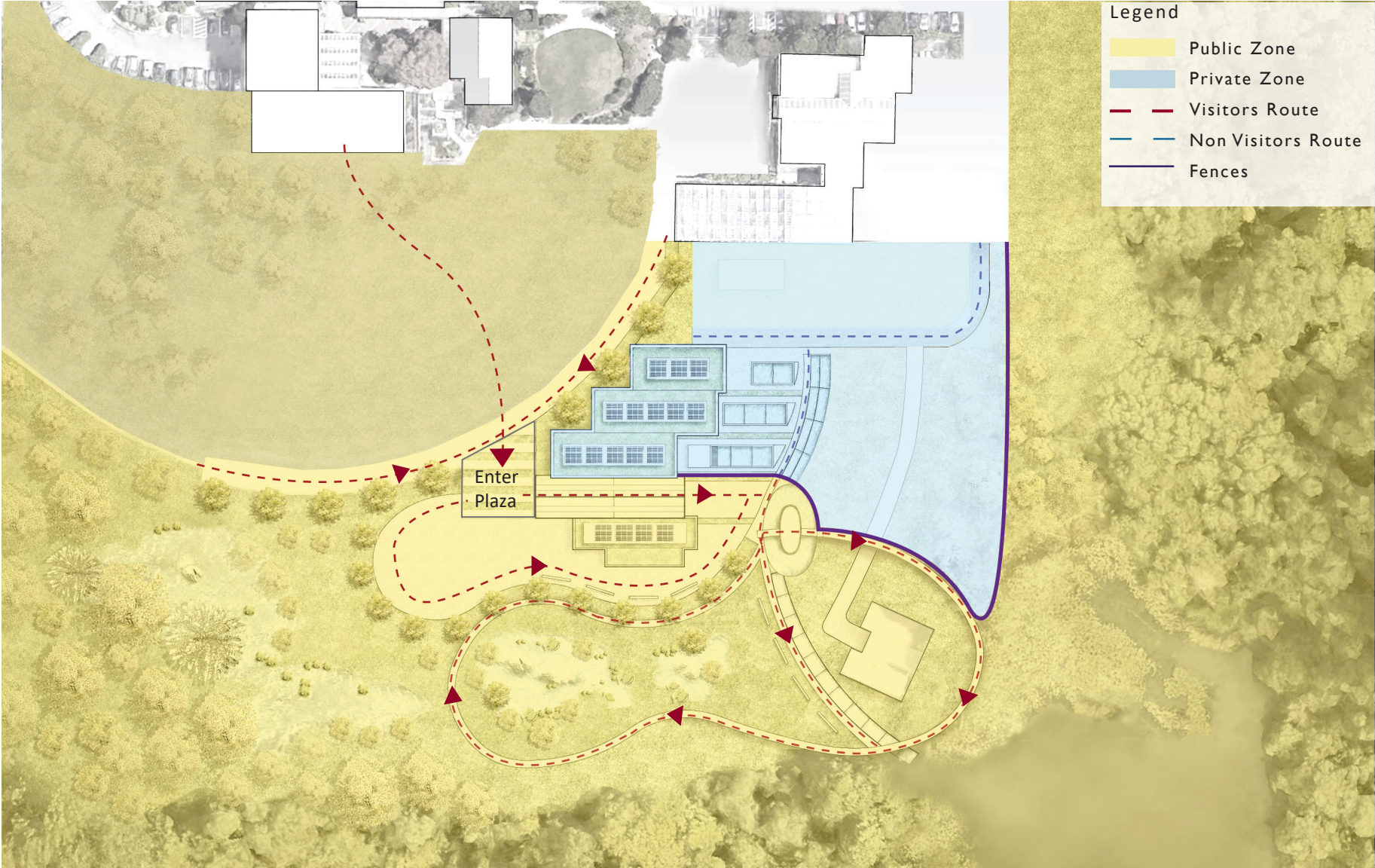
PROGRAM DIAGRAM

Production, support and outreach programs with restricted access.



CIRCULATION DIAGRAM

Public and private access and circulation routes.



SEASONAL PROGRAMMING DIAGRAM

Use and programming of the ARC throughout the year.



MATERIAL PALETTE

Paving materials, building materials, and facility materials.

PAVING MATERIAL

Ceramic fish on the path
 Water permeable paving with gravel
 Wooden bridge
 Multiple linear pavement



Pavement detail
 Granite hardscape paving
 Wetland bridge
 Linear pavement with gravel

BUILDING MATERIAL

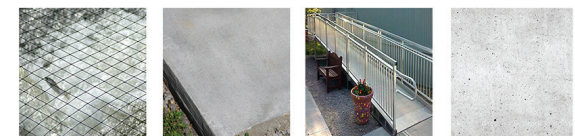
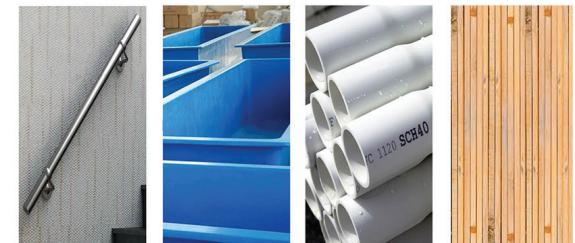
Greenroof insulation layer
 Green wall
 Steel building facade
 Greenroof waterproofing



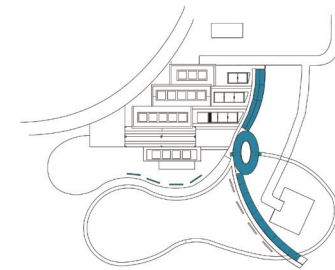
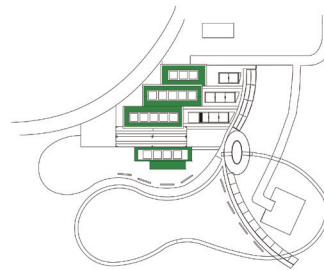
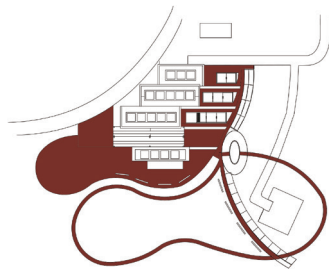
Outreach-wooden and glass roof
 Greenroof sedum substrate
 Greenroof wooden-roof
 Greeroof solar panel

FACILITY MATERIAL

Stainless steel handrail
 Plastic homing pond
 PVC pipe
 Wooden seating wall



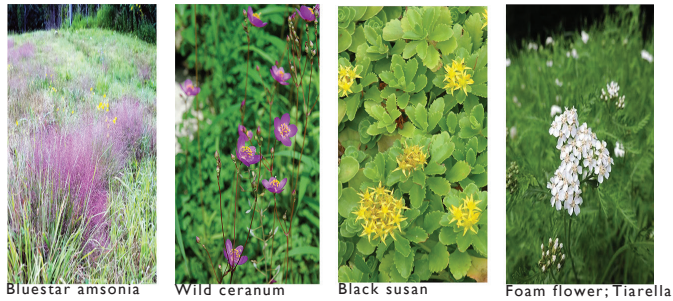
Bird protection netting
 Fish ladder concrete
 ADA industrial ramp
 Concrete pedestrian besides fish ladder



PLANTING PALETTE

Green roof plants, native plants, raingarden plants and wetland plants.

GREENROOF PLANTS PALETTE



Bluestar amsonia Wild ceranium Black susan Foam flower; Tiarella

NATIVE PLANTS PALETTE



Acer circinatum Carex densa Mahonia nervosa Taxus brevifolia



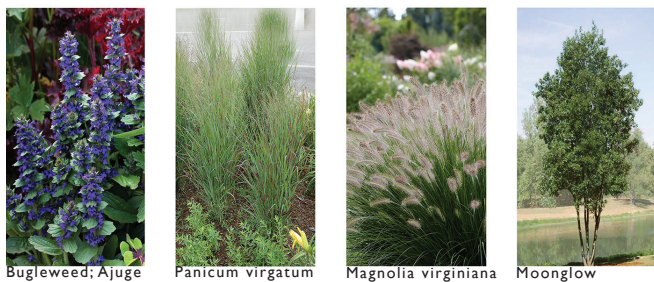
Texas sedge; Carex Texensis Wild ceranium Wild comlumbine; Aquilegia canadensis Blazing star



Arctostaphylos columbiana Aruncus dioicus Blechnum spicant Arctostaphylos



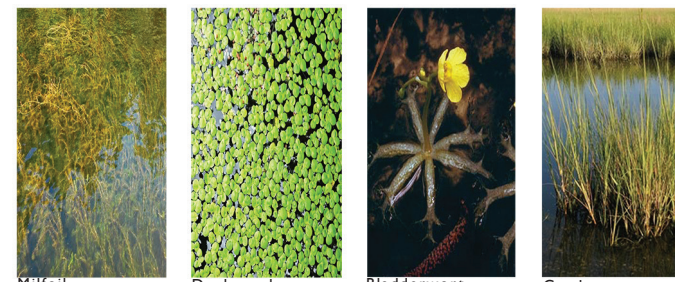
RAINGARDEN PLANTS PALETTE



Bugleweed; Ajuge reptans Panicum virgatum switch grass Magnolia virginiana Moonglow



Texas sedge; Carex Texensis Wild ceranium Wild comlumbine; Aquilegia canadensis Black lave elderberry



Milfoil Duckweed Bladderwort Cordgrass



Yellow water lily Cattails Willows Elodea



GREEN STORMWATER INFRASTRUCTURE

Green stormwater infrastructure (GSI) is a set of distributed stormwater management practices that mimic natural systems.

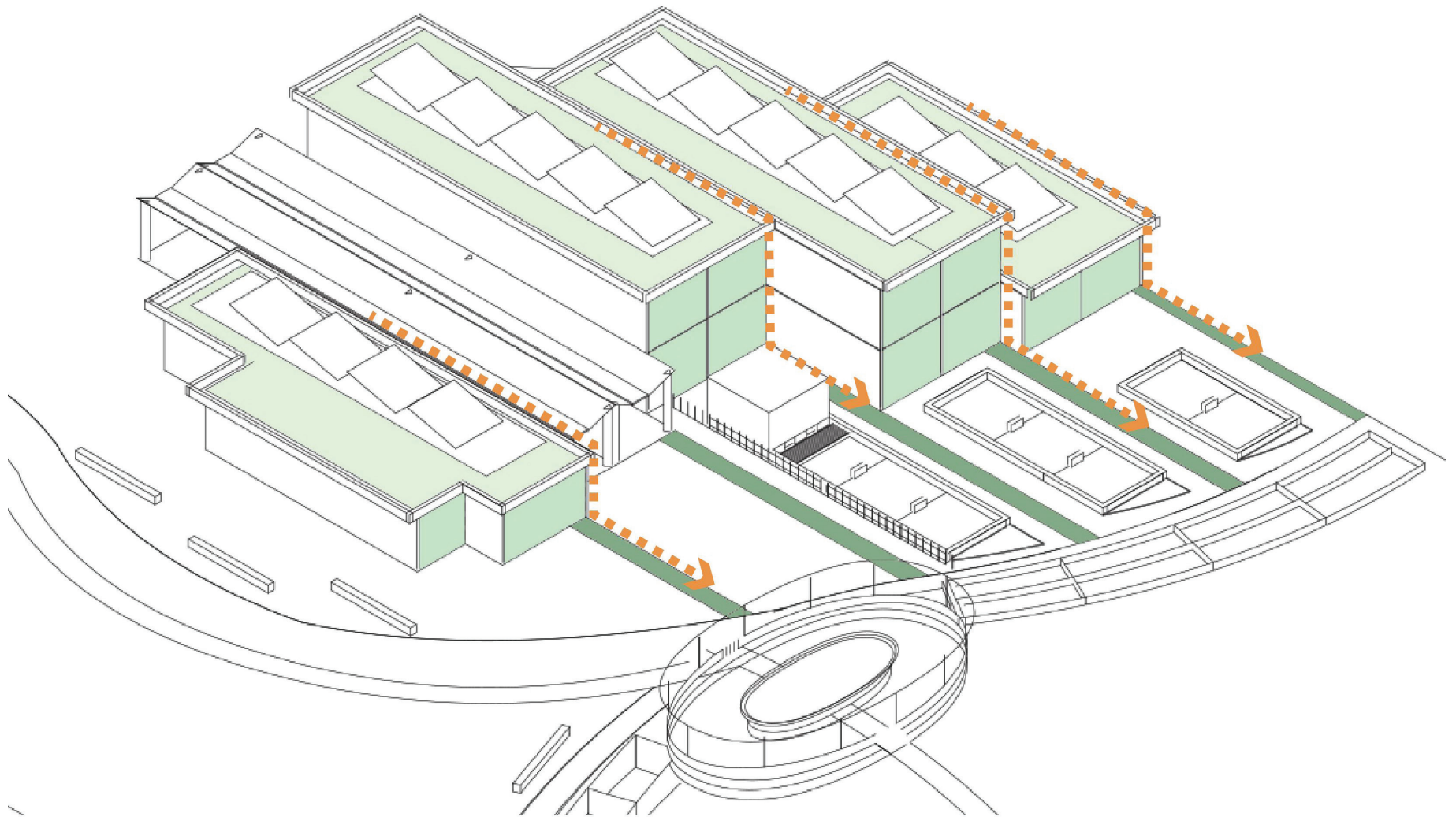
GSI is used across multiple scales and site contexts - including residential, commercial, and in the public right-of-way - and delivers multiple community benefits in addition to stormwater management.

Graphic by the Philadelphia Water Department



GREENROOF WATERFLOW DIAGRAM

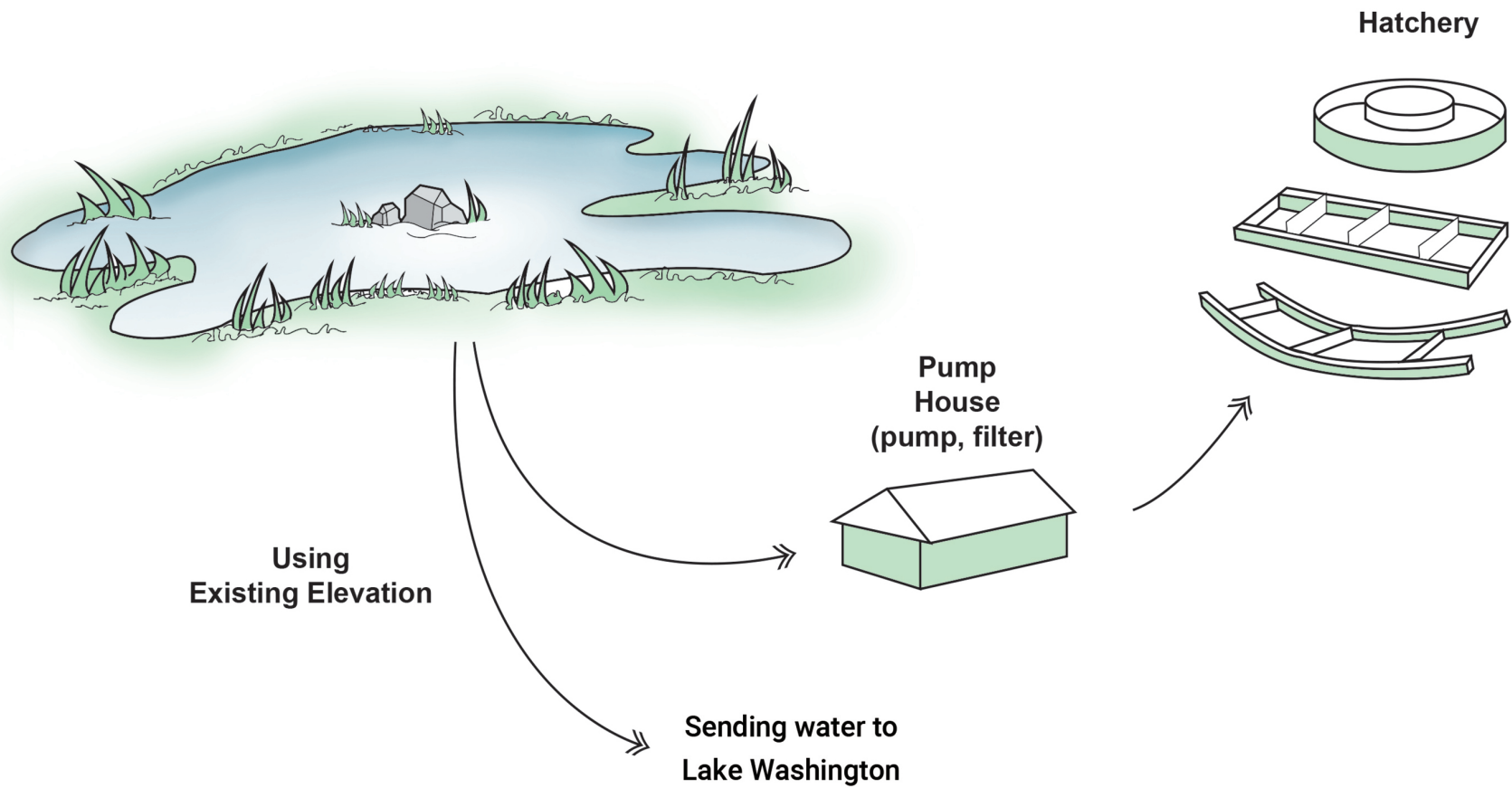
The stormwater can be purified through the green roofs, green walls, and linear planters.



WATER RE-USE + GSI DIAGRAM

Stormwater surface flows into the wetland where it is purified and then is either released back to Lake Washington or pumped for use in the facility.

→ WATER RE-USE PROCESS



BIRD'S EYE VIEW PERSPECTIVE

Perspective looking north, showing the new center's relationship to its context



PERSPECTIVE FROM THE ELEVATED BOARDWALK

Perspective looking from fish ladder to new aquatic center.



ENTRANCE PERSPECTIVE

Perspective looking from the main entrance to the new hatchery buildings with greenroof and solar panels



BIRD'S EYE PERSPECTIVE OF THE HATCHERY FACILITIES

Perspective showing a close up view of the hatchery facilities and green roofs as well as green walls

