LIGHTNESS, CONNECTION, & FOLDING MEMORIES
REFRAMING POUGHKEEPSIE WATERFRONT

LA 4010/7010 URBAN DESIGN STUDIO
TINGYUE TAN

The design concept is established on the idea that formation of a city is a gradual composition of layers of time, which each layer representing a period that embedded distinct historic values that are often underestimated by contemporary design procedures.

The current Poughkeepsie waterfront consist of three major obstacles: extreme climate events, inconsistency of connectivity, and insufficient representation of historical importance of the city.

To cope with the problems mentioned above, three sub-concepts are introduced accordingly: Lightness, Connection, and Memory.



SITE ANALYSIS

HIIGHLAND

TOWN OF POUGHKEEPSIE

CITY OF POUGHKEEPSIE

ONE DUTCHESS
UPPERLANDING PARK
FALL KILL

UPPERLANDING ECOLOGY STUDY AREA

FOOD

PAVILLION / FARMER'S MARKET

CONNECTION TO RAIL TRAIL SYSTEM

CHILDREN'S MUSEUM

SKATEPARK

WALK OVER THE HUDSON

VERTICAL ACCESS

FALL KILL

WALKWAY

SWIMMING

WHALING INSTALLATION

COMMERCIAL

CHILDREN'S PLAYGROUND

WARYAS PARK
UNION DOCK
MAIN STREET HISTORIC DISTRICT
KAAL ROCK

UNION STREET
HISTORIC DISTRICT

MID HUDSON BRIDGE

SHADOW ON THE HUDSON

SHADOW ON THE HUDSON
DELAVAL

LINE

9

44

55

- PLAYING
- ART
- EDUCATION
- ENTERTAINMENT
- SPORTS
- RECREATION
- COMMERCIAL
- WATER ACCESS
- MAJOR HIGHWAY
- RAILROAD
- PEDESTRAIN WALKWAY

0 200 400 800 1,200 1600

HISTORIC TIMELINE



INDIGENEOUS PEOPLE WAPPINGER RESIDENTIAL

SAILLING AND STEAMBOAT INDUSTRIES

GLASS WORK & HUDSON RAILROAD BRIDGE

ELECTRICITY POWER PLANT

WALK OVER THE HUDSON



DOCK & SAILING STORE

WHALING COMPANY

VASSAR BREWERY & GILMAN'S KAAL ROCK BREWERY

IRON WORK

MAIN STREETDOCK & EXCHANGE HOTEL



ADRIANCE, PLATT & CO I HARDWARE BUSINESS

BUCKEYE MOWER

CREAM SEPARATOR INDUSTRY

STATE REGULATED PARK FIELD
STILL CONTAMINATED

6 in

3 in

6 in

3 in

6 in

3 in

1700 1750 1800 1850 1900 1950 2000 2020 2050

SEA LEVEL RISE HEIGHT TIMELINE

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LIGHTNESS


wetland shrub walkway


ginko riverfront boulvard

W


malus garden


birch walkway

DxC


submerged aquatic vegetation


freshwater tidal wetland garden


magnolia garden

Ud

DxB


prunus garden


freshwater tidal wetland terrace garden

Ur

NwD


diciduous tree garden


willow boulvard


pine garden

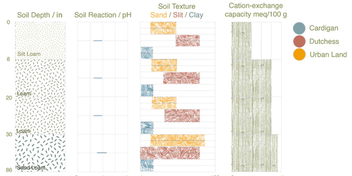
Ud


rehibilitated garden

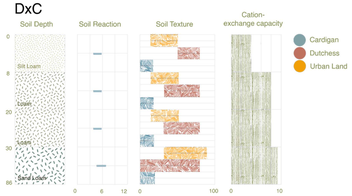

indiangrass walkway


rehibilitated garden

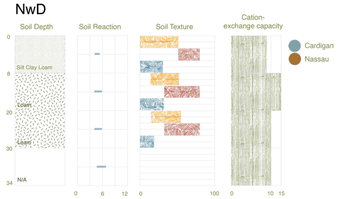
DxB



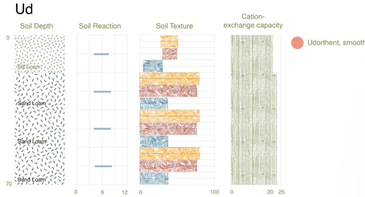
DxC



NwD



Ud



*Notes:
1. **"Depth"** to the upper and lower boundaries of each layer is indicated.

2: **"Soil reaction"** is a measure of acidity or alkalinity. It is important in selecting crops and other plants, in evaluating soil amendments for fertility
and stabilization, and in determining the risk of corrosion.

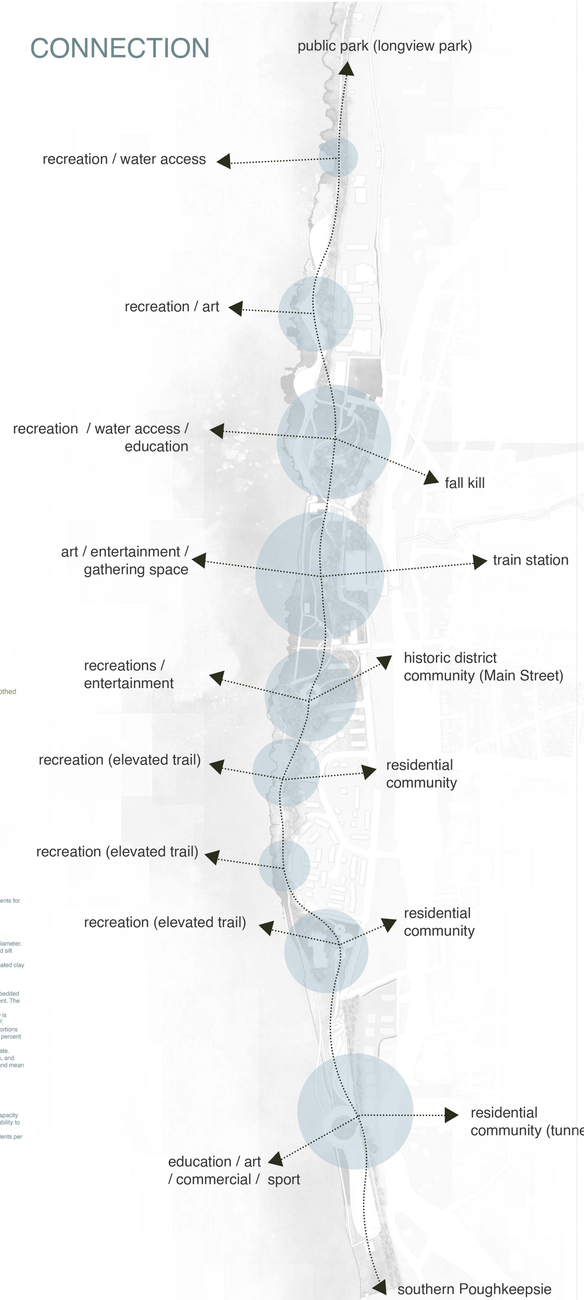
3. The content of sand, silt, and clay affects the physical behavior of a soil.
- **"Sand"** as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In this table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.
- **"Silt"** as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In this table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.
- **"Clay"** as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

4. "Soil Established Series"
- **"Cardigan"** Series consists of moderately deep, well drained soils formed in till or colluvium. They are underlain by folded interbedded phyllite, slate, shale, and schist. They are on bedrock controlled landforms on hills and mountains. Slope ranges from 0 to 80 percent. The mean annual temperature is about 8 degrees C and mean annual precipitation is about 1066 mm.
- **"Dutchess"** series consists of very deep, well drained soils on glaciated uplands. They formed in loamy glacial till. Permeability is moderate. Slopes range from 0 to 70 percent. Mean annual precipitation is 38 inches. Mean annual air temperature is 48 degrees F.
- **"Urban Lands"** areas consist mostly of sites for buildings, paved roads, and parking lots. Most areas are in intensely built-up portions of Providence and New port Counties. The areas are mostly rectangular and range from 5 to 100 acres. Slopes range from 0 to 10 percent but are dominantly 0 to 5 percent.
- **"Nassau"** series consists of shallow, somewhat excessively drained soils formed in channery till derived from acid shale and slate. They are nearly level to very steep soils that overlie shale bedrock at depths of 25 to 50 cm. They are found on summits, shoulders, and backslopes of ridges and hills on glaciated uplands. Slope ranges from 0 to 70 percent. Mean annual temperature is 9 degrees C and mean annual precipitation is 1,200 mm.
- **"Udorthents, smooth"** are in areas that have been cut to a depth of 2 feet or more or are on areas with more than 2 feet of fill. Udorthents consist primarily of moderately coarse textured soil material and a few small areas of medium textured material.

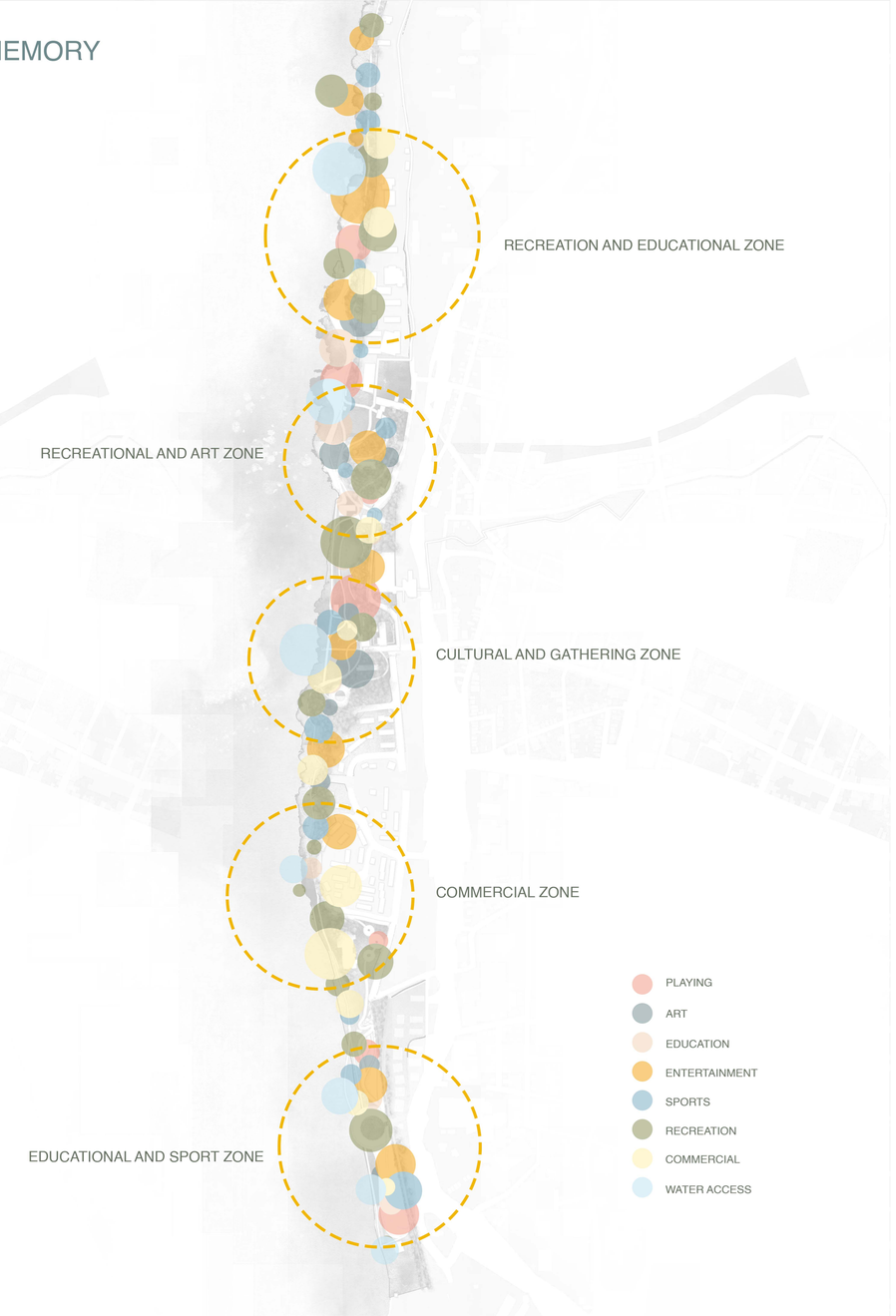
5. Contamination soil cleanup capacity
- **"Cation-exchange capacity"** is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.
- **"Effective cation-exchange capacity"** refers to the sum of extractable bases plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

Abbreviation - Soil Types
DxB: Dutchess-Cardigan-Urban land complex, undulating, rocky
DxC: Dutchess-Cardigan-Urban land complex, rolling, rocky
NwD: Nassau-Cardigan complex, hill, very rocky
Ud: Udorthents, smoothed
Ur: Urban land
W: Water

CONNECTION



MEMORY



STRATEGIES PROTOTYPES



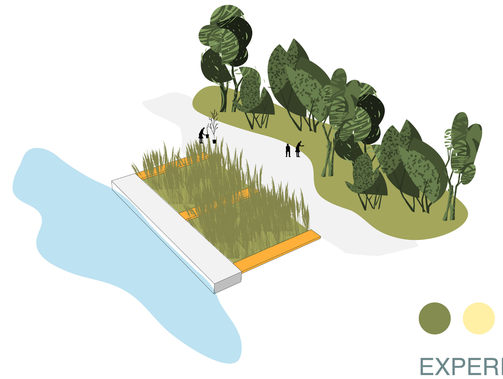
SCREEN



ACCESS



REROUTE



EXPERIMENT



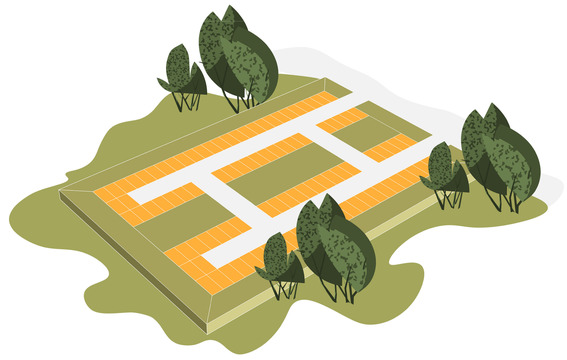
EDUCATE



ELEVATE



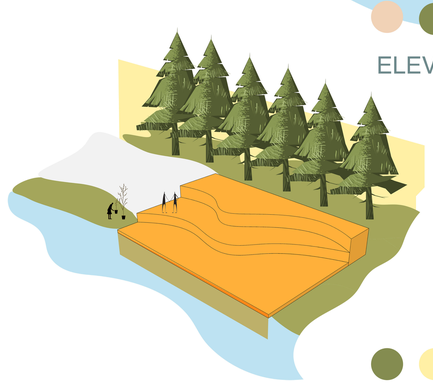
EMPHASIZE



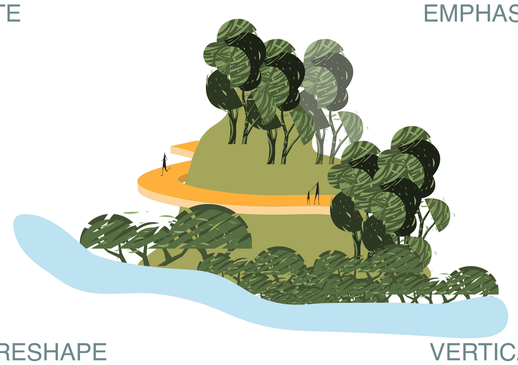
MULTIPURPOSE



RECONNECT



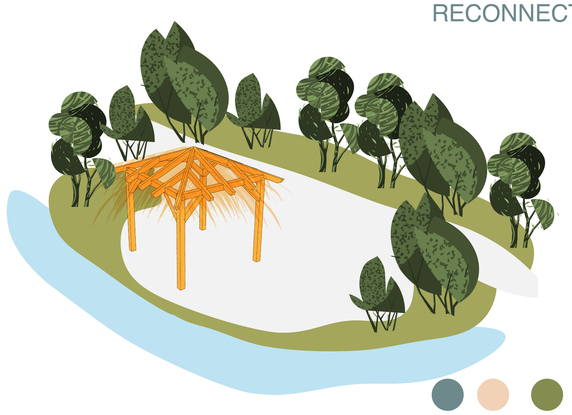
FILL & RESHAPE



VERTICAL CONNECT



CELEBRATE



REVIVE



EXPAND



ACCESS



RECREATE

PHASING STRATEGIES

PHASE 3 (2080)

EDUCATE & MAINTAIN
ECOLAB ESTABLISHMENT

EXTEND
FALL KILL PLAN

EXTEND
HISTORIC DISTRICT

CELEBRATE
OUTDOOR HISTORY MUSEUM

MULTIPURPOSE
REDUCE PARKING SPACE

FILL & RESHAPE
WARYAS MULTIPURPOSE BIOSWALE TERRACE

REPURPOSE & SCREEN
WARYAS MALUS BOULVARD FOR PEDESTRAIN AND BICYCLISTS

EMPHASIZE & CONNECT
KAAL ROCK AMPITHEATER & MAIN STREET DOCK

TRANSIT
COMPREHENSIVE PUBLIC TRANSIT PLAN

PHASE 2 (2050)

REHABILITATE
FRESHWATER TIDAL WETLAND

EMPHASIZE & CONNECT
GLASS MOSAIC ELEVATED TRAIL

REVIVE
DOCK WITH WAPPINGER PAVILLION

MULTIPURPOSE
GREEN PARKING

RESILE
UPPERLANDING BIOSWALE FOR STORMWATER STORAGE

TRANSIT
COMPREHENSIVE PUBLIC TRANSIT PLAN

CELEBRATE
OUTDOOR HISTORY MUSEUM

EXPERIMENT
CONTAMINATION CLEAN-UP REHABIILITATION FILED

EXPAND
MAIN STREET PLAZA FOR GATHERING

CONNECT
WATERFRONT ELEVATED TRAIL

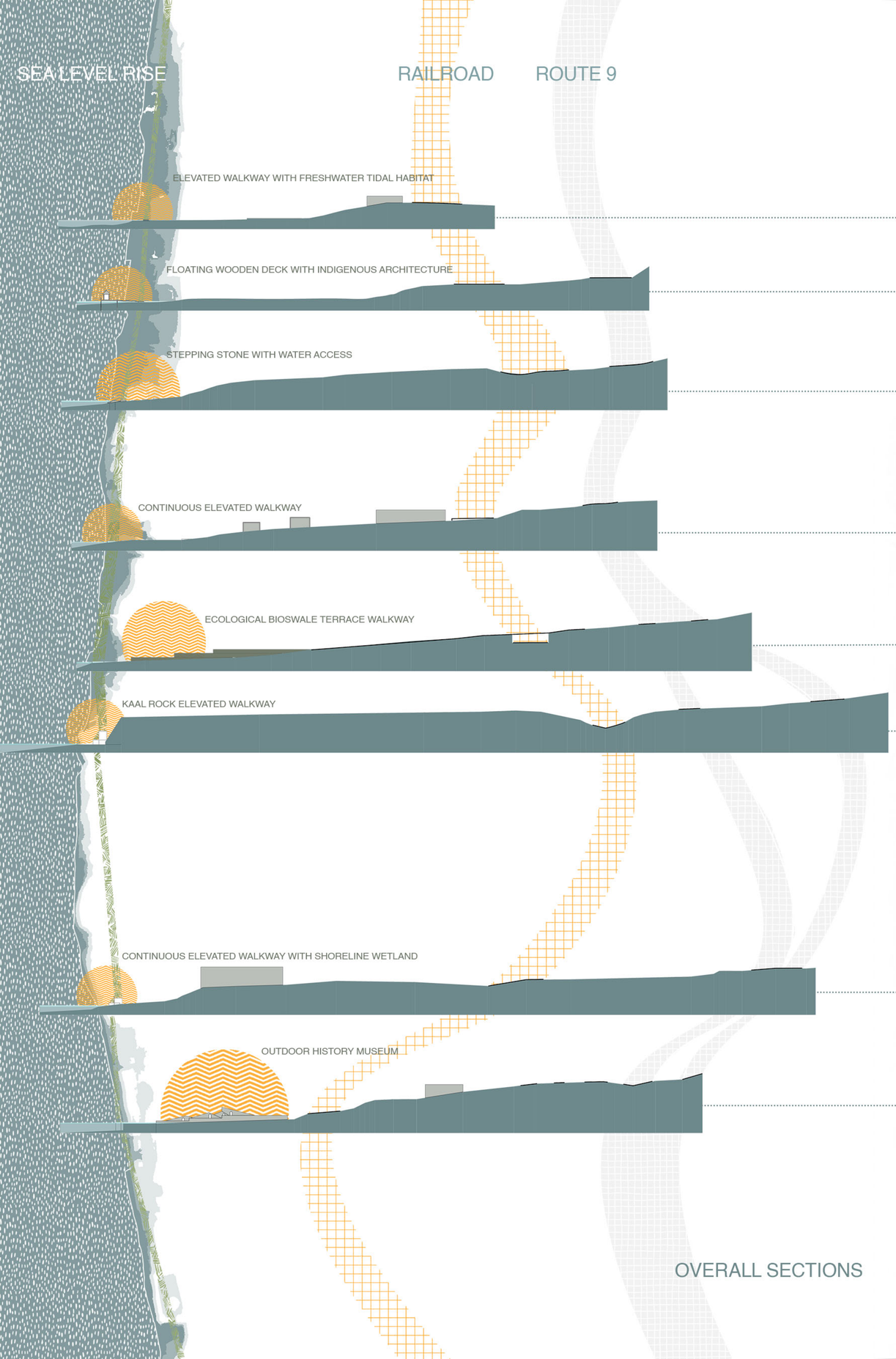
MULTIPURPOSE
GREEN PARKING

EXTEND
LOCAL COMMUNITY

PHASE 1 (2020)

RECREATE
SKATEPARK

EDUCATION & COMMERCIAL
INTERACTIVE & GATHERING SPACE



OVERALL SECTIONS



MASTER PLAN

ROUTE 9

RAILROAD

RECREATE
SKATEPARK

EDUCATION
INTERACTIVE
INSTALLATION FOR
REIMAGING WATERFRONT

ELEVATE
ELEVATED PLAZA

COMMERCIAL
FOOD & MARKET

CELEBRATE
WATERFRONT OUTDOOR MUSEUM

EXPERIMENT
REHABILITATION FIELD

RECONNECT
TUNNEL OPENING FOR
COMMUNITY ENGAGEMENT

FILL & RESHAPE
FLOOD PREVENTION

MULTI-PURPOSE
GREEN PARKING

ZOOM-IN PLAN 1/400

EXPERIMENT
REHABILITATION FIELD

CELEBRATE
WATERFRONT OUTDOOR MUSEUM

FILL & RESHAPE
FLOOD PREVENTION

CONNECT
ELEVATED TRAIL

RAILROAD

2080S
2050S
2020S

DELAVAL

SECTION 1/16