INTERLACE

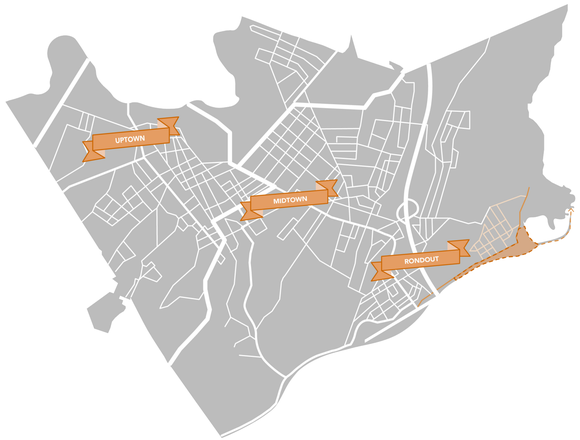
Weaving the Rondout Riverfront into an accessible, cultural, and ecological fabric.

JIAMIN CHEN & ADRIANA HIDALGO

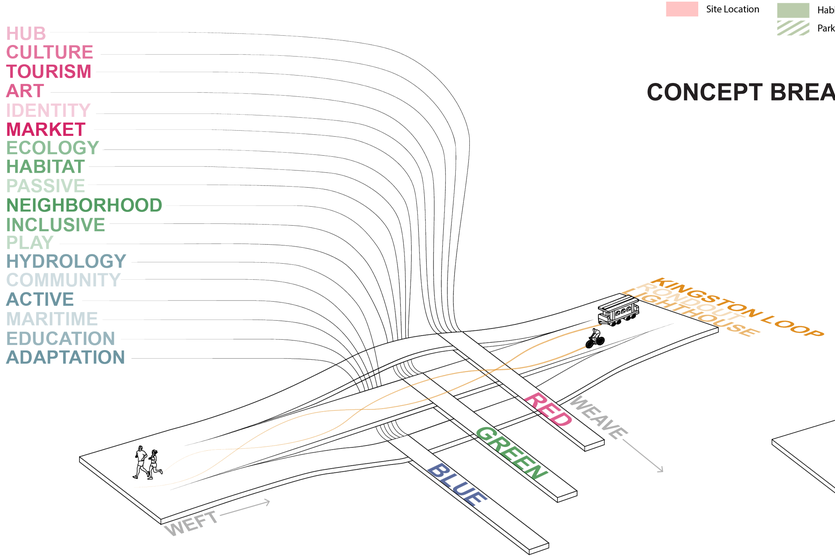
STATEMENT

The city of Kingston is a historically rich urban textile made up of industrial, artisanal, and maritime identities. Interlace aims to weave these qualities into an enhanced landform weft of accessible social and ecological values. Ultimately the project aims to strengthen the Rondout Riverfront into an activated landscape for years to come.

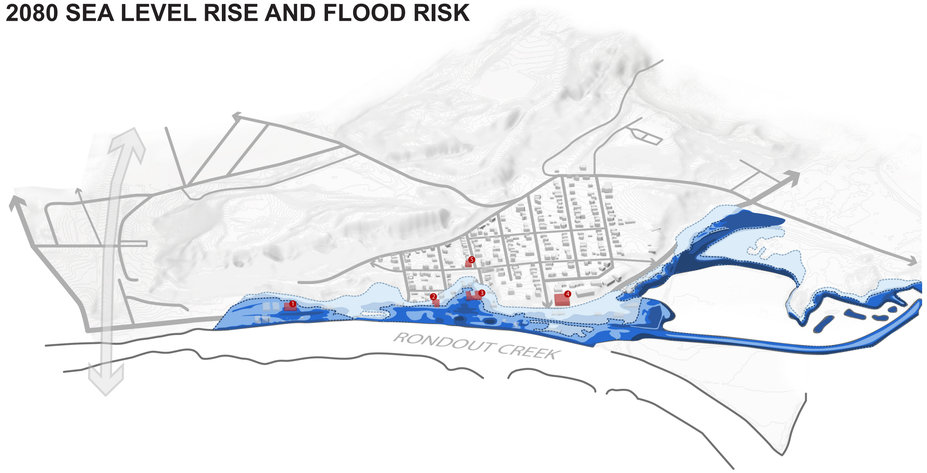
SITE CONTEXT



WEAVE & WEFT



2080 SEA LEVEL RISE AND FLOOD RISK



SLR Inundation: 0-1ft, 1-2ft, 2-3ft, 3-5ft

Floodplain: 1-6ft, 6-14ft

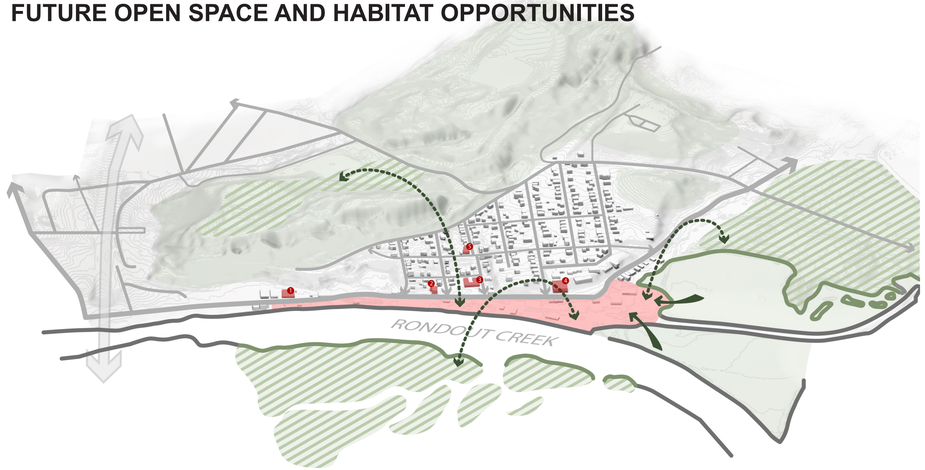
1 WWTP
2 New Central Baptist Church
3 Riverview Baptist Church
4 Children's Home of Kingston
5 African Roots Library

FUTURE RECREATION ACCESS OPPORTUNITIES

Greenline
Trolley Line
KP Loop

1 WWTP
2 New Central Baptist Church
3 Riverview Baptist Church
4 Children's Home of Kingston
5 African Roots Library

FUTURE OPEN SPACE AND HABITAT OPPORTUNITIES

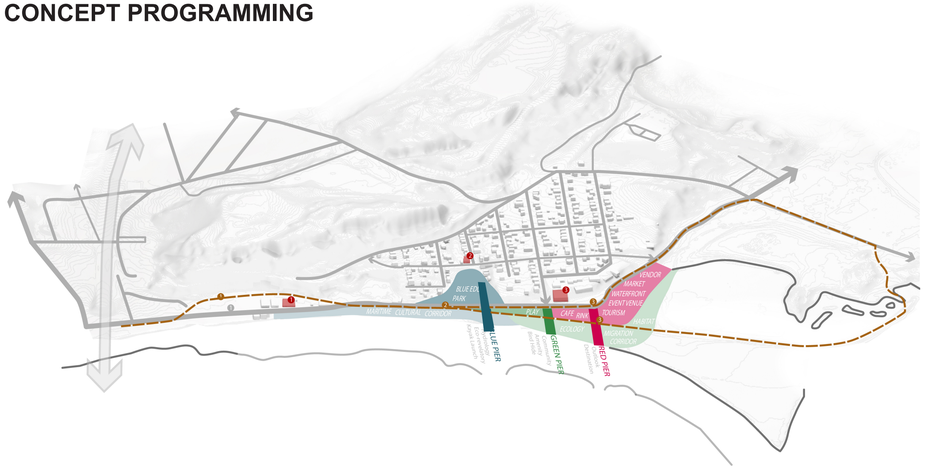


KEY

Site Location
Habitats
Parks
Hardened Shore
Natural Shore
Habitat Skipping Stone
Habitat Adjacency

1 WWTP
2 New Central Baptist Church
3 Riverview Baptist Church
4 Children's Home of Kingston
5 African Roots Library

CONCEPT PROGRAMMING



BLUE PIER
Blue Pier
Blue Education Park
Maritime Cultural Corridor

GREEN PIER
Green Pier
Community Playscape
Ecology Corridor

RED PIER
Red Pier
Hub

PROPOSED TROLLEY STOPS
1 Stop 1: Trolley Museum
2 Stop 2: Rondout River Park
3 Stop 3: Kingston Loop

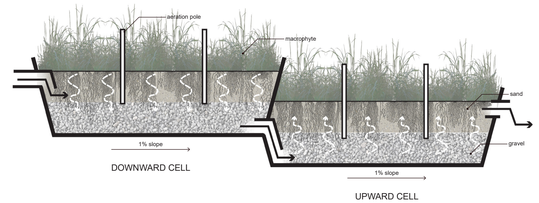
1 WWTP
2 African Roots Library
3 Children's Home of Kingston

Trolley Lines
Existing Bus Stop

CONCEPT BREAKDOWN

HYDROLOGY PIER

DEMONSTRATION WETLAND OPTION ONE: INTEGRATED VERTICAL FLOW WETLAND CELLS

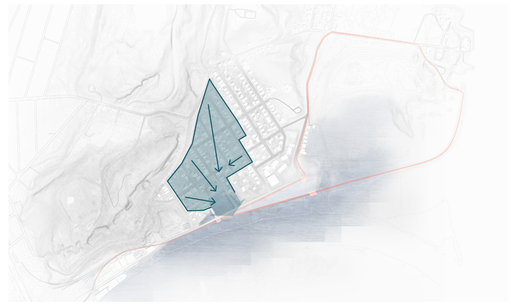


THE SELECTION OF WASTEWATER TREATMENT WETLAND TYPES HINGE ON ITS LOCAL CONTEXT AND CONDITIONS. AFTER SURVEYING ALL OPTIONS, FROM OPEN WATER WETLANDS, HORIZONTAL FLOW SUBTERRANEAN WETLANDS AND DIFFERENT TYPES OF VERTICAL FLOW SUBTERRANEAN WETLANDS, THE SYSTEM WE'VE SELECTED IS THE INTEGRATED VERTICAL FLOW WETLAND CELLS. THE REASON WE CHOOSE THIS SYSTEM IS BECAUSE (1) IT IS X3 TIMES AS EFFICIENT AS OPEN WATER WETLANDS. (2) IT ELIMINATES ODORS BECAUSE THE TREATMENT PROCESS TAKES PLACE UNDERGROUND, AND (3) THE TREATMENT PROCESS CAN TAKE PLACE YEAR-ROUND.

Site Conditions: Ponckhockie Neighborhood	
Current Number of Buildings	about 230
Target Treatment Capacity (Households)	500
Avg. Household Size	2.36
Total Number of People	1180
Integrated Vertical Flow Wetland Area Ratio	22 ft2/person
Total Treatment Area	31755 ft2
Designed Treatment Area	34458 ft2

THIS WETLAND DESIGN AIMS TO BE A LOCALIZED WASTEWATER SOLUTION AND THE SIZE OF THE CELLS ARE DESIGNED TO TREAT DOUBLE THE TARGET CAPACITY.

DEMONSTRATION WETLAND OPTION TWO: STORMWATER TREATMENT WETLAND CELLS

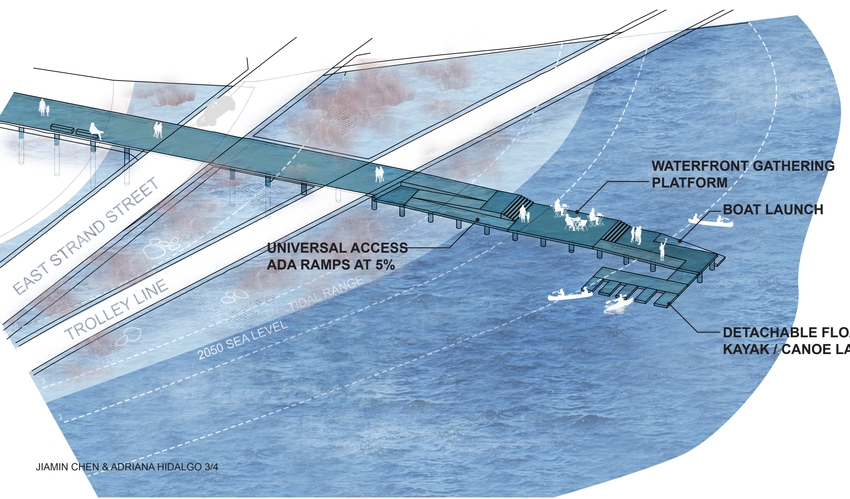


IN THE EVENT THAT COMBINED SEWERS ARE NOT SEPARATED IN TIME TO IMPLEMENT THE WASTEWATER TREATMENT WETLAND DUE TO OVERWHELMING FLOW DURING STORMS EVENTS, AN ALTERNATIVE IS TO CREATE STORM WATER TREATMENT WETLANDS INSTEAD USING THE SAME DESIGNATED AREA. BASED ON THE CONVENTIONAL RATIO OF 10:1 TREATMENT CAPACITY, THE STORM WATER WETLAND IS LARGE ENOUGH TO TREAT THE IMPERVIOUS AREAS OF THE ENTIRE SUB-BASIN.

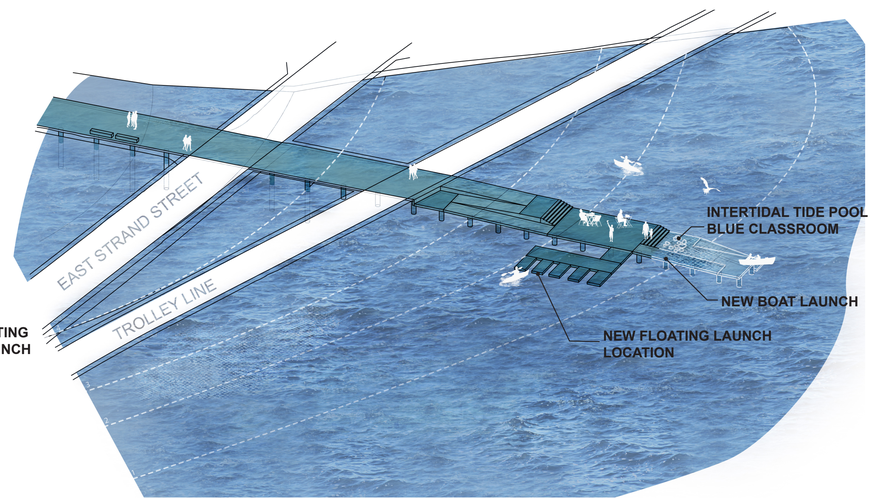
SUB-BASIN BASED ON ROAD AND SHEET DRAINAGE

Stormwater Alternative Wetland Treatment Capacity	344,580 ft2 (10:1 ratio)
Impervious Roof Area of Sub-watershed	129,057 ft2
Impervious Road Area of Sub-watershed	216,641 ft2
Total Impervious Area	345,698 ft2
Percentage Treated	99.70%

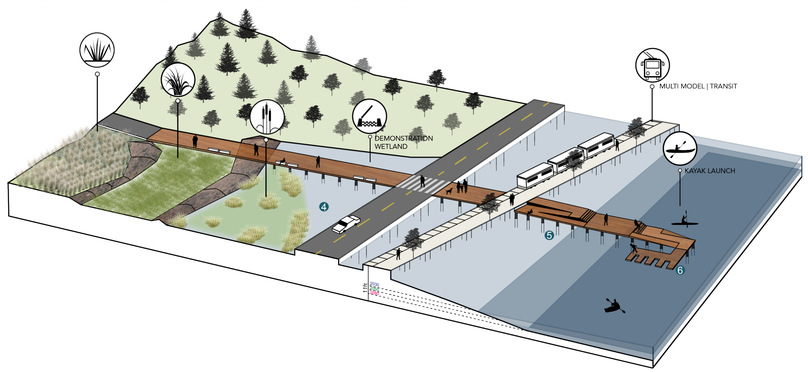
WATER RECREATION ACCESS IN 2050



WATER RECREATION ACCESS IN 2080



BLUE PIER ACTIVITIES AND USERS



MULTIMODEL | TRANSIT
INCREASING ACCESSIBILITY ACROSS THE RONDOUT RIVERFRONT

DEMONSTRATION WETLAND 4
CREATING ADAPTIVE SPACES FOR COMMUNITY ENGAGEMENT

INTERTIDAL WETLAND 4
MARSH MIGRATION LATTER SECTION OF LOW/HIGHMARSH

KAYAK LAUNCH 6
CONNECTING USERS TO THE WATER

FREEBOARD 4
MARSH MIGRATION LATTER SECTION OF LOW SHRUBS

TREATMENT WETLAND 4
A SELECTION OF MACROPHYTES FOR CONTAMINANT REMOVAL

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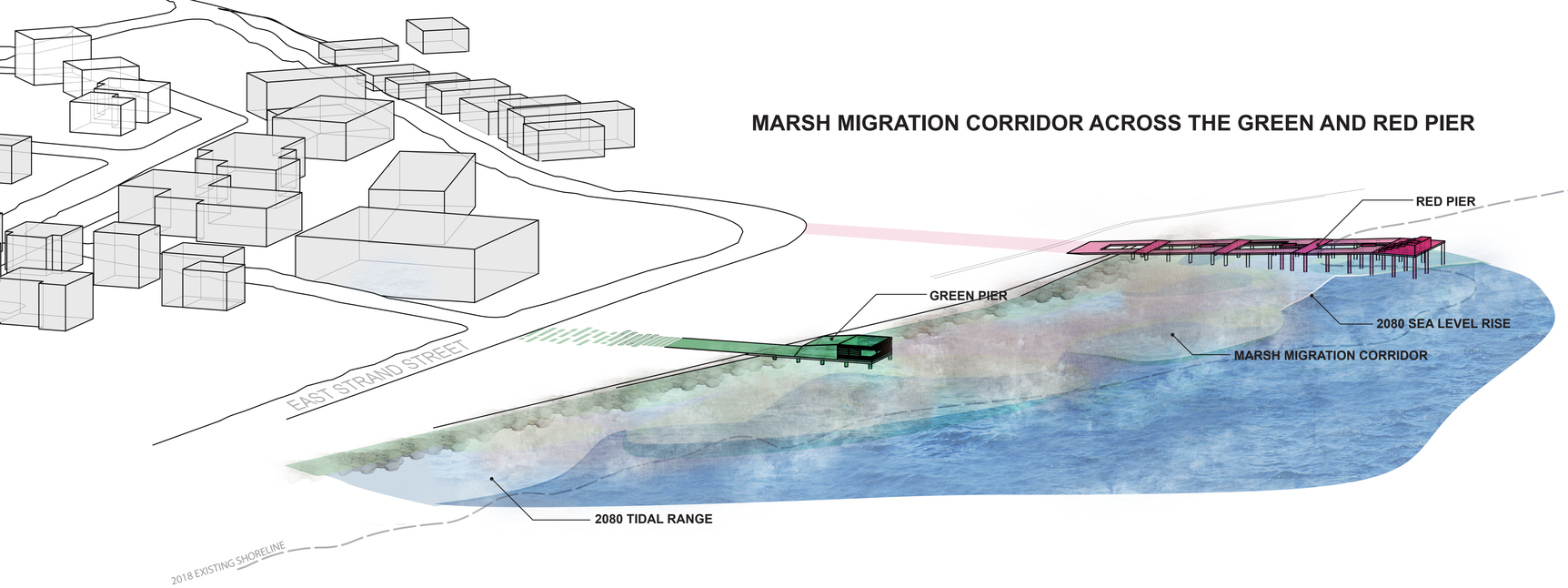
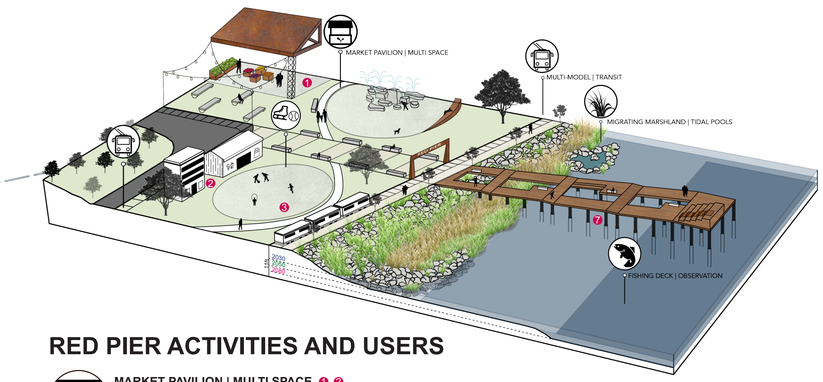


MARSH MIGRATION CORRIDOR ACROSS THE GREEN AND RED PIER



RED PIER ACTIVITIES AND USERS

MARKET PAVILION | MULTI SPACE ❶ ❷
COMMUNITY SPACE FOR ARTIST COMMUNITIES AND ECONOMIC DEVELOPMENT

ALL SEASON RECREATION ❸
SYNTHETIC RINK FOR WINTER ICE SKATING AND FIELD PLAY OFF SEASON

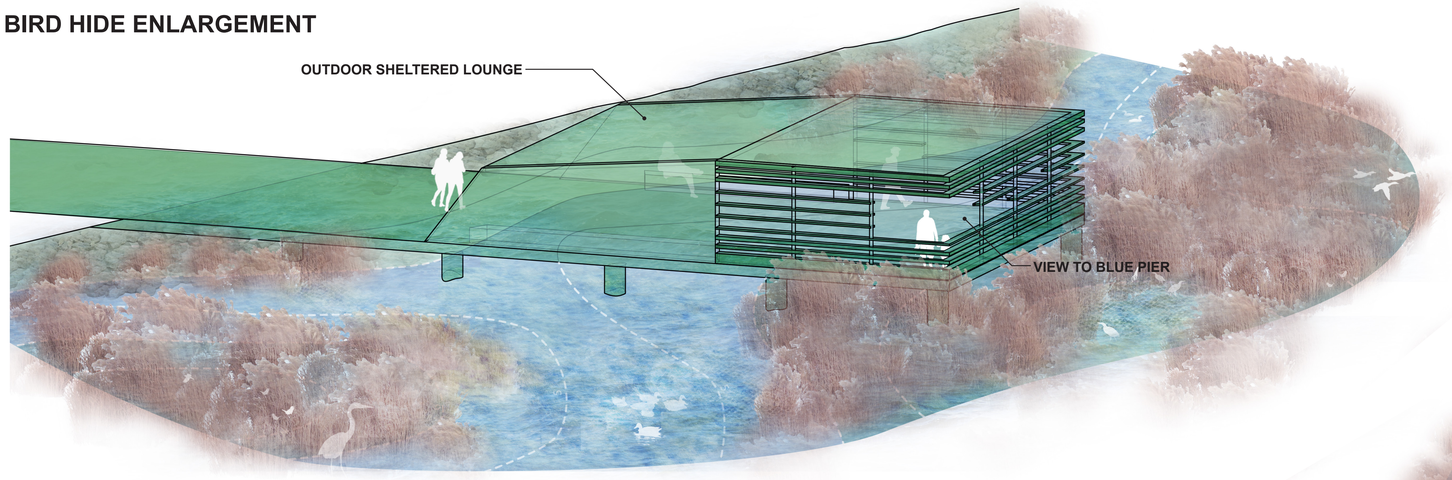
FISHING DECK | OBSERVATION ❼
DIORAMAS FOR WAVE WATCHING, MARSH MIGRATION & FISHING

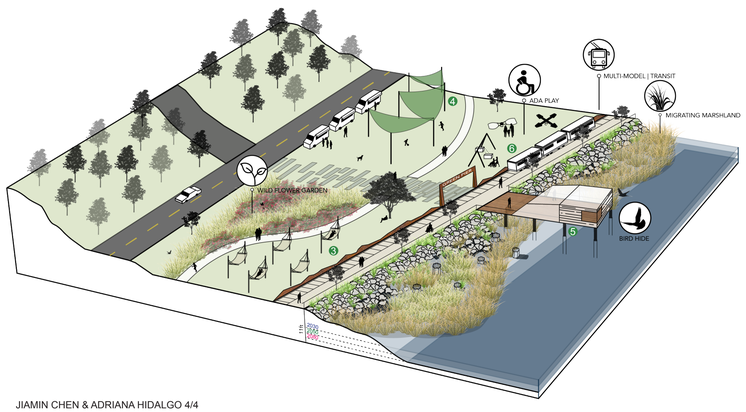
MULTIMODEL | TRANSIT
INCREASING ACCESSIBILITY ACROSS THE RONDOUT RIVERFRONT

MIGRATING MARSHLAND | TIDAL POOLS
DEVELOPING NEW ECOLOGIES FOR ACTIVATED SHORELINES

ECOLOGY PIER

BIRD HIDE ENLARGEMENT





GREEN PIER ACTIVITIES AND USERS

MULTIMODEL | TRANSIT
INCREASING ACCESSIBILITY ACROSS THE RONDOUT RIVERFRONT

MIGRATING MARSHLAND
INTERTIDAL WETLAND: 68,520 ft2
HIGH MARSH: 47,960 ft2
LOW MARSH: 20, 560 ft2

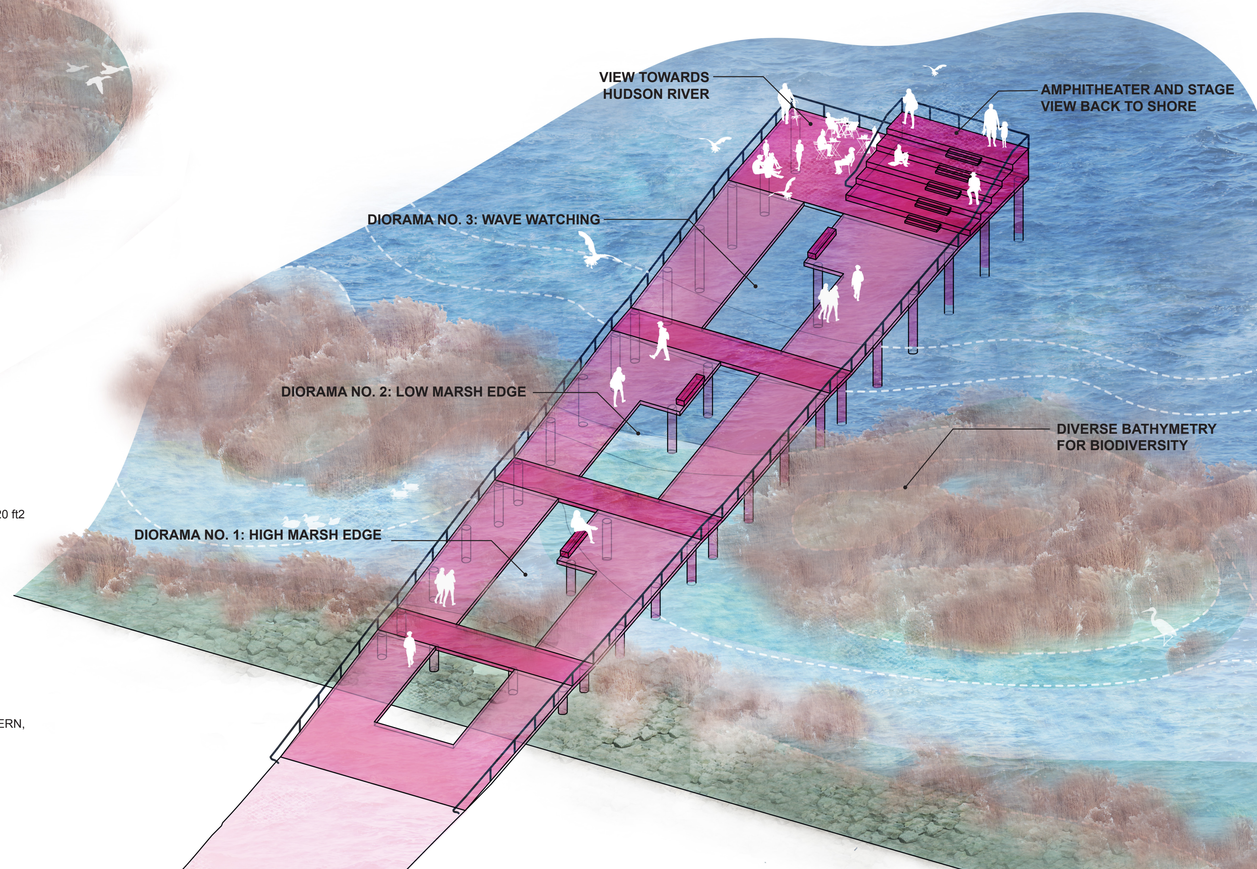
ADA PLAY ❻
UNIVERSAL SPACE ACCESSIBLE TO DIVERSE POPULATIONS

WILD FLOWER GARDEN ❷
STEWARDSHIP THROUGH COMMUNITY GARDENING

BIRD HIDE | INCREASED HABITATS
HIGH MARSH: MARSH WREN, WHERONS, COMMON YELLOWTHROAT, LEAST BITTERN, YELLOW WARBLER
LOW MARSH: MALLARD DUCKS, WOOD DUCKS, BLACK DUCKS

COMMUNITY PIER

PIER OVERLOOK ENLARGEMENT



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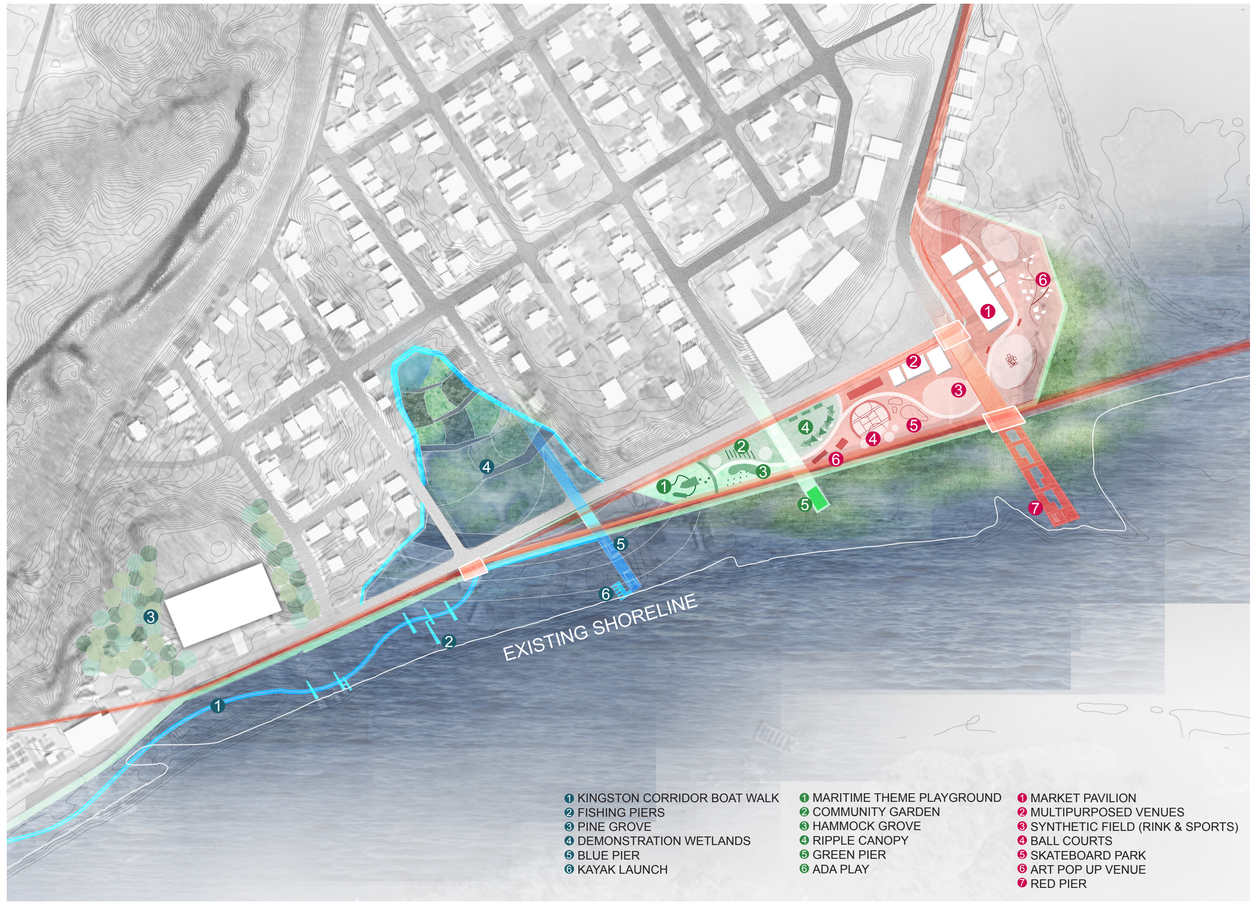
SITE PLAN



2030 | 2050 | 2080

ELEVATE KEY ACCESS ROUTES

RECREATION ACCESS & CONNECTIVITY

BROWNFIELD CLEAN-UP & REMEDIATION

OWNERSHIP | PHASED RETREAT | LAND AQUISITION

BLUE PIER: Kayak Launch & Blue Classroom

Water-dependent Recreation: Boat Walk and Fishing Platforms

Reinforced shoreline with recreation access opportunities

Demonstration Wetlands: Working Landscape

GREEN PIER: Deck and Bird Hide

Community Greens: Playground and outdoor gathering lounge

Soft-shore Ecology: Marsh migration corridor

RED PIER: Hudson Diorama & Overlook

Community Amenities: Synthetic rink & Courts

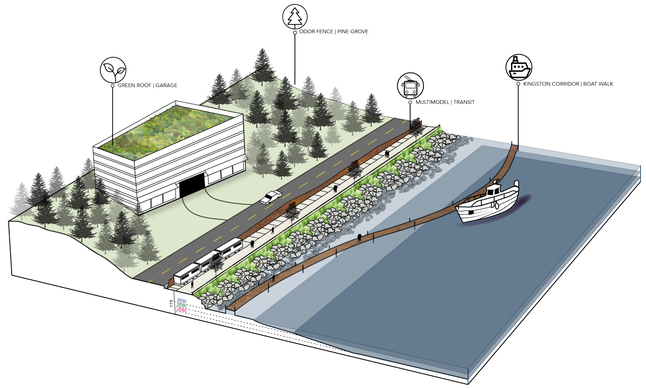
Commercial Venues: Weekend market & pop-up venue

The Loop: Expanding tourism through trolley connection

Retain Accessibility up to 5 ft sea level rise (2080)

IMMEDIATE MEASURES

ENHANCING KEY ACCESS ROUTES



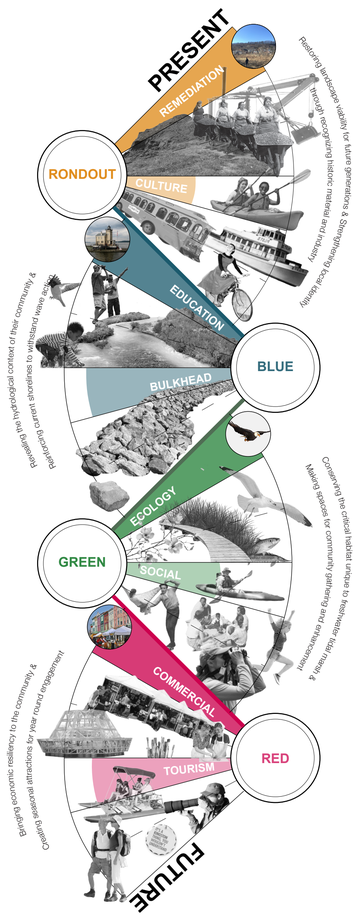
KINGSTON CORRIDOR | BOAT WALK ❶
CONNECTING COMMUNITY WITH MARITIME RELICS

MULTIMODEL | TRANSIT
INCREASING ACCESSIBILITY ACROSS THE RONDOUT RIVERFRONT

ODOR FENCE | PINE GROVE ❸
MITIGATING SMELLS EMITTED FROM THE WWTP

GREEN ROOF| GARAGE ❸
CLIMATE ADAPTIVE MIXED USE DEVELOPMENT

GRAPHIC TIMELINE



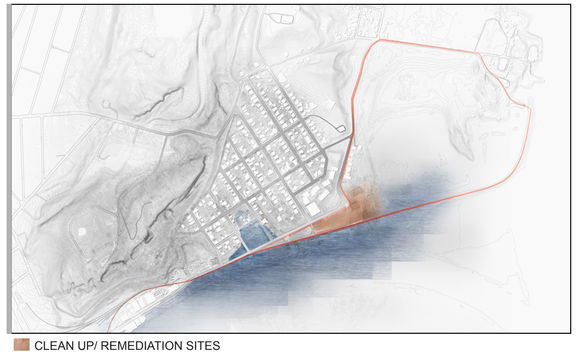
ELEVATE KEY ACCESS ROUTES

ELEVATED MULTIMODEL TRANSIT

TROLLEY STOPS

THE KINGSTON TROLLEY IS UNIQUE TO THE CULTURAL AND HISTORIC IDENTITY OF THE ROUNDOUT RIVERFRONT. BY ELEVATING THE TROLLEY LINE TO 11FT OVER SEA LEVELS, AS WELL AS THE ROAD AND PEDESTRIAN ROUTES, THIS NEW MULTI MODEL SYSTEM IS SAFE FROM INUNDATION AND TIDAL FLUCTUATION FOR YEARS TO COME. TROLLEY STOPS ARE DESIGNED ALONG THE LINE IN ORDER TO INCREASE ACCESS FOR VISITORS FROM THE EAST TO WEST END.

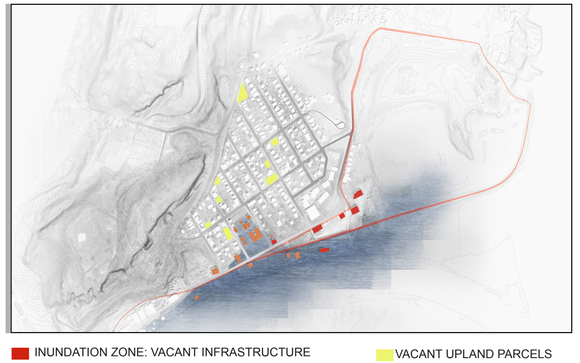
BROWNFIELD CLEAN UP & REMEDIATION



CLEAN UP/ REMEDIATION SITES

THE CURRENT BROWNFIELD SITE AREAS ARE: THE MILLENS & SON SCRAPYARD, KINGSTON GASWORKS , AND KOSCO . THE MAIN REMEDIATION METHOD IS TO REMOVE CONTAMINANT MATERIALS, TO REMEDIATE THE SOIL AND TO ADD 2 FEET OF COVER ON THE SURFACE. THIS REMEDIATION METHOD IS SUITABLE FOR ALL COMMERCIAL USES.

PHASED RETREAT & FLOODPROOF RETROFIT



INUNDATION ZONE: VACANT INFRASTRUCTURE

VACANT UPLAND PARCELS

INUNDATION ZONE: OCCUPIED INFRASTRUCTURE

ACCORDING TO THE SITE ANALYSIS, MANY LOWLAND RESIDENTS ARE VULNERABLE DUE TO THEIR CURRENT LOCATION IN MAJOR INUNDATION ZONES. THE IDENTIFIED AT RISK OCCUPIED PARCELS ARE ADVISED TO RETREAT TO SAFER UPLAND AREAS BY 2050 AS THEY FACE FUTURE EFFECTS OF SEA LEVEL RISE AND CLIMATE CHANGE.