

# KNOT

CHARLESTON



**BEN PARKER**

Master of Architecture  
in Urban Design



**RACHAYA  
WATTANASIRICHAIGOON**

Master of Landscape Architecture



**TOMAS QUAGLIA**

Master of Architecture  
in Urban Design



**EMILY JOHANSEN**

Master of Urban Planning



**YOUNGSOO YANG**

Master of Architecture  
in Urban Design

Faculty Advisor

**RICHARD PEISER**

Professor of Real Estate Development

Professional Advisor

**MICHAEL MANFREDI**

Weiss/Manfredi

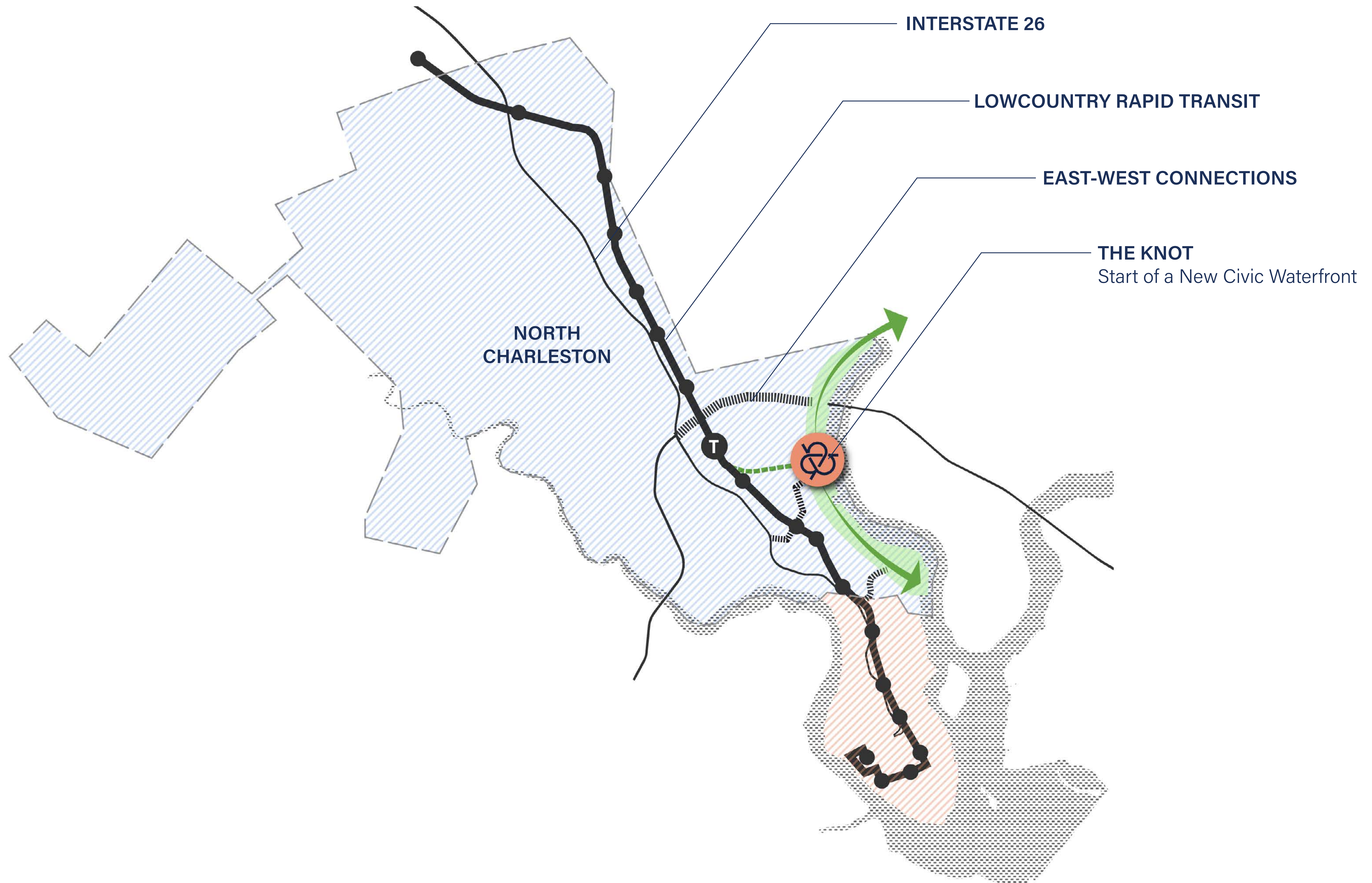
**HARVARD UNIVERSITY**

Team Code : 2023-8335









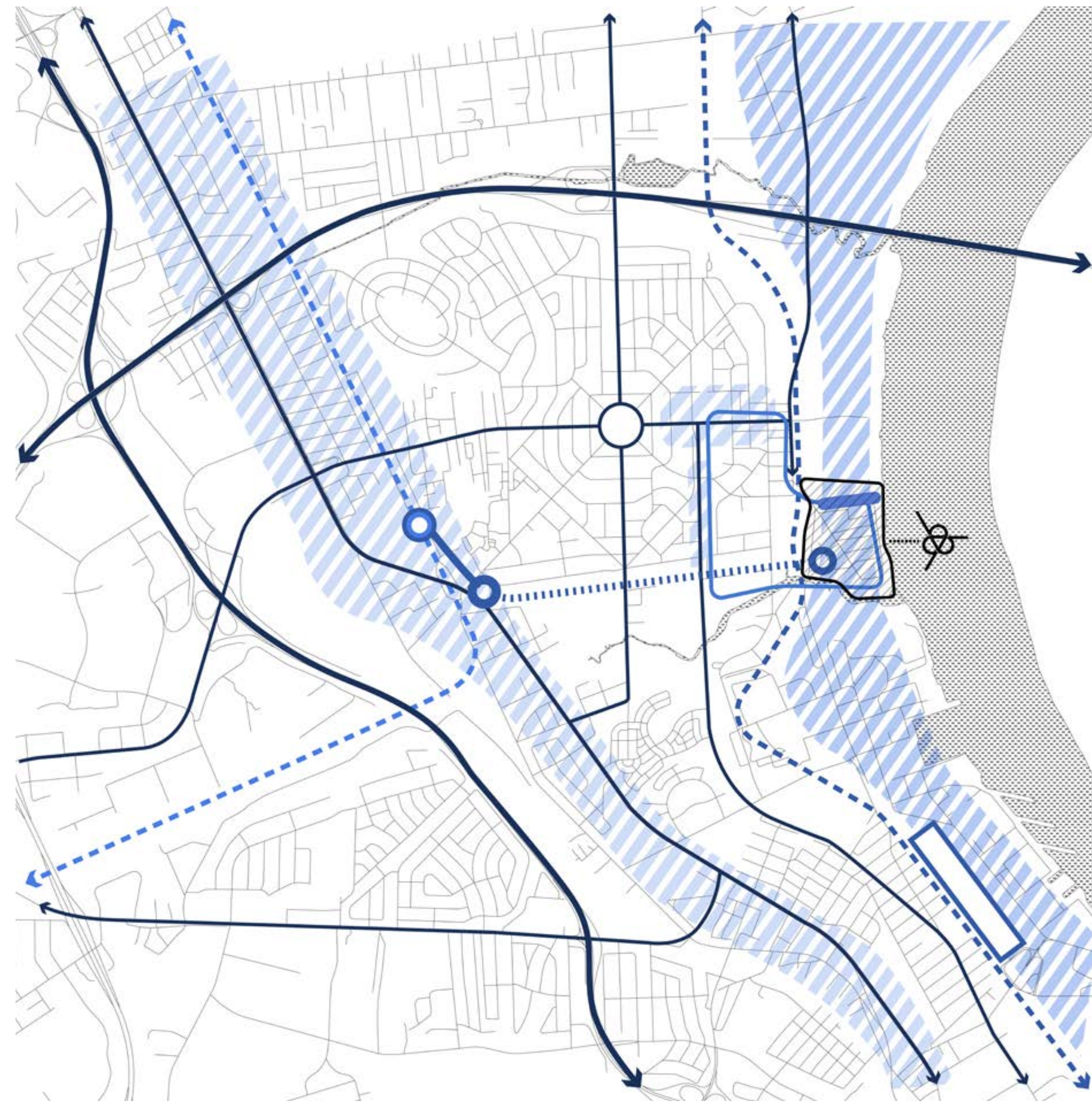
REGIONAL VISION





## RESILIENCE

Green Infrastructure



## ECONOMY

Local + Regional



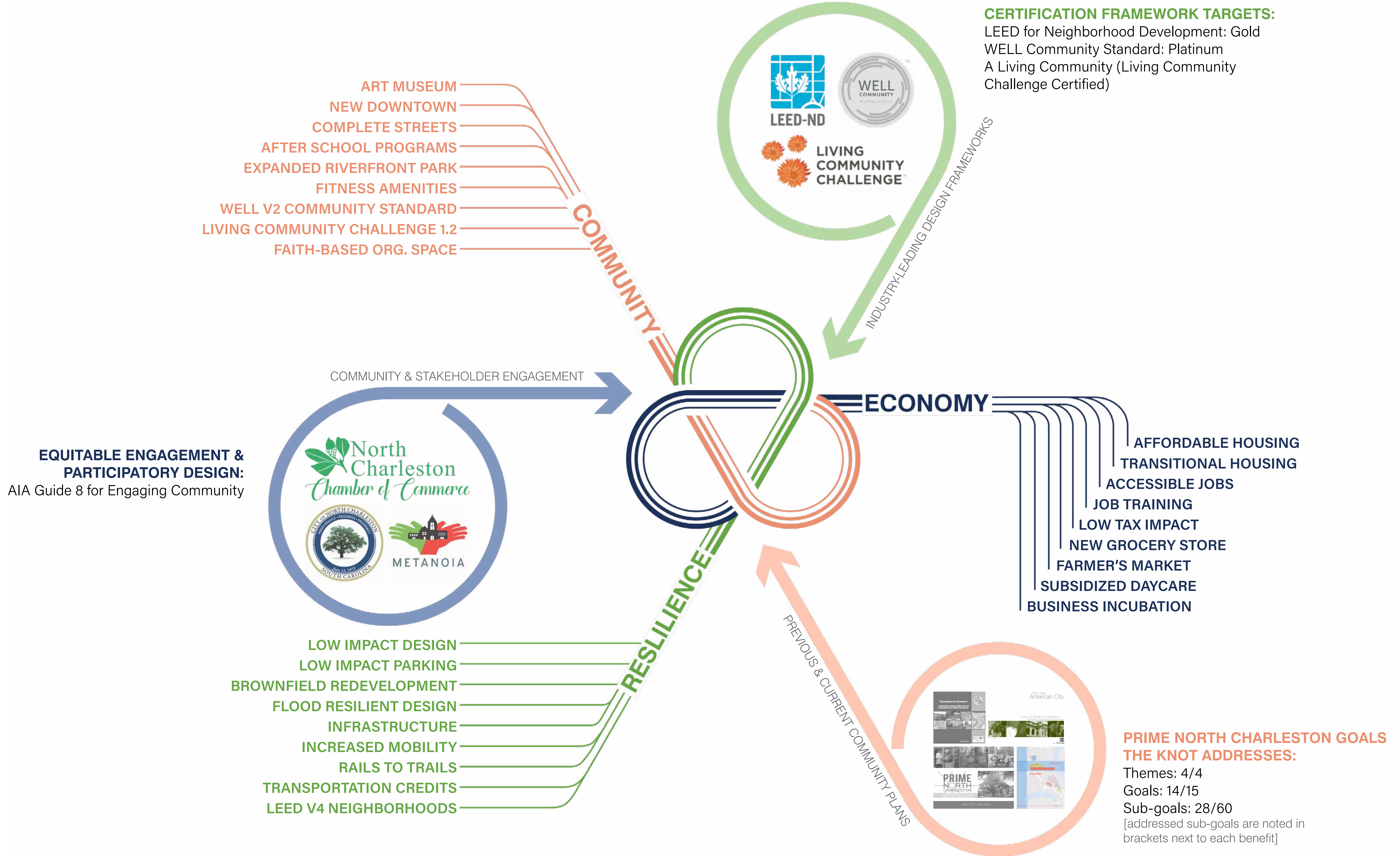
## COMMUNITY

Neighborhood Links



# SITE ANALYSIS









**KNOT**  
CHARLESTON



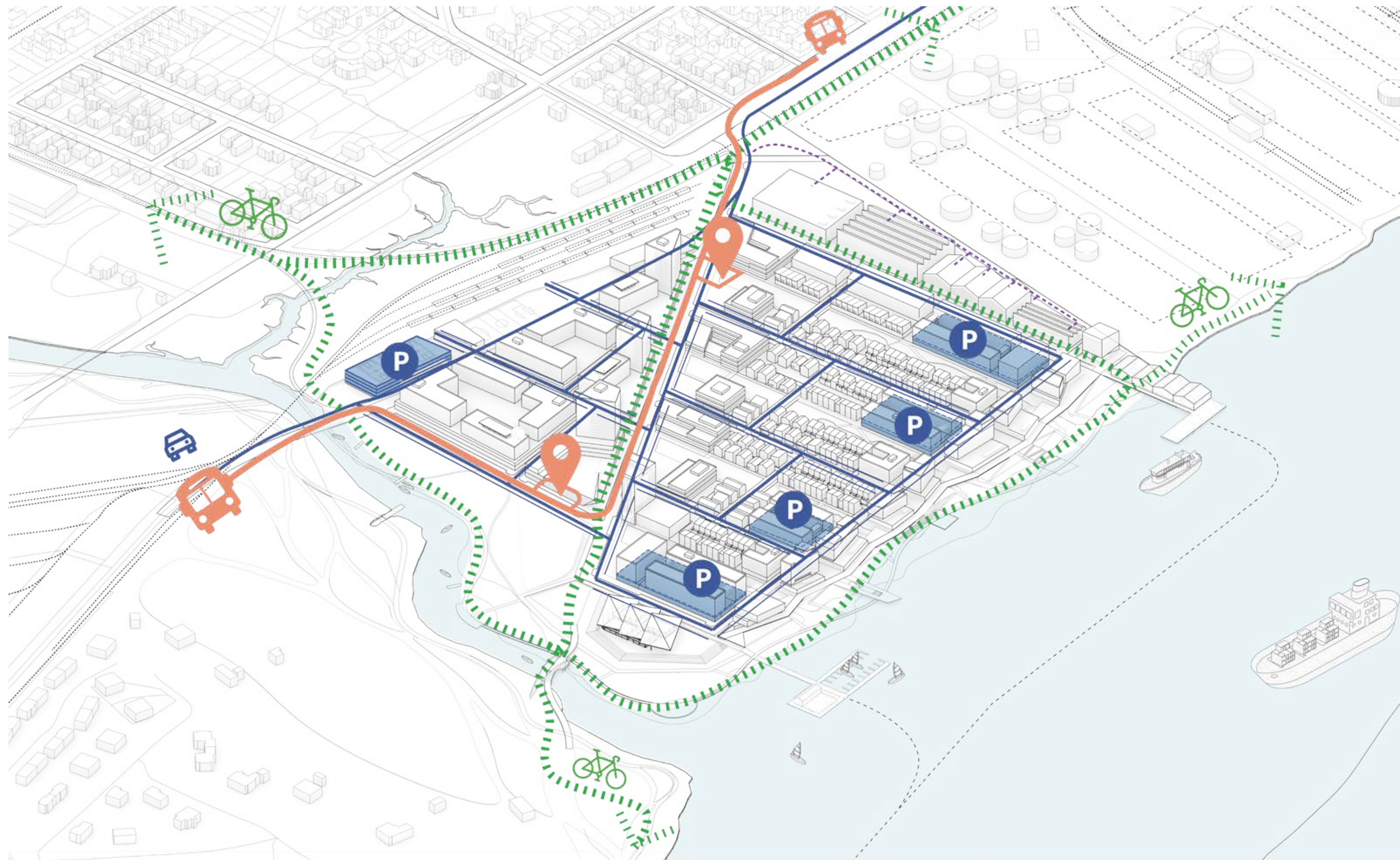
Intertwining Economy, Resilience, and Community for Tomorrow's North Charleston



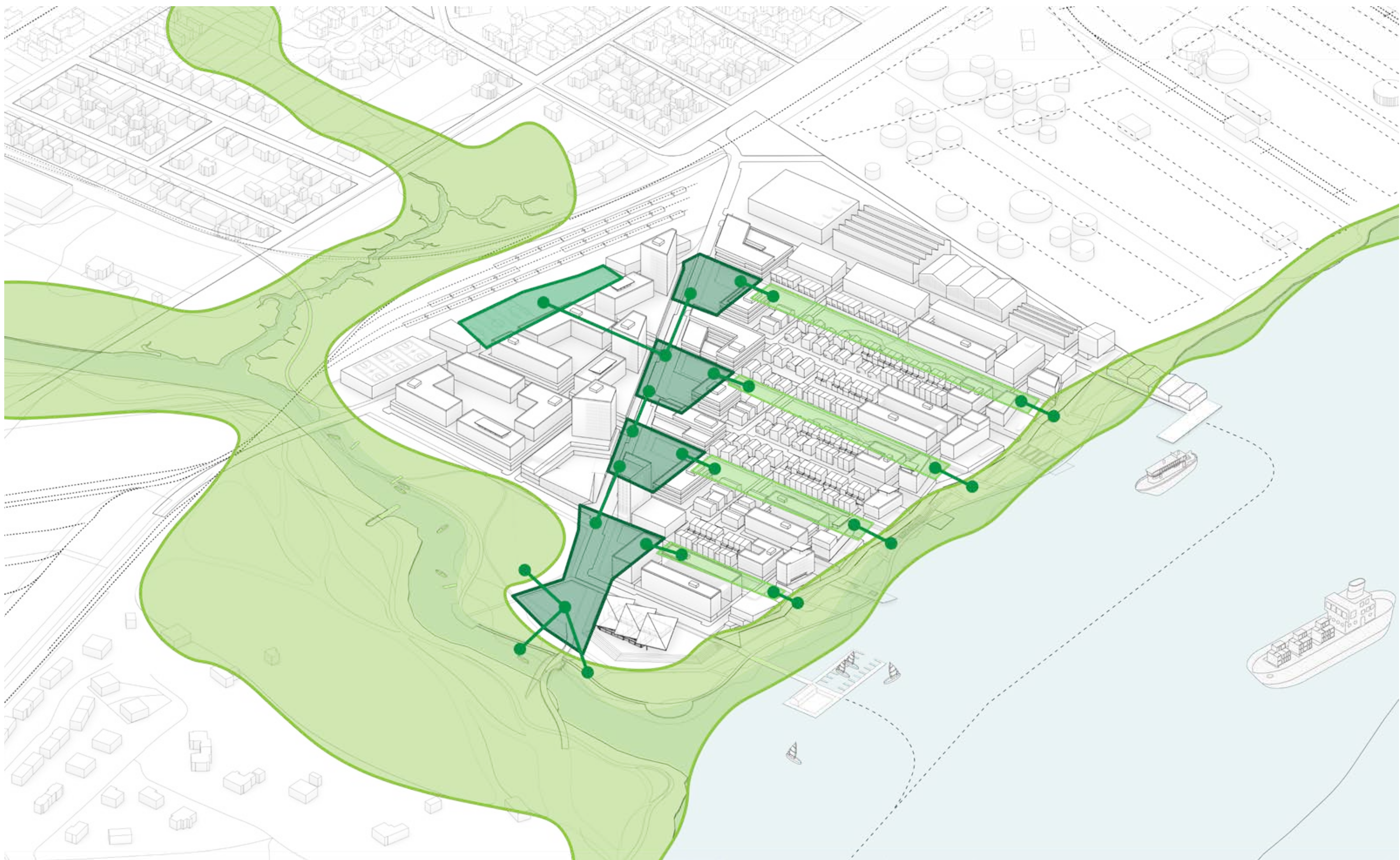


SITE PLAN

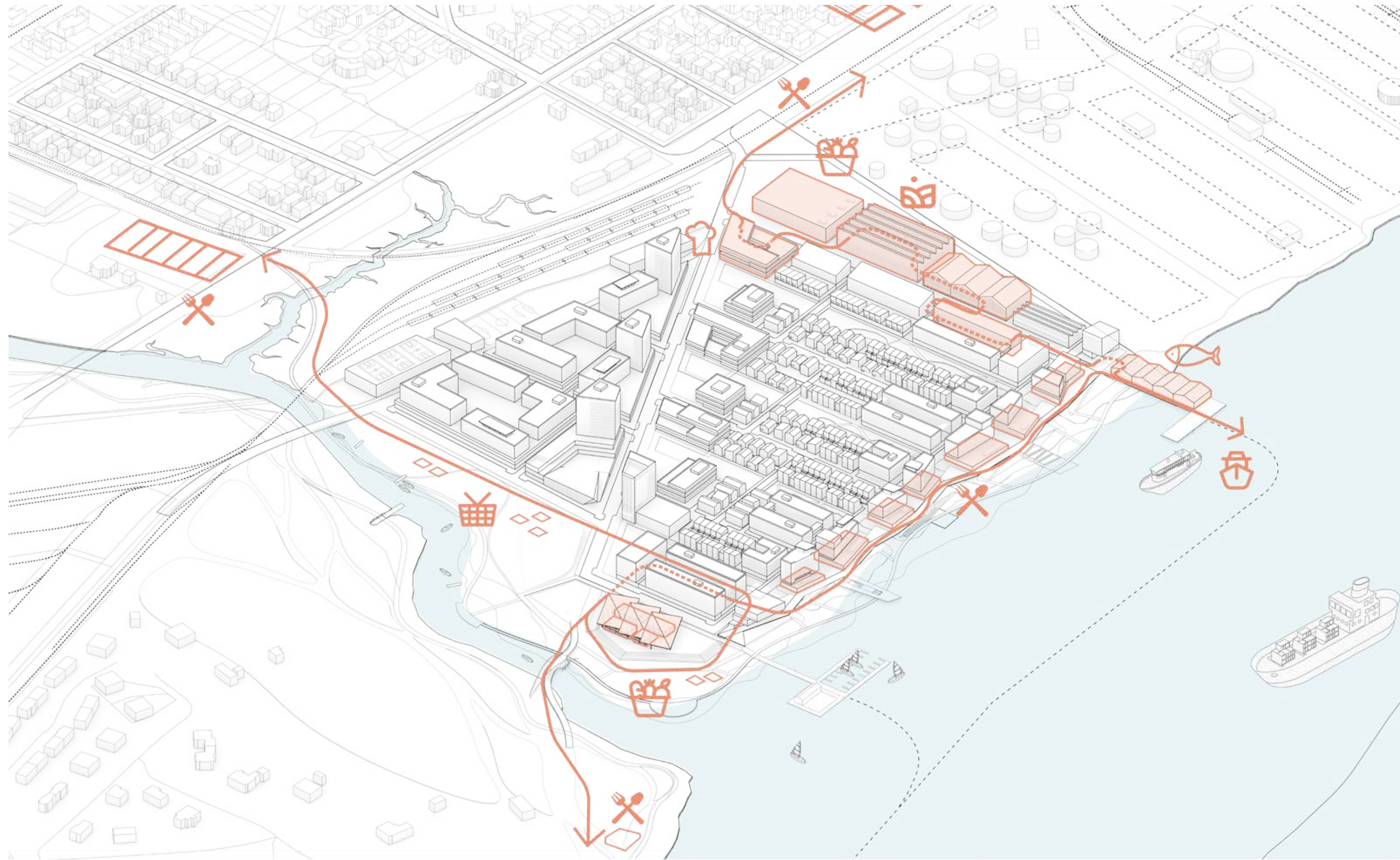




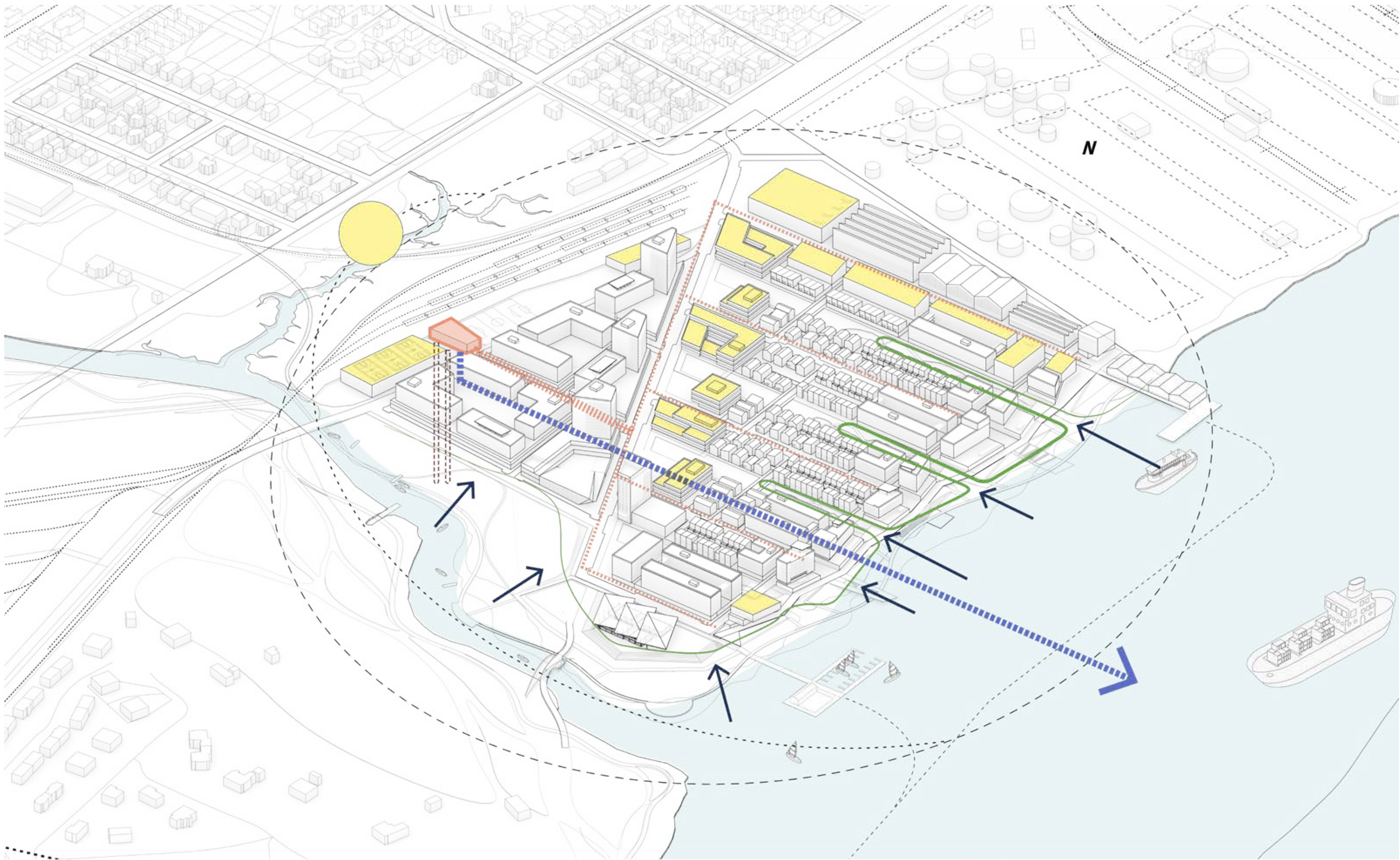
CONNECTIVITY



OPEN SPACES



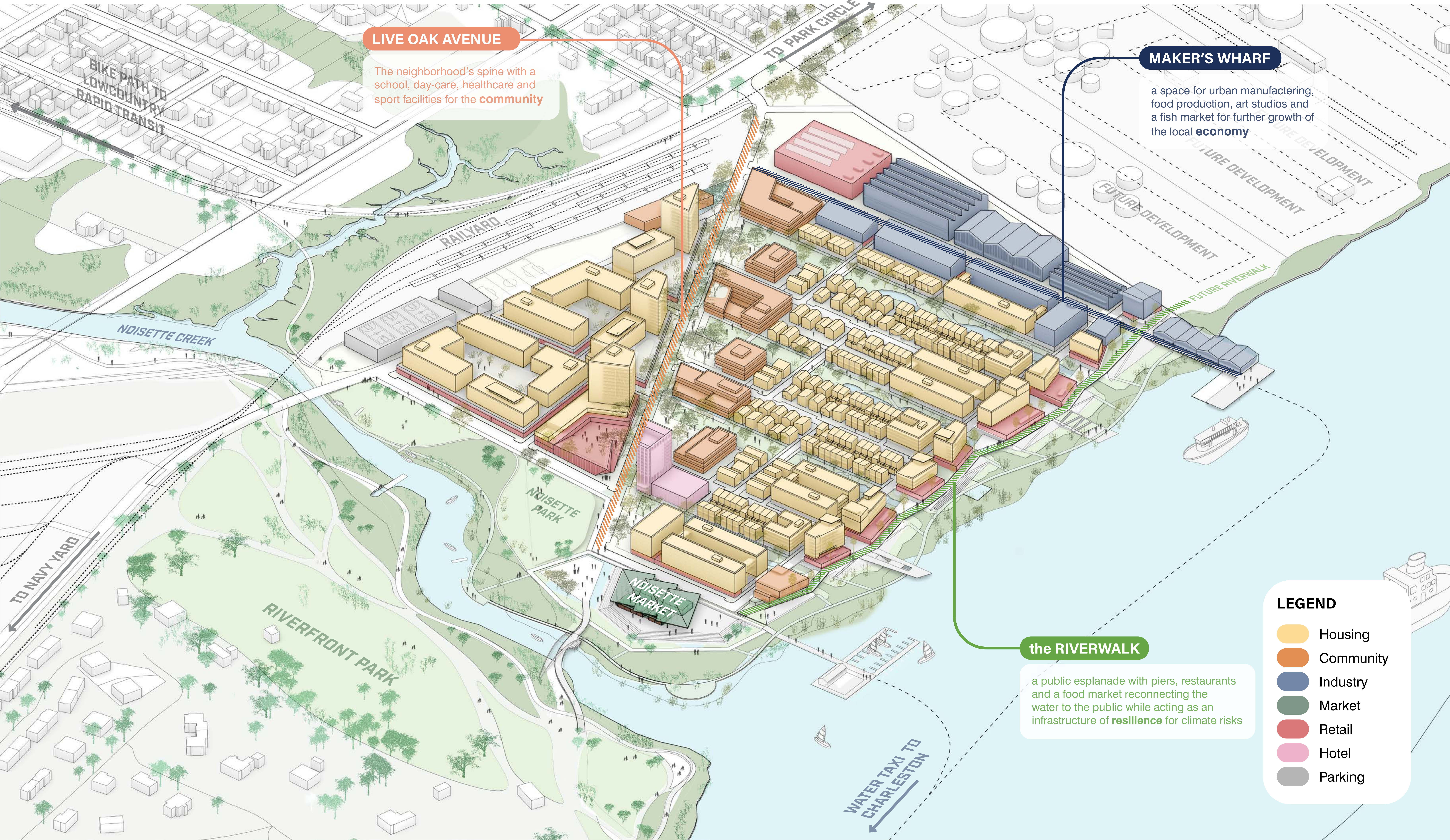
FOOD SYSTEM



SUSTAINABILITY

DESIGN CONSIDERATIONS





LIVE OAK AVENUE

The neighborhood's spine with a school, day-care, healthcare and sport facilities for the **community**

MAKER'S WHARF

a space for urban manufacturing, food production, art studios and a fish market for further growth of the local **economy**

the RIVERWALK

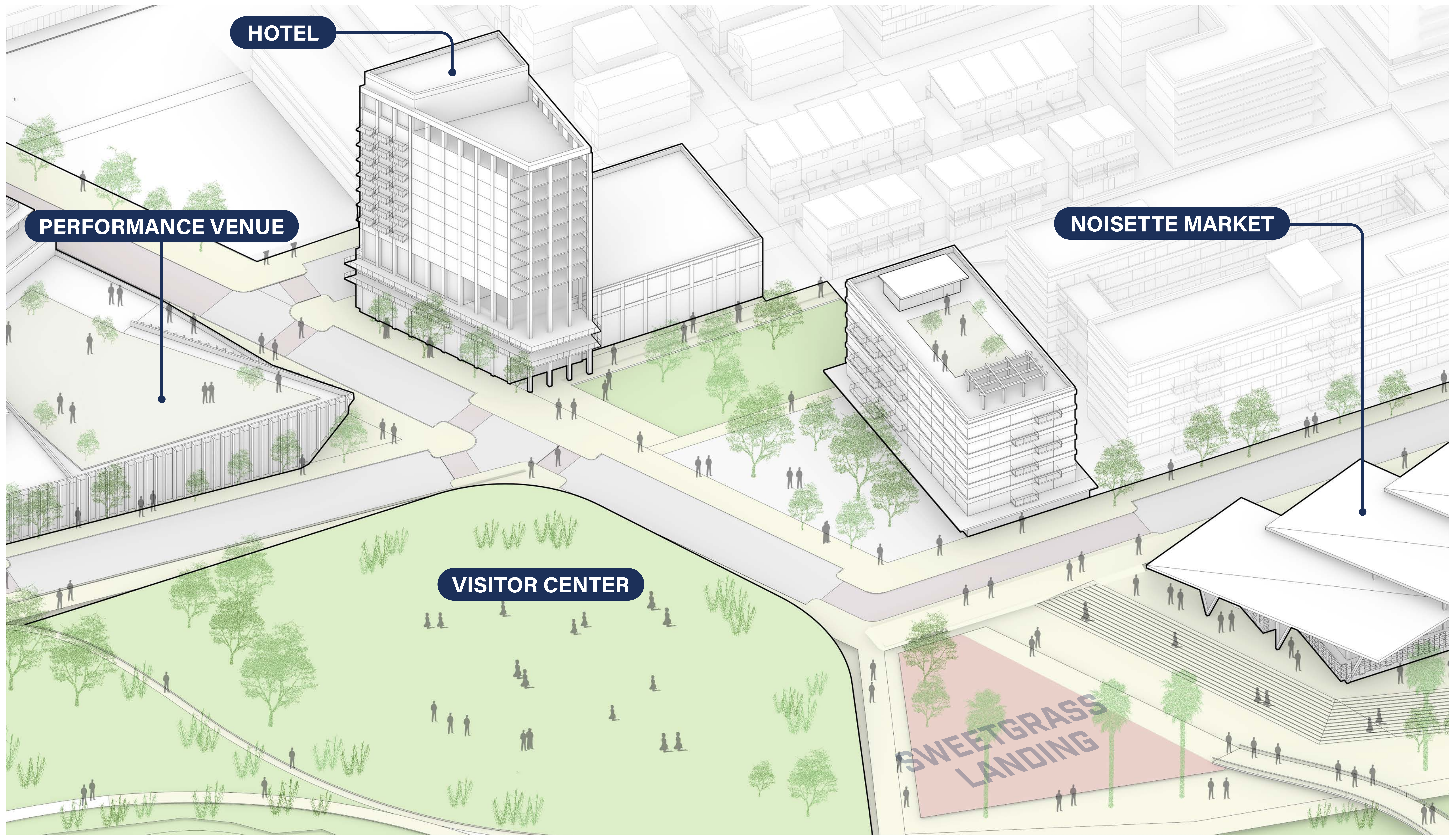
a public esplanade with piers, restaurants and a food market reconnecting the water to the public while acting as an infrastructure of **resilience** for climate risks

LEGEND

- Housing
- Community
- Industry
- Market
- Retail
- Hotel
- Parking

KNOT CHARLESTON



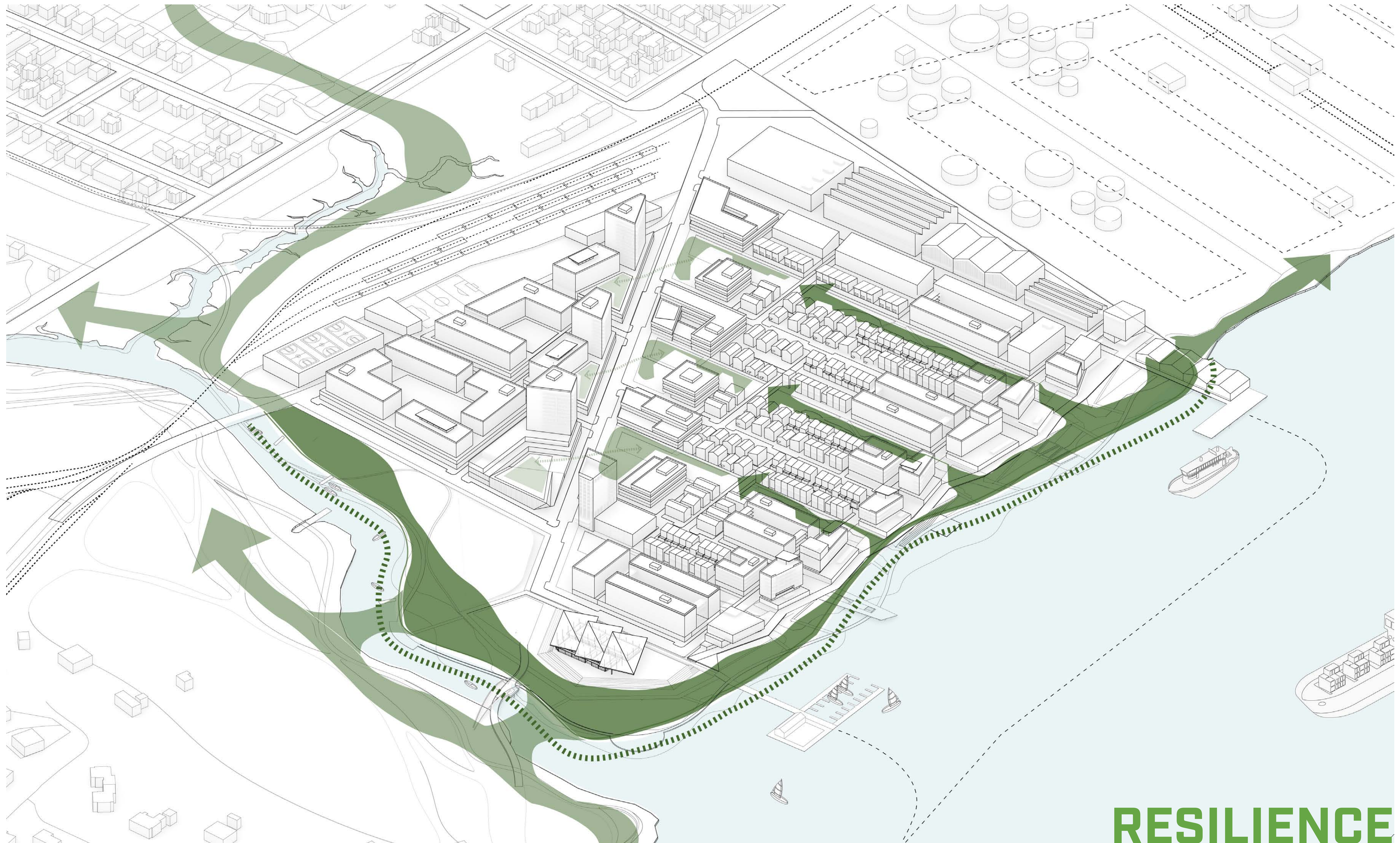


**SWEETGRASS LANDING**



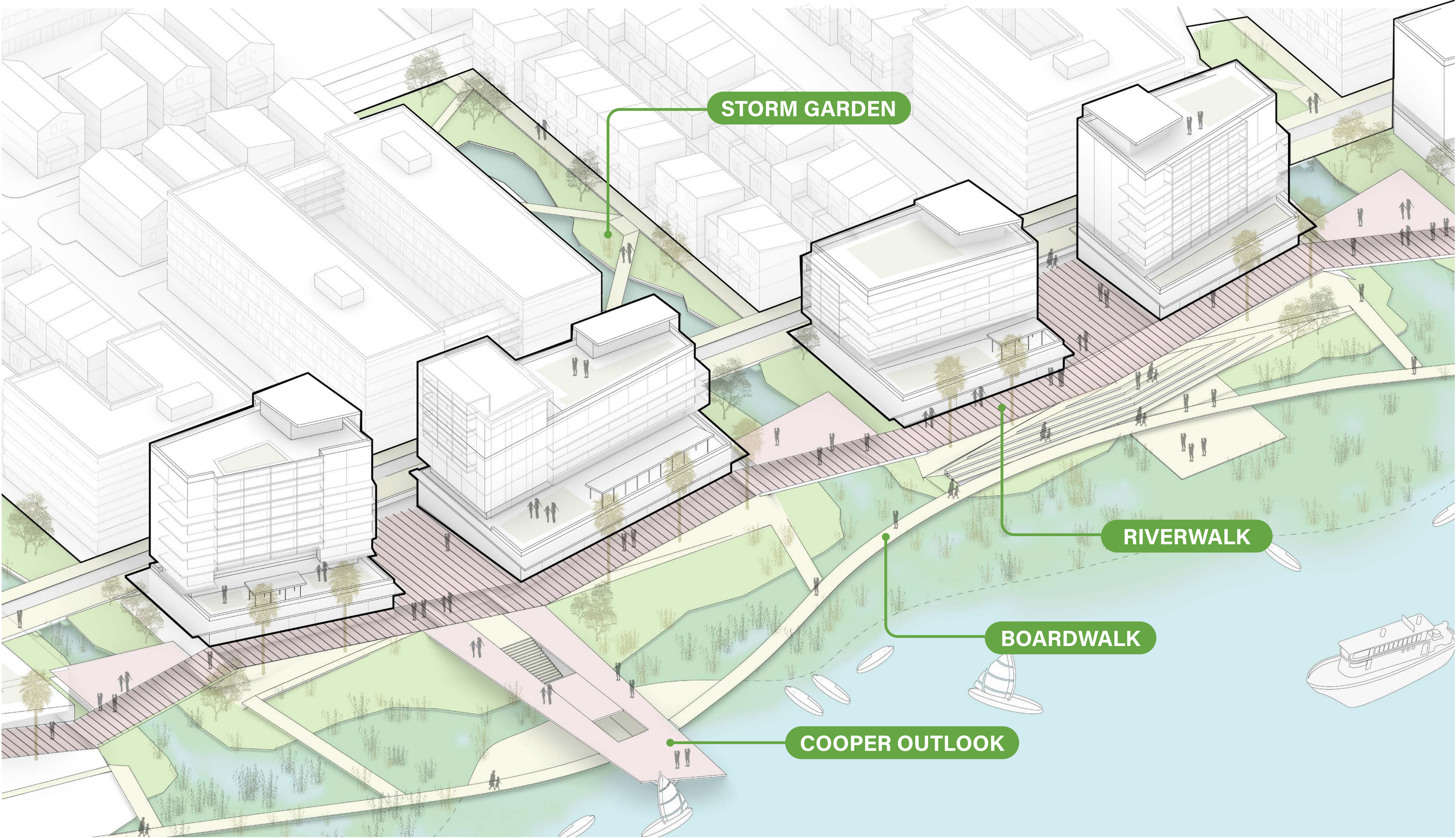






**RESILIENCE**





RIVERWALK





Pier

Viewpoint

Riverside Park

+5 ft Riverwalk

+0 ft Site Level

3 ft Storm Surge

-3 ft Broadwalk

-8 ft Median Water Level

Accessible Ramp

Low Marsh

- Smooth Cordgrass

High Marsh

- Salt Hay
- Black Needle Rush

Coastal Dune

- Sea Oats

Salt Flat

- Saltwort
- Glasswort

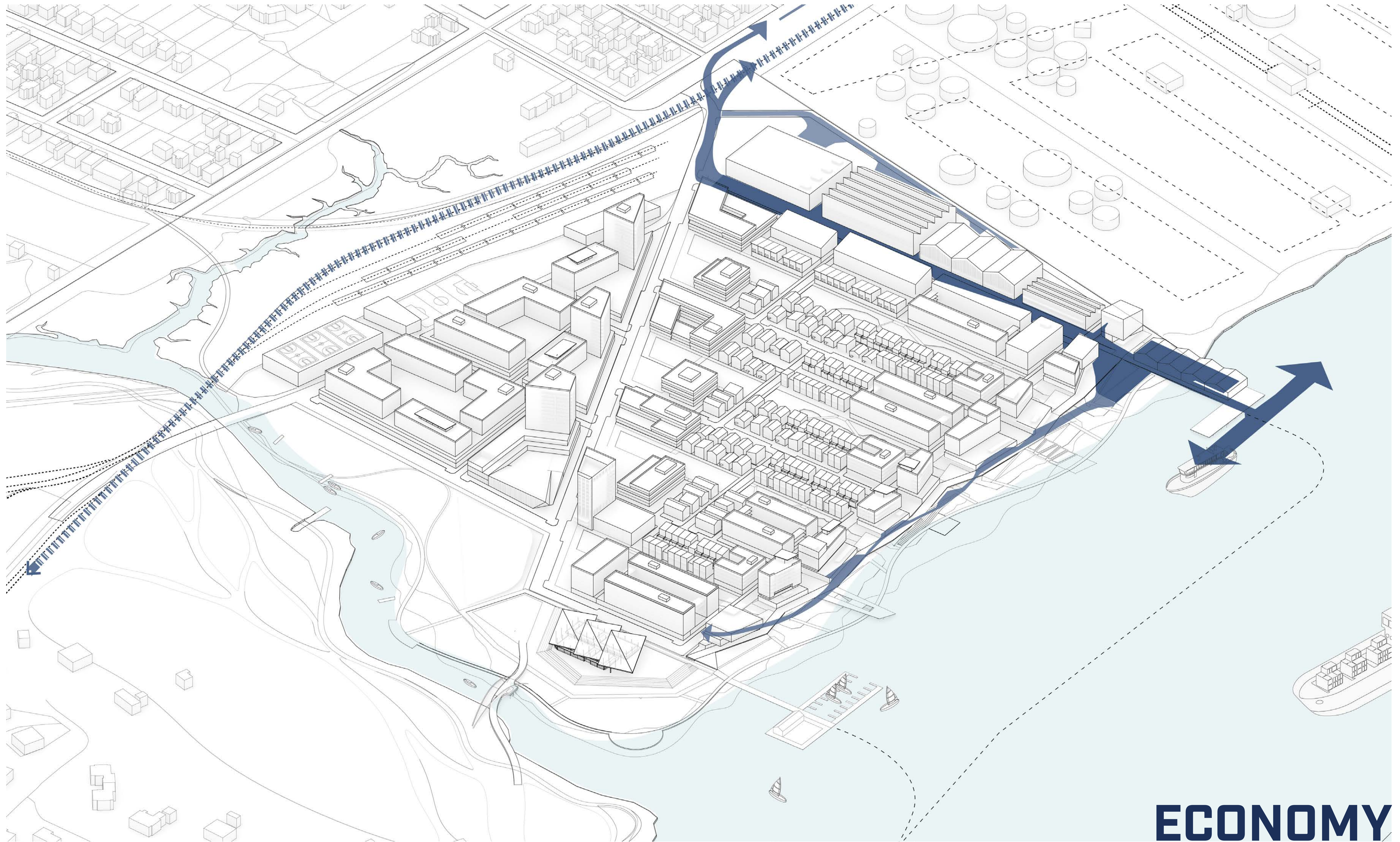
Shrub Zone

- Wax Myrtle
- Yaupon Holly

Maritime Forest

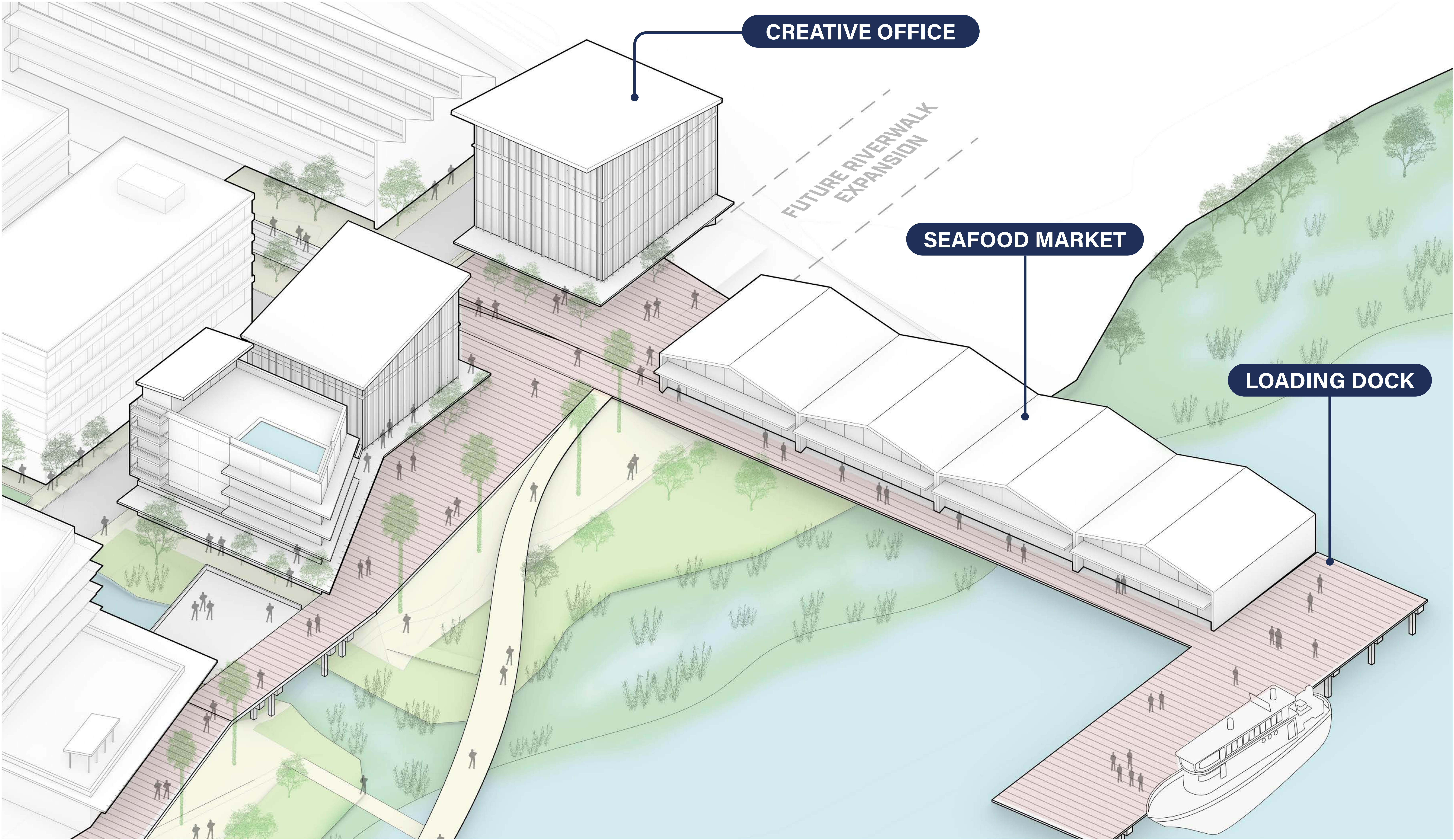
- Palmetto
- Southern Magnoli





**ECONOMY**



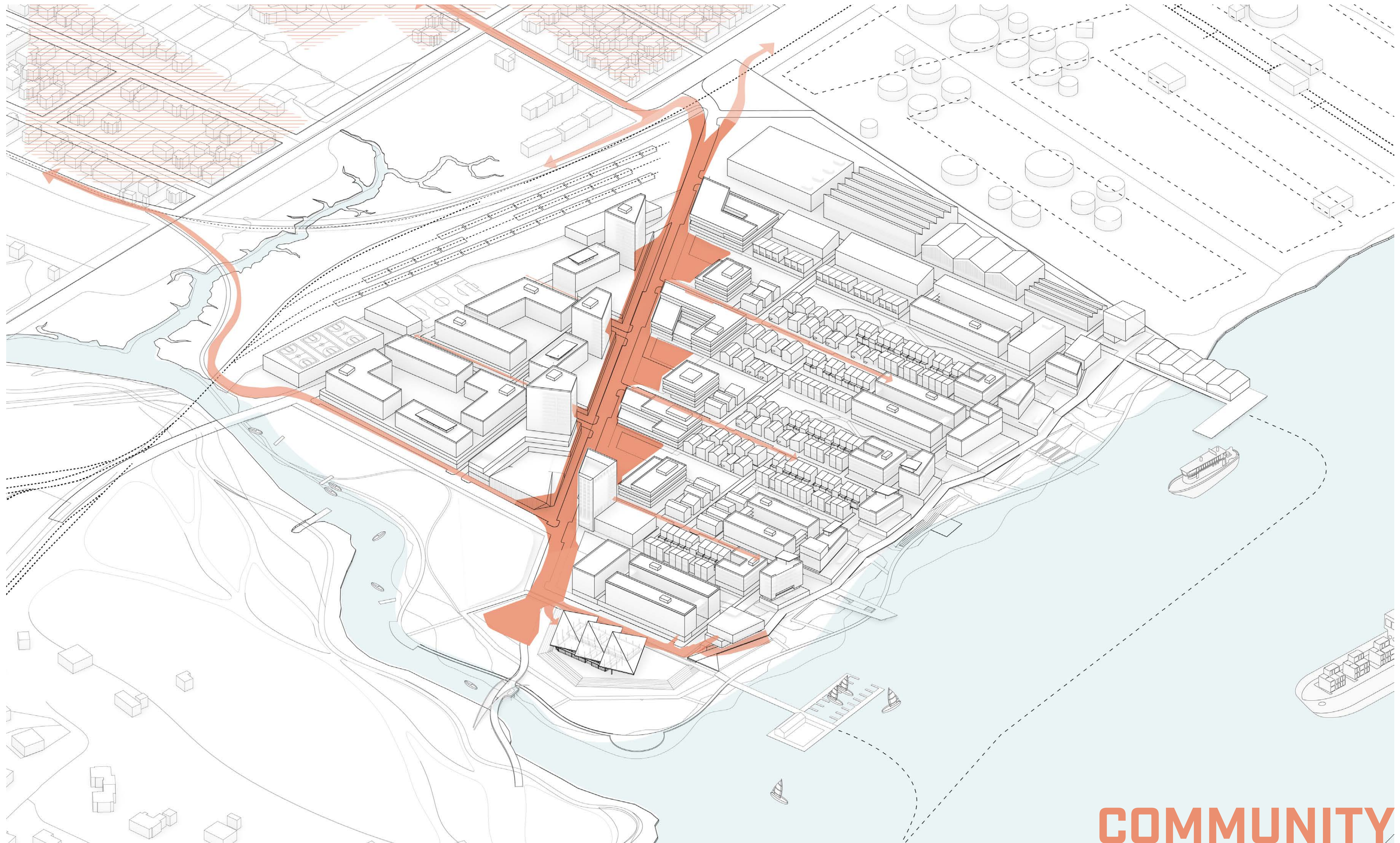


MAKER'S WHARF



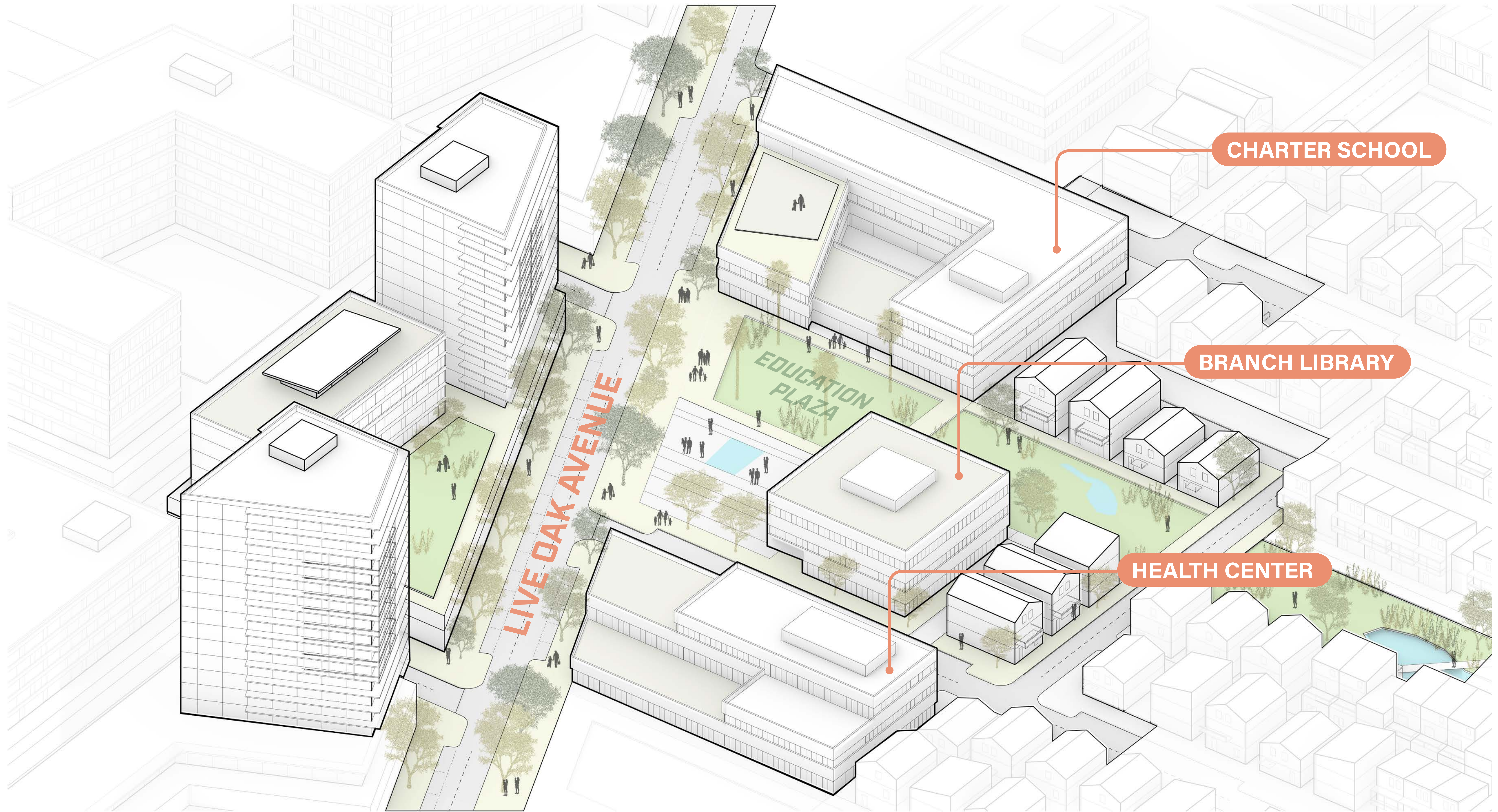






**COMMUNITY**





LIVE OAK AVENUE









Abode at Great Kneighton, Proctor and Matthews



Williams Terrace, David Baker Architects



LE BOIS HABITÉ, TECTONE ARCHITECTES URBANISTES



Filja Terraces, Kelljander Sjöberg

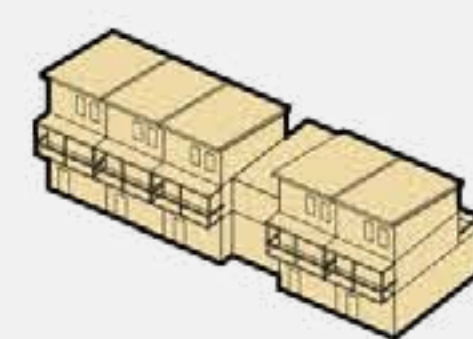


Gleirre Meloni Jost Hotel, Data Architects

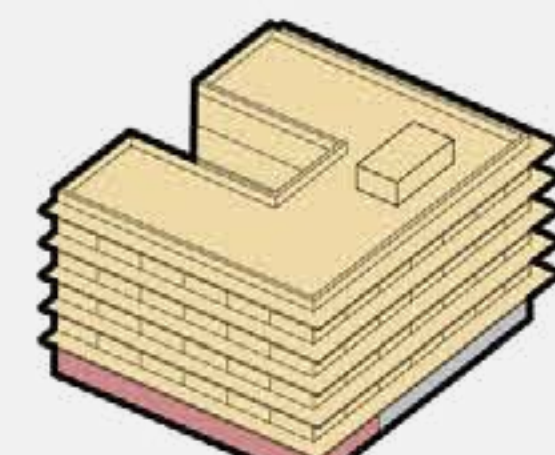
## INCREASING COMPLEXITY



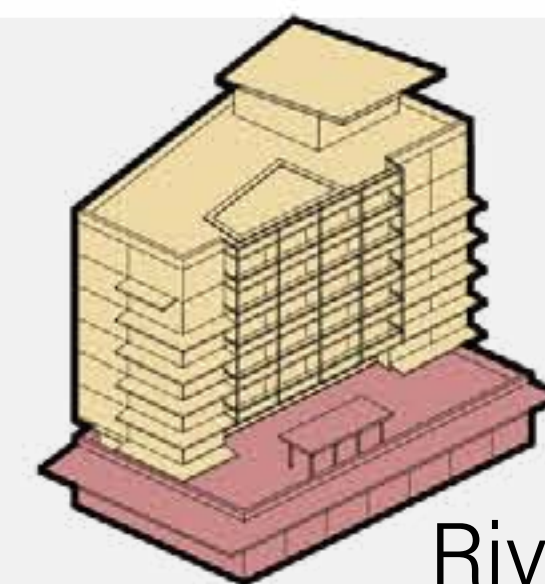
Charleston Duplex



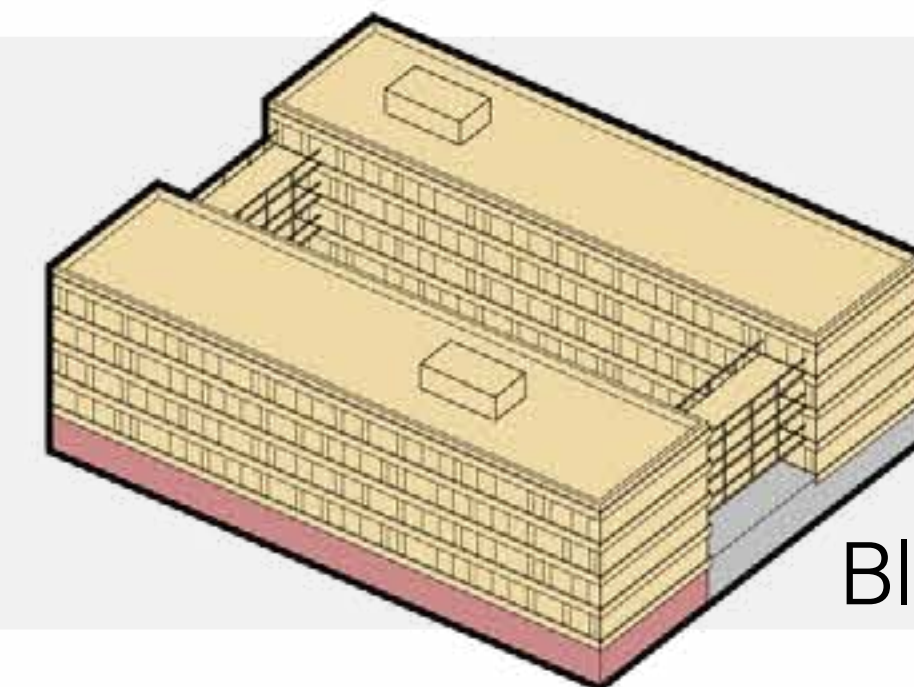
Townhome



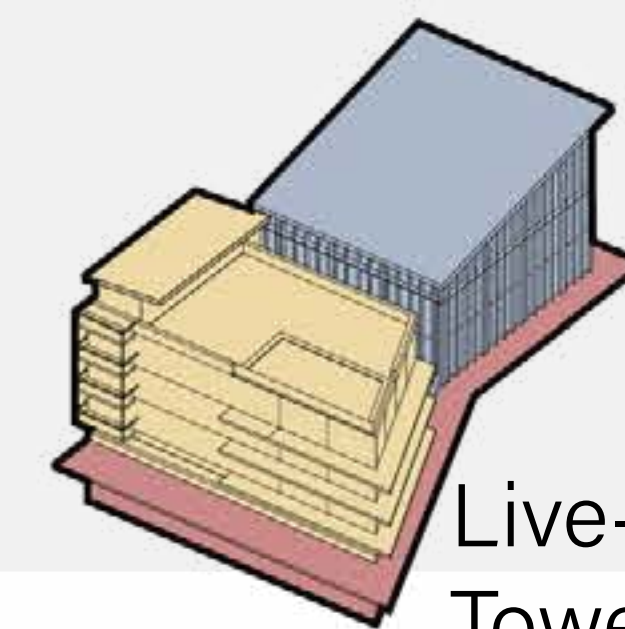
Open Courtyard



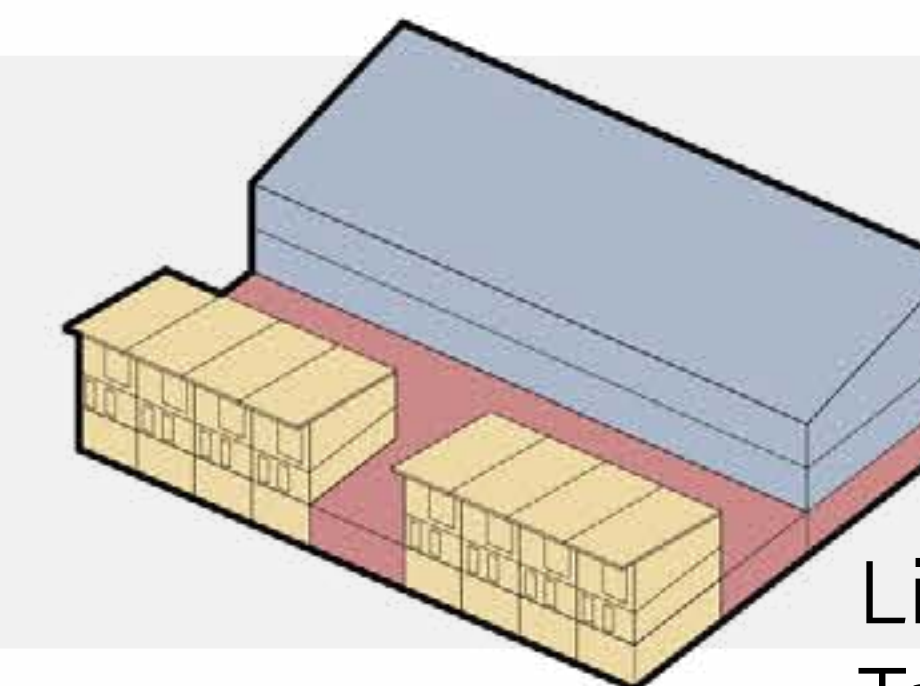
River Tower



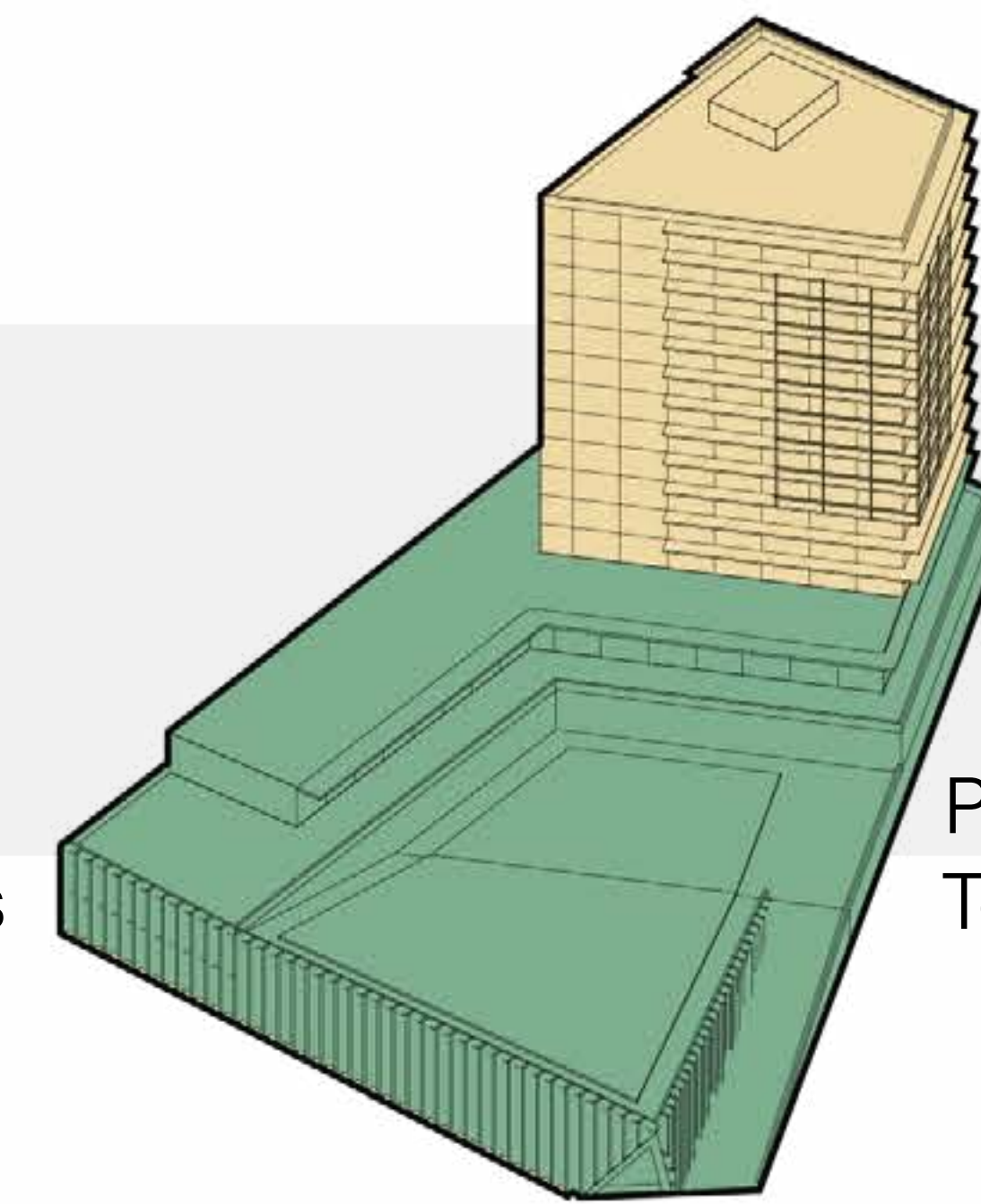
Block



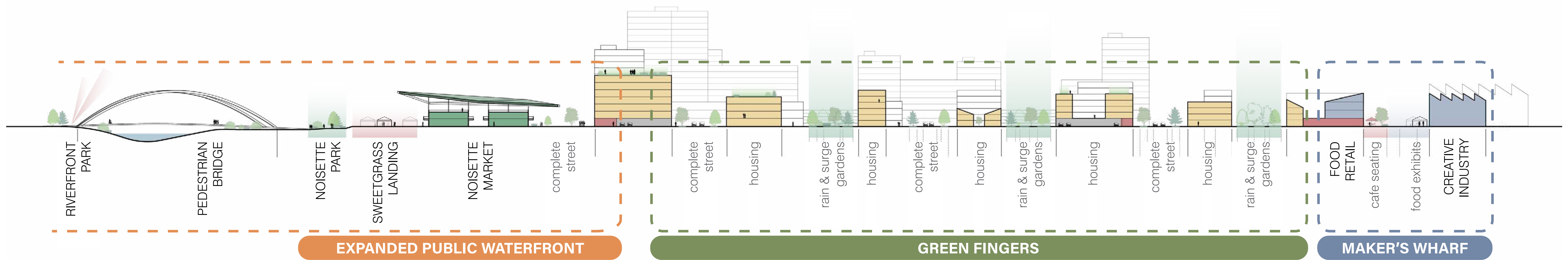
Live-Work Tower



Live-Work Townhomes



Podium Tower

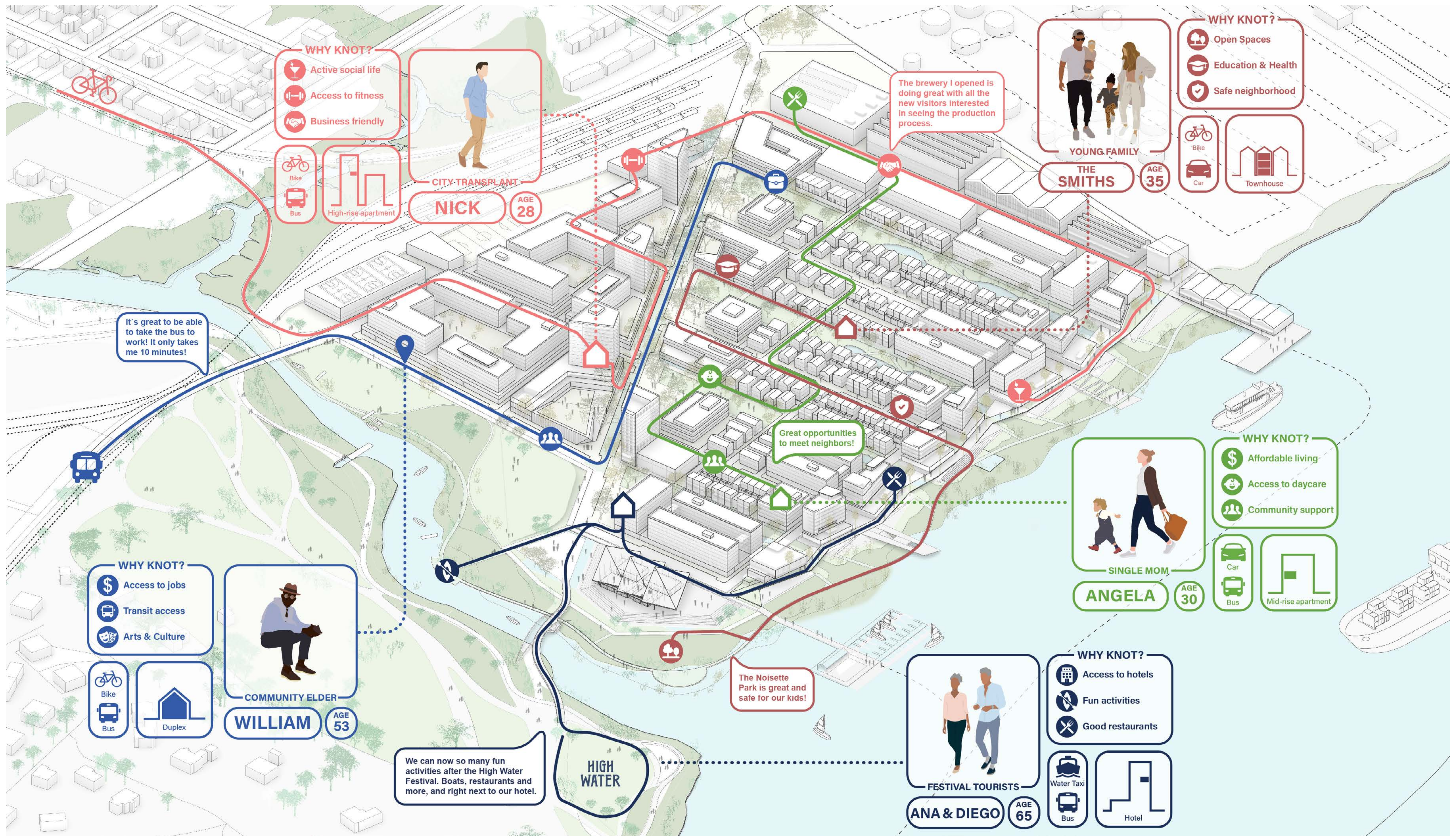


Market Housing Retail Parking Industry

0 100 200 400 FT

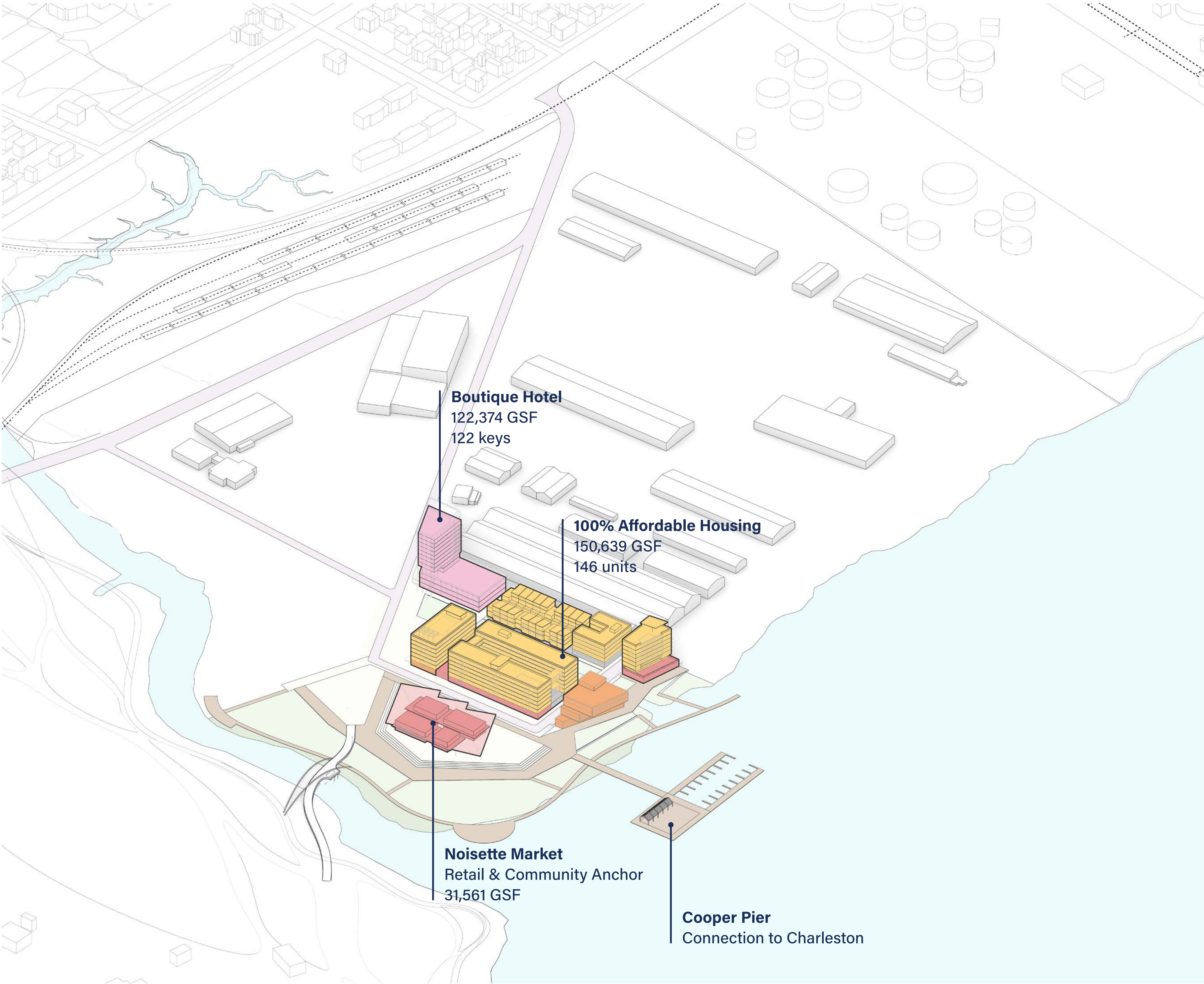
## HOUSING TYPOLOGIES





A DAY IN THE KNOT





# PHASE I 2024 - 2028

## Making a Place

Residential	321,728 SF
Retail	67,294 SF
Community	36,590 SF
Hotel	122,374 SF
Cultural	0 SF
Office Flex	0 SF
Industrial	0 SF
Parking	61,378 SF
Total	609,724 SF

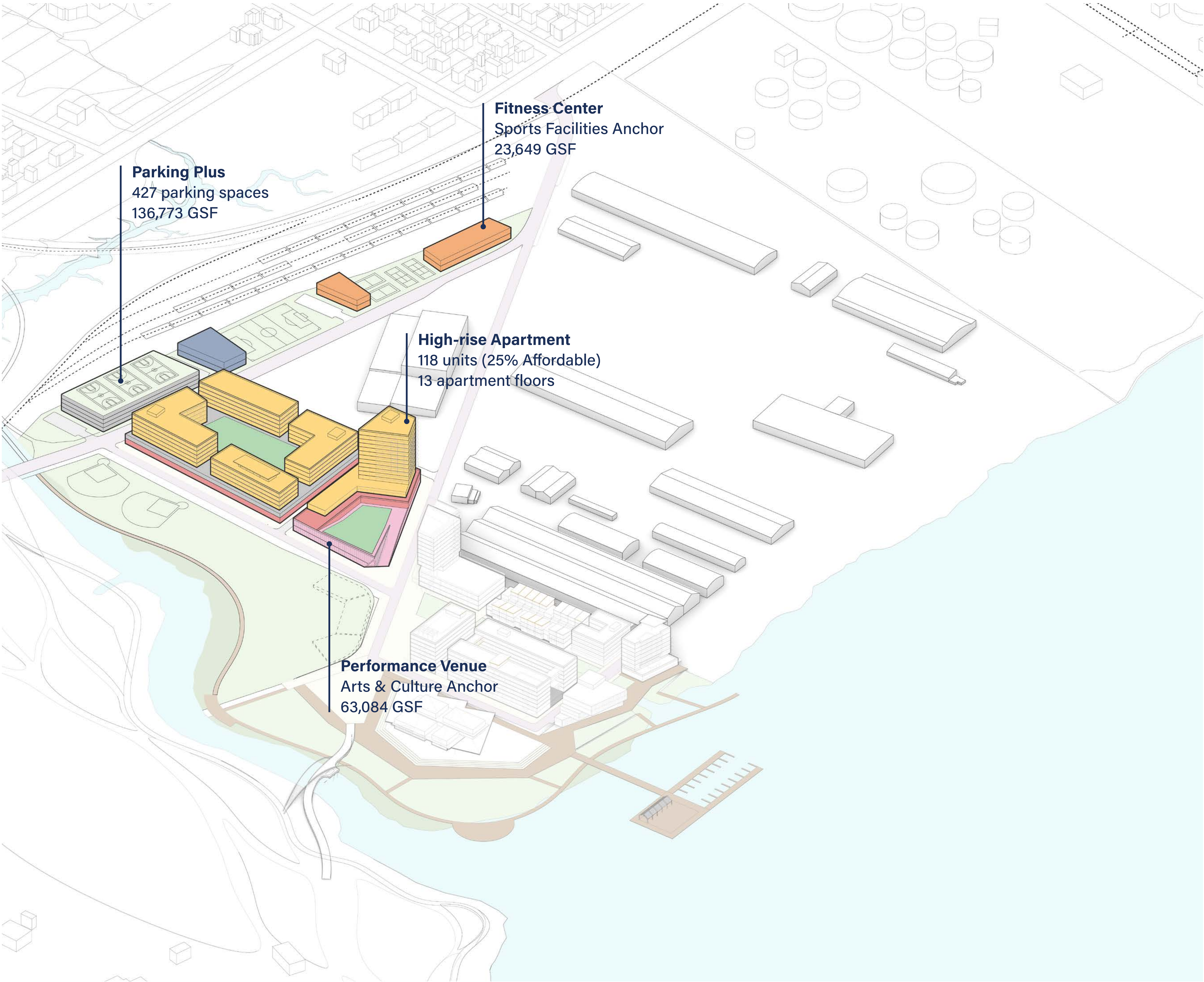
Total Cost	\$182,594,341	Unlevered IRR	10.87%
Total Value	\$184,046,647	Levered IRR	24.16%
Loan-to-Value	55%		

Affordable Units	179 Units	58%	310 Total
Parking Ratio	0.95		

Open Space	430,367 SF	9.9 ACRE
Bike Lanes	4,993 FT	
Infrastructure Cost	\$14,840,262	







# PHASE II 2026 - 2038

## Catalyzing Community

Residential	521,337 SF
Retail	72,022 SF
Community	49,916 SF
Hotel	0 SF
Cultural	94,626 SF
Office Flex	0 SF
Industrial	19,967 SF
Parking	332,826 SF
Total	1,090,694 SF

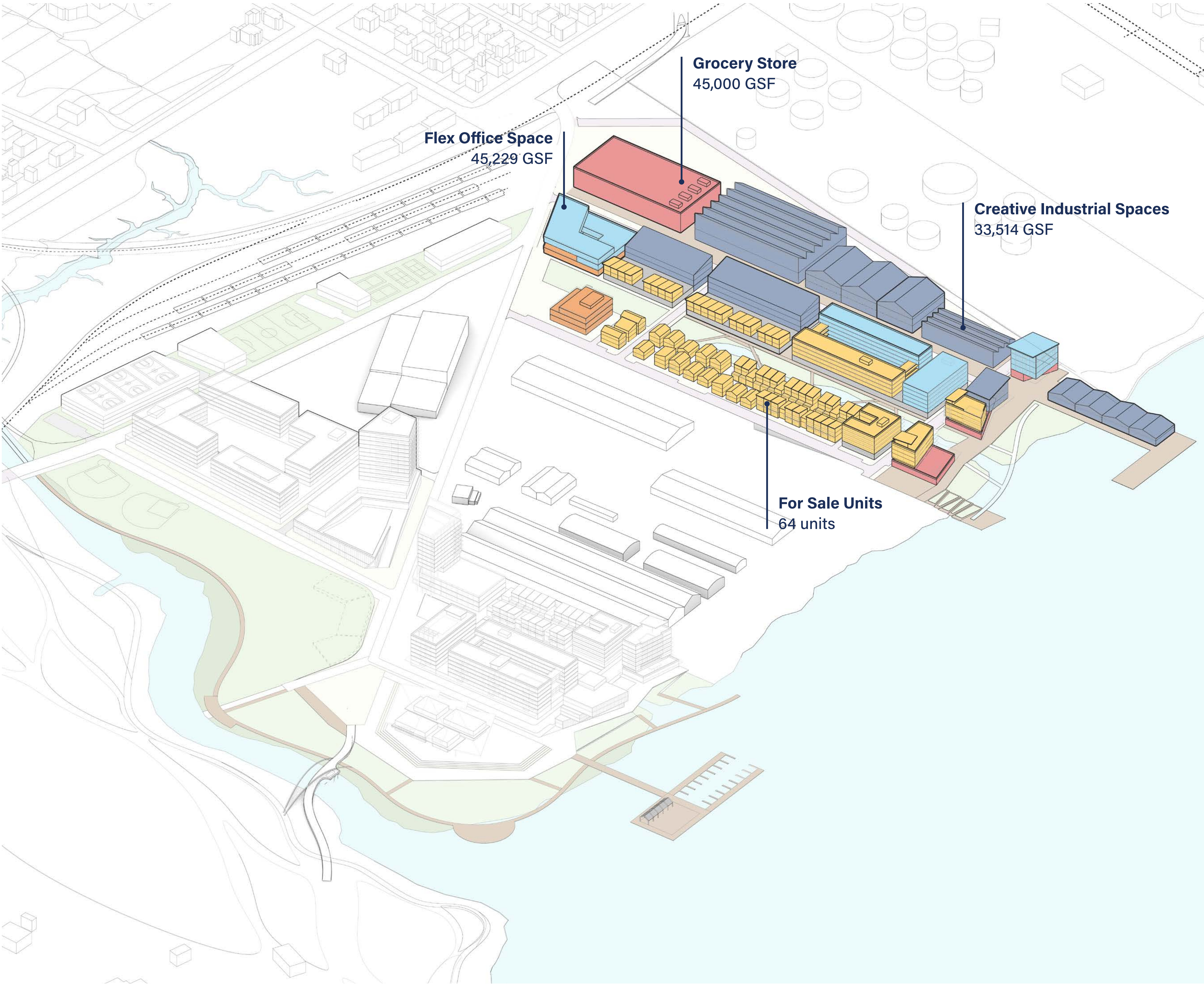
Total Cost	\$266,452,351	Unlevered IRR	11.81%
Total Value	\$305,096,579	Levered IRR	18.65%
Loan-to-Value	70%		

Affordable Units	126 Units	25%	499 Total
Parking Ratio	2.32		

Open Space	402,016 SF	9.2 ACRE
Bike Lanes	6,670 FT	
Infrastructure Cost	\$18,707,662	







# PHASE III 2028 - 2032

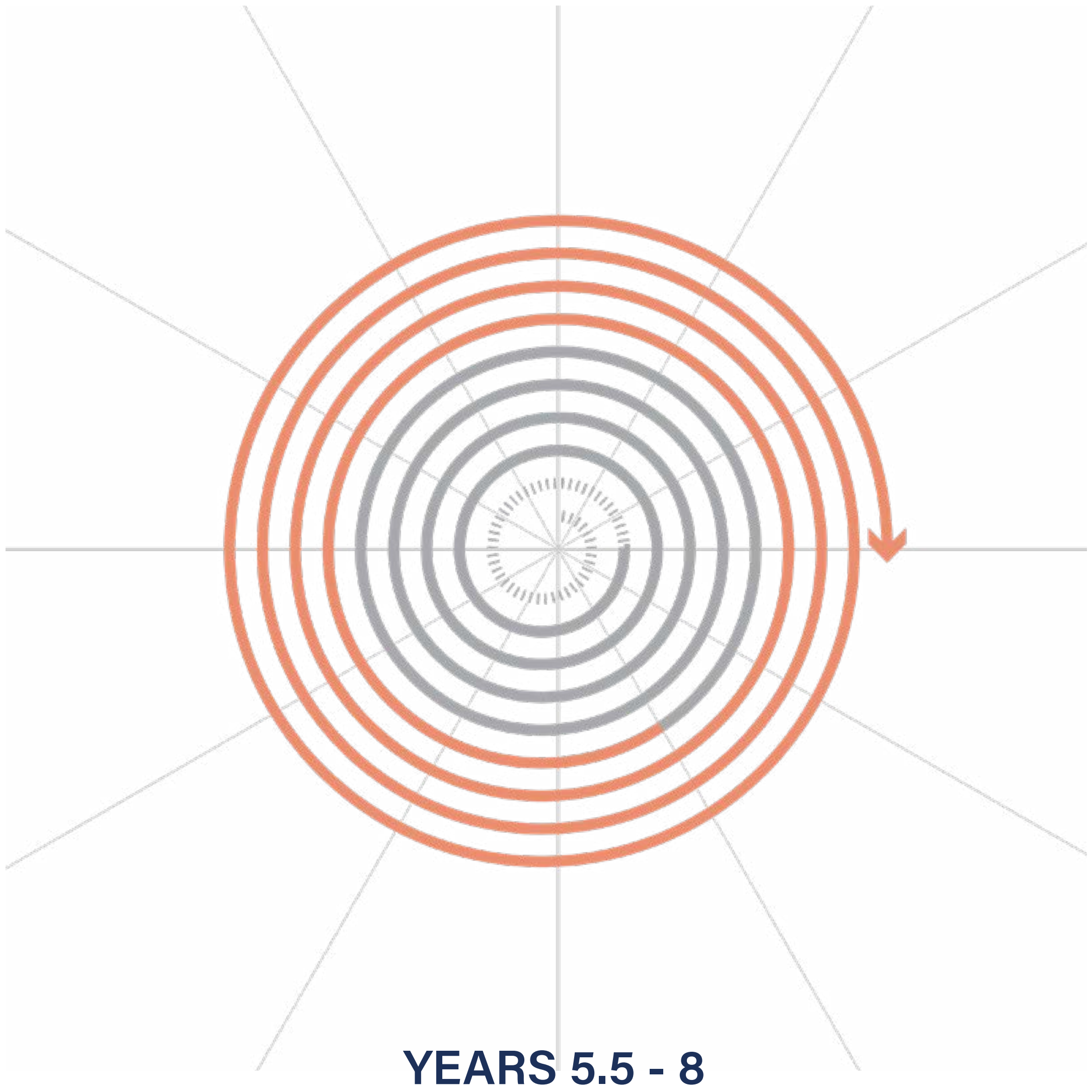
## Building Capacity

Residential	267,469 SF
Retail	102,139 SF
Community	57,982 SF
Hotel	0 SF
Cultural	0 SF
Office Flex	115,229 SF
Industrial	486,636 SF
Parking	288,253 SF
Total	1,131,672 SF

Total Cost	\$295,691,502	Unlevered IRR	12.20%
Total Value	\$377,700,721	Levered IRR	19.16%
Loan-to-Value	65%		

Affordable Units	31 Units 20%	154 Total
For Sale Units	64 Units	
Parking Ratio	2.85	

Open Space	237,580 SF	5.4 ACRE
Bike Lanes	6,556 FT	
Infrastructure Cost	\$4,742,540	







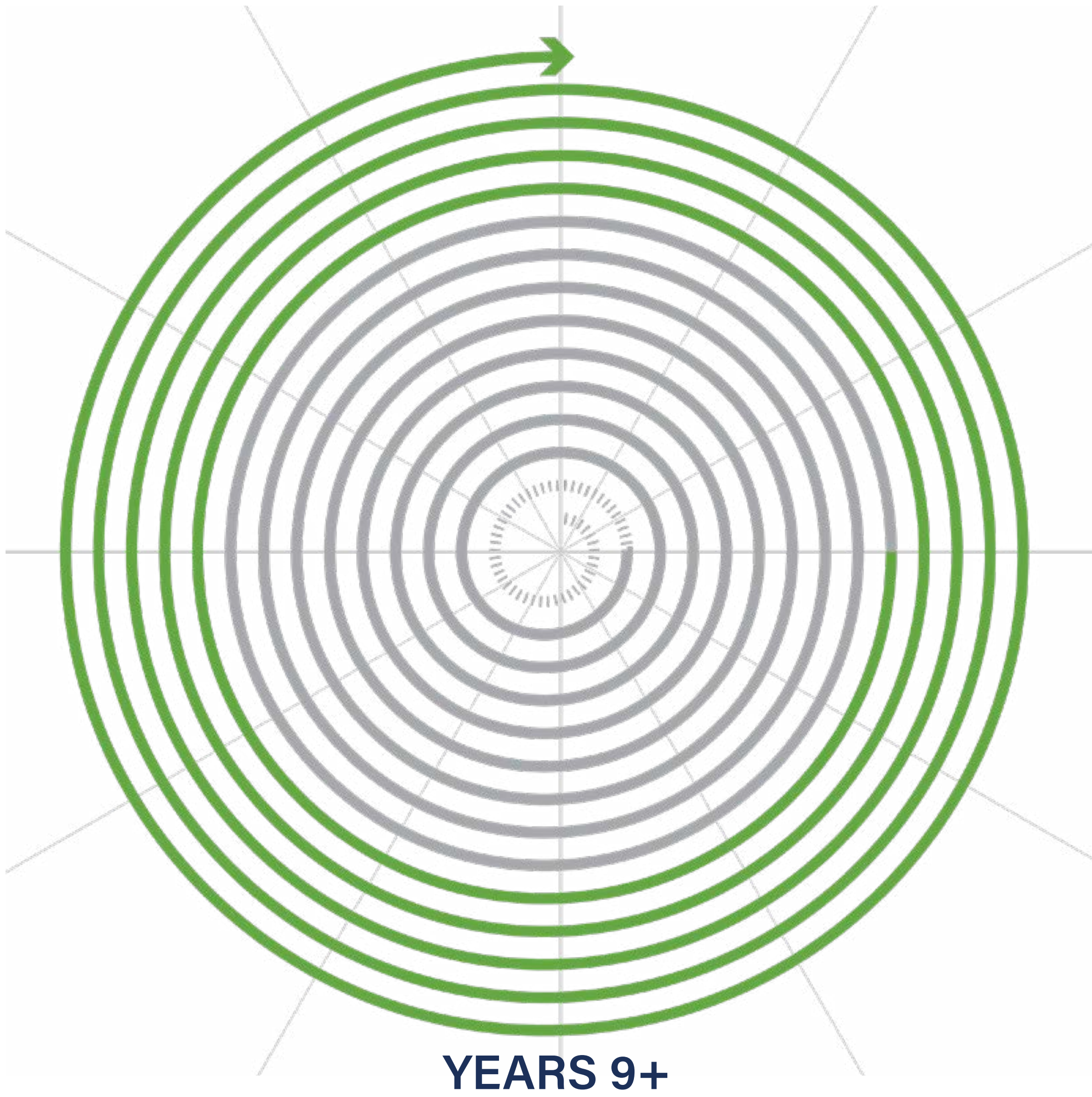
# FINAL VISION 2032 +

## A new neighborhood

Residential	<div></div> 2,242,306 SF
Retail	<div></div> 349,678 SF
Community	<div></div> 368,687 SF
Hotel	<div></div> 122,374 SF
Cultural	<div></div> 94,626 SF
Office Flex	<div></div> 115,229 SF
Industrial	<div></div> 506,603 SF
Parking	<div></div> 785,034 SF
Total	<div></div> 4,584,537 SF

Affordable Units	<div></div> 550 Units 25% 2,000+ Total
For Sale Units	<div></div> 140+ Units
Parking Ratio	1.25

Open Space	<div></div> 1,432,609 SF
Bike Lanes	27,994 FT
Infrastructure Cost	\$38,290,464





● ● **TTC CULINARY INSTITUTE**  
Existing Community College expands its offerings on site



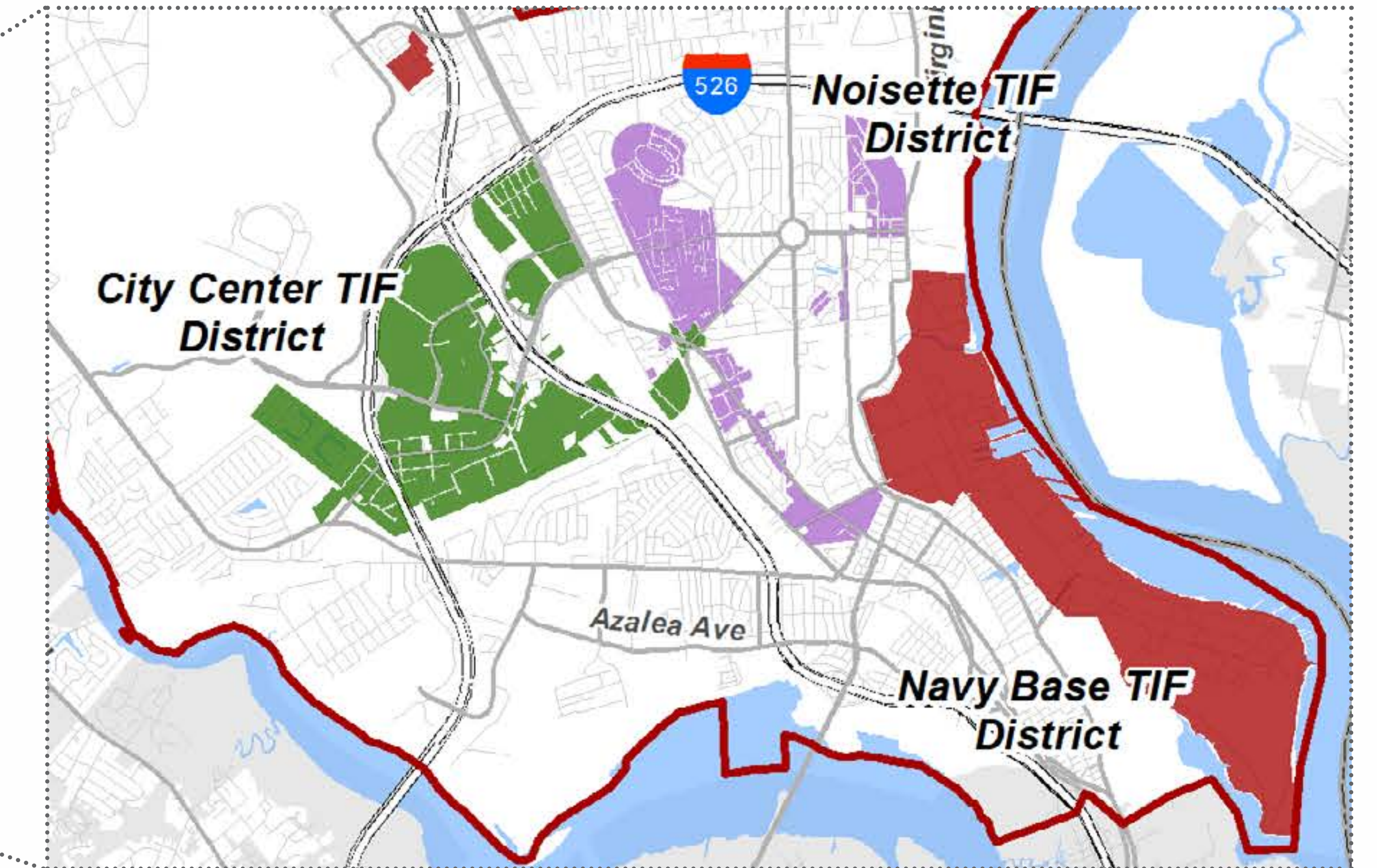
CRBJ BizWire

● **FRESH FUTURE FARM/**  
● **NEW RESTAURANTS**  
Local food sourcing



Jacob Lund Photography from North Project

● ● **TIF DISTRICT**  
Tax Increment Financing to fund public and infrastructure improvements



from Prime North Charleston

## PUBLIC SECTOR

CARTA  
City of North Charleston  
Trident Technical College  
Charleston County School District  
MUSC (Medical University of South Carolina)  
Charleston County Public Library  
BCD Council of Governments

## COMMUNITY

Community Members & Residents  
Metanoia  
Gullah Geechee Cultural Heritage Corridor  
The Sustainability Institute  
Fresh Future Farm  
North Charleston Arts Festival  
Youth Endowment for the Arts

## PRIVATE SECTOR

South Carolina Small Business Development Center  
Local Restaurants, Breweries, & Businesses  
North Charleston Chamber of Commerce  
South Carolina Chamber of Commerce  
Anchor Employers (Boeing, Mercedes Benz, Joint Base Charleston, SAIC)

## IMPLEMENTATION STRATEGY



# KNOT

CHARLESTON



DEVELOPMENT COST

**\$745 million**

UNLEVERED IRR

**11.72%**

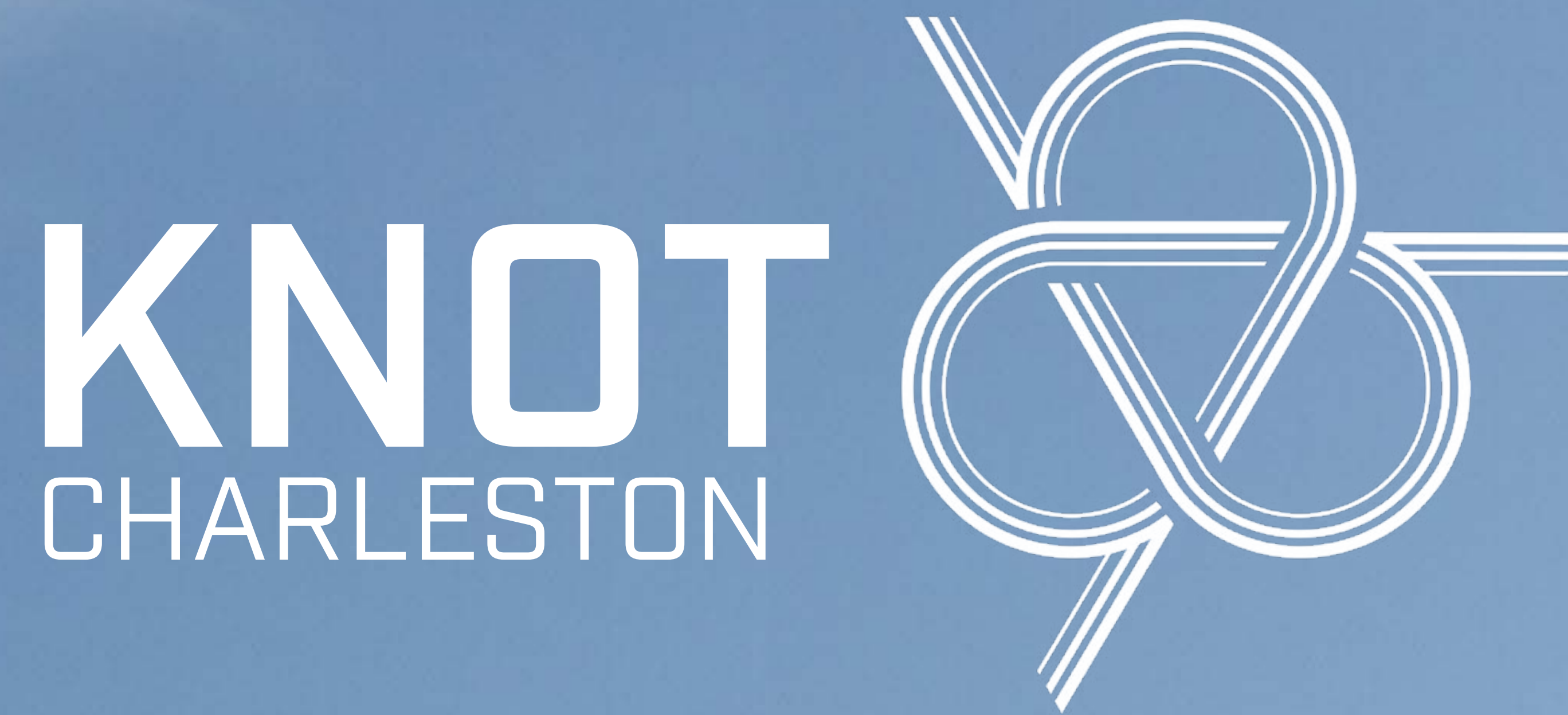
LEVERED IRR

**20.37%**

TOTAL VALUE

**\$867 million**





## ECONOMY

**1,873**  
LONG-TERM JOBS

**5,496**  
CONSTRUCTION JOBS

**70+**  
LOCAL BUSINESSES

## COMMUNITY

**2000+**  
HOUSING UNITS

**33%**  
AFFORDABLE UNITS

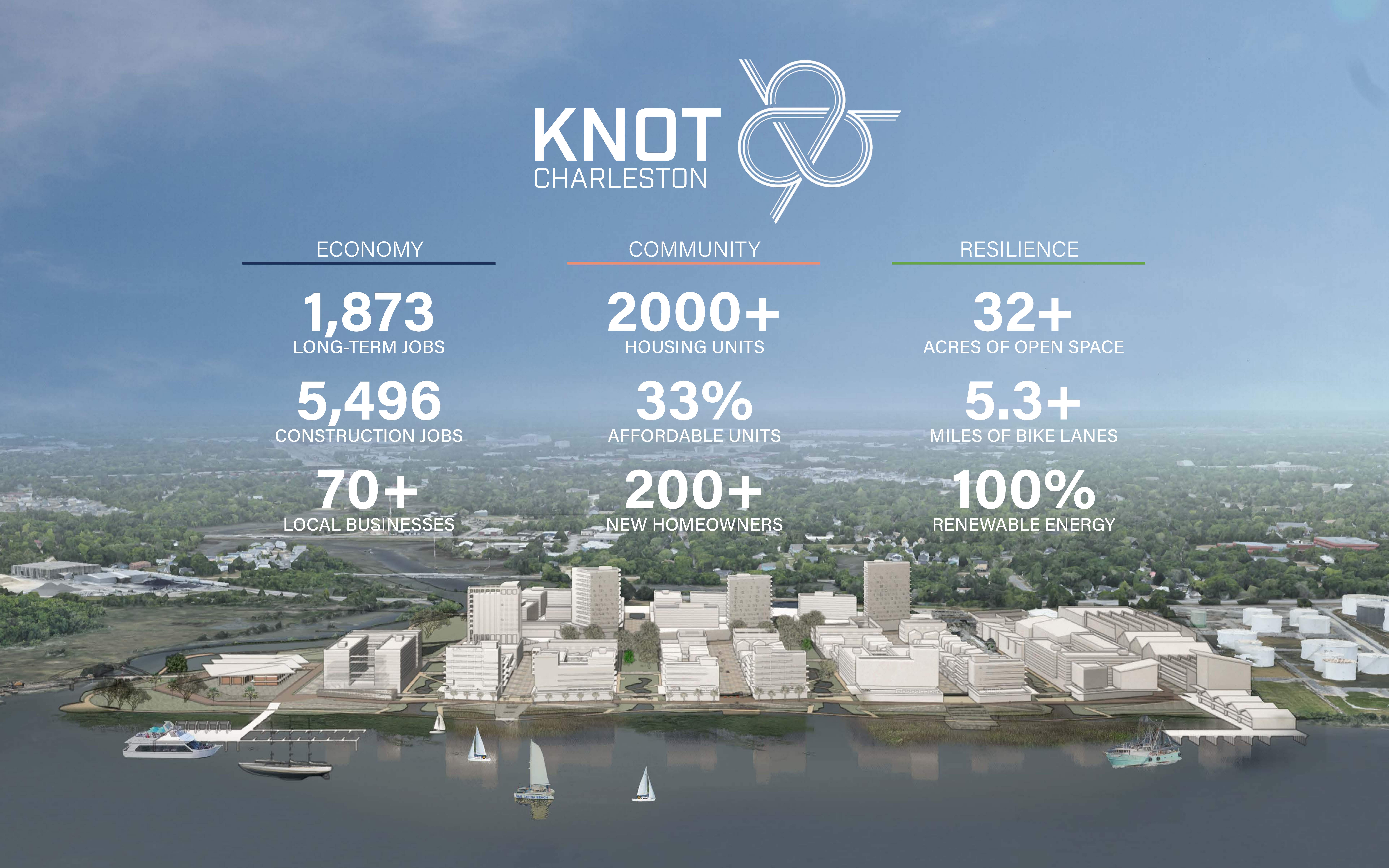
**200+**  
NEW HOMEOWNERS

## RESILIENCE

**32+**  
ACRES OF OPEN SPACE

**5.3+**  
MILES OF BIKE LANES

**100%**  
RENEWABLE ENERGY





**KNOT**  
CHARLESTON

