

AGRO GENESIS

Begin the urban agro revolution

Team Code: 2023-9157



AGROGENESIS: A Narrative for the Future

AGROGENESIS is a radical new way of designing American communities. This LEED-certified development innovates at the intersection of environmental, social, and economic growth. We find ourselves at a pivotal moment in human history- this project embraces and rises to the challenge of designing a new way of living that reconnects communities left asunder following the COVID-19 pandemic, responds to increasingly urgent calls for climate resilience and recovery, and reimagines economic entrepreneurship.

The synthesis of the American spirit of innovation and the vibrancy of southern American landscapes, AGROGENESIS acknowledges both the good and bad of our history, and charts a new, equitable, path forward.

Environment and Economic Strategy

Located in stunning South Carolina, AGROGENESIS is a celebration of our beautiful natural environment, and a model for how cities and nature can actively support one another. Designed at its core for resilience, the proposal incorporates flood resilient landscapes and biophilic architecture. The east and south edges include a broad riverside boardwalk, deliberately designed to be flooded in strategic locations that eliminate flood damage to residential homes and businesses. Green spaces are situated throughout the site to allow people to connect with and enjoy the outdoors, while capturing stormwater runoff. Roof space is efficiently used to house green infrastructure and solar panels, creating a clean environment and supplying power to residents. The proposal takes advantage of South Carolina's ideal agriculture climate to house open-air and other urban farming operations.

By integrating agriculture in the urban environment, the proposal offers an alternative to the traditionally hydro and land intensive practices of conventional farming. Through smart implementation of solar, support for inventive farming startups, and state-of-the-art ecological design, AGROGENESIS achieves a balance between economic and environmental sustainability.

Community Development

This mixed-use, mixed income development creates a common ground and shared spaces, bringing people from all walks of life together. By developing both affordable and higher end housing, this project addresses North Charleston's housing shortage, while ensuring that racialized neighbourhoods are not gentrified. Amenities such as public access to beautifully designed river-front parks, a new library, and pedestrian-friendly retail help create a vibrant and thriving community for people of all income levels.

South Carolina's unique history and character is preserved and expressed through masterfully designed residential, retail, and commercial architectural design. As you move north through AGROGENESIS, you walk through American history. You are welcomed to the neighbourhood with classic Southern columns and balconies. The strong naval history of this space is synthesized with climate considerations in the form of pop-up shops in repurposed shipping containers- a reminder of the American spirit that we seek to protect. The site culminates in an expansive and breathtaking vision of the future- the integration of food production and daily life, new economic forms, and a resilient ecology, embodied in the AGROHUB Center.

Financial Summary

The AgroGenesis development is a 3.6 million square foot mixed-use site that is designed for both mixed income residential and multi purposes. The site is located across the Noisette Creek Pedestrian Bridge from the River Front Park and will be built in 4 phases. The development will include 717,200 square feet of commercial & retail space that will provide vibrancy to the surrounding community, a 210,000 square foot library, a 284-room hotel, 675 mixed-income rentals, and 26 for sale condos. The roads of the community incorporate bioswales to mitigate the risk of flooding, and further development of the South Park will provide continuation to the River Front Park. The total project costs are estimated at \$417.5M.

Phase I is the South Mixed-Use Site which includes a 400-unit multi-family development surrounded by vibrant retail that includes a brewery and restaurants. The proximity to the River Front Park and the future development of the Center for Innovation will serve as the selling feature for these units. Total financing required is \$146.6 M, including \$44M of developer equity, and \$102.6M financed using construction debt.

Phase II is the Hotel & Library development; the new state of the art library includes amenities for all North Charleston residents. The hotel will sell the top floor condos on the property to support the financial feasibility of the hotel. The library and hotel will cost \$120.4M together, which includes \$44M of developer equity, and \$102.6M of construction financing. The City of North Charleston has expressed interest in purchasing the library after construction, which will support the further development of the remaining phases.

Phase III is the Railway Commercial project, which includes modern offices with amenities that reflect the quality demanded by tenants. Commercial tenants being sought for the property includes the agricultural technology sector. The ground floor level retail provides shops for both residents and commuters to support a more walkable parcel that shelters the rest of the development from the potential noise of the neighbouring railway.

The site will cost \$46.7M, which includes \$14M of developer equity, and \$32.7M of construction financing.

The last phase is the Shopping Center & Mixed Income Rentals. The property includes 200 affordable rental units and 75 market rentals. The shopping center includes a significant retail tenant that provides education through vertical farming and a corresponding retail shop. The shops surrounding complement the environmentally focused tenant centered in the middle. Total development costs are \$103.8M and include \$31.1M of developer equity, and \$72.6M of construction financing.



SITE PLAN



0 10 50 100 200m

1. Sustenance Plaza
2. The Center for Innovation
3. River Front Park
4. The Roost Hotel
5. The Brewery
6. The Geranium Community Gardens
7. Mixed-use Residential
8. Commercial Offices
9. Charleston Food Hall
10. The Indigo Community Gardens
11. The Bluestar Community Gardens
12. Local Harvest Market
13. Residential Podium
14. Innovation Way Boardwalk
15. Solar Parking Lot
16. Vertical Farming Complex
17. AGRO TECH HUB
18. Mixed-use Residential
19. Recreation Facility
20. Shipping Container Plaza
21. Affordable Housing
22. Townhouses
23. Existing Industrial Parcel
24. Railroad

■ ■ ■ DOD Parcels

Mission



Innovation



Urban farming industry
Green economy employment
Vibrant retail strips
Startup incubation
Owner occupied units

Education and training opportunities
Local vendors
Marketplace opportunities
Circular economy
Addressing food insecurity

Growth



Vertical, hydroponic farming
Aquaponics
Test farms
Ecological preservation
LEED certified

Bioswales
Solar power
Green roofing
Flood and hurricane resilient landscaping
Walkable neighborhoods

Sustenance



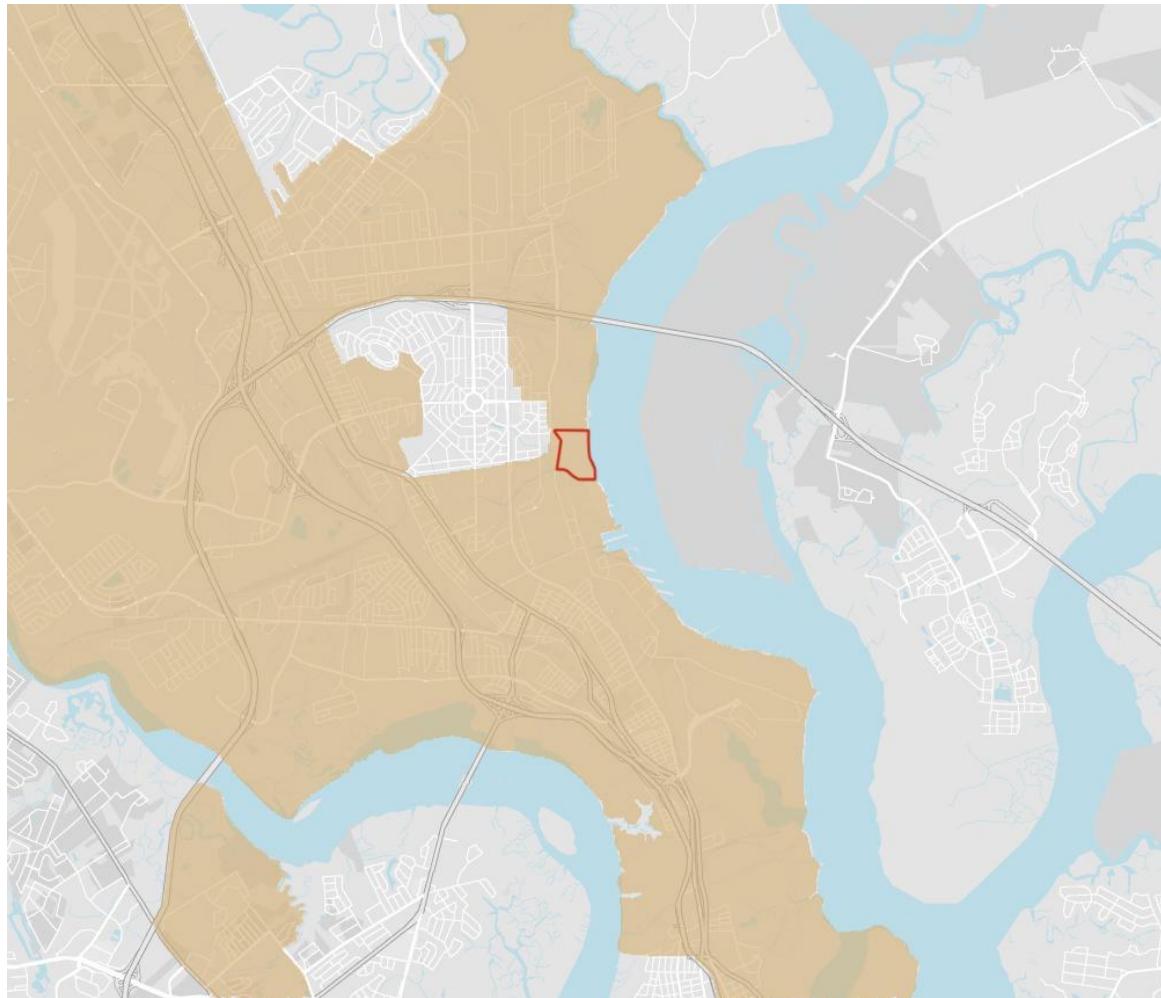
Mixed use, mixed income
Affordable, desirable housing
Democratic riverfront public realm
Combating gentrification
Equity, diversity, and inclusion

Sense of community identity
Shared places to connect
Intergenerational learning
Celebrating southern culture
Accessible and connected

Community Benefits:

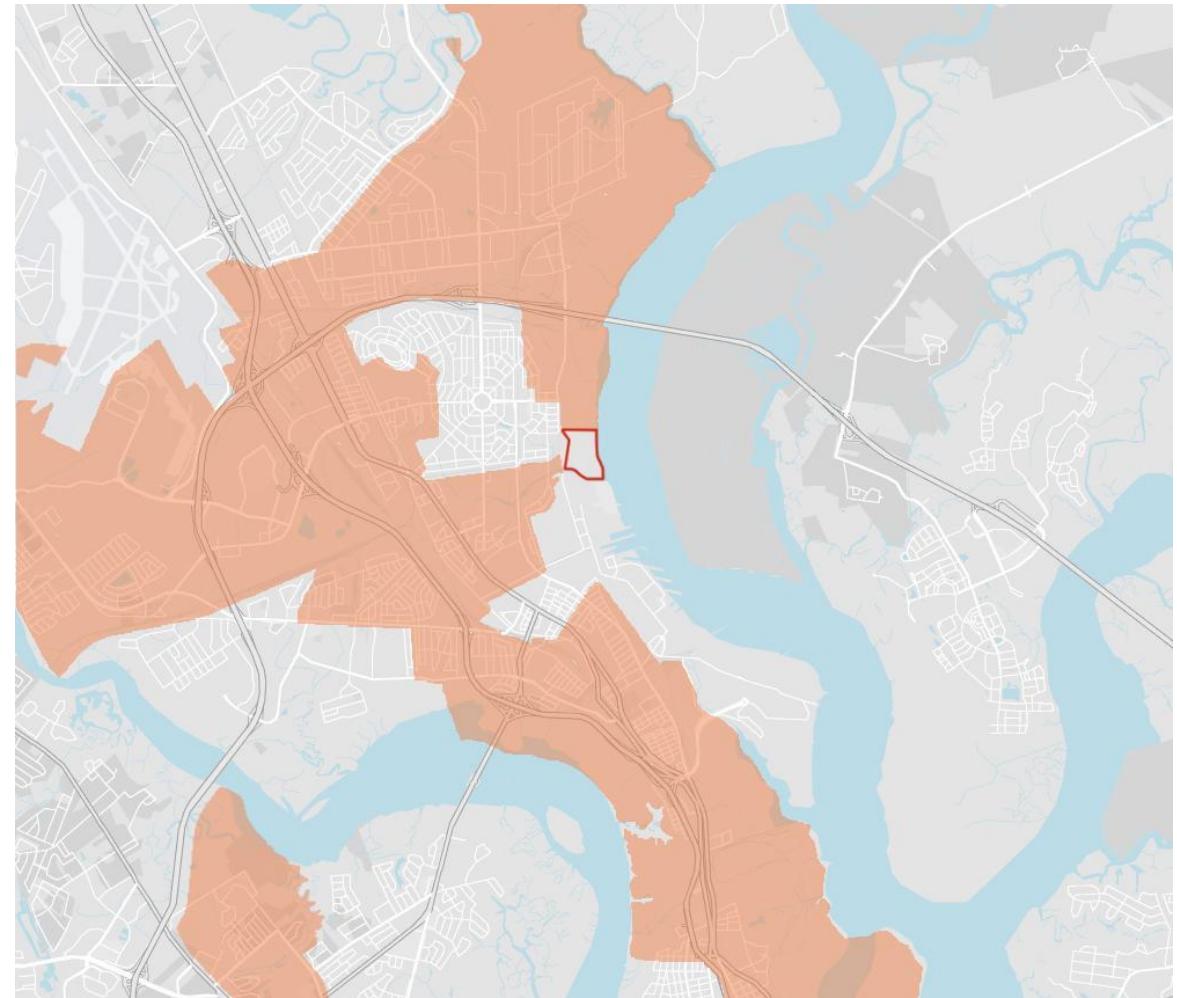
- Affordable housing is integrated into a vibrant mixed-use community with riverfront views. One- and two-bedroom affordable units are available, along with market-rate residential and luxury units (condos at The Roost Hotel) to combat the housing shortage.
- The AGRO TECH HUB, retail, and commercial within the site provide opportunities for employment and training. The Center for Innovation brings accessible educational programming to the neighborhood.
- Green infrastructure and urban farming integration strive to create a community that is both environmentally and economically self-sustaining and climate-change resilient.
- Pedestrian-friendly circulation paths offer a variety of safe and beautiful ways to move through the development. These paths lead to vibrant public spaces offering residents places to gather, relax, and enjoy the beautiful South Carolina weather.
- Street trees are strategically placed to offer a buffer from noise and pollution caused by railway tracks. These trees also create a wind and weather buffer along the riverfront.
- Charleston Food Hall and the Local Harvest Farmers Market elevate the community through new culinary experiences and provide a new entrepreneurial avenue for residents.
- Solar power parking harvests the power of the sun while providing desirable covered parking for residents and visitors alike.
- New restaurants and cafes throughout the development enhance the social opportunities available along this key river junction in North Charleston.

Regional Factors



01. Access to Food

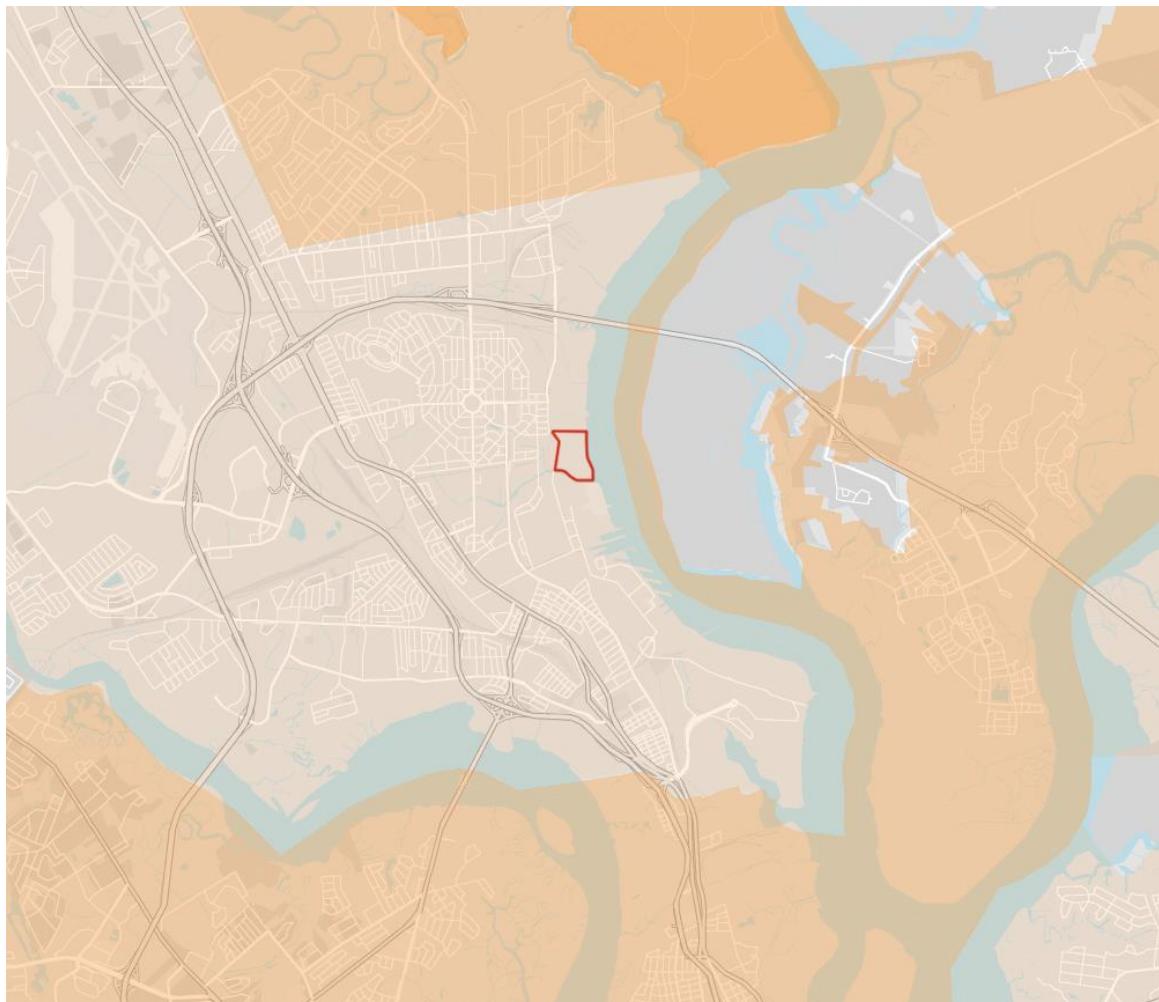
A significant portion of North Charleston leaves low-income residents more than $\frac{1}{2}$ mile (urban) or 10 miles (rural) from the nearest supermarket. AGROGENESIS seeks to address this food insecurity.



02. Accessibility to food source

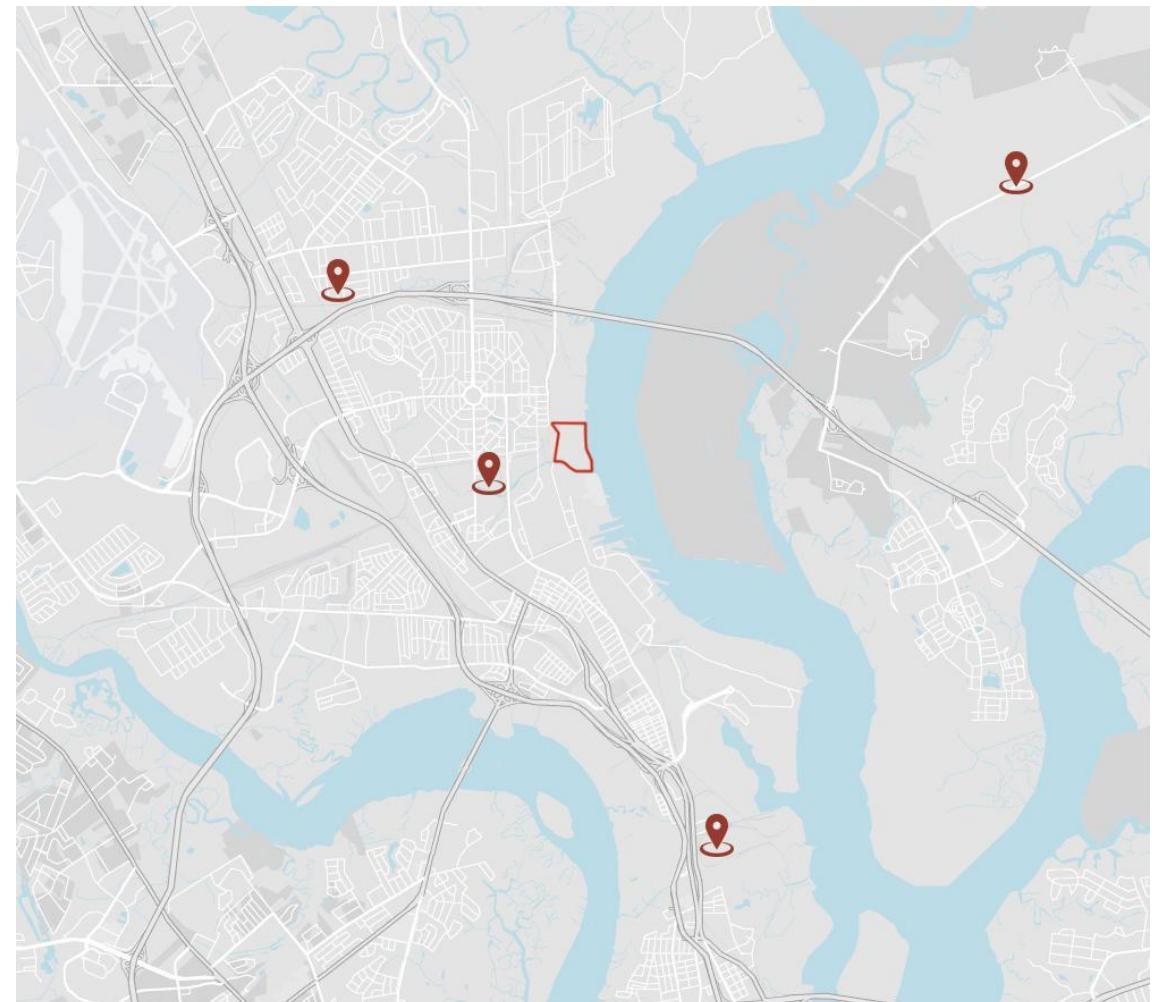
Many low-income residents of North Charleston do not have a vehicle and are more than $\frac{1}{2}$ mile from the nearest supermarket. It is imperative that we increase accessibility to fresh food and essential goods in this region.

Regional Factors



03. Internet Inequity

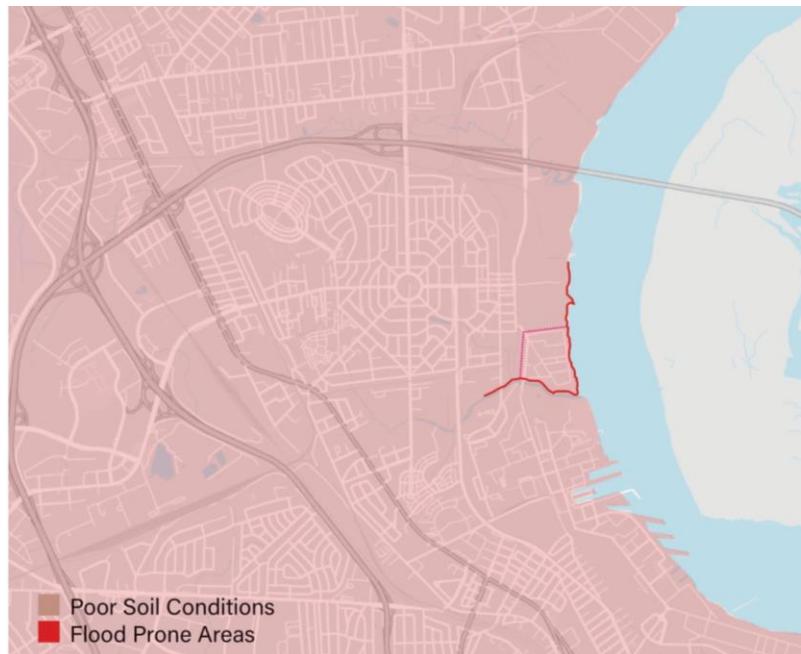
During the COVID-19 pandemic, online grocery delivery became an easy alternative to in-person shopping. Unfortunately, this is not an option for many low-income residents who do not access to the internet.



04. Vertical Farm Industry

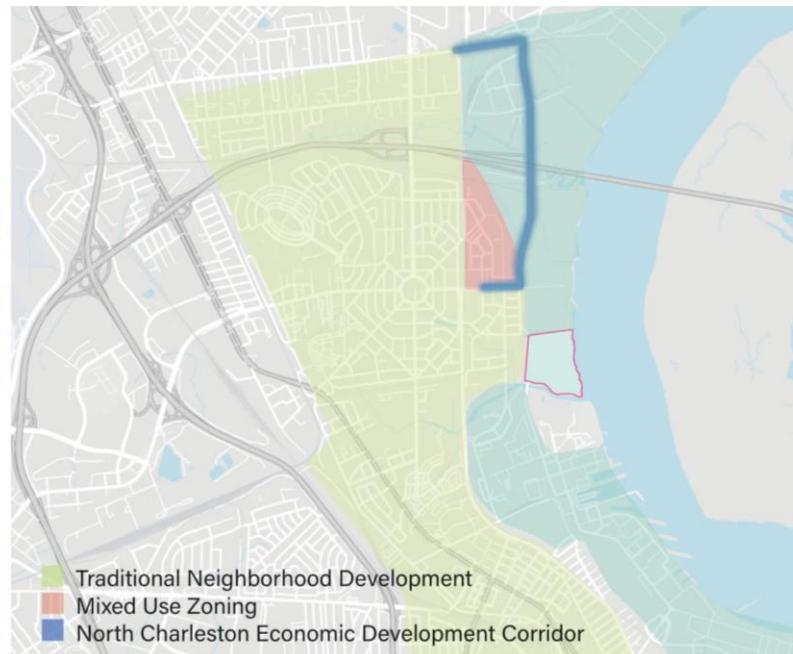
Vertical farms within the North Charleston region. There is a growing urban agriculture industry in south Carolina- an opportunity for us to put the United States of America at the forefront of sustainable food systems.

Site Analysis



01. Soil Condition & floodplains

The proposal responds to existing site conditions such as poor soil conditions for growing food and flood vulnerability along the riverbank.



02. Economic Corridor

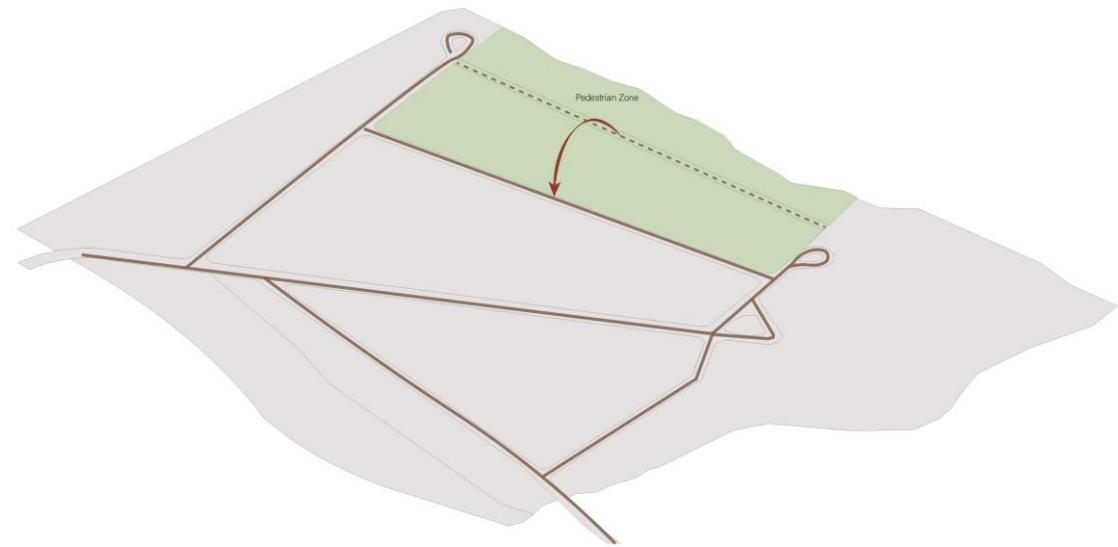
Our site is prime location for this development as it is within North Charleston's economic development corridor.



03. Site Edges

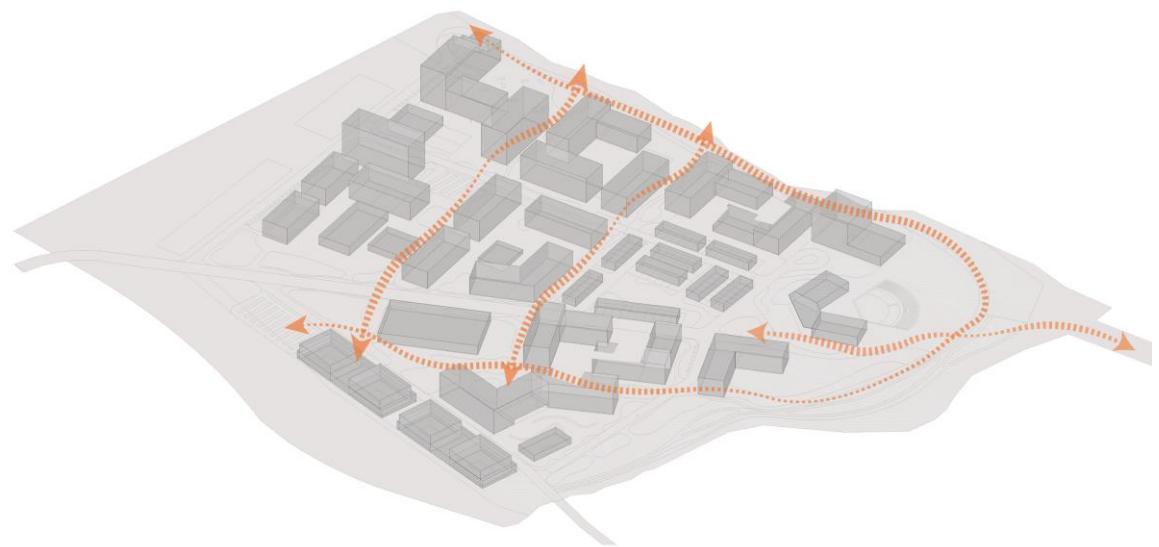
AGROGENESIS takes advantage of the many existing opportunities on this site, while simultaneously addressing the unique challenges.

Design Concepts



Circulation

Optimized vehicle movement through the development to improve circulation.



Walkability

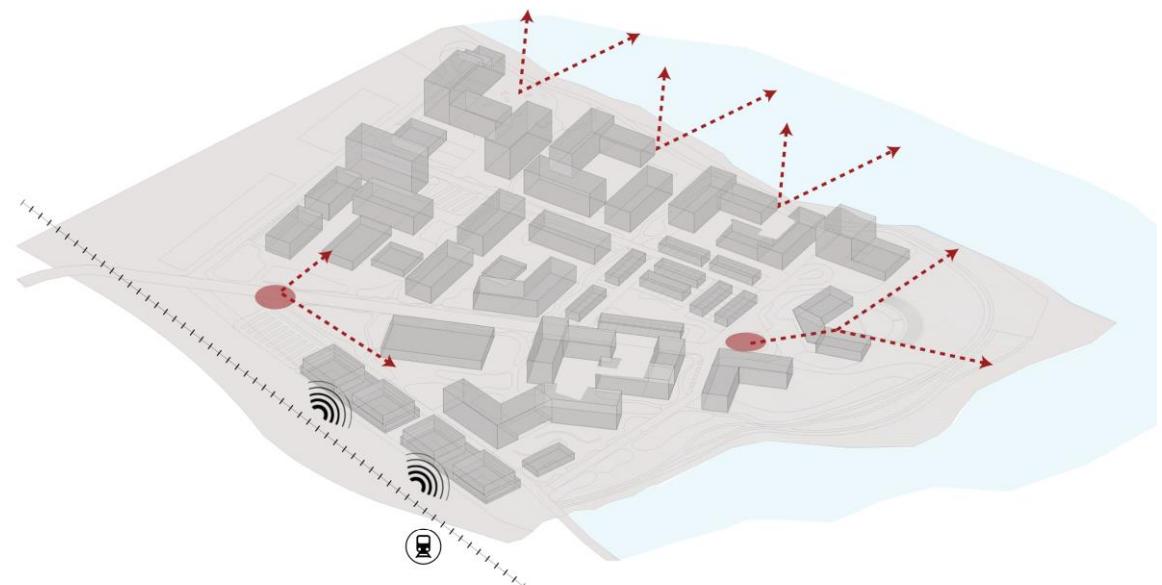
Prioritized pedestrian access to and within the site, creating a walkable neighborhood.

Design Concepts



Mixed Use

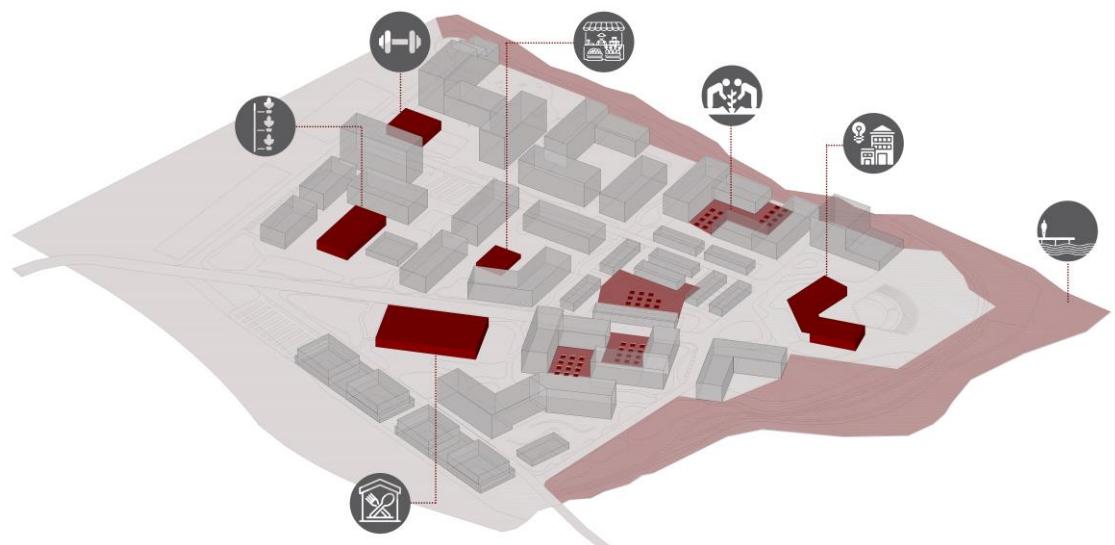
Diversity of uses throughout the development offers a comprehensive live, work and play model.



Views

The development takes advantage of beautiful waterfront views, while addressing site obstacles.

Design Concepts



Landmarks

Key landmarks and amenities throughout the neighborhood create a highly legible and desirable community.



Community Engagement Strategies

Equity in Agriculture Workshop -- Spring Seed Festival -- Farmers Market Pop-Up – Agro-Technology Convention – Community Garden Tours – Potluck Block Party – Drinks at the Brewery – Bike Rides Along Cooper River Boardwalk – Exhibitions at the Center for Innovation – Urban Beekeeping Workshops – Solar Power Tours – Food Truck Festival – Farm to Table Dinners

Section



User Experience



The Germanium Community Garden



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Walkable Streets



Innovation Way Boardwalk



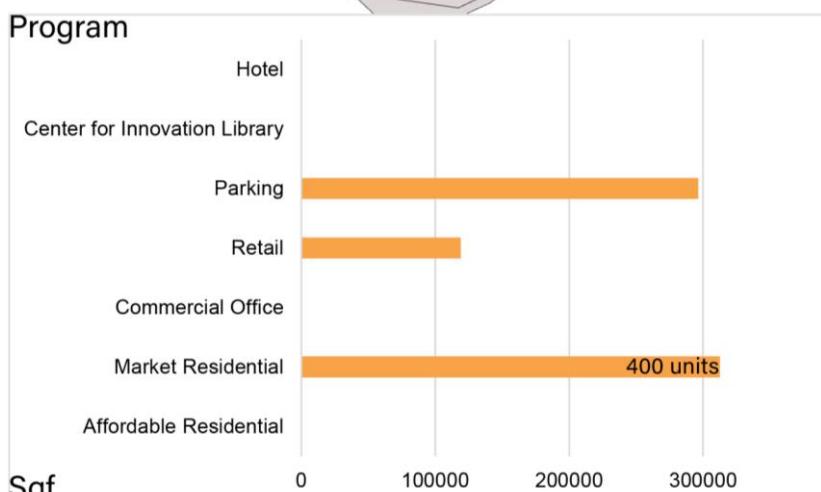
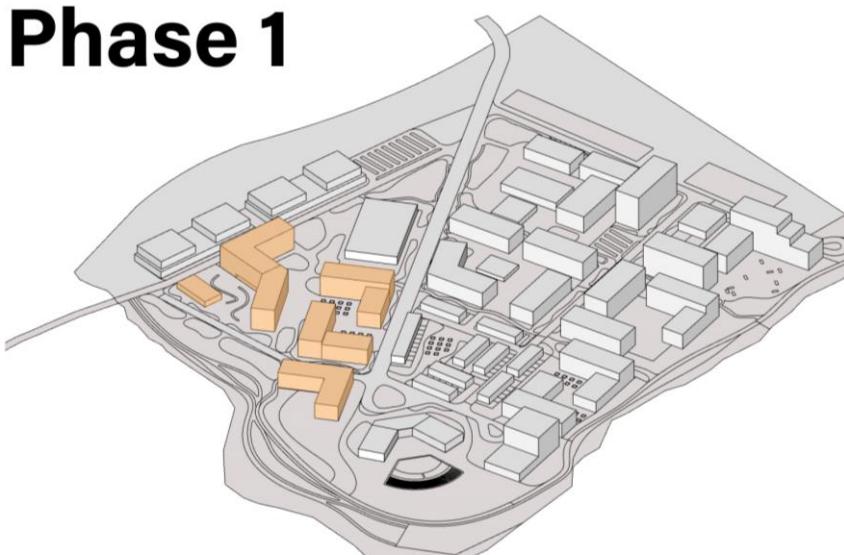
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Center for Innovation

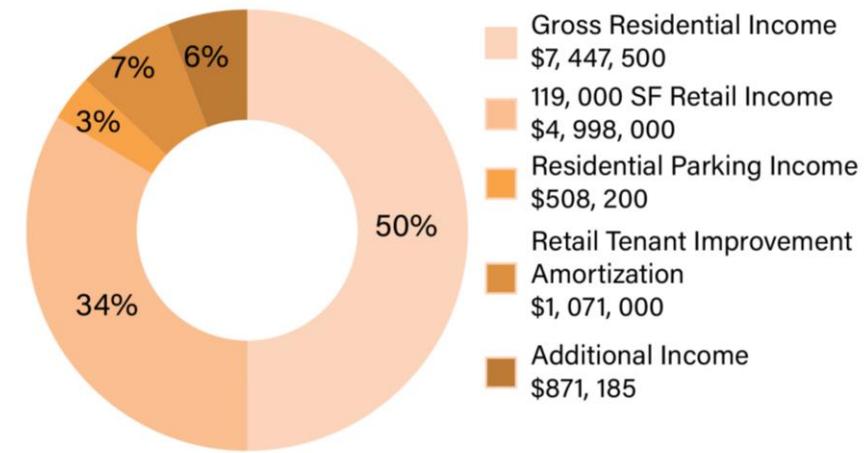


Phasing & Financial Summary

Phase 1



Total buildout: 727,950 sqf
Total development cost: \$146,608,720



Community Partnerships

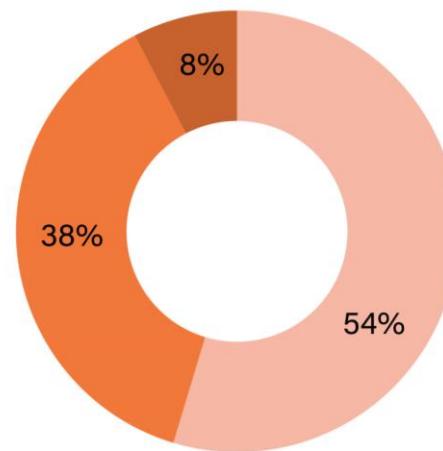
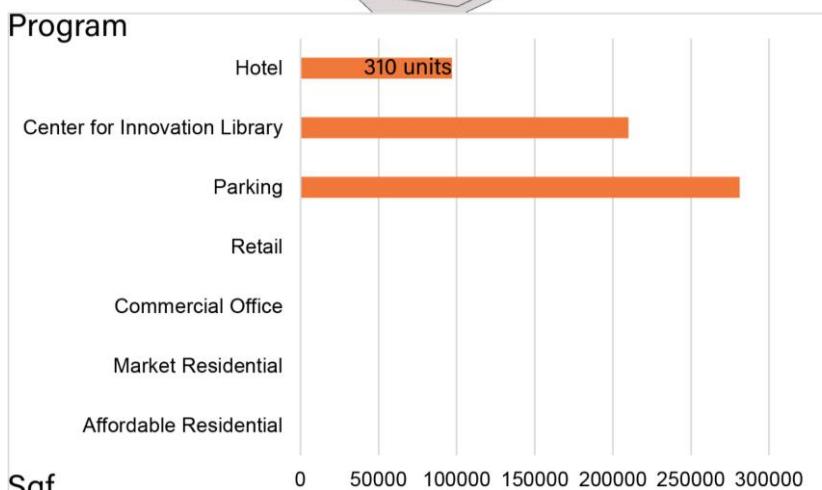
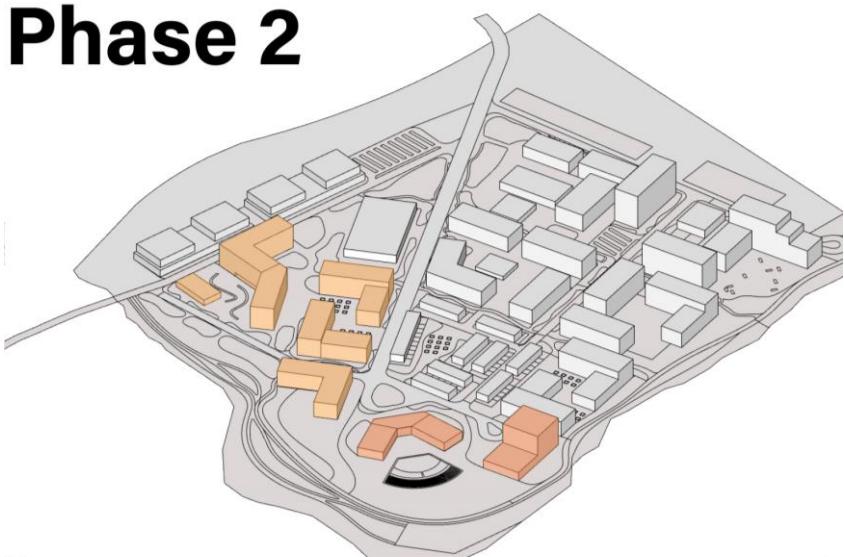
SCORE Charleston SC
Fresh Futures Farm Inc.
North Charleston Chamber of Commerce
South Carolina Conservation League
City of North Charleston
Army Corps of Engineers

Community Engagement

Small business workshops
Produce pop-up
Urban and community farming workshops
School field trips
Public education pop-ups
Wetland tours

Phasing & Financial Summary

Phase 2



Gross Hotel Income
\$698, 640
Parking Income
\$482, 000
Additional Income
\$97, 810

Residential Condo Gross Sales Proceed: \$6, 240, 000

Library Sale Gross Sales Proceed: \$147, 000, 000

Community Partnerships

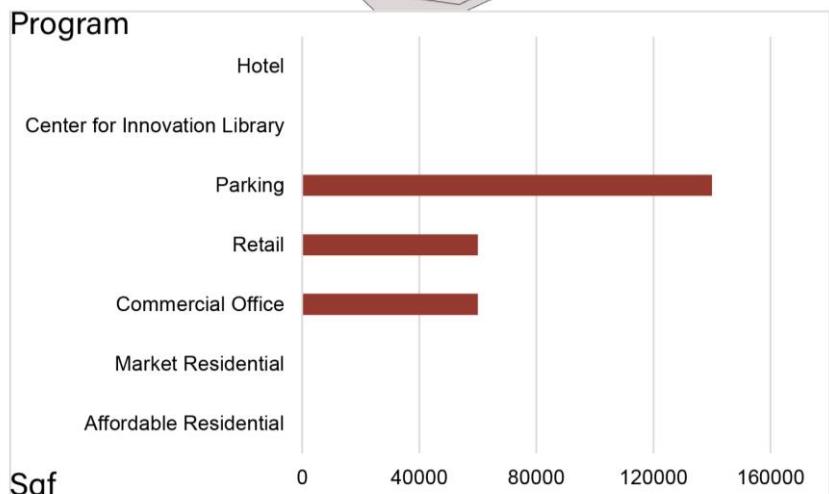
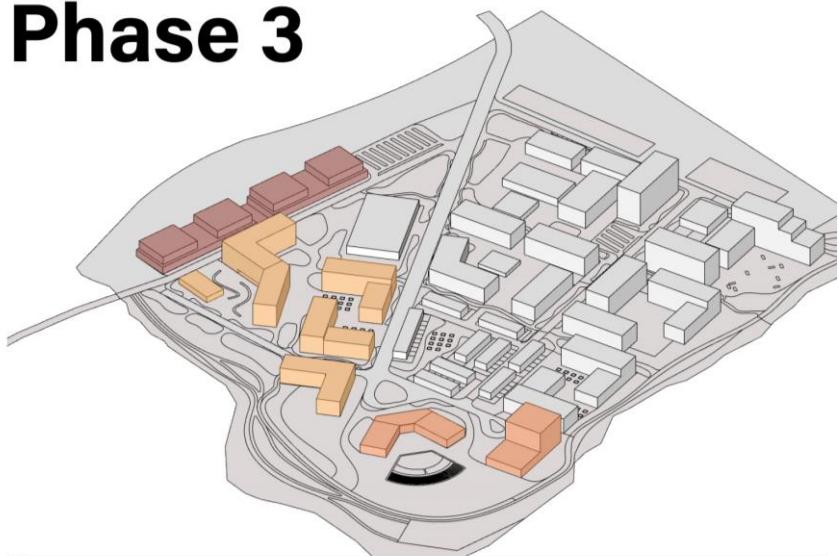
Pop-ups for a Purpose
Discover South Carolina
Charleston County School District
North Charleston Arts Festival

Community Engagement

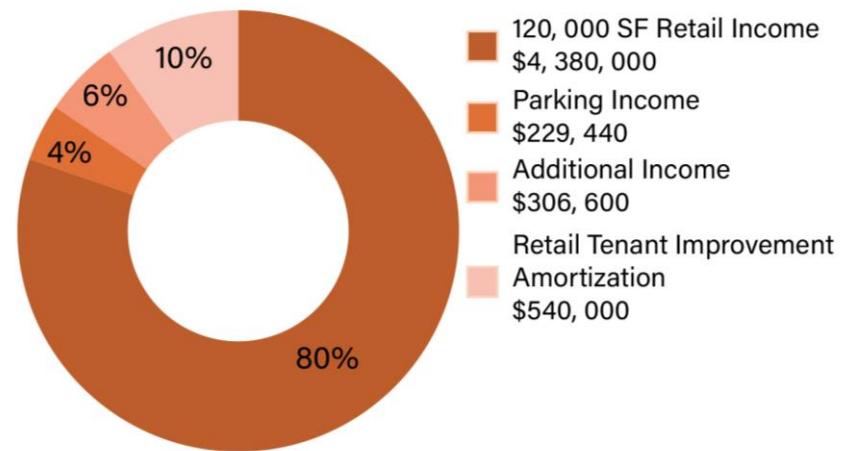
Center for Innovation launch party
Exhibition open house
The Roost Hotel grand opening
Library community programs

Phasing & Financial Summary

Phase 3



Total buildout: 260,000 sqf
Total development cost: \$46,720,816



Community Partnerships

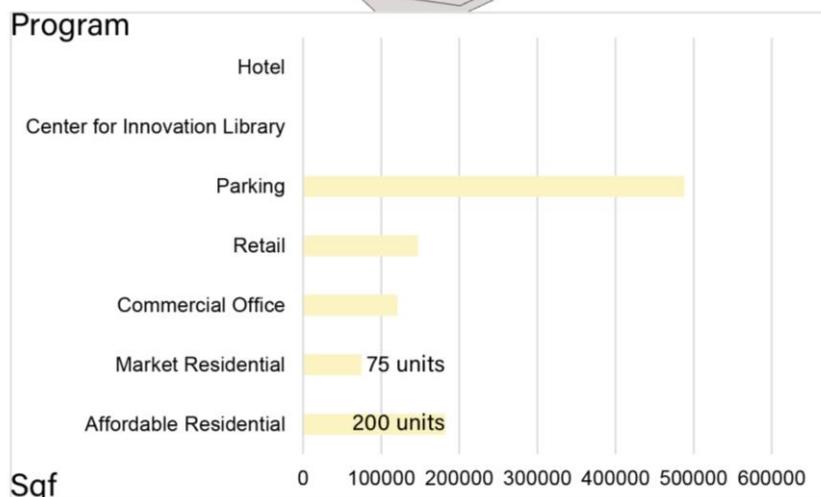
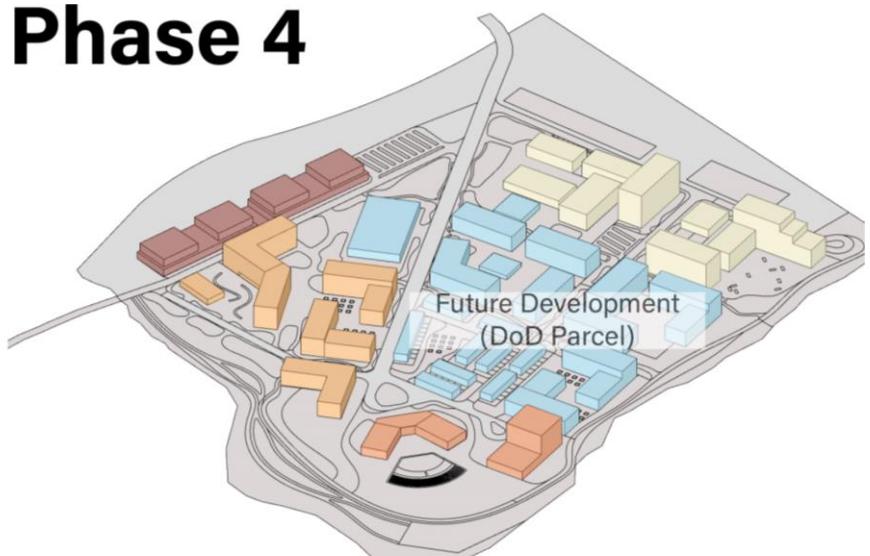
Indigo Agriculture, Bushel, Gro Intelligence, and other agriculture technology companies
Whole Foods, Piggly Wiggly, Walmart Neighborhood Market, or other grocery store

Community Engagement

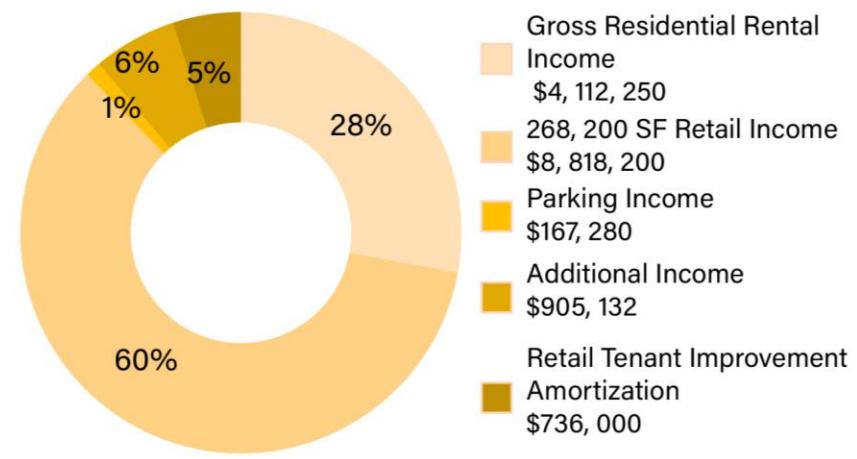
Food trucks plaza party
Solar parking information display
Market opening day

Phasing & Financial Summary

Phase 4



Total buildout: 1,013,600 sqf
Total development cost: \$103,769,764



Community Partnerships

80 Acres Farms, InFarm, AeroFarms, Bowery, and other vertical farming producers
Sysco, US Foods, Lineage Logistics, or other food distribution companies
Density Community Cafe
Let's Walk
Charleston Park Conservancy

Community Engagement

Experience Center open house
Vertical farm launch event
Community cafe pop up
Seniors riverfront walking group
Block party
Shipping container plaza festival

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