RELOCATED ROOTS:
a community focused urban agriculture facility

Relocated Roots addresses a limitation in the current thinking about agriculture within the urban environment. It aims to expand the local populace’s knowledge and perception of agriculture by providing an educated architectural experience that both informs the user of modern growing techniques and positively promotes the message of sustainable city farming.
Since its founding in 1788, Cincinnati has grown to be called the "Queen City of the West." The city began as three separate settlements but was unified and renamed Cincinnati. The city's first major economic boom came with soldiers who were fighting the Native Americans. The next came after the Civil War, where the Ohio River provided new trading opportunities with the South.

EARLY BEGINNINGS

After the German Immigrants' booming brewing industry came to a screeching halt during 1920's Prohibition. Almost simultaneously, WWI's anti-German hysteria escalated tensions, forcing many German Immigrants to flee the city. In the 1950's, many downtown businesses still had not recovered, and with the popularity of the suburbs, wealthier residents and businesses moved away as well.

ECONOMIC DOWNTURNS

Cincinnati today maintains its status as a transportation, economic trade, and cultural nexus. But despite the industrial economic growth, many downtown buildings are still abandoned with insufficient funds for restoration. The downtown area of Cincinnati suffers from broken window theory and likely would benefit from a new typological identity to provide fresh food, education and employment opportunities.

REVITALIZATION

Cincinnati began as a village in 1788, grew to a city in 1797, and became the capital of the Northwest Territory in 1803. Cincinnati was the capital of Ohio from 1803 to 1812. The city is known for its German heritage, with many German Immigrants settling in the area. This heritage is reflected in the city's architecture and food. The city is also known for its meat-packing industry, which led to the nickname "Porkopolis." The city has a rich history of railroad and steamboat transportation, which continues to play a role in its economy today.

THE SITE

One of the biggest opportunities for the design is its site selection. Because community plays such a critical role in the premise, its location in the downtown neighborhood is carefully chosen. The site currently exists as an at-grade parking lot which primarily serves a headquarters building to the south. This parking lot is void in the dense urban context.

To the east of the site is the boundary of the downtown as it is constrained by several interstates. This system of highways provides a motivation for the design to maximize transparency and beauty. This visual exposure to commuters allows the design the opportunity to convey a message of sustainable urban farming simply by its adjacency.

The Proctor and Gamble headquarters is one block to the south of the site. This office building employs about 1,500 people, and the thesis design capitalizes on this with a parking garage, grocery store, and quick stop restaurant. Additionally, the P&G design has a popular public plaza which adds an additional level of engagement for Relocated Roots' visitors.

This region of downtown hosts many desirable destinations like historical museums, cultural sites, public parks and restaurants. There's also a theater for music and comedy. These places create incentive for people to visit and thus make the Relocated Roots' site more competitive. By its proximity to these places, the design gains valuable exposure.

THE CONTEXT

How can we as an increasingly urbanizing society successfully cultivate plants in the urban environment? And so, how can architecture facilitate and guide that transition? What methods have proven architecture can promote and advocate social change with its design?

This thesis examines these questions in the context of Downtown Cincinnati, Ohio: a city with strong economic growth but facing a declining population and high levels of obesity. With community-focused spaces and an emphasis on sustainable practices, Relocated Roots attempts to provide a design solution that is both an asset to the community and an viable investment for the client, Gotham Greens. It aims to prove that architecture can influence peoples' perceptions of concepts like city farming, community and sustainability by demonstrating these innovative technologies can revitalize a neighborhood.

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The Relocated Roots mission is to provide fresh produce to residents amid the food desert surrounding Cincinnati. A food desert is a region where there is no access to locally grown food and challenging transportation access. To combat this, Relocated Roots follows a distribution network for deliveries to local grocery stores. Relocated Roots could reach communities within a 4-hour radius.

To the north and south of Relocated Roots’ site exists entrance and exit ramps for interstate access. This adjacency allows the design to function as a “gateway” into the downtown district. The cascading roofs act as an introduction into the cavernous towers of the downtown, as well as creating visibility and sunlight opportunities into the facility. The hill opposite the highway is home to many Cincinnati residents and along the highway pictured above is a pedestrian trail which connects the two zones.

Light wells are used throughout the germination levels to provide sunlight to areas where it may otherwise not penetrate. Each light well has a highly reflective metal panel at the intersection of each floor to help reflect sunlight downwards. Because of its position at the top of each tiered green roof, visitors of Relocated Roots are able to interact with the light wells: exploring the void it cuts through the levels and visually connecting with the germinating plants below.

Relocated Roots uses an innovative soil-less growing method called Aquaponics. In this system, fish, bacteria, and the plants interact in a waste-free mutually beneficial relationship. Plants are able to extract all the nutrients needed from the water, eliminating the need for soil and chemical fertilizers. Because the system is closed, there is no waste. This leads to 90% less water usage than traditional outdoor agriculture.