NORTH PHILADELPHIA PEACE PARK
2226 W. JEFFERSON STREET
THOMAS JEFFERSON UNIVERSITY:
RETAIL DIVISION
NORTH PHILLY PEACE PARK

NORTH PHILADELPHIA PEACE PARK HISTORY

PICTURE: CULTUREWORKS
NORTH PHILLY PEACE PARK

NORTH PHILADELPHIA PEACE PARK HISTORY

PICTURE: CULTUREWORKS
DESIGN CONSTRAINTS

Disproportionate Integrated Greenspace

Erosion of Community Trust + Cohesion
- Unhealthy Competition
- Too much focus on the individual

Inequitable Access to Education + Knowledge
- Unequal playing field

Socio-Economic Barriers

Neoliberal Globalization Logics + Effects
- Consumption Lifestyle & Hoarding of Wealth
- Utopian Focus
**DESIGN CONSTRAINTS**

**FOOD DESERT?**

“Food deserts develop as grocery stores cluster around high-paying customers. Less than 1 percent of Center City residents are more than a half-mile away from a grocery store, according to city data, but in North Philly neighborhoods like Germantown and Belfield, that number can reach between 40 and 50 percent.”

phillymag.com

**Sharswood is...**

mostly owned by the local housing authority; Philadelphia Housing Authority.

low local development and an influx of gentrification in the area.

Peace Park and the local Sharswood area strives to maintain and grow a community-centered space that can provide a home for its cultural, horticultural and educational events.

**This project will serve the local community through...**

repurposing current buildings on site and providing produce to the local Sharswood community which is in a food desert.

The Peace Park will be able to greatly impact its local community and provide a space for community events, gardens and marketspace.

This will bring economic influx to the local community and provide residents with a space to enjoy.
**DESIGN GOALS**

**Our goal is...**

To create a space for its community members through vertically integrated retail farming.

Open-air market, retail space, gardens, and greenhouses to increase food production, as well as a kitchen and recreational and educational spaces.

Allow the project to hold multiple uses for this integrated community supply-chain retail model.

Develop a supply-chain on site from seed, to growing, to processing, to selling and then to eating with educational guidance on all of those steps.

**Reduce costs and environmental impact...**

Keep all existing buildings on site and repurpose them.

Local materials and including murals from the Philadelphia Mural Arts program.

Serve the local community.

Will help create an new ecological dialogue through community based design of urban agricultural retail.
ARCHITECTURE

We WILL...

TRANSFORM AND INTEGRATE UNUSED BUILDINGS

MAXIMIZE AGRICULTURAL FOOD PRODUCTION, RETAIL SPACE, ENERGY PRODUCTION AND RECREATIONAL AREAS.

THE ARCHITECTURAL LANGUAGE WILL BE UTILITARIAN, BUT PROVIDE THE “SCAFFOLDING” FOR COMMUNITY CUSTOMIZATION AND EXPRESSION, THROUGH MATERIALITY AND USE OF LOCAL COMMUNITY RETAIL.
The site is programmed to include several activity types such as outdoor agriculture, arts and design classes, a library filled with history and sustainability books, a community-run kitchen, and an indoor flexible market. The interior design is a mix of Afro-Futurism aesthetics as well as modern utility. The appliances in the buildings consist of refrigerators, toilets, sinks, bathtubs, and a full commercial kitchen setup. Allowing all of the interior spaces to be flexible—besides the kitchen—the community is at liberty to use the buildings to suit their current needs while being able to adapt for the future.
SITE PLAN

1. RETAIL BUILDING
2. EXISTING MECHANIC SHOP
3. COMMUNITY KITCHEN BUILDING
4. OUTDOOR PATIO “BUFFER ZONE”
5. EDUCATIONAL BUILDING
6. CUBE VERTICAL GARDEN
7. SCAFFOLDING VERTICAL GARDEN
8. PAVILION
9. ARTS BUILDING
10. RAISED BED GARDEN

NORTH PHILLY PEACE PARK – THOMAS JEFFERSON UNIVERSITY
FIRST FLOOR PLAN

NORTH PHILADELPHIA PEACE PARK
2226 W. JEFFERSON STREET
THOMAS JEFFERSON UNIVERSITY: RETAIL DIVISION

1 - INDOOR PRODUCE MARKET
2 - PERMACULTURE COMMUNITY KITCHEN
3 - OUTDOOR PATIO “BUFFER ZONE”
4 - CO-WORKING LIBRARY
5 - MULTIUSE ARTS AND EDUCATION
SECOND FLOOR PLAN

NORTH PHILADELPHIA PEACE PARK
2226 W. JEFFERSON STREET
THOMAS JEFFERSON UNIVERSITY: RETAIL DIVISION

SECOND FLOOR PLAN

1 - EXISTING TENANT
2 - BUSINESS INCUBATION SPACE
3 - MULTIUSE THERAPY SUITE
THIRD FLOOR PLAN

NORTH PHILADELPHIA PEACE PARK
2226 W. JEFFERSON STREET
THOMAS JEFFERSON UNIVERSITY: RETAIL DIVISION

1 - EXISTING TENANT
2 - BUSINESS INCUBATION SPACE
3 - MULTIUSE ART SPACE
Our proposal will give the community a safe space to interact with each other, resulting in a stronger community alliance. Community members will develop a stronger connection to the natural environment, by implementing and maximizing the cultivation and growth of vegetation within our buildings. Incorporating the use of natural materials such as wood and harvesting food indoors will bring an overall “organic” feel to the user. Implementing operable structures that open to the outdoors when weather permits will allow our building to directly respond to the experiential environmental qualities the site has to offer. We will bring man and nature closer together by maximizing natural light and natural ventilation whenever possible.
COMFORT + ENVIRONMENTAL QUALITY

INTERIOR RENDERINGS
COMFORT + ENVIRONMENTAL QUALITY

INTERIOR RENDERING

INDOOR MARKET
INTERIOR DETAILS

NORTH PHILADELPHIA PEACE PARK
2226 W. JEFFERSON STREET
THOMAS JEFFERSON UNIVERSITY: RETAIL DIVISION

KITCHEN MILLWORK DETAIL

KITCHEN MILLWORK DETAIL

KITCHEN MILLWORK DETAIL
ENVIRONMENTAL IMPACT

We will...

Strive to lower our embodied environmental impact by restoring and repurposing existing buildings and/or materials on site.

Giving preference to local materials and local labor.

Our ultimate environmental goal is to maximize rainwater collection, solar energy and potentially wind energy production.
Durability + Resilience

The existing buildings are made primarily of brick and CMU. These building materials will last a lot longer than what a traditional developer in this area would use (stick frame), as long as roof and wall integrity can be maintained. The structural lattice-work we are providing via the scaffolding will create an additional protective layer around these surfaces, extending their lifespan and making maintenance much easier and less expensive.

Just BioFiber will be used in place of existing insulation. BioFiber is rated at R 40. With its ease of construction capability, it can easily replace the existing insulation and fit in between the existing wooden studs. BioFiber cleans the conditions of CO2. In addition, BioFiber also acts as a moisture barrier combating the harsh humidity climate that occurs.
WE WILL BE...

IMPLEMENTING A SCAFFOLDING STRUCTURE THAT WILL BE ENGINEERED AND MODIFIED TO BE A PERMANENT STRUCTURE.

HIGHLY COST-EFFECTIVE

SERVE AS THE SUBSTRATE FOR ADDITIONAL FOOD PRODUCTION, WATER COLLECTION, AND ENERGY GENERATION

THE BUILDING ENVELOPE OF THE RETAIL AND GARAGE BUILDINGS CONSISTS OF CMU STRUCTURE WITH BIOFIBER INSULATION. THE REMAINING BUILDINGS CONSIST OF A BRICK STRUCTURE AND BIOFIBER INSULATION. WE ARE CAPTURING ROOF RUNOFF TO BE HOUSED WITHIN OUR CISTERNs LOCATED ON THE ROOF OF THE BUILDINGS. THE WATER COLLECTED IN THE CISTERNs WILL BE USED FOR IRRIGATION. PLACING THE CISTERNs ON THE ROOF WILL ALLOW US TO USE GRAVITY TO DISTRIBUTE THE WATER FROM THE CISTERN TO THE SYSTEM IN THE BUILDINGS. THE STORMWATER RUNOFF IS MANAGED IN THE BASIN.

MARKET ANALYSIS

NORTH PHILADELPHIA PEACE PARK
2226 W. JEFFERSON STREET
THOMAS JEFFERSON UNIVERSITY: RETAIL DIVISION

We plan to preserve the existing Market (CMX-2), Mechanic shop (CMX-2), Pizza shop (RM-1), and the three row homes (RM-1). This is important to us because Sharswood is currently being gentrified, as that development creeps in from nearby areas including the Temple Town and Brewerytown. Typical developers seldom plan to revitalize the existing structures but instead demolish and begin with a blank canvas. The typical home value of homes in Sharswood is $225,612. Sharswood home values have gone up 11.7% over the past year and they are predicted to rise an additional 9.2% in the next year.

Phase 1 of the NPPP’s Business model consists of calculating the total operating expenses needed to fund the addition of the Green Wallstreet scaffolding system. The total start up cost is $2,758. The start up costs consists of the scaffolding, seed, growth medium, and harvesting equipment. The total initial investment is $2,758 and the operating income is $.

Phase 2 of the NPPP’s Business model consists of enclosing the scaffolding with polyethylene sheets and installing two Covert LED-x 500 watt full-Spectrum LED Grow Light. Phase 2 would cost approximately $. All energy required by the LED Grow Lights will be powered by the energy harvested by the solar panels.

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<th>START UP COSTS</th>
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<td>Growing Equipment</td>
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<td>Harvesting Equipment</td>
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<td>Polyethelyne</td>
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<tr>
<td>Covert LED-x 500 watt full-Spectrum LED Grow Light</td>
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Total Initial Investment: $2,758

Total Planting Area: 78 S.F.

Plants per season: 117
Seasons: 2/yr
Plants per year: 234/yr
Total Vegetable Yield: 351 lbs
Average market of Vegetable: $1/ lb
Total return on vegetables/year: $702
Energy Performance

North Philadelphia Peace Park
2226 W. Jefferson Street
Thomas Jefferson University: Retail Division

Photovoltaics and wind turbines will be the main source of energy to the entire block and sell the excess back to the grid. The collection and storage of rainwater on site will provide for irrigation systems and the needs of the block, along with on-site agricultural growing, the intention is for the site to become self-sufficient.

HVAC Strategy:
VRF with ERV centralized system for all of the west side buildings on site + Passive Ventilation with heat recovery from the kitchen exhaust and greywater. Also working on a combined system that will move warmth and cool air from building to building, reducing the EUI. For the building that sits on the eastside of the block, we will create a VRF mini split system.

Existing Condition
Utilizing roof-tops to optimize solar radiation and maximize both growing area and energy production. Used solar panels brought to site and any additional PV needed will be the main source of energy production to the entire block, with the intention of selling any excess back to the grid.

The collection and storage of rainwater on site will provide for irrigation systems and the needs of the block, along with on-site agricultural growing, the intention is for the site to become self-sufficient.

The use of energy efficient mechanical systems and heat recovery; to accomplish this we are using VRF and ERV systems is used on west-facing buildings, and mini split system on the east-facing buildings.

The ECM chart is an analysis we conducted to find the appropriate R-value for the walls.
ENERGY PERFORMANCE

NORTH PHILADELPHIA PEACE PARK
2226 W. JEFFERSON STREET
THOMAS JEFFERSON UNIVERSITY: RETAIL DIVISION

RESIDENTIAL

RETAIL MARKET

MECHANIC SHOP

OFFICE

QUICK SERVICE RESTAURANT

ALL ZONES CONDITIONED

The site EUI has been reduced to 37 EUI before photovoltaics. The high energy consumption of the commercial kitchen is also being utilized for transferring heat to other buildings.

SITE EUI = 21 KBTU/ft²/year

SOURCE EUI = 37 KBTU/ft²/year
ENERGY PERFORMANCE

NORTH PHILADELPHIA PEACE PARK
2226 W. JEFFERSON STREET
THOMAS JEFFERSON UNIVERSITY : RETAIL DIVISION

OFFICE SCHEDULE

These schedules are based on programmatic functions of the spaces. They visualize the loads and systems over a 24 hour span.

RETAIL SCHEDULE
**ENERGY PERFORMANCE**

**NORTH PHILADELPHIA PEACE PARK**

2226 W. JEFFERSON STREET  
THOMAS JEFFERSON UNIVERSITY: RETAIL DIVISION

**PV COST**

We have 144 solar panels on site with a possibility of expansion. These solar panels not only cover all the site's needs, but also able to generate 130 KBTU per sq ft.

With that energy, not only do we need the site's need but we can sell the excess energy produced back to the grid, as well as providing for the scaffolding system energy demands.
ELEVATIONS

NORTH

SOUTH
ELEVATIONS

EAST

WEST
EDUCATIONAL BUILDING SECTION - WEST FACING
SECTIONS

FULL SITE SECTION
ROOF DETAIL

NORTH PHILADELPHIA PEACE PARK
2226 W. JEFFERSON STREET
THOMAS JEFFERSON UNIVERSITY: RETAIL DIVISION

GREEN ROOF PLANTING
GROWING MEDIUM
FILTER SHEET
TRAY SYSTEM
PROTECTION & WATER RETENTION MAT
ROOT BARRIER
ADHERED WATERPROOFING MEMBRANE
LEAK DETECTION GRID

1/2" COVER BOARD ATTACHED MECHANICALLY THROUGH INSULATION TO ROOF STRUCTURE
TWO LAYERS RIGID INSULATION JOINTS TO BE STAGGERED, R-30.5
NEW AIR BARRIER AT ROOF DECK, RETAIN EXISTING ROOF MEMBRANE
EXISTING ROOF STRUCTURE TO REMAIN. REPAIR ANY DAMAGED AREAS

ROOF DETAIL

NORTH PHILLY PEACE PARK – THOMAS JEFFERSON UNIVERSITY
SCAFFOLDING DETAILS

NORTH PHILADELPHIA PEACE PARK
2226 W. JEFFERSON STREET
THOMAS JEFFERSON UNIVERSITY: RETAIL DIVISION

PHASE 1

PHASE 2

PHASE 3
EXTERIOR RENDERINGS

EXTERIOR BEHIND THE BUFFER ZONE

NORTH PHILLY PEACE PARK – THOMAS JEFFERSON UNIVERSITY
LIGHTING PLAN
# Lighting Specifications

**North Philadelphia Peace Park**  
2226 W. Jefferson Street  
Thomas Jefferson University: Retail Division

<table>
<thead>
<tr>
<th>PRODUCT NAME</th>
<th>PRODUCT #</th>
<th>FINISH</th>
<th>PERFORMANCE</th>
<th>PRODUCT WEBSITE LINK</th>
</tr>
</thead>
</table>

**DECORATIVE LIGHT FIXTURE**

- **Product Type** - Pendant Fixture  
- **Manufacturer** - Rich Brilliant Willing  

<table>
<thead>
<tr>
<th>PRODUCT NAME</th>
<th>PRODUCT #</th>
<th>FINISH</th>
<th>PERFORMANCE</th>
<th>PRODUCT WEBSITE LINK</th>
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<tr>
<td>Decorative Light Fixture</td>
<td>Lonney Grey Stone Residential Vinyl Sheet Flooring</td>
<td>Matte Black Steel frame with satin opal globes</td>
<td>3000K (soft white), 110-120V Input, TRIAC / ELV / 0-10V, 1% Dimming, Power Consumption 25.5W, Luminaire Watts 25.5W, 90 CRI, UL Listed, Suitable for Damp Locations</td>
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MECHANICAL PLANS

NORTH PHILADELPHIA PEACE PARK
2226 W. JEFFERSON STREET
THOMAS JEFFERSON UNIVERSITY: RETAIL DIVISION

HVAC PLAN

SYSTEM COOLING SETPOINTS
MAIN SETPOINT = 23.9 °C
SETBACK- 26.7 °C

SYSTEM HEATING SETPOINTS
MAIN SETPOINT = 20.6 °C
SETBACK- 15.6 °C
MECHANICAL SECTIONS

NORTH PHILADELPHIA PEACE PARK

2226 W. JEFFERSON STREET
THOMAS JEFFERSON UNIVERSITY : RETAIL DIVISION

HVAC SECTION
NORTH PHILADELPHIA PEACE PARK
2226 W. JEFFERSON STREET
THOMAS JEFFERSON UNIVERSITY : RETAIL DIVISION

TOTAL SITE AREA: 38,000 S.F.
TOTAL INFILTRATION GOAL: 25,414 S.F.
TOTAL ROOF CAPTURE: 13,036 S.F.
WATER DETAILS

Annual Water Balance – Pease Park Wet Year

Monthly Rainwater Collection Potential – Average Year

30 Year Annual Rainwater

NORTH PHILLY PEACE PARK – THOMAS JEFFERSON UNIVERSITY
WATER DETAILS

Annual Water Balance – Pease Park Wet Year

Monthly Rainwater Collection Potential – Average Year

30 Year Annual Rainwater
WATER DETAILS

Annual Water Balance – Pease Park Dry Year

Rainwater to Potable Cistern Optimization

85 FTEs
13,036 sqft roof capture area @ 80% Efficient
900 sqft cafe

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<td>Drinking Fountain</td>
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ENERGY DIAGRAM
INTEGRATED PERFORMANCE

NORTH PHILADELPHIA PEACE PARK

The scaffolding-based space frame structure is designed with the purpose of creating space for not only farming, but also photovoltaics, wind turbines and water collection. Elevating these systems will maximize their performance as the PV and wind turbines will get more exposure to sun and wind, as rainwater gets collected from the rooftops and stored in a rooftop cistern.
## Market Analysis

**North Philadelphia Peace Park**  
2226 W. Jefferson Street  
Thomas Jefferson University: Retail Division

### Data Release: Year 2021

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$289.98 $319.53 $983.52
EXTERIOR IN FRONT OF PAVILLION
BUFFER ZONE
EXTERIOR RENDERSINGS

EXTERIOR BEHIND THE BUFFER ZONE