

1.1 PROJECT INTRODUCTION

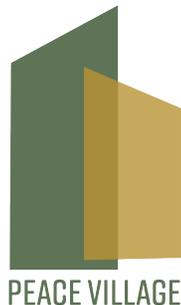
PROJECT INTRODUCTION

PROJECT SUMMARY

The Peace Village is a net-zero-energy, affordable housing development that will be located in the **Over-the-Rhine neighborhood of Cincinnati, Ohio**, adjacent to the Rothenberg Preparatory Academy. The primary focus of this project will be sustainability, both in terms of the green building design and the holistic individual experience of living in this development.

Since the attached housing units will **share the Main & Schiller site** with Miami University's **Mixed-Use Multifamily team**, the two projects will be interconnected spatially as well as environmentally. We envision this collective space as a place for the community to gather together and learn from each other how to live a more sustainable life.

This project seeks to **enhance the community dynamic and lifestyle** in a manner that **minimally disturbs existing site conditions**, while working with local neighborhood residents and community leaders to ensure that the changes being implemented are both appropriate and attainable.



PHIUS+ 2018 REQUIREMENTS

AVERAGE OF ALL UNIT TYPES

- Annual Heating Demand • 9.0 kBtu/ft²/yr
- Annual Cooling Demand • 13.5 kBtu/ft²/yr
- Peak Heating Load • 6.6 BTU/ft²/yr
- Peak Cooling Load • 5.8 BTU/ft²/yr
- Source Energy • 3,840 kWh/person
Annual
- Site Energy • 4,860 kWh/unit
Annual
- Air Tightness • 0.06 CFM/ft² @ 50pa
- Monthly Utility Cost • \$33.62
Per Unit

Figure 1: PHIUS+ 2018 Requirements

TECHNICAL + SYSTEM SPECS

- Foundation Insulation • R-22
- Wall Insulation • R-36
- Roof Insulation • R-50
- Window Performance • Triple-Pane
U-Value • 0.14
SHGC • 0.5
- HVAC System • Ducted Mini-Split w/ ERV
- DHW System • Individual Heat-Pump
- EUI • 11.84 kBtu/ft²/yr
Final Sefaira model
- HERS Rating • 39
Type A w/o PV Systems
- HERS Rating • -3
Type A w/ PV Systems

Figure 2: Technical + System Specs

DESIGN STRATEGY

Our design strategy will focus primarily on the **implementation of Passive House principles** based on PHIUS+ 2018 standards: specifically **airtightness, super-insulated walls, doors, and windows, and on-site generation of renewable energy**. We will utilize active PV systems on the roofs of the units to generate clean solar energy for the residents, and incorporate an **environmentally sensitive system of storm water run-off** that is necessitated by the sloping site.

We will also **build off of the existing permaculture garden** on the site to create a natural environment that will provide long-term benefits to the community. We will use this and other **regenerative design strategies** to provide opportunities for adaptation and regrowth in the future.

PROJECT DATA

- Location • Main St. + Schiller St.
Cincinnati, OH 45202
- Climate Zone • 4A
- Total Site • ~4 acres
Attached Housing Site • 10,400 ft²
- Unit Sizes
 - Type A • 2 bed-1.5 bath | 1,290 ft² iCFA | 2 units
 - Type B • 3 bed-2.5 bath | 1,715 ft² iCFA | 5 units
 - Type C • Accessible 2 bed-2 bath | 1,390 ft² iCFA | 2 units

Figure 3: Project Data