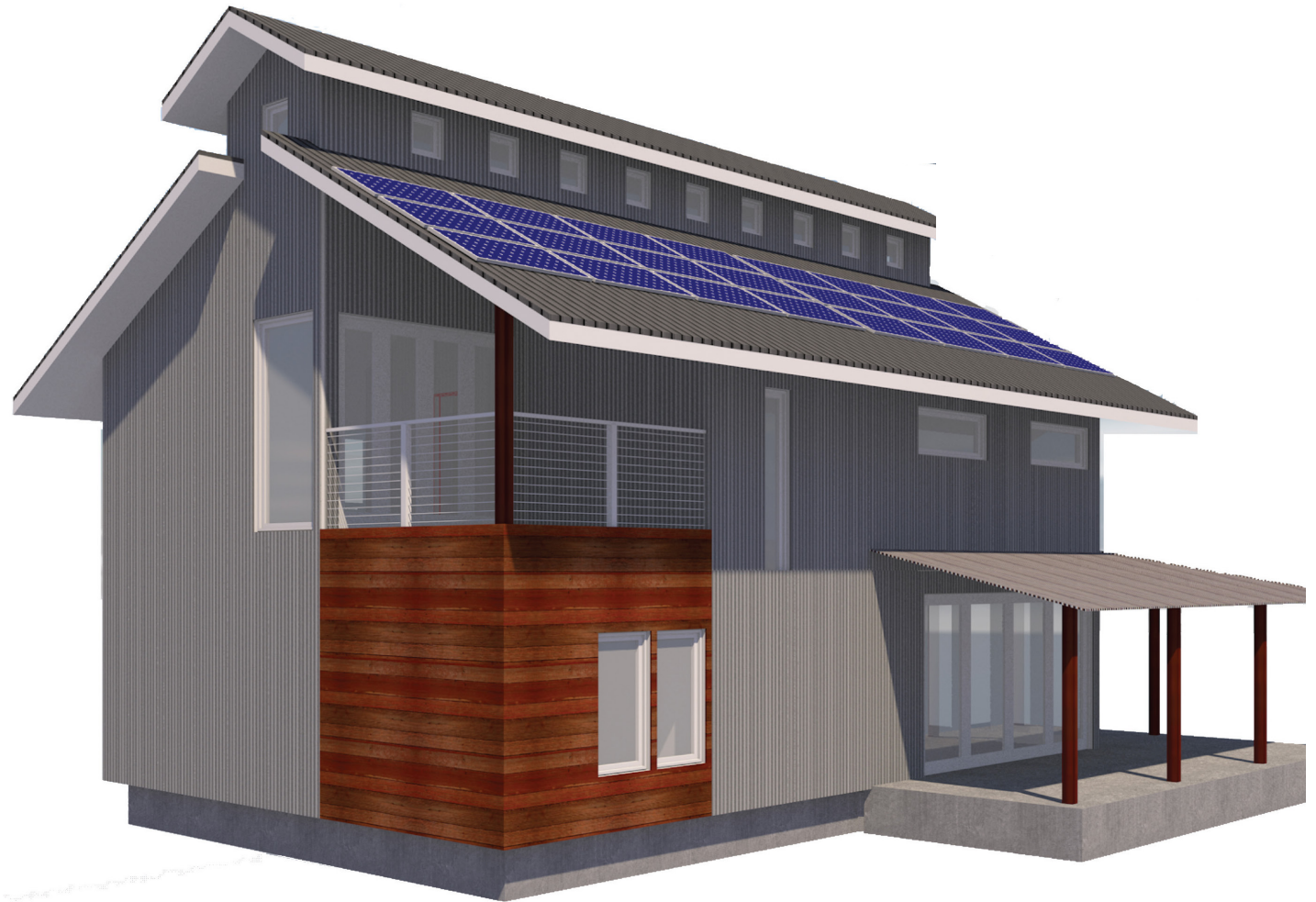


JESSICA APRIL WARD (SCHLEIFER), PhD, MArch

Selected Design, Technical and Research Projects | 2012 - 2026



High-performance residential, educational, and housing projects emphasizing building performance, resilience, construction documentation, and community-centered design.



Jessica April Ward (Schleifer), M. Arch., Ph.D.

Professional experience includes project work with Neighborhood Housing Services of Phoenix (NHS), Architend, Houston-Galveston Area Council (H-GAC), Houston Habitat for Humanity, Prairie View A&M University (PVAMU), and IDEA Studio × Workshop LLC.

My work has focused on high-performance buildings, housing, resilience, construction management, consultant coordination, and community-centered design.

My architectural foundation was shaped early through exposure to the principles of the Sarasota School of Architecture while working with architect Carl Abbott, FAIA, whose emphasis on climate-responsive design, regionalism, and environmental stewardship continues to influence my approach to architecture. Additional mentorship and academic engagement with Michael Rotondi, FAIA, further expanded my understanding of design thinking, interdisciplinary collaboration, and the relationship between architecture, community, and place.

A significant portion of my professional architectural experience was gained through consulting work with Architend, where I contributed to high-performance residential and educational projects pursuing Passive House, Net Zero Energy, and Living Building Challenge goals. This work helped establish the technical foundation that supported completion of my AXP requirements and continues to inform my approach to building performance, construction documentation, and project delivery.

CONTENTS

01 - Microgrid House Prototype (PVAMU + Houston Habitat for Humanity)

02 - Passive House Residence (Architend)

03 - Monarch School (Living Building Challenge)

04 - Houston-Galveston Area Council (H_GAC) Housing Recovery

05 - Digital Documentation, Building Performance + Emerging Technologies

06 - Design Leadership + Academic Engagement

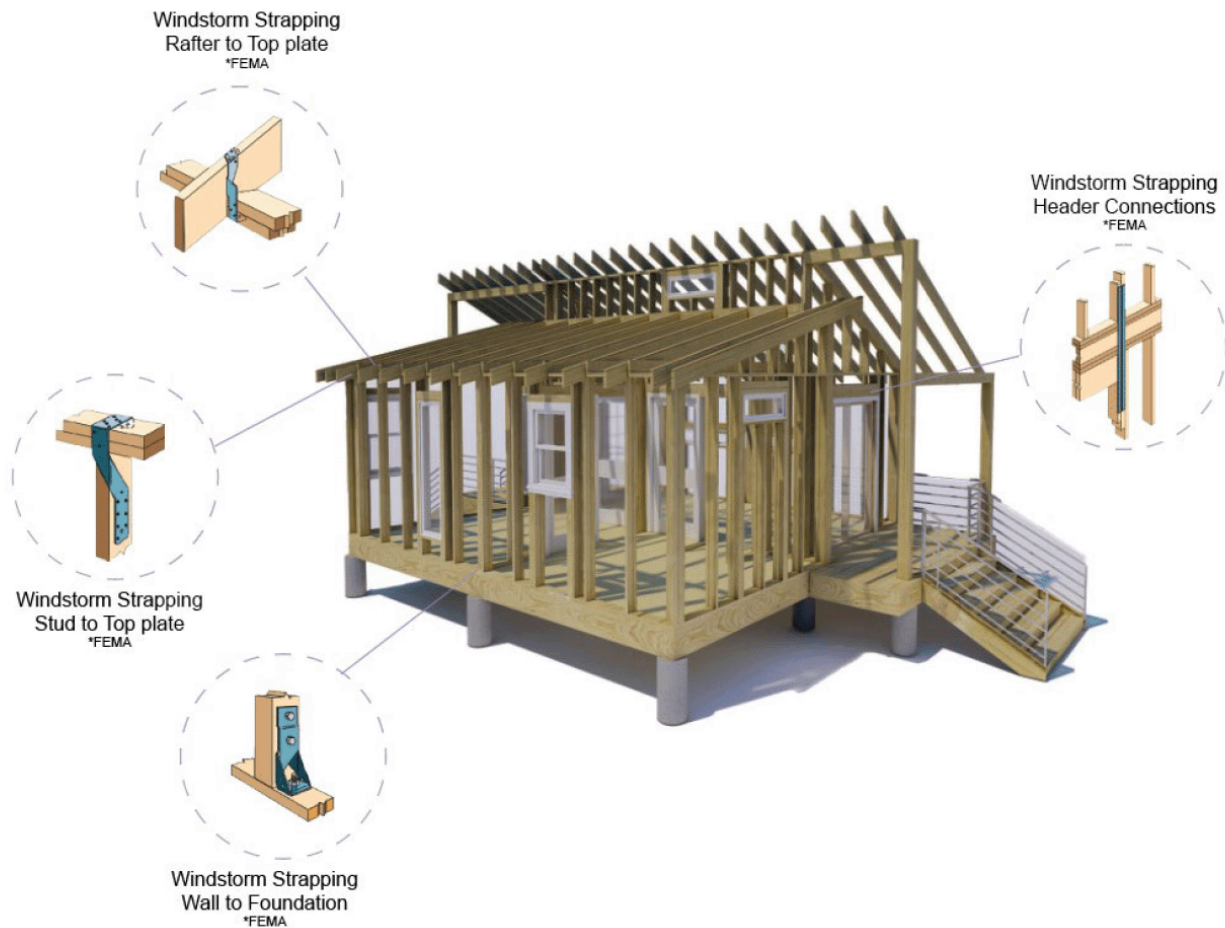
01 - Microgrid House Prototype (PVAMU + Houston Habitat for Humanity)

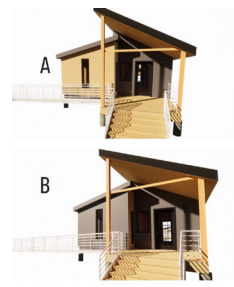
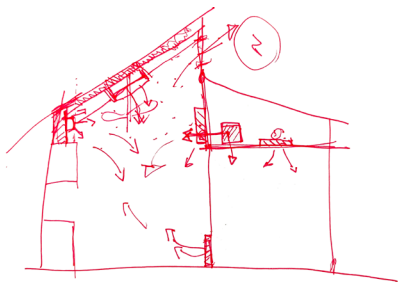
Served as Principal Investigator and Lead Designer for a Department of Education funded research initiative. Directed a team of graduate and undergraduate architecture students through design development, construction documentation, stakeholder coordination, and construction administration while serving as the University's Owner's Representative during construction.

Project Type: Applied Research, Resilient Housing & Demonstration Project

Role: Principal Investigator & University Owner's Representative

Designed, Funded, Built + Published: 2020- 2023





U.S. Department of Education Micro-Grid Lab Prototype on PVAMU Campus, 2023-2024

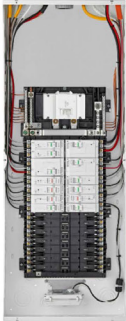
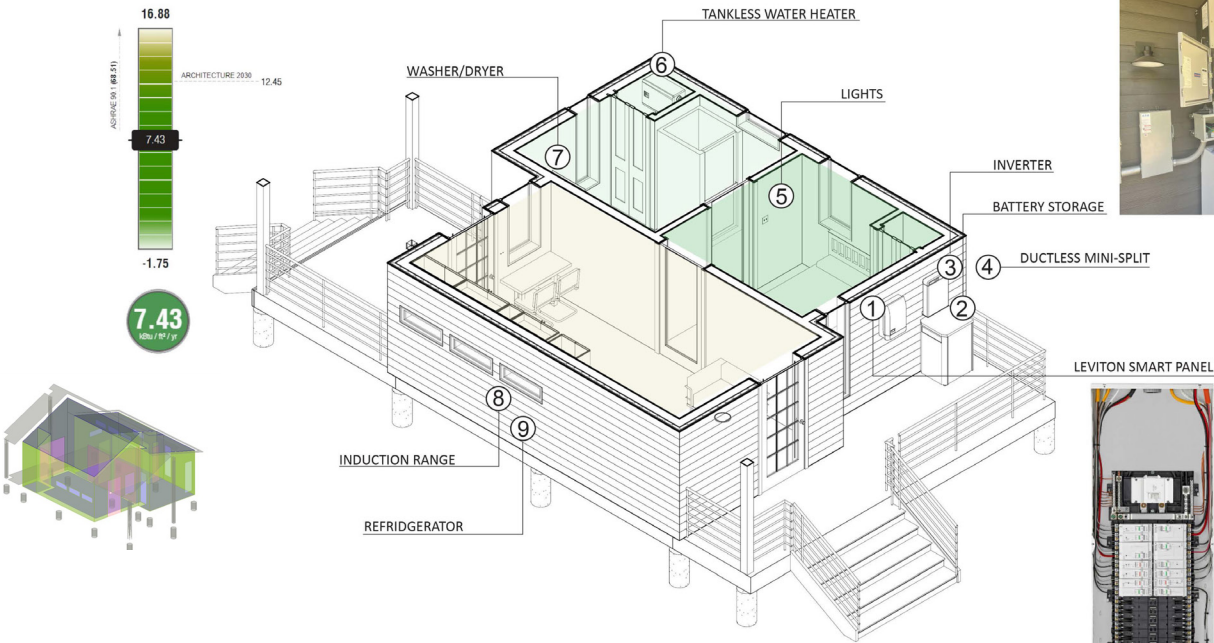


U.S. Department of Education Micro-Grid Lab Prototype on PVAMU Campus, 2023-2024

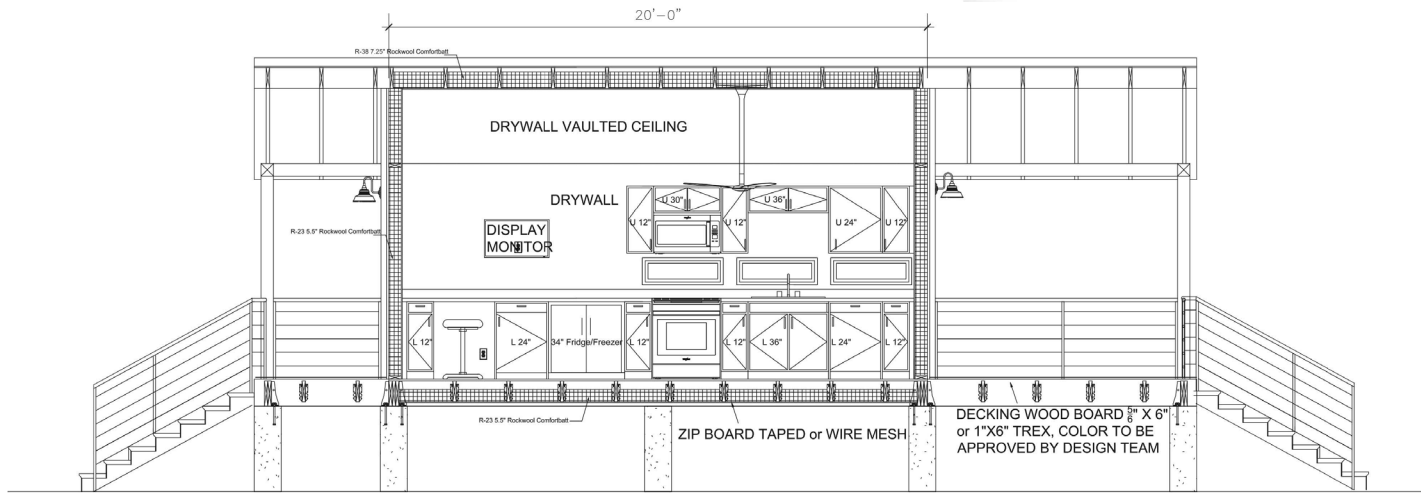


*Research Assistants: Joe Livings +
Russell Lewis*

Prairie House 360



Jaylin Lee, Modular Micro-Grid Energy Diagram + Analysis in REVIT Insight



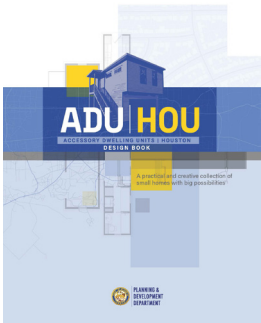
Campus Iteration Construction Drawings



U.S. Department of Education Micro-Grid Lab Prototype on PVAMU Campus, 2023-2024



Student Full Scale Mock Up



Research Assistants: Jaylin Lee, Anderson Yauripoma, Brooke Meshack, Christian Duncan, Covington Thompson

Student Visualization for City of Houston ADU | HOU Design Book



U.S. Department of Education Micro-Grid Lab Prototype on PVAMU Campus, 2023-2024

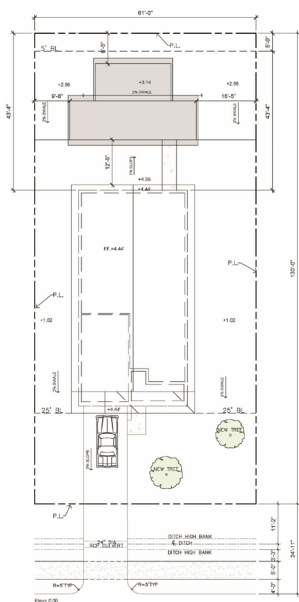


Houston Habitat for Humanity ADU Build of House 360 Prototype





Drone Footage



Fortified Hurricane Resistant Housing Prototype built with Houston Habitat for Humanity (2024)

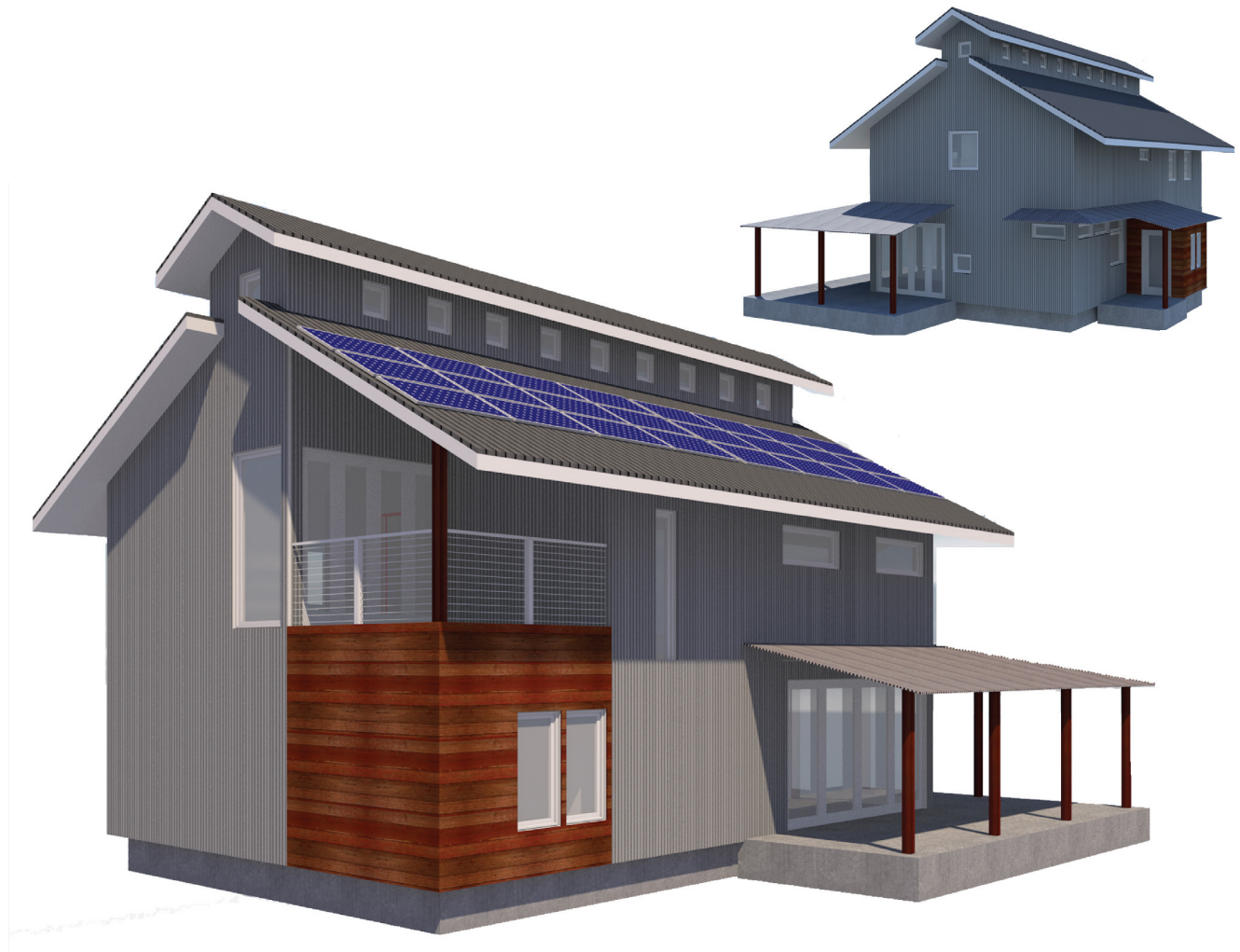
02 - Passive House Residence

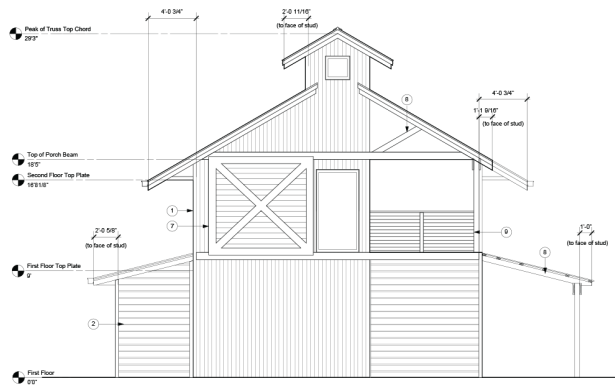
This project explored the intersection of sustainability, resilience, and residential design through the development of a high-performance Passive House residence. Emphasizing energy efficiency, thermal comfort, durability, and environmental stewardship, the project required close coordination between architectural and engineering disciplines to achieve ambitious performance goals while maintaining a thoughtful residential living environment.

Project Type: High-Performance Residential Design

Role: BIM Model + Drawing Production

Conceptual Design: 2015

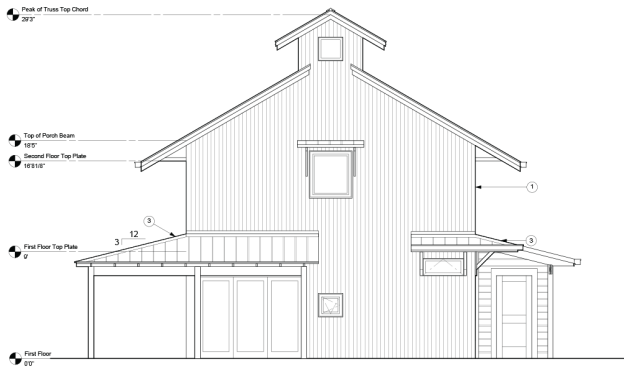




18 West Elevation
Scale: 1/4"=1'-0"



03 South Elevation
Scale: 1/4"=1'-0"

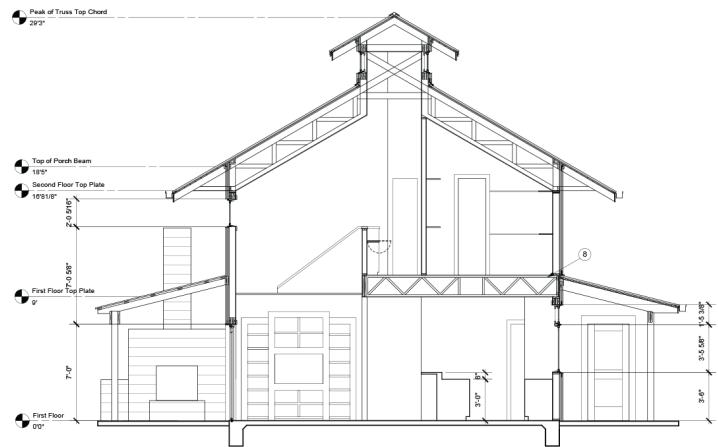
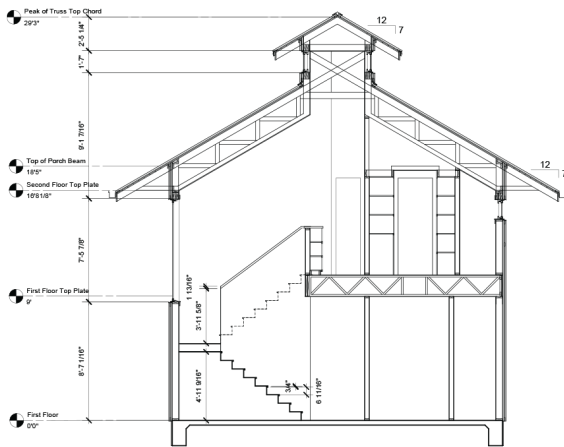
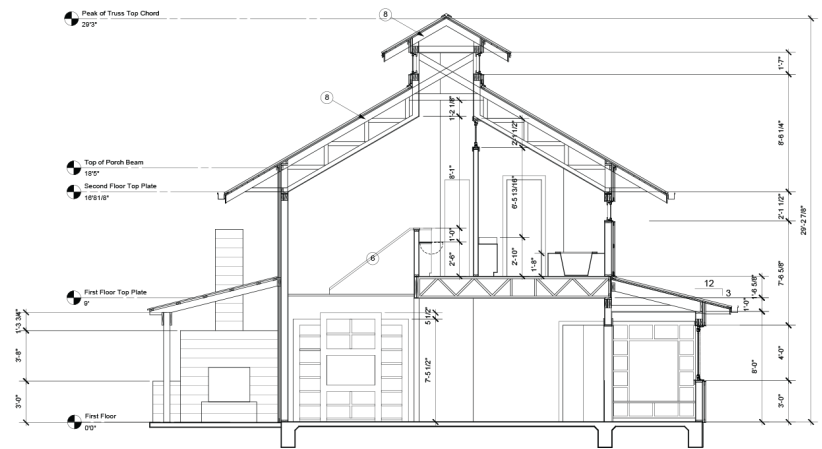
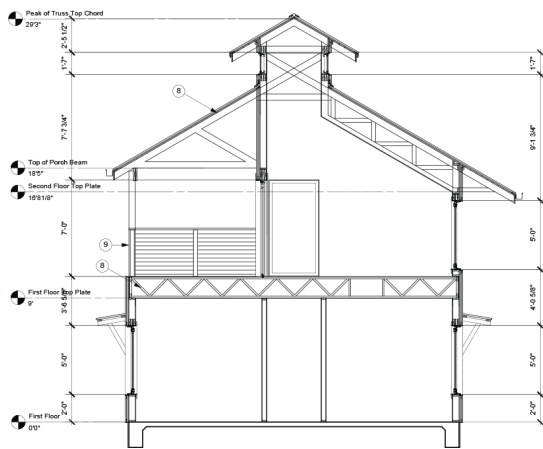


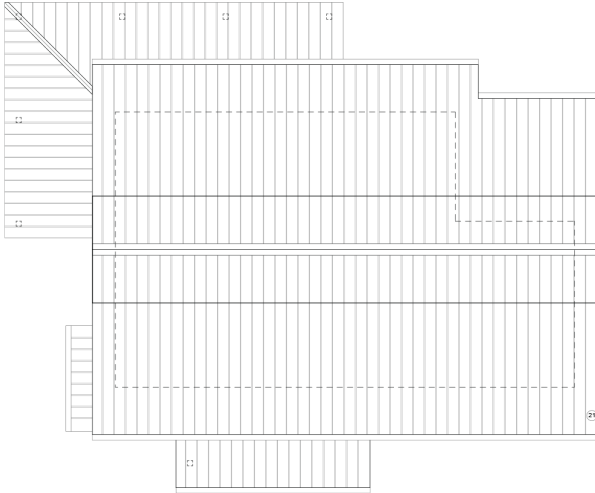
16 East Elevation
Scale: 1/4"=1'-0"



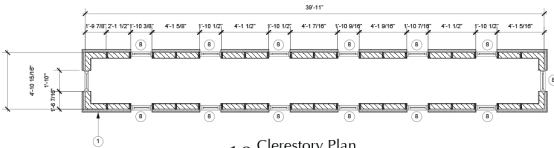
01 North Elevation
Scale: 1/4"=1'-0"

Design/Build Passive House Design Development, 2015

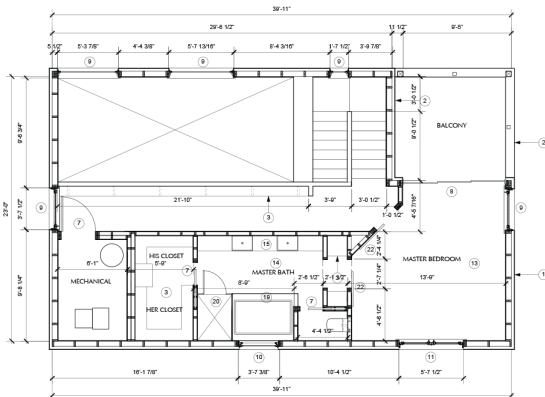




19 Roof Plan
Scale: 1/4"=1'-0"



18 Clerestory Plan
Scale: 1/4"=1'-0"



16 Second Floor Plan
Scale: 1/4"=1'-0"

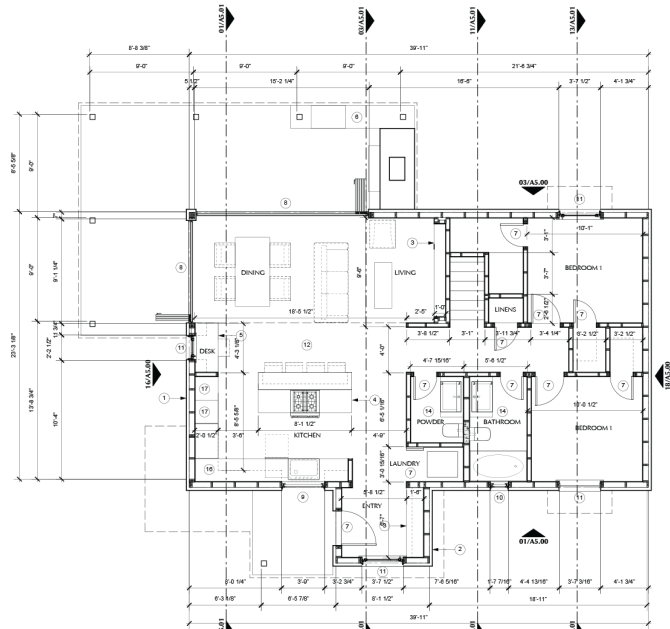
KEYED NOTES

1. Typical Exterior Wood Siding Wall (From Exterior)
Upfleshed 5/8" x 8" Custom Colonial Roughness Siding;
3/4" Insulation Vented Cavity consisting of 1/2" P
Wood Cladding @ 24" o.c. and 3/4" Concrete 5/5
at all walls, heads and intersections to the study.
R-5, 1" Full-Inner Rigid Polyurethane Insulation, Proteco Cat 5
Paint Applied to Exterior Membrane, 1/2" Structural Sheathing
w/ all seams sealed w/ Proteco Joint & Seam Filler and
w/ Proteco FastFlash Flashing at all openings; 2x6 Studs
@ 24" o.c. following Advanced Framing Principles; R-21
Dense Pack Cellulose Cavity Insulation, 1/2" Paperless Gypsum Board.
2. Typical Exterior Metal Siding Wall (From Exterior)
Galvalume Corrugated Metal Siding, 3/4" Insulation
Vented Cavity consisting of 1/2" Rigid Sheathing
@ 24" o.c. and 3/4" Concrete 5/5 or all sills, heads
and intersections to the study; R-5, 1" Full-Inner Rigid Polyurethane Insulation;
Proteco Cat 5 Paint Applied to Exterior Membrane, 1/2" Structural Sheathing
w/ all seams sealed w/ Proteco Joint & Seam Filler and
w/ Proteco FastFlash Flashing at all openings; 2x6 Studs
@ 24" o.c. following Advanced Framing Principles; R-21
Dense Pack Cellulose Cavity Insulation, 1/2" Paperless Gypsum Board.
3. Built in Casework
4. Built in Kitchen Island w/ Solid Stone or Concrete Countertop
5. Built in Workbench
6. Alternate #1: Outdoor Built in Masonry Fireplace and Countertop for Outdoor Kitchen
7. Scheduled Door
8. Alternate Clad Wood (Bidding or L/R & Slide Patio Door, None/What WAO?),
Marvin 6-10 Double, Lacanella Aluminum Wood Folding Doors, or Marvin L/R and Slide.
9. Marvin Aluminum Clad Wood Picture Window w/ double pane. L/E-272
argon filled insulated glazing
10. Marvin Aluminum Clad Wood Ultimate Push Out Awning Window w/ double pane. L/E-272
argon filled insulated glazing
11. Marvin Aluminum Clad Wood Tilt Turn and Hopper Window w/ double pane. L/E-272
argon filled insulated glazing
12. Exposed Concrete Floor w/ Burnished Finish
13. Finished hardwood Floor
14. Porcelain Tile Floor
15. Bathroom Vanity, Lower Custom Cabinets w/ Solid Stone or Concrete Countertop
16. Upper and Lower Custom Cabinets w/ Solid Stone or Concrete Countertop
17. Full Height Pull Out Custom Pantry
18. Hardwood Stair Treads and Risers
19. Built in Tub and Surround w/ Solid Stone Top and Porcelain or Stone Tile Face
20. Porcelain or Stone Tile Built in Shower w/ Glass Surround and Door
21. Standing Seam Metal Roof, Galvalume R Panel
22. Sliding Barn Door

GENERAL NOTES

1. Dimensions are to face of stud and edge of slab.
2. Floor or landing to be level on each side of all doors,
except that exterior landings shall have a 2% slope away
from the building.
3. Furniture and Appliances to be provided by the owner.

04 Plan Notes
Scale: 1/4"=1'-0"



01 First Floor Plan
Scale: 1/4"=1'-0"

03 - Monarch School Classrooms

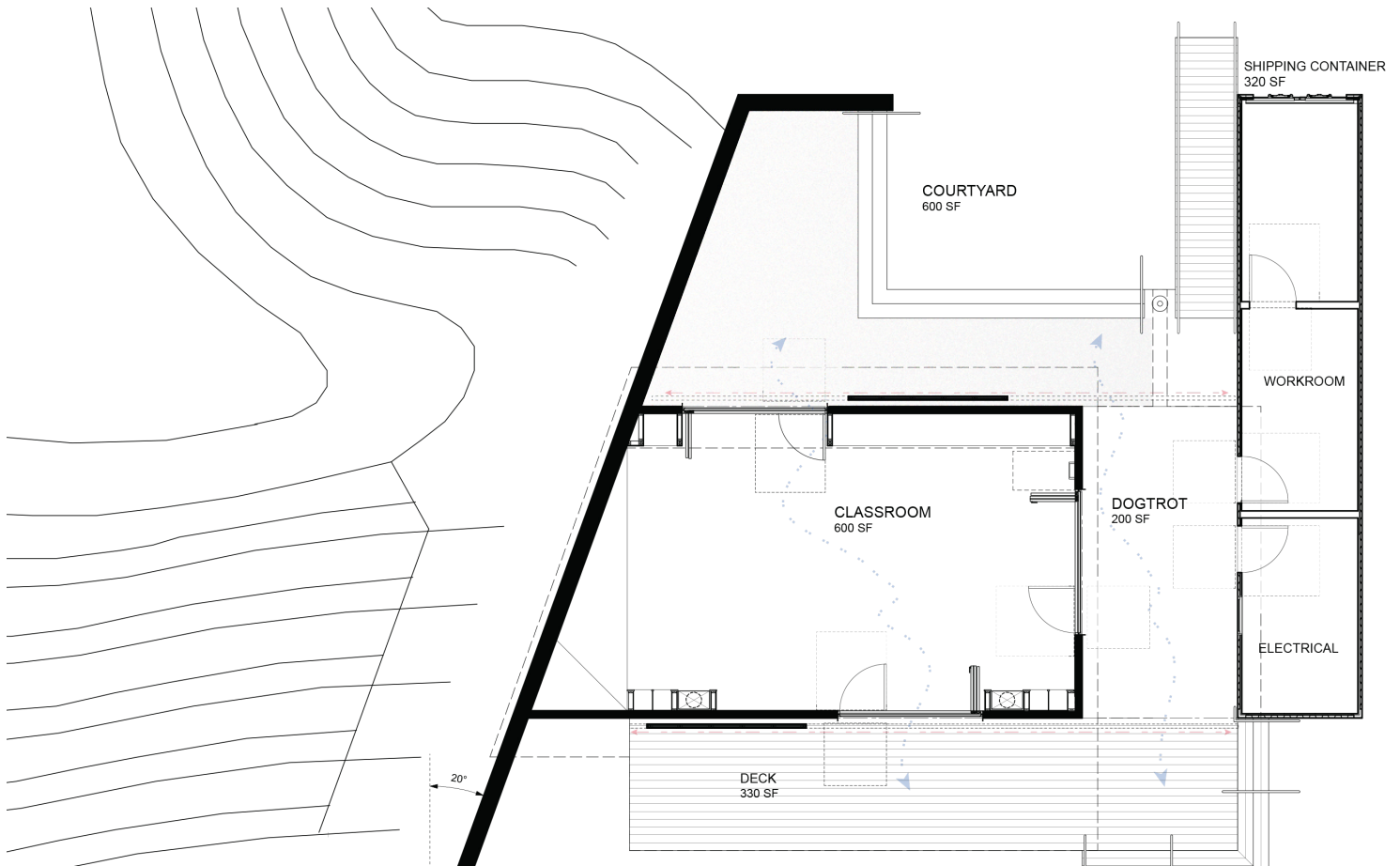
Developed as an expansion of The Monarch School campus, the Studio Classroom was conceived as a sustainable educational environment that strengthens the relationship between learning, nature, and community. Guided by Living Building Challenge principles and rigorous Red List compliance requirements, the project incorporated healthy materials, outdoor learning spaces, and climate-responsive design strategies to create a resilient, healthy, and engaging campus addition. Building systems included a geothermal HVAC system that reduced operational energy demands while supporting occupant comfort. An interactive building performance dashboard provided students and faculty with real-time access to energy and environmental data, transforming the building itself into a teaching tool that reinforced environmental stewardship and sustainability education.

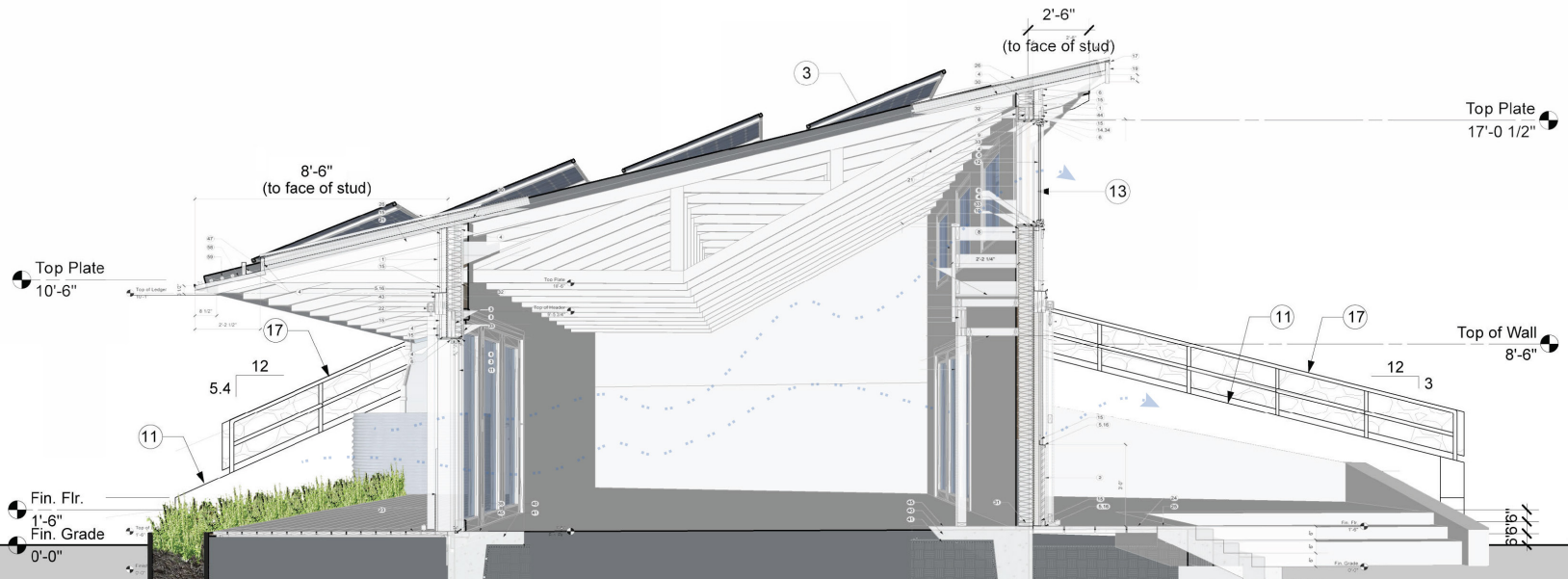
Project Type: Living Building Challenge Educational Facility

Role: Architectural Consultant, Construction Documentation and Administration

Design/ Build: 2014

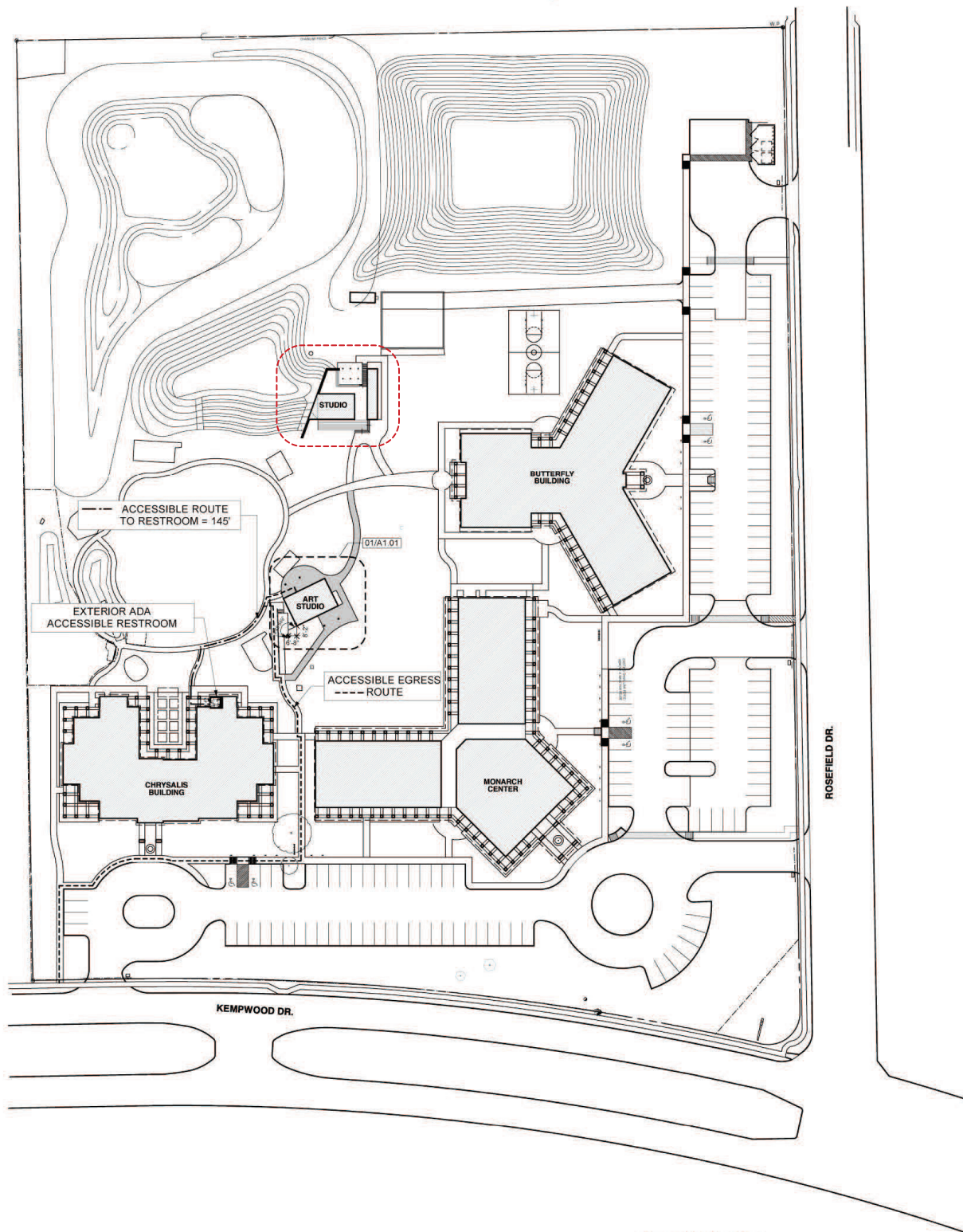
Petal Certification: Place, Materials, Equity, Beauty

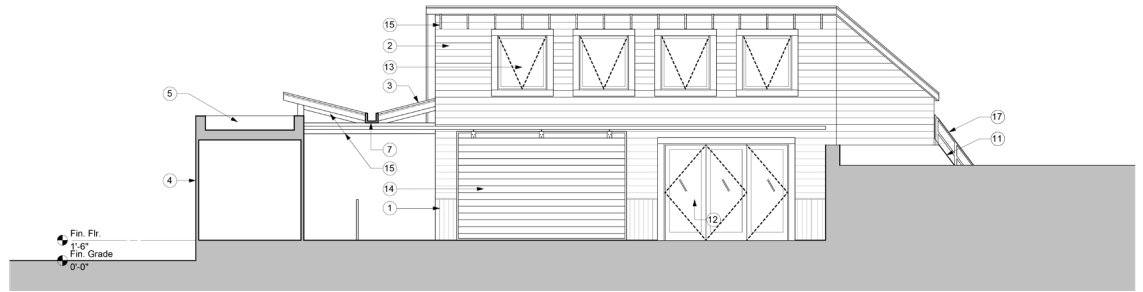




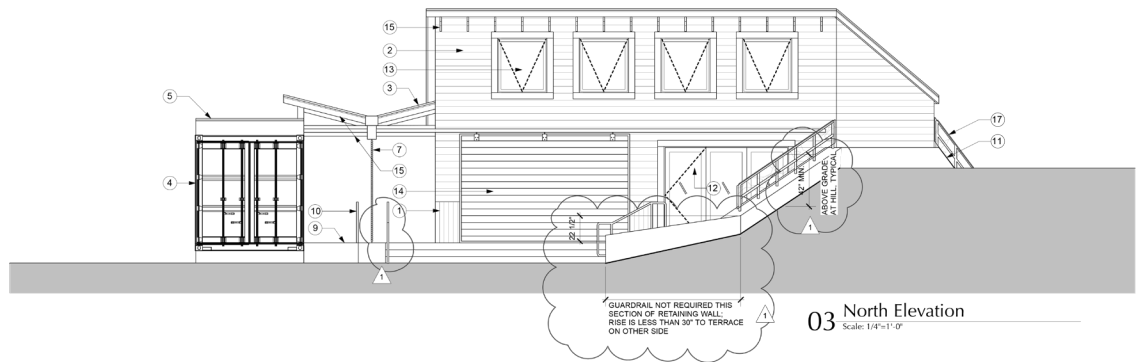




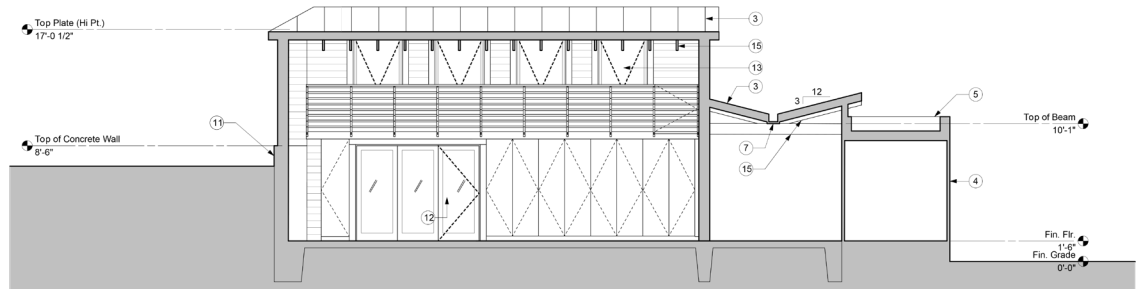




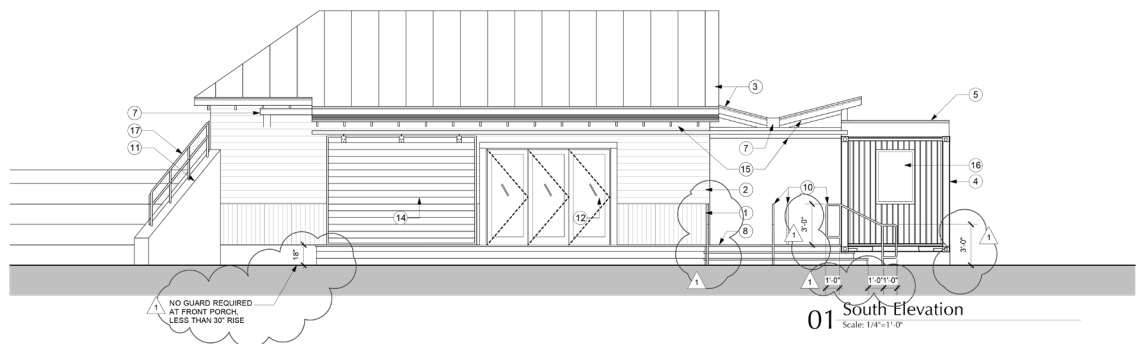
04 Longitudinal Section
Scale: 1/4"=1'-0"



03 North Elevation
Scale: 1/4"=1'-0"



02 Longitudinal Section
Scale: 1/4"=1'-0"



01 South Elevation
Scale: 1/4"=1'-0"

KEYED NOTES

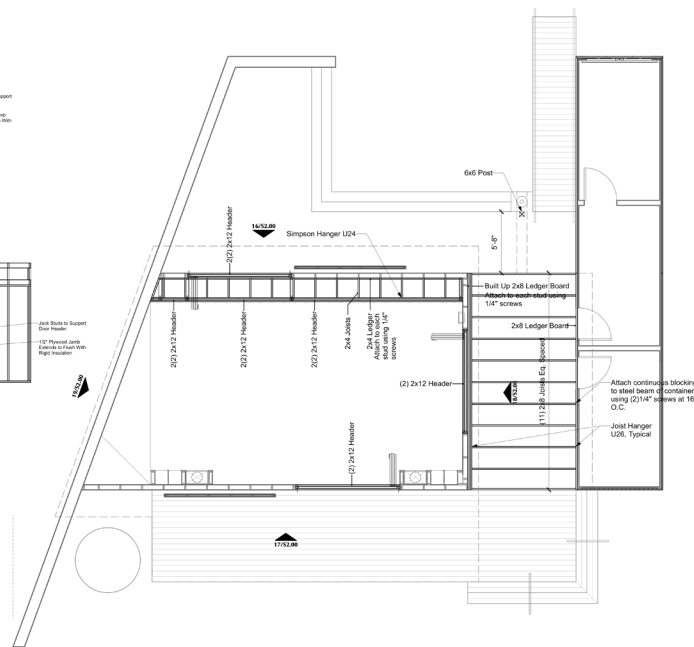
- 1 Reclaimed Metal Siding
- 2 Reclaimed T&G Wood Siding
- 3 Standing Seam Metal Roof
- 4 Reused Shipping Container
- 5 Living Roof System
- 6 NOT IN USE
- 7 Gutter/Downspout/Rain Chain
- 8 Wood Deck
- 9 Ramp
- 10 Handrail
- 11 Concrete Retaining Wall
- 12 Scheduled Door
- 13 Scheduled Window
- 14 Sliding Barn Door
- 15 Wood Truss/Rafter
- 16 Donor Recognition Sign
- 17 Guardrail: Metal Artwork With Openings Through Which a 4" Sphere Cannot Pass Through Waller To Galvanized Steel Pipe (RE: Structural)

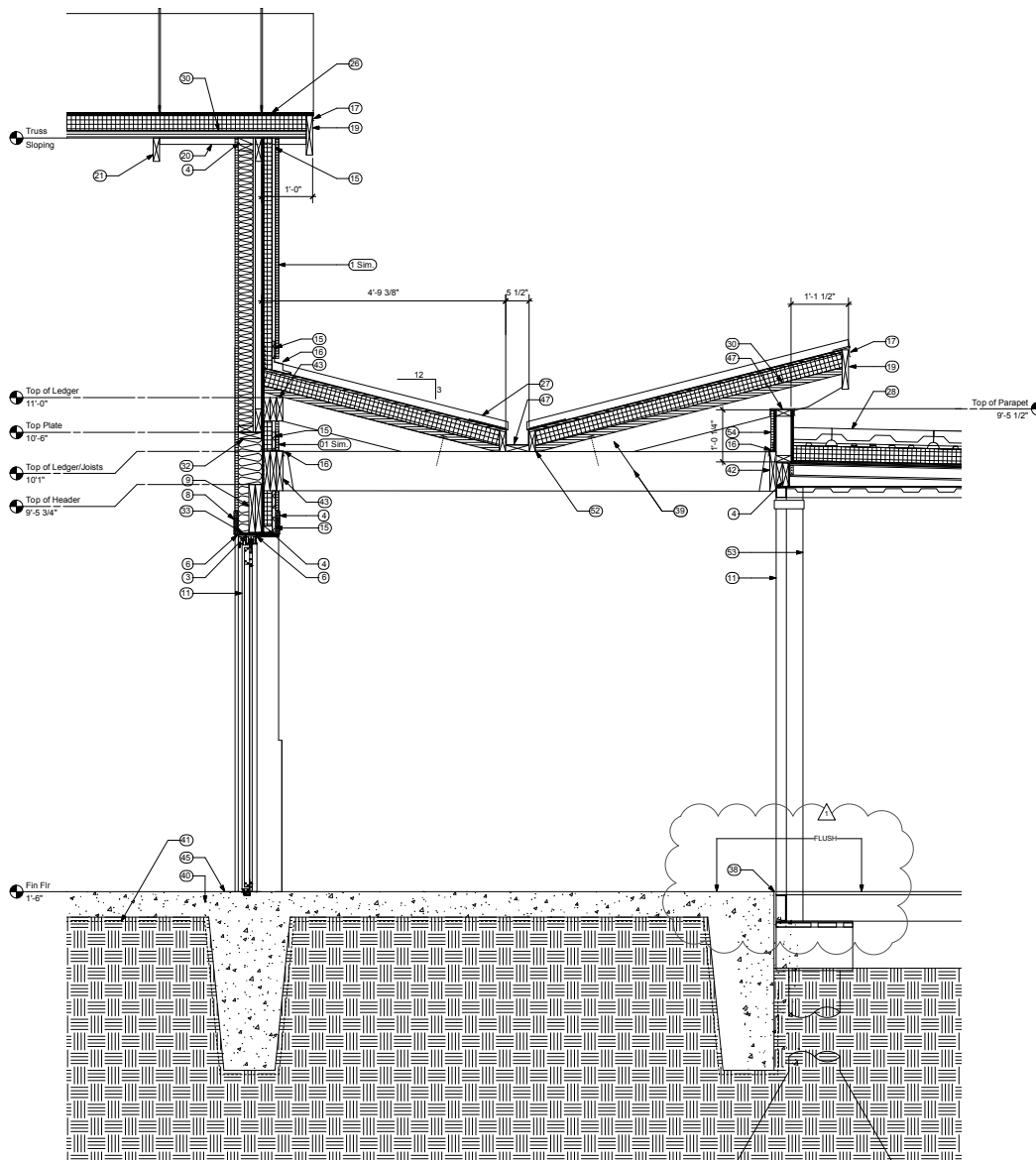
16 Elevation and Section Notes
Scale: None



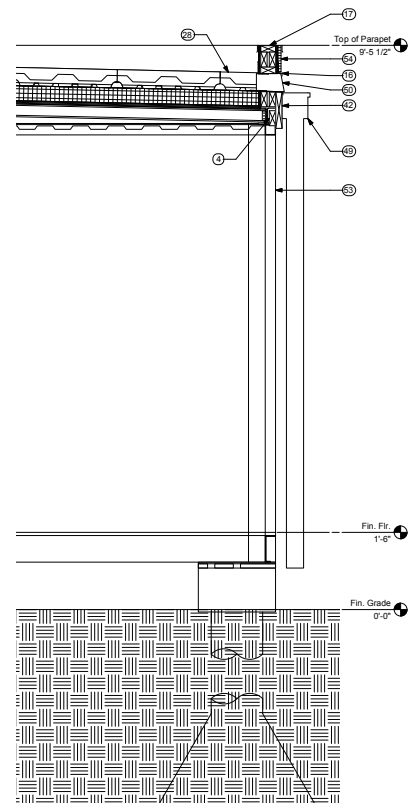
- ### KEYED NOTES
- | | |
|---|--|
| ① | Reclaimed Metal Siding |
| ② | Reclaimed T&G Wood Siding |
| ③ | Standing Seam Metal Roof |
| ④ | Reused Shipping Container |
| ⑤ | Living Roof System |
| ⑥ | NOT IN USE |
| ⑦ | Gutter/Downspout/Rain Chain |
| ⑧ | Wood Deck |
| ⑨ | Ramp |
| ⑩ | Handrail |
| ⑪ | Concrete Retaining Wall |
| ⑫ | Scheduled Door |
| ⑬ | Scheduled Window |
| ⑭ | Sliding Barn Door |
| ⑮ | Wood Truss/rafters |
| ⑯ | Door Recognition Sign |
| ⑰ | Guardrail: Metal Arrows With Openings Through Which a 4" Sphere Cannot Pass Through Windload to Galvanized Steel Pipe (IE: Structural) |
| ⑱ | Touch Screen Control Monitor |

16 Elevation and Section Notes
Scale: None

[illegible]



11 Wall Section
Scale: 1"=1'-0"



06 Wall Section
Scale: 1"=1'-0"

04 - Houston-Galveston Area Council (H_GAC) Housing Recovery

Developed in partnership with the Houston-Galveston Area Council (H-GAC) following Hurricane Ike, the Back Home Housing Recovery Initiative explored resilient, affordable, and rapidly deployable housing solutions for Gulf Coast communities recovering from disaster. The project focused on developing climate-responsive housing prototypes that balanced durability, affordability, accessibility, and long-term community resilience.

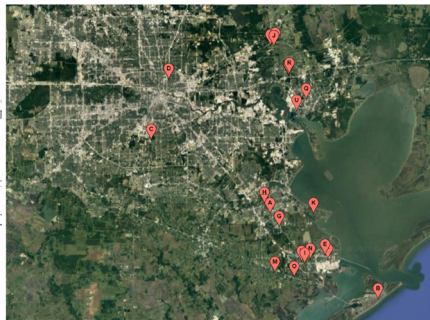
Project Type: Disaster Recovery Housing Prototype Design & Development

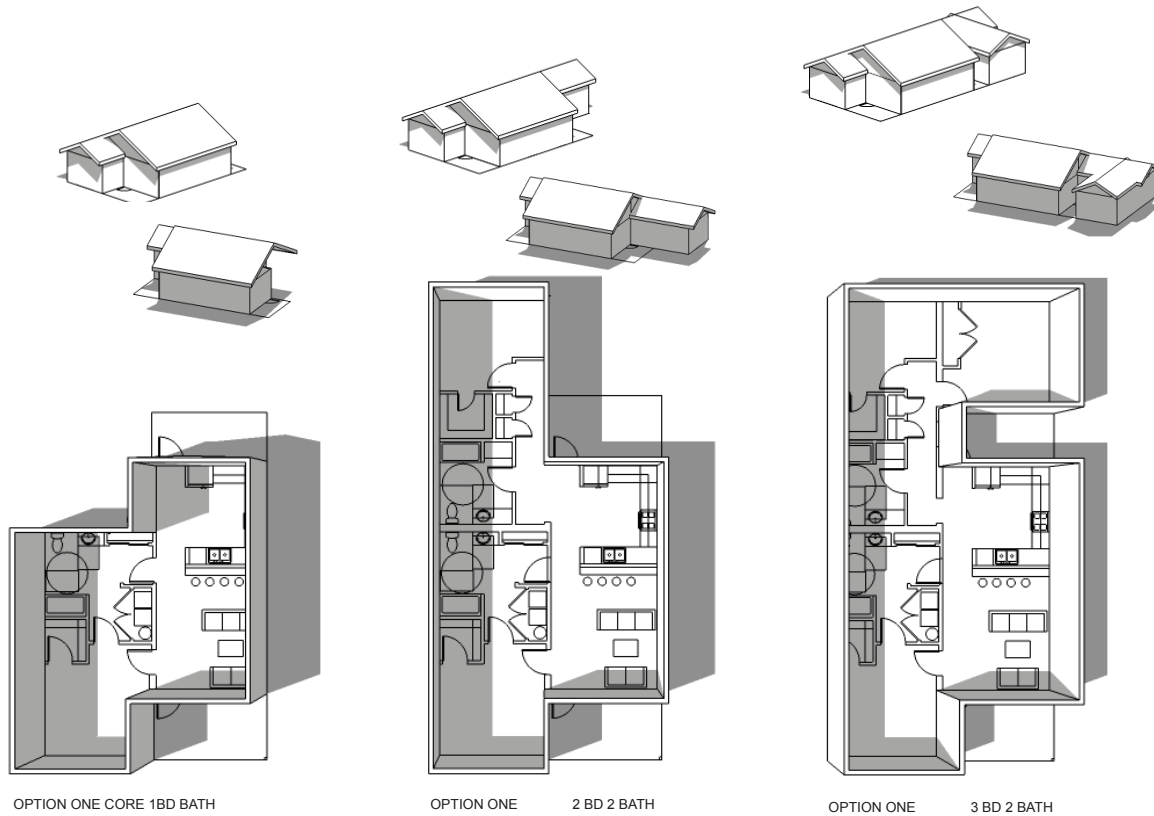
Role: Lead Designer, Community Outreach Coordinator, Housing Consultant

Constructed Pilot: 2015- 20 Constructed



Hurricane resistant modular home - delivered, raised with ADA ramp option, Dr. Ward (2014)





- Housing prototype design and development (1–3 bedroom models)
- Community outreach and stakeholder engagement
- Public presentations and design communication
- Construction documentation and visualizations
- Resilient and climate-responsive design strategies
- Modular housing systems development
- Accessibility and aging-in-place considerations
- Coordination with public agencies and project partners
- Modular design optimization for transportation, delivery, and onsite assembly



Hurricane resistant modular home - delivered

The project emphasized elevated foundations, hurricane-resistant construction, energy efficiency, and adaptable floor plans designed to meet the needs of diverse households affected by disaster.

Design development considered the full lifecycle of delivery and deployment, including transportation dimensions, highway permitting requirements, modular fabrication constraints, on-site assembly sequencing, foundation integration, and long-term maintainability.





05 - Digital Documentation, Building Performance + Emerging Technologies

Digital documentation and spatial analysis technologies were utilized to support architectural design, historic preservation, housing research, community planning, and resilience-focused investigations. Through the integration of LiDAR scanning, GIS analysis, thermal imaging, drone documentation, and environmental datasets, these projects informed decision-making across multiple scales ranging from individual buildings to neighborhoods and regional planning initiatives.

Project Type: Existing Conditions Documentation + Historic Preservation

Role: Consultant

Building Assessment: 2026-Current

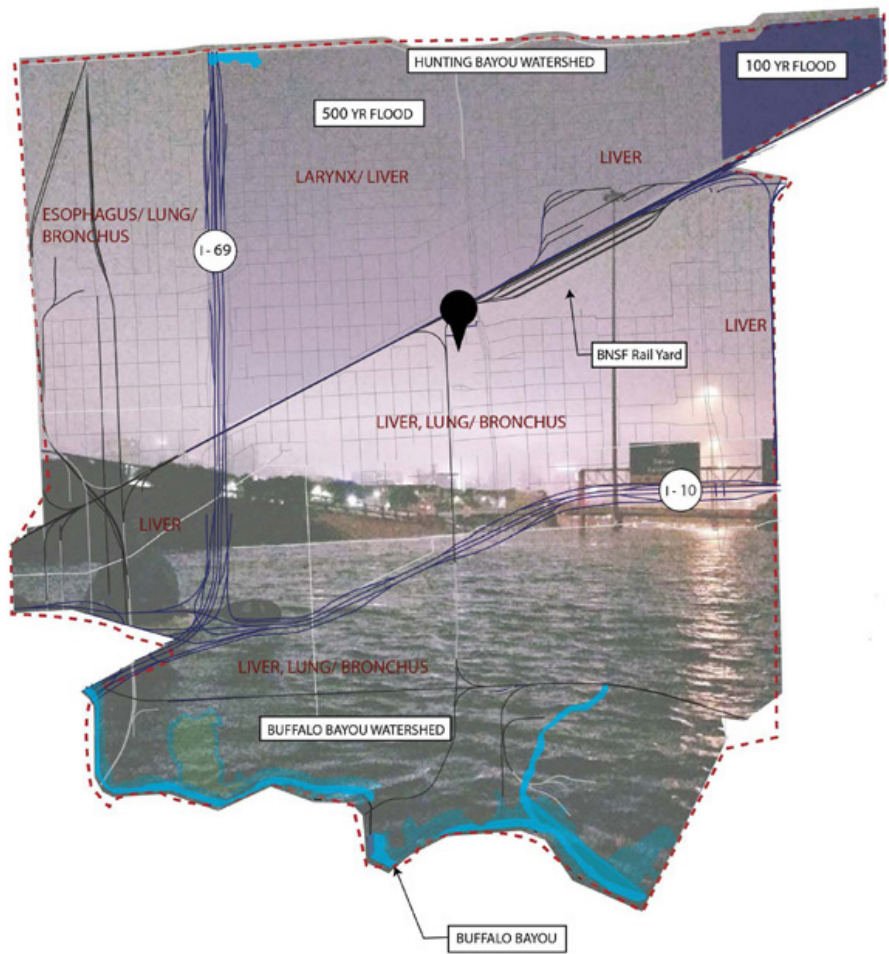


GIS-based spatial analysis was utilized to investigate relationships among housing vulnerability, environmental risk, infrastructure systems, and community resilience across Gulf Coast communities. Supporting peer-reviewed research, the work informed resilience planning, environmental justice investigations, housing recovery strategies, and community planning initiatives through the integration of environmental, social, and spatial datasets.

Project Type: Spatial Analysis, Climate Resilience, and Environmental Justice Research

Role: Researcher

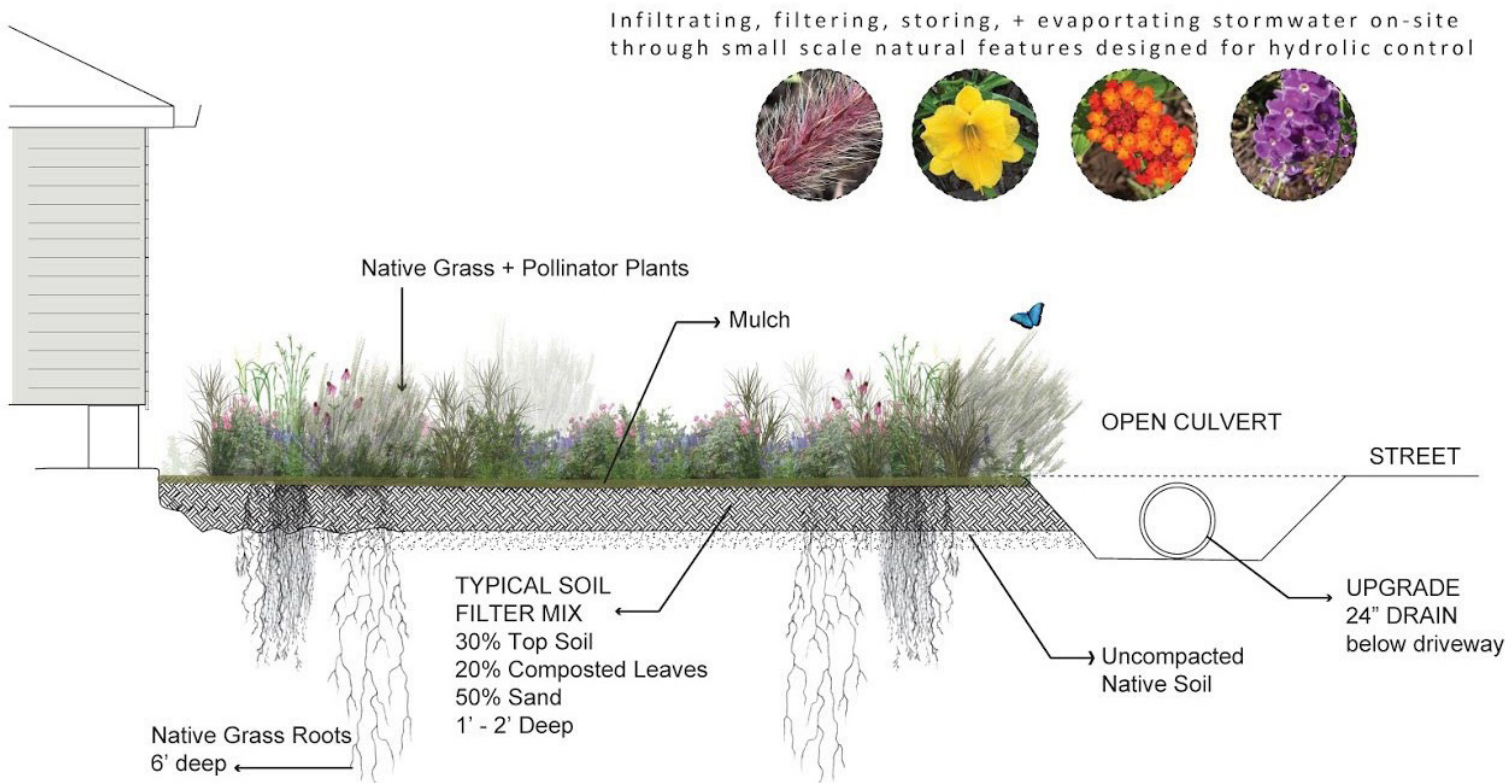
Published Articles: 2024, 2025



Developed and self-published educational illustrations supporting a neighborhood-scale green infrastructure initiative implemented in partnership with Avenue CDC and Living Paradigm CDC following Hurricane Harvey. Serving as Volunteer Director, I coordinated more than 100 volunteers in the installation of rain gardens, gutters, and stormwater management improvements at two residential properties. The project utilized visual communication tools to educate residents about flood mitigation, stormwater management, and landscape-based resilience strategies.

Project Type: Community Resilience + Green Infrastructure
Role: Consultant/ Volunteer
Demonstration Homes + Outreach: 2018

BUTTERFLY RAIN GARDEN (Vegetated Swale)

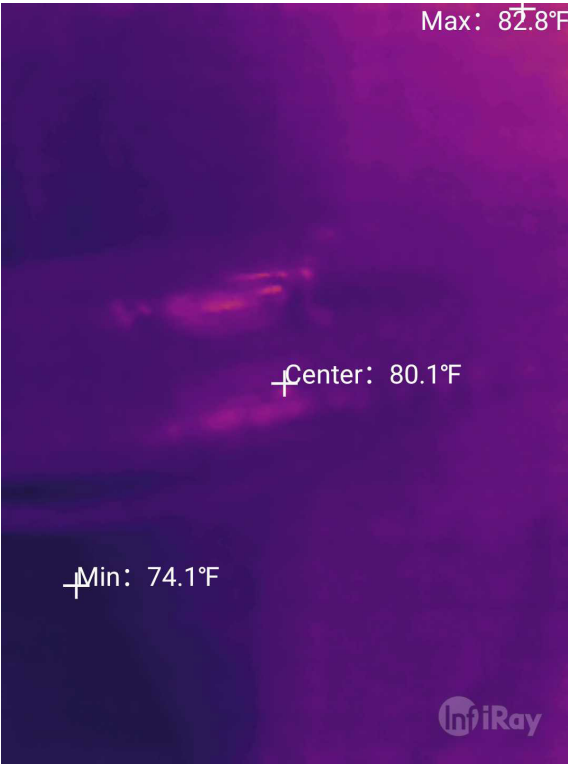


Thermal imaging was utilized to investigate moisture-related performance issues associated with a wall-mounted mini-split HVAC system. Initial thermal analysis identified temperature anomalies within an interior wall assembly adjacent to the mechanical unit. Follow-up exploratory demolition confirmed concealed moisture accumulation resulting from condensation generated by the mini-split system, which had contributed to mold growth within the wall cavity. The investigation demonstrated the application of thermal imaging as a diagnostic tool for identifying concealed building performance issues, informing remediation strategies, and improving long-term indoor environmental quality.

Project Type: Existing Building Assessment and Moisture Investigation

Role: Principal Investigator

Prototype Home: 2024

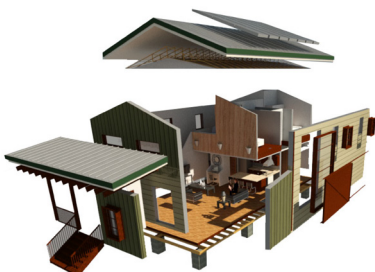


06 - Design Leadership + Academic Engagement

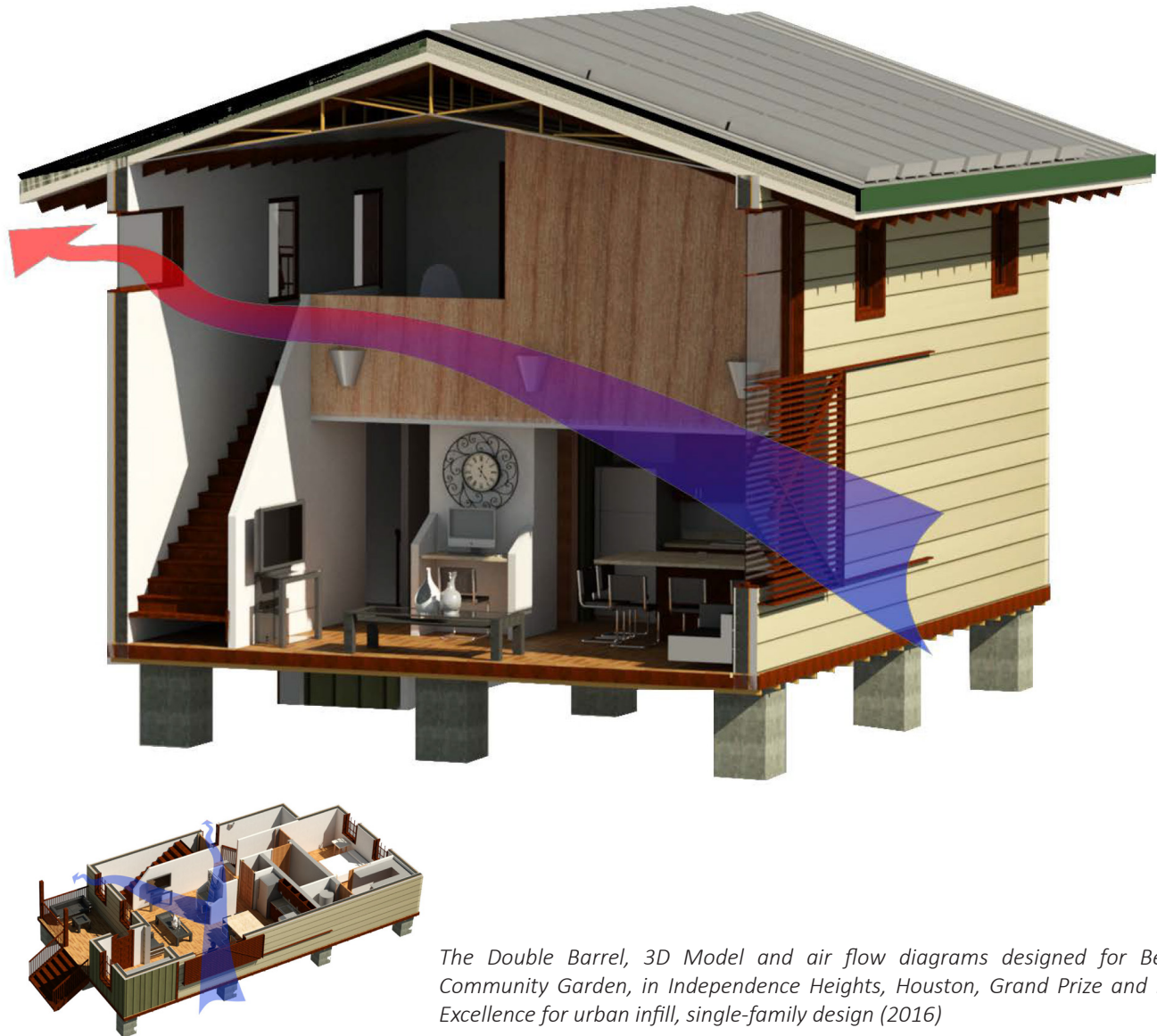
Project Type: U.S. Department of Energy Race to Zero Student Design Competition

Role: Studio Instructor, Curriculum Developer and Design Critic/Mentor

Project Status: Competition Winner



Developed as part of an upper-level architecture studio participating in the U.S. Department of Energy Race to Zero Student Design Competition, this project explored climate-responsive, community-informed housing solutions for Houston's Independence Heights neighborhood. The studio challenged students to integrate high-performance building principles, energy efficiency, passive environmental strategies, and resilient design methodologies into affordable urban infill housing.



The Double Barrel, 3D Model and air flow diagrams designed for Beauty's Community Garden, in Independence Heights, Houston, Grand Prize and Design Excellence for urban infill, single-family design (2016)