

# Super Green Residence Hall

## Immersive, sustainable living experience

Comparison of four sustainable residence halls:

### Warron Wilson's EcoDorm

Sustainable "Living Learning Laboratory"

Incorporates simple living and immersed working responsibilities

### Berea College's Deep Green Residence Hall

Collaboration between LEED certification and "Living Learning Laboratory"

Extensive campus involvement and creative sustainability solutions

### Notre Dame's Ryan Hall

Basic LEED certified standards.

Exceptional sustainable construction practices with average energy consumption

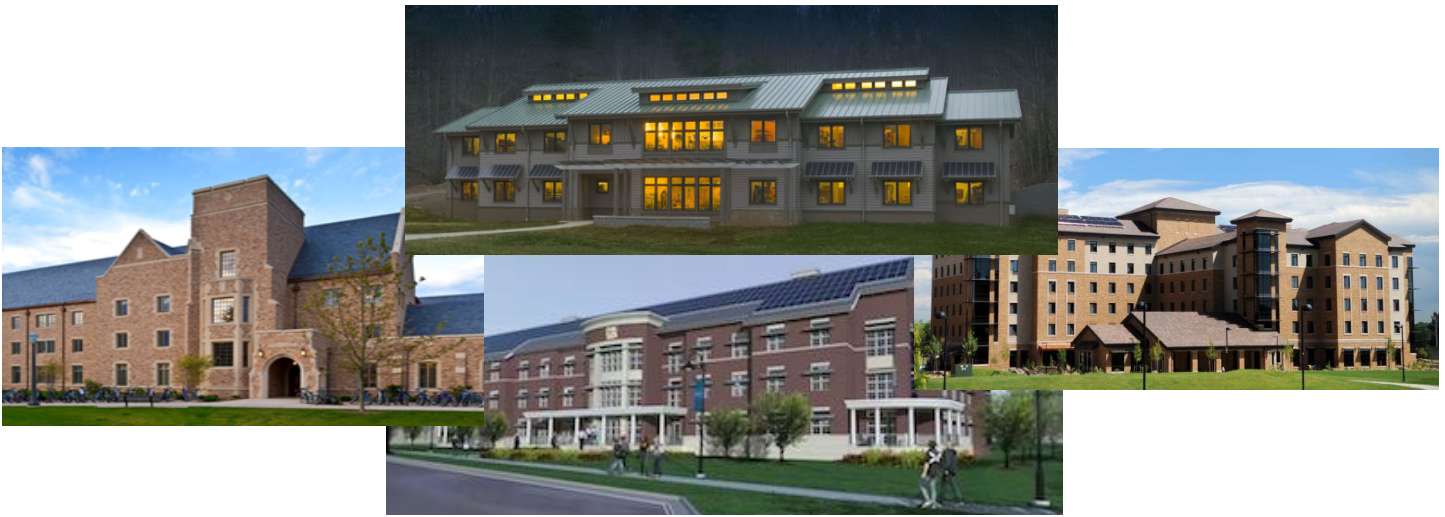
### UC Boulder's William Village North Hall

Collaboration between sustainable design and educational community

Large student residence energy efficiency and integrated course credit

	<b>Warren Wilson</b>	<b>Berea College</b>	<b>Notre Dame</b>	<b>UC Boulder</b>	<b>Western Michigan University</b>
<b>Residence Hall</b>	<b>EcoDorm</b>	<b>Deep Green Residence Hall</b>	<b>Ryan Hall</b>	<b>William Village North Hall</b>	<b>Valley 1</b>
Occupancy	36	121	248	500	1000
Total sq.ft.	9146	41759	74000	131246	324464
kWh/sq.ft.	0.0228	N/A	1.8	4.7	17.8
Year Built	2003	Aug-13	2009	2011	1963
LEED Certification	Platinum EB	Platinum	Gold	Platinum	N/A
Living Learning Laboratory					No
Laboratory	Yes	Yes	No	No	
Solar Panels	Yes	Yes	No	Yes	No
Low-flow faucets	Yes	Yes	Yes	Yes	N/A
Wind Turbines	No	No	No	No	No
Uses Recycled Materials	Yes	Yes	Yes	Yes	No
Energy Dashboard	Yes	Yes	Yes	Yes	No
Rainwater Runoff	Yes	Yes	No	Yes	
Occupancy Sensors	Yes	Yes	Yes	Yes	
HVAC	Yes	Yes	Yes	N/A	
Geothermal heating	Yes	Yes	No	No	

**We propose that Western Michigan University build a sustainable residence hall on campus that complies with its mission to incorporate sustainability into campus culture.**



## Design Challenges

- Net zero carbon building
- Incorporate new sustainable design technology.
- Creating an insulated building envelope
- Incorporation of nature
- Minimizing user energy consumption
- Incorporating student population opinions
- Limiting artificial light
- Utilizing renewable energy infrastructure

## Construction

- Materials should be locally sourced when possible
- Material waste should be recycled when possible
- No volatile organic compounds so there are no potentially harmful substances in the building.

## Educational Components

- Students should be engaged with the energy consumption within the hall
- Green guide to identify all of the sustainable features throughout the building
- Living-learning laboratory where residents take a hand on approach in maintaining the building.

# WMU SUSTAINABLE RESIDENCE HALL