



MISSISSIPPI STATE  
UNIVERSITY™

EXTENSION SERVICE

# MSU Landscape Architecture Facility

Mississippi State, MS

## Project Highlights:

- Low maintenance gardens
- Wide overhangs to block summer sun and allow winter sun for heating
- Tall, clerestory and dormer windows to allow natural lighting
- Highly reflective roofing material
- A bank of photovoltaic solar panels that provide enough power to run the facility
- Ground source heating and cooling
- Building materials were selected that had no Volatile Organic Compounds
- Shelters are sited so the long sides face south and the narrow sides face east and west
- Ceilings in the studios are 16-24 ft. above the floor

## Passive Solar Building Design



Entry to the Landscape Architecture Facility

## Project Overview

Dedicated in 2002, the Mississippi State University Department of Landscape Architecture was actively involved in the design of its new facility. Comprised of three buildings to house its faculty and students, the buildings were designed to be a model of energy-efficiency for the MSU campus.

## Smart landscape features and practices

Passive solar building design. Passive solar building design utilizes windows, walls, and floors that are made to collect, store, and distribute solar energy in the winter and minimize solar heat in the summer. Shelters were designed to be responsive to the region's climate, and reflect the local culture and vernacular character of an area. When developing the program for the facility, it was determined a series of shelters connected by porches or covered walkways would provide the right character and scale that would fit the narrow, linear site, and that would suit the Deep South users. An arbor or pergola that would provide shade and protection from hot, summer sun was also envisioned. Shelters were expected to reflect the character of indigenous structures in the region which are often brick, have lots of tall windows for natural day lighting, and low pitched roofs with broad overhangs for sun control. We envisioned a series of shelters that were interconnected and that stepped down the hillside. The size of multiple shelters also fit the scale of the site, and allowed for more natural day lighting. Our program asked for shelters that kept the sun off building sides in the summer.

See following page for additional images.

Native trees shade the east building side from the hot sun.

## Project designers:

The Department of Landscape Architecture, landscape architects

Dale and Associates, architects

Pryor and Frazier Construction, contractors

Context: university campus, academic





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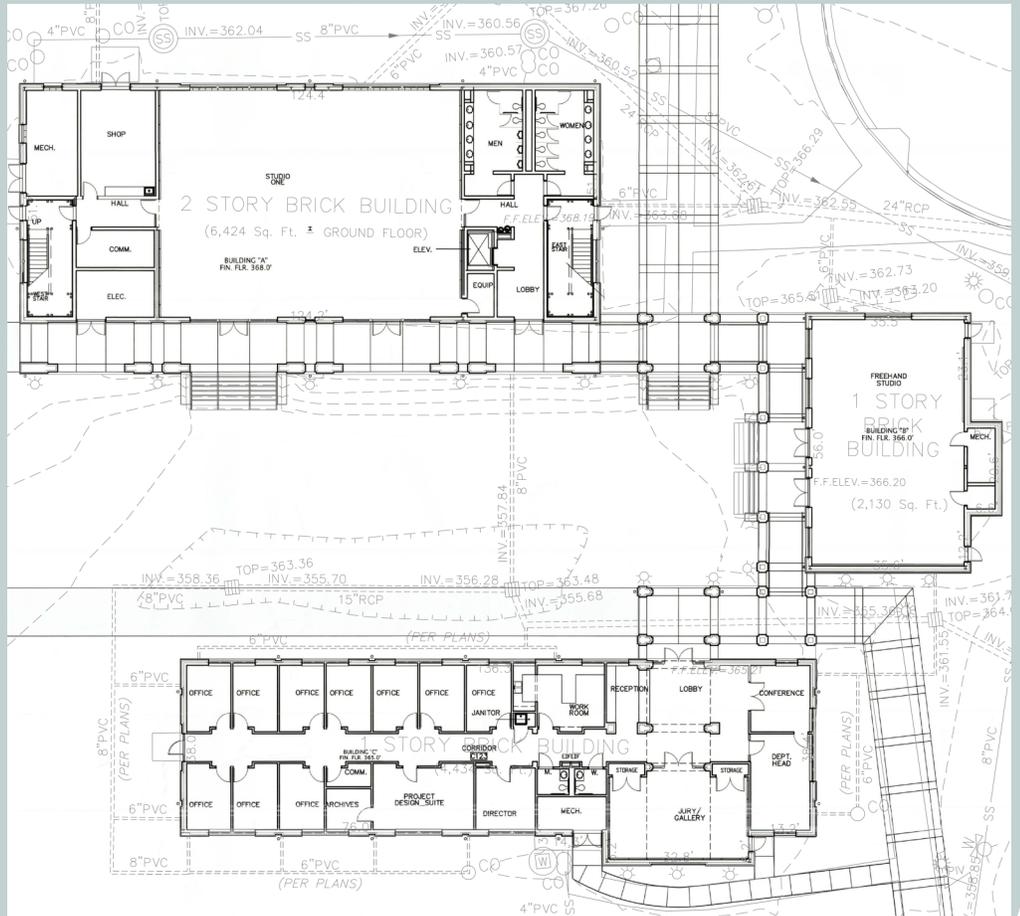
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Outdoor galleries, constructed on the south facing side of the building, allow for rain-free travel and minimize the sun's rays onto the building on hot summer days. Conversely, when the sun is at a lower angle in winter, the sun's rays warm the interior spaces.



Building orientations, as specified by the landscape architecture professors, were oriented with the longest facades in an east-west direction. This allows for maximum solar gain in winter, and through the use of overhead eaves, protects solar gain in summer.



Written by Robert F. Brzuszek, Associate Extension Professor, The Department of Landscape Architecture, Mississippi State University. All images are from The Department of Landscape Architecture, Mississippi State University.