

MSU OZARK EDUCATION CENTER

Located within the Ozark Mountain region of southern Missouri, the Bull Shoals Field Station provides applied research and education opportunities for Missouri State University's (MSU) College of Ecology, the Natural & Applied Sciences Department, and other research and educational organizations. A new Education Center at the Field Station had been a vision for the College for many years. After much exploration, MSU secured a second plot of land deep within the Drury-Mincy Conservation Area. This new location allows for students to have an expanded and more diverse study of the southern Missouri natural environment and allows the Department to reach more students, more natural science organizations, and many high schoolers.

The new MSU Ozarks Education Center provides an immersive environment for extended study of the natural ecology of the Ozarks. At ~4,000 gsf, the new Education Center comprises sleeping and bathing quarters, a communal dining and multipurpose room, classroom space, and room for programs. The main building houses a bathhouse and the multi-purpose community space that can accommodate small and large groups of up to 60 people. The cabins, which accommodate 23 overnight guests at a time, are nested in the topography and forest to immerse guests in the surrounding environment and provide a full sensory experience.

The new Education Center is designed to be of its place, featuring strategies that will reduce systems loads by 75% over baseline through passive cooling strategies, carefully selected mechanical systems, high-performance glazing and envelope design, maximized daylight, and lighting sensors. Water from the roof is captured for reuse on site, and a series of bioswales collect and redirect stormwater on the site. Materials were selected based on their energy performance, no VOC emissions, and minimal embodied environmental impacts.

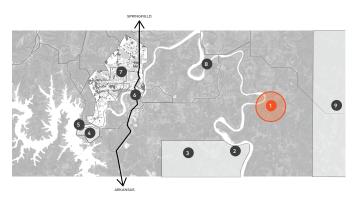






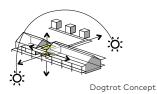
Sitting at the edge of the woods in the mountains are three outpost cabins. The cabins act as private sleeping quarters to the adjacent larger field station. The cabins look to the west with a full wall of glass for incredible sunsets and views that pull the wooded landscape in while turning their backs to the field station for privacy. The aperture to the west takes advantage of the cool breezes from the stream below via high and low operable windows moving naturally cooled air through the space.

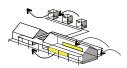
The Field Station is located on +/- 3 acre portion of 1,200 acres gifted by a donor for ecology research. This new facility will collaborate and be an extension of an existing Field Station but will give the university access to additional unique features of the geographic region including a cave on site with documented remains that date back more than 1,000 years. The site is approximately 1.5 hours from the main campus. The drive to the site winds its way through the mountains, sliding further and further away from any signs of a city.



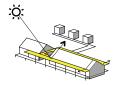
- 1 Current Project Location
- 2 Previous Project Site
- 3 Mincy Conservation Area
- 4 Table Rock State Park 5 Table Rock Lake
- 6 Lake Taneycomo
- 7 Branson
- 8 Bull Shoals
- 9 Cedarcreek





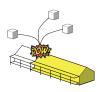


Glazing + Ventilation



Overhang

Entry Dogtrot



Explode Program

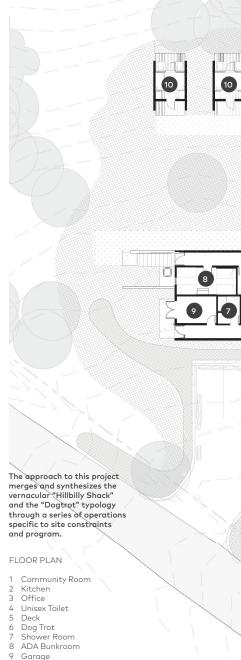


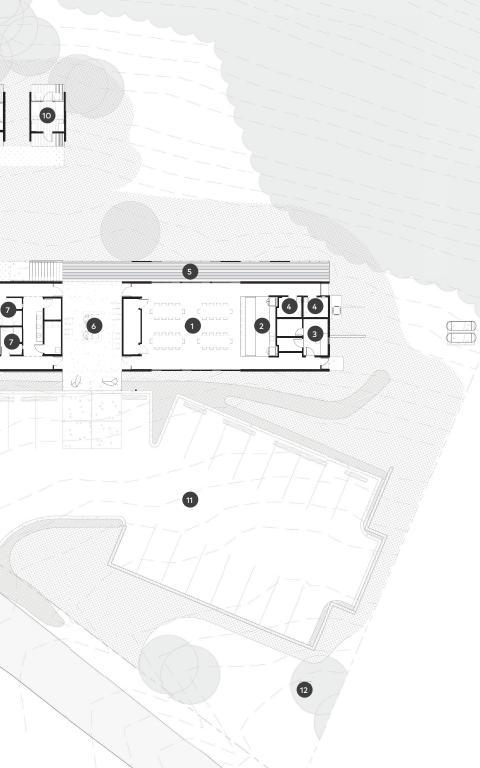
Stretch



Vernacular (hillbilly shed)

- 10 Cabin
- 11 Parking
- 12 Well House





The cabins are oriented facing away from the main building for privacy and open with large apertures of glass to the surrounding woods. The cabins feature small private decks that extend into the woods for visitors to experience nature in a more intimate way. Formally, the cabins have a harsh metal exterior shell, similar to the bark of a tree, paired with a warm wood interior on all surfaces. The cabins are heated but use passive cooling with operable windows and fans for comfort of visitors during the summer season. Each cabin sleeps four visitors in two bunk beds and provides a small desk area for reading or study of continued ecology research.















The porch is an important component to any architype in the area, whether it be for informal meeting, relaxing, or taking in the view. The back porch is elevated and cantilevered into the tree canopy. The space is intentionally column free to allow unobstructed views into the trees and surrounding site. The overhang above the porch also shades the larger expanses of glass into the main common area. Shadows and textures of the tree canopies dance across this space throughout the day.



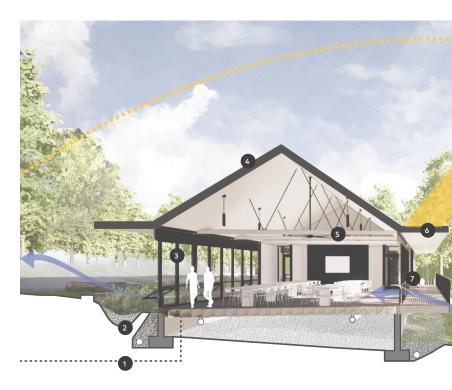




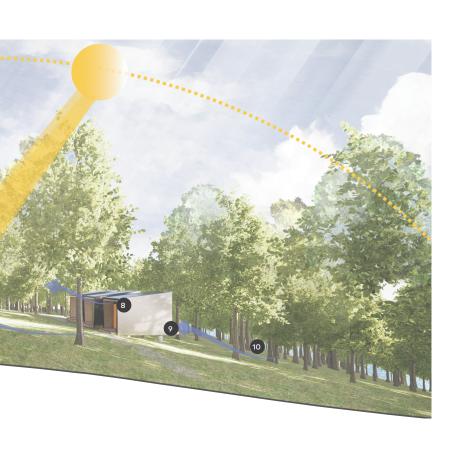


19 kBTU/ft2/yr project EUI

67 kBTU/ft2/yr baseline EUI



- 1 Well allows for onsite domestic water distribution
- 2 Native Planting reduces the need for irrigation and offers sustenance for local wildlife
- 3 High Performance Glazing typical at all locations
- 4 Roof improves thermal envelope (R-45)
- 5 Fan improves thermal comfort for air circulation
- Overhang provides deep horizontal shading at all glazing locations
- 7 Operable Windows allow for passive cooling and improves thermal comfort
- 8 High Operable Windows allow for passive cooling and improves thermal comfort
- 9 Air Distribution System improves thermal conditions from below and reduces stratification
- 10 Water Onsite black water treatment
- 11 Low Operable Windows allow for passive cooling and improve thermal comfort





The dogtrot is an important gathering place for visitors to the ecology center. It is a place to start your hike and exploration of the greater 1,200-acre site as well as a place to end your journey, cooling down when returning from a day or afternoon spent investigating the ecology. The space is shaded and naturally cooled passively through increased wind speeds, inherent in the vernacular dogtrot approach. As shown in the image, the dogtrot can be opened and closed to visitors or harsh weather with a large barn door.

The dogtrot also orients occupants in multiple other ways, such as through the roof oculus which provides views of the sky and stars, as seen in the next page. The intense daylight moves across the space via the oculus as a means to evaluate time.





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Materials chosen relate to region, sourcing and vernacular. Cedar siding is ever present on context structures as well as metal roofs and sidings. Logs harvested from trees on site are used as parking blocks. Exterior lighting is simple and straight forward bulbs with sheet metal disc reflectors. The stones in the dogtrot are from site excavation during the beginning stages of construction. Interior materials were chosen based on VOC content and low maintenance. The material palette is intentionally stripped down and reduced to reinforce the parti, program, and relation to the vernacular.











SPRINGFIELD ART MUSEUM SPRINGFIELD MO bnım



SPRINGFIELD ART MUSEUM

Dedicated to documenting the diverse cultural heritage of the people of southwest Missouri, the Springfield Art Museum collection is housed in an existing 51,000 SF facility. The master plan focused on three areas of study for growth: renovation, replacement, and/or expansion of the existing Education Wing; renovation of the existing building to improve visitor and staff experience; and improvements to the campus to better connect the Museum to surrounding amenities throughout the city including a comprehensive city bike plan and mass transit. This transformation will allow the Museum to improve its tools for internal leadership, educational offerings, and cultural service to the southwest Missouri region.

Embedded in the unique landscape of the Ozark Mountains, sited on a 30+ acre urban park originally designed by George Kessler, the Museum aspires to challenge what defines the 21st century cultural institution and engages visitors in a new way. The original Georae Kessler and Hare & Hare design of Phelps Grove featured a lake on the current museum site that has been changed over time. The new vision for this area revives the lake and nearby Fassnight Creek, incorporating both into key landscape design areas to highlight the natural beauty and biodiversity of the Ozarks. These strategies eliminate the eminent flood risk the Museum is facing with the current engineered channel. Museum visitors are encouraged to experience the creek and its natural beauty along a sculpture walk that is capped by the WPA amphitheater. Ultimately the amphitheater will become a passage to one of the additions, a large event and exhibition center, positioned to connect the museum to Phelps Grove on the west.

Inspired by the original 1958 museum parabolic wood roof, the new additions feature articulated roof canopies, or "roof blankets." These shapes lift at entries, fold at areas of privacy, and overall emulate the flow of water in the nearby Fassnight Creek. The museum additions provide transparency, daylight and emphasize the relationship between indoors and outdoors in a spirit of spatial delight and beauty.







SITE HISTORY

Phelps Grove Park has a long history going back to the roots of Springfield as a city and Missouri as a state. The park we see today was once a part of John S. Phelps' 1,500-acre farm. The families sold the 31-acre park to the Springfield Parks board, and it officially became known as Phelps Grove Park. Prominent landscape architects George Kessler and later Hare + Hare were hired to formally design the park between 1912-1914. The design of the park consisted of a large wooded lawn on the





north end of the park and south border along Fassnight Creek which remained natural, forming multiple larger lake areas. In 1916, a stone pavilion and bridges were constructed. The final construction of the park located a single large lake on the east side of the park, now the site of the Springfield Art Museum. The lake was drained and in 1936, the WPA program made improvements to the banks of Fassnight and constructed the Amphitheater and a clover leaf fountain.



SPIRIT OF 1958

In 1958, the museum moved from the Wilhoit Building downtown, to the original museum building in Phelps Grove located in the old lake area. This initial building was approximately 13,700 sf, four studios or educational classrooms of 3,300 sf, a library, and three galleries. The largest gallery, at 7,400 sf, was dedicated to Ms. Weisel, who had passed eight years earlier. The main Weisel



gallery was a large flexible gallery space with demountable and mobile partitions that could be configured for varied gallery exhibitions. The primary feature or "Spirit of '58" was the parabolic wood roof that seemed to hover over the programed spaces. Glass was located typically at the tops of the walls to create high clerestory light, which made the parabolic roof appear to lightly touch the walls.

EXISTING PLAN

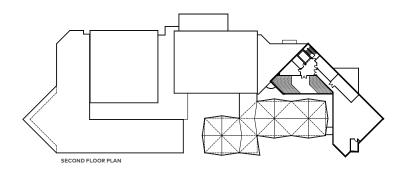
The existing museum is approximately 52,000 gsf. The building program has several distinct categories including entry and reception, a 400 seat auditorium, galleries, administrative offices, educational classrooms, and back of house support spaces. The programs are within a facility that was originally constructed in 1958 and has subsequently been added to every other decade in 1973, 1993, and 2008. The adjacent drawing is the current museum floor plan.

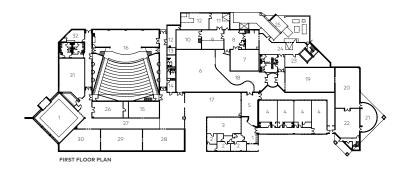
2008 - WEST ADDITION









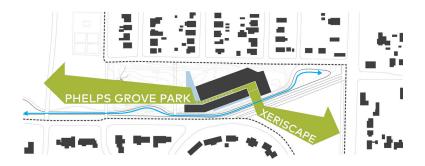




1	Entry	9	Exhibit Design	17	Courtyard	25	Loading Dock
2	Office	10	Framing	18	Kelly Gallery	26	Gift Shop
3	Library	11	Workshop	19	Theilen Gallery	27	King Gallery
4	Office	12	Mechanical	20	Badgley Gallery	28	Armstrong Galler
5	Family Center	13	Custodial	21	Musgrave Gallery	29	Spratlen Gallery
6	Weisel Gallery	14	Office	22	S.M.M.A. Gallery	30	Eldredge Gallery
7	Vault	15	Hartman Gallery	23	Mechanical	31	Community Roor
8	Back of House	16	Auditorium	24	Storage	32	S.M.M.A. Office

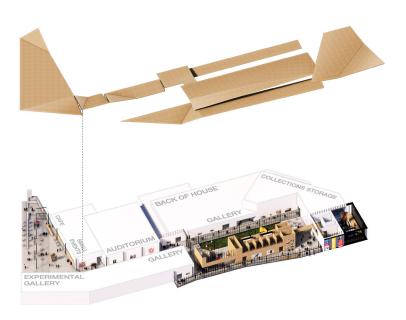
CONNECTIONS & FASSNIGHT

As developed through "Design Exploration," the diagram below outlines the primary building and site parti that has been adopted by the master plan team and museum leadership. This diagram sets the framework for the master plan, final recommendation for site work, and building modifications. The diagram describes Phelps Grove Park (land and sky), moving through the museum, both east and west, bordered by Fassnight Creek on the south and bound by the newly naturalized pools of the creek on the east and west.



DRAPED ROOF

As described by the "Spirit of '58," the reinterpretation of the existing roof structure, significantly influences the architectural character of the museum master plan. This interpretation is intended to pay homage to the past, relate to the residential context and interpret the flow of water on the site. The roof is shaped and articulated in the diagram below, specific to programmatic needs, bending the roof shapes to lift at entries, fold at areas of privacy, or open up for daylight.





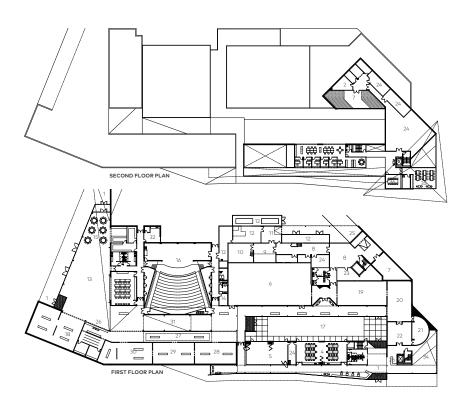
This elevated view shows the alignment of the historic WPA Amphitheater with the large events space to the west flanked to the north by museum parking and to the south by the pooled naturalized Fassnight Creek. The view also shows the relationship the museum has to the surrounding neighborhoods and to the greater Phelps Grove Park and Water Wise Garden to the south.



MASTER PLAN COMPLETE

Once all phases of the master plan are complete, almost every area of the museum will have been modified or updated. The museum will be +/-70,000 gsf and will have modern educational classrooms and studio space for community art education, a new large events space that connects to the amphitheater landscape, and improved galleries and back of house spaces. All of these improvements position the museum for the next ninety years in Springfield as the premiere arts and education cultural institution.

These improvements will enable the museum to realize its vision of a porous organization that is connected physically and programmatically to the community through a site that serves as a point of civic pride and a generator of social capital through art.





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The view from the southwest looks over the naturalization of Fassnight Creek to the museum. The foreground area bridges into the naturalized creek for educational opportunities with the amphitheater lawn behind the tree-lined path. In the background, there is a view into the large event space, with a folded roof at the entry and forced perspective to the internal corridor leading to the internal courtyard.













