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This is a Sign! Developing Interpretive and Wayfinding Signage for the Ann Arbor Public Schools' Freeman Environmental Education Center

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Executive Summary

This project was completed in collaboration with Ann Arbor Public Schools' (AAPS) Freeman Environmental Education Center (FEEC) to develop interpretive and wayfinding signage across the center's 40-acre property in Ann Arbor, Michigan. The project was initiated through the Graham Sustainability Scholars Program at the University of Michigan and aimed to increase accessibility, ecological education, and community engagement with the FEEC's natural spaces.

Over three academic semesters and one summer term, our team researched best practices for creating accessible and effective signage, conducted site visits, collaborated continuously with the Freeman Environmental Education Center leadership team, and finally designed a comprehensive signage package that includes wayfinding trail maps and educational interpretive signage content. The resulting contractor-ready signage deliverable package equips the FEEC to move directly into fabrication and installation of these signs throughout their property.

Anticipated impacts include improved visitor navigation, enhanced ecological literacy for students and community members, and a replicable model for environmental signage that can be used for future signage at the Freeman Center or other AAPS sites. Our recommendations emphasize developing future integration with more interactive elements (such as a story trail or digital integration with a photo monitoring station), and furthering community engagement and maintaining consistent signage branding based on our templates provided through this project as the FEEC grows as a regional hub for environmental education.

Introduction and Background

The Freeman Environmental Education Center (FEEC), managed by Ann Arbor Public Schools (AAPS), serves as a hands-on indoor and outdoor classroom for K–12 students and community visitors to explore local ecosystems, learn about environmental and earth sciences, and practice survival skills. Prior to this project, the property behind the main building featured a variety of trails, restored (and work in progress restoration) native habitats, and diverse natural features, but lacked clear wayfinding systems or interpretive materials to educate and engage visitors.

Effective wayfinding signage can create intuitive and accessible environments by helping visitors orient themselves, reduce stress by aiding prospective navigation around the site, and contribute to a better overall experience (Astra Group, 2024). Strong wayfinding systems also improve accessibility and reinforce branding. Creating a successful wayfinding signage system requires

intentional design choices and should be placed where people naturally look for information (Miller EG Design).

This project supports environmental literacy, outdoor learning, and sustainable land management practices. Effective interpretive signage serves as a bridge between the land itself and public understanding and engagement with deeper actions to protect it. The mission guiding our team throughout this project was how we could design and utilize interpretive and wayfinding signage at the Freeman Environmental Education Center to improve site and trail navigation, accessibility, and expand opportunities to advance ecological learning.

For the North American Association for Environmental Education (NAAEE), Stanford University reviewed a variety of studies and found strong evidence that environmental education benefits K–12 students far beyond increasing environmental knowledge by strengthening critical thinking, encouraging civic engagement and pro-environmental behavior, and supporting personal growth in confidence, leadership, and collaboration abilities. Environmental education is a transformative tool that supports student success and empowers people to take responsible and meaningful action in their communities (NAAEE).

The interdisciplinary nature of this project required skills spanning environmental studies, education, graphic design, GIS (Geographic Information Systems) mapping, and communications. Collaboration with the Freeman Environmental Education Center staff, as well as a concurrent University of Michigan School for Environment and Sustainability (SEAS) project provided context and criteria that helped us accomplish our goals for this project. Together, these efforts position the Freeman Environmental Education Center as a model site that integrates interactive design and educational opportunities that drive community-based engagement in environmental sustainability.

Methods

Our team adopted a participatory design approach, working closely with stakeholders from the Freeman Environmental Education Center and AAPS to ensure that the final signage design reflected both their educational and logistical priorities. We met regularly with Coert Ambrosino and Sarah Hill, Environmental Education lead teachers, and also received guidance from Jason Bing (AAPS Capital Programs Director).

The project began with an extensive research review of interpretive signage best practices. We analyzed examples from local parks, the National Park Service, and university arboretums both

online and with in-person visits to understand effective storytelling, durable materials, and accessibility standards that aligned with the needs and creative recommendations of our project partners at the FEEC.

Key takeaways from this research emphasized the importance of angling the signage to avoid damage from sun exposure and thinking critically about the height of the signage to be accessible and visible to children and people who use wheelchairs. We also decided to focus our efforts on the organizational simplicity and bright colors of our signs to aid comprehensibility of the conceptual material, highlighting local species and habitat narratives, and use of durable construction materials and signage finishes.

Multiple site visits to the Freeman Environmental Education Center property across seasons allowed our team to assess key features of the trail system that we would need to include in our signage. This also facilitated communication and idea sharing with our partners on the FEEC staff. Using aerial imagery through the ArcGIS platform, we worked with Andrew Johnson and members of a team that was working on a project with the FEEC through the University of Michigan School for Environment and Sustainability. We used their digitized map of exact trail locations and their mapped "polygon" layers of each of the different habitat zones at the FEEC site to advance our project. With this background, we then took their layers and trail lines and refined the "snap" connections, cleaned up the boundaries between each feature to appear seamless and cohesive, and played with the colors and styles to finally develop a **GIS-based trail map** that served as the foundation for our wayfinding signage design.

The content development and design process began with the identification of different interpretive themes that were developed collaboratively between our team and the FEEC staff to align with educational standards and local ecological narratives. These themes included native prairie habitat restoration and enhancement of pollinator habitats, invasive species management for ecological balance, watershed connections to the Huron River system, and sustainable land stewardship in the Ann Arbor region. We also considered guided mindfulness prompts and ideas for somatic practices along the FEEC trails, and have compiled best practices research for implementing a story trail featuring seasonally-changed children's books along a walking trail.

The content was reviewed for clarity and organization, scientific accuracy of ecological material, and alignment with FEEC's color codes and branding. Our team designed all signage in Canva using consistent typography, design elements, and color palettes to establish a cohesive visual identity. Designs created by our team underwent several constructive feedback rounds with the FEEC leadership team, AAPS facilitators, and the Graham Scholars Program advisors to achieve the final accessible and effective signage in our completed package of deliverables.

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Deliverables

Wayfinding signage designs that our team created for the Freeman Environmental Education Center include a comprehensive trail map with updated trail names, sign and blaze points, site habitat zoning, and considerations for respectful visits to the land for guests to follow. We have provided customized signage for use at exact locations on the FEEC property, as well as digital template versions for future replication.

Interpretive signage designs that our team created for the Freeman Environmental Education Center include educational panels explaining local ecosystems, restoration efforts, and native species diversity. Each sign integrates photos, graphics, and concise educational text written primarily for a K–12 audience. We have also provided customized signage for use at exact locations on the FEEC property, as well as digital template versions for additional interpretive signage or use at broader locations.

Within the contractor installation package, a series of the final designs for each individual sign can be found alongside material specifications and sizing, with mounting and installation guidelines. This will facilitate professional sign printing and communication with contractors.

Figure 1. Interpretive Rain Garden Sign

Figure 2. Interpretive Native Habitat Sign

Figure 3. Wayfinding Sign for the Freeman Environmental Education Center

Final Contractor Package

Dimensions

Quantity	Dimensions	Purpose (for internal use)
6 (same design)	11" x 18"	Small wayfinding
1	28" x 42"	Large wayfinding (kiosk)
5 (these each have a different design)	36" x 24"	Interpretive signs

Total: 12 Signs

Design files will be provided in PDF format (300 DPI).
The mounting type would be using posts.

Contractors

Contractor Name	Location	Cost	Notes
FastSigns	3500 Washtenaw Ave, Ann Arbor, MI	Typical cost per standard outdoor sign: $50–$150 (installation only; sign fabrication extra)	Experienced with outdoor, wayfinding, and informational signage. Request a quote for bulk discounts or specialty installation.
Signarama	4655 Washtenaw Ave, Ann Arbor, MI	Typical cost per standard outdoor sign: $75–$175 (installation only)	Handles custom sizes, mounting in outdoor environments. Prices depend on hardware, quantity, and mounting needs.
Signs by Tomorrow	3965 Varsity Dr, Ann Arbor, MI	Typical cost per standard outdoor sign: $60–$140 (installation only; sign fabrication extra)	Notes: Fast turnaround, custom projects. Costs are based on durability and installation complexity.
Signs in 1 day	5864 Interface Dr Ste C, Ann Arbor, MI	Typical cost per standard outdoor sign: $55–$125 (installation only)	Specializes in quick jobs, community signage

Figure 4. Contractor Package with Installation Guidelines

Recommendations

1. **Implementation of the Contractor Package Deliverable:** As soon as possible, coordinate printing and installation of signage between AAPS facilities management and local contractors using the finalized package. Ensure that installed materials meet the durability and accessibility standards mentioned in this report.

2. **Maintain Signage Consistency Across AAPS Sites:** Utilize the templates developed through this project to replicate signage branding and environmental education content at other properties owned by AAPS, particularly those with green infrastructure developments or native habitats to feature.

3. **Support Long-Term Maintenance and Monitoring:** Establish a regular maintenance schedule for sign cleaning and replacement due to any potential damage from continuous outdoor exposure.

4. **Incorporate Post-Installation Community Feedback for Development of Future Signage:** Collect feedback from visitors to the site and engagement with students to evaluate learning outcomes of the signage provided through this project to guide continuous improvement for future signage additions and updates.

Impact

The short-term impacts of our project in the next year include more well-rounded opportunities for ecological education and improved trail guidance at the Freeman Environmental Education Center. The property will be fully equipped to print and install signage at the end of this project, setting them up for success as they continue to transform their expansive trail system into a cohesive, accessible, and educational outdoor space. Teachers, students, and visitors throughout the Ann Arbor community will be able to easily navigate the beautiful land, and greater participation in outdoor learning programs will be encouraged through the creative signage at the site and the teachings of the FEEC leadership team.

Long-term impacts of this project include savings in time and resources as the Freeman Environmental Education Center continues to implement future signage by having a replicable and scalable signage template system that meets educational, accessibility, and AAPS district standards. Over time, the signage will foster deepened ecological literacy among thousands of K–12 students and community visitors. Interpretive materials will build and advance community stewardship for local ecosystems by linking classroom learning with real-world environmental examples.

Through this project, the Freeman Environmental Education Center's property transitions from an incredibly valuable but underutilized natural space towards a more comprehensive living laboratory that demonstrates how environmental communication, design, and education intersect to support sustainability and community-driven change.

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