

Project Narrative, Michigan ASLA Award Submittal for Category I – Landscape Architectural Design

Name: Lake St. Clair Greenscape Project

Location: Lake St. Clair Metropark, Harrison Township, Macomb County

Purpose: The Lake St. Clair Greenscape Project was a massive effort to infuse green infrastructure, improve water quality and restore rare coastal wetlands at one of southeast Michigan's most popular recreation venues.

Landscape Architect Role: The coordination of this impressive undertaking was led by landscape architects with a creative vision for the park. The landscape architect's role on the project was highly collaborative, and it contributed decisively to the success of several intertwined projects. Extensive, detailed and iterative development of the design concept was necessary throughout the project to assure optimum functionality, to attain the project's goals, to meet its dynamic schedule, and to comply with strict Great Lakes Restoration Initiative (GLRI) grant objectives. The \$4.8 million constructed project was conceived and planned by landscape architects and received a combined total of \$2.7 million in GLRI grant funding from the Environmental Protection Agency.

Significant/Special Factors: The overall project received three separate GLRI grants. Landscape architects led the coordination efforts between grant requirements, critical engineering considerations, overarching landscape goals and numerous consultants. Storm water management and water quality improvements were the reason the projects received grant funding. These grants dictated that a rigorous quality assurance program be implemented to assure that water quality parameters, before, during and after the project were accurately tracked and measured, and that water quality goals for the project were met. Results of the overall project include cleaner water, restored coastal marshlands, enhanced park aesthetics, new recreation amenities, and fewer beach closures.

The first phase of the project was to restore nearly 400 acres of wetlands within the 770-acre park, including rare coastal marshlands found along Lake St. Clair. Enhancements include phragmites eradication, removal of built-up sediment and muck along the shoreline, construction of shallow water habitat for native birds, reptiles, and amphibians, construction of a 700-foot boardwalk through the marsh, interpretive overlooks and signage, and installation of water control structures to assist with managing invasive plants. The restored marshlands are part of the natural filtration system for the adjacent and connected parking lot redevelopment project.

The second phase of the project included storm water drainage initiatives to improve water quality in Lake St. Clair. The effort included the redesign and reconstruction of the 4,300 space main parking lot which previously discharged storm water directly into the Black Creek, immediately upstream of the swimming beach. Storm water is now collected, treated and redirected east to the Point Rosa Marsh where additional biological treatment can be made prior to entering the lake.

The project features a series of wetlands, ponds, canals and vegetative buffers, which together provide biological treatment of runoff pollutants originating from the parking lot. Portions of the existing underground storm sewer were eliminated, along with its discharge point at the Black Creek. Innovatively, portions of the existing system were retained to direct storm flows from selected existing catch basins to new vegetated swales. The project reduced and captures storm water, directing it away from the Black Creek and toward the Point Rosa Marsh. The parking lot redevelopment project and the coastal marshland project now function as an integral, interdependent whole.

The storm water drainage and marshland improvements comprehensively addressed a number of interrelated goals: it incorporated valuable landscape architectural elements, increased green space, reduced the area of impervious surface, implemented storm water best management practices and sustainability principles, replaced aging infrastructure and improved vehicular and pedestrian circulation. The project is a major milestone in the redevelopment of Lake St. Clair Metropark as an environmentally-sustainable recreation venue.



Michigan Chapter of the American Society of Landscape Architects

2014 Awards Program

Lake St. Clair Greenscape Project

Landscape Architectural Design

Project Name: **Lake St. Clair Greenscape Project**

Project Location: **Lake St. Clair Metropark,
Harrison Twp., Macomb County**

Project Purpose: The Lake St. Clair Greenscape Project was a massive effort to infuse green infrastructure, improve water quality and restore coastal wetlands at one of southeast Michigan's most popular recreation venues.



Michigan Chapter of the American Society of Landscape Architects

2014 Awards Program

Lake St. Clair Greenscape Project

Landscape Architectural Design

Role of Landscape Architect:

The landscape architect's role on the project was highly collaborative, and it contributed decisively to the success of intertwined projects. Extensive, detailed and iterative development of the design concept by landscape architects was necessary throughout the project to assure optimum functionality, to attain the project's goals, to meet its dynamic schedule, and to comply with strict GLRI grant objectives. Seamless coordination between landscape architects, engineers, and numerous consultants was necessary to strike an optimal balance between critical engineering design considerations and overarching landscape architectural goals.



Michigan Chapter of the American Society of Landscape Architects

2014 Awards Program

Lake St. Clair Greenscape Project

Landscape Architectural Design

Special Factors:

The Lake St. Clair Greenscape Project comprehensively addressed a number of interrelated goals:

- restore coastal marshlands
- incorporate valuable landscape architectural elements
- increase green space
- reduce the area of impervious surface
- implement storm water best management practices and sustainability principles
- replace aging infrastructure and improve vehicular and pedestrian circulation

Results of the project include cleaner water, restored coastal marshlands, enhanced park aesthetics, new recreation amenities and fewer beach closures.

Lake St. Clair Greenscape Project

Project Area



Phase 1

Restoration of nearly 400 acres of wetlands within the 770-acre park, including rare coastal marshlands found along Lake St. Clair.

Phase 2

The effort included the redesign and reconstruction of the 4,300 space main parking lot which discharged untreated storm water directly into the Black Creek, upstream of the swimming beach. The project features a series of wetlands, ponds, canals and vegetative buffers, which together provide biological treatment of runoff pollutants originating from the parking lot.



Michigan Chapter of the American Society of Landscape Architects

2014 Awards Program

Lake St. Clair Greenscape Project

Landscape Architectural Design



Least Bittern

Blue Joint Grass



Swamp Milk Weed



Common Egret



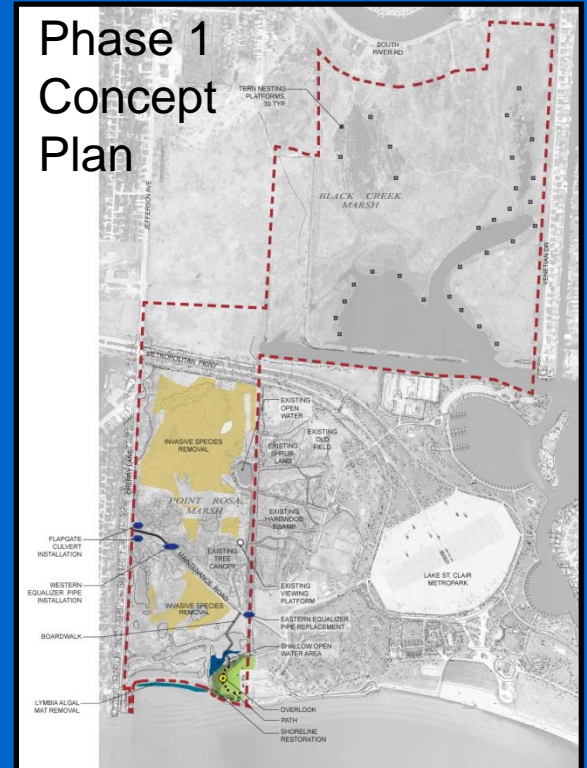
Button Bush



Blue Flag Iris

Phase 1 included construction of shallow water habitat for native birds, reptiles, and amphibians.

Phase 1 Concept Plan





Michigan Chapter of the American Society of Landscape Architects

2014 Awards Program

Lake St. Clair Greenscape Project

Landscape Architectural Design

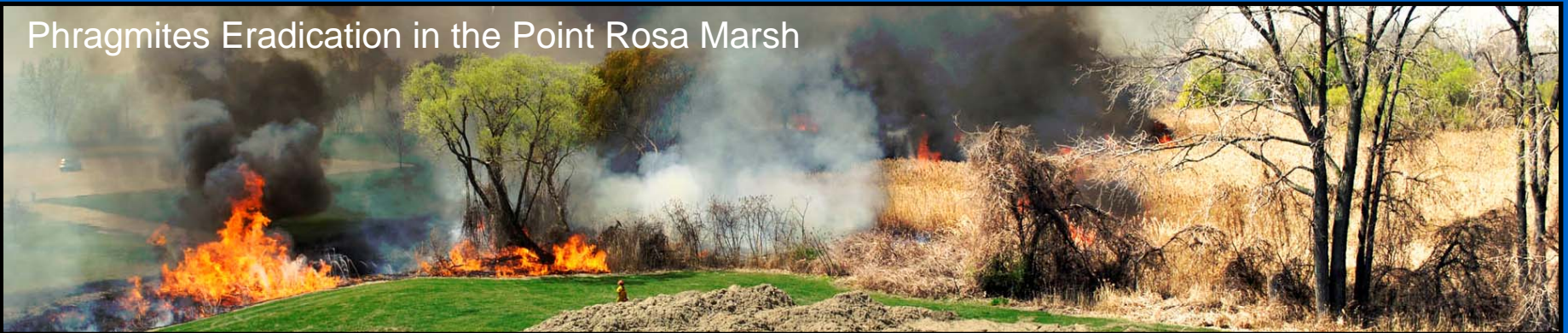
Point Rosa Marsh Overlook / Interpretive Area



700-foot Boardwalk in Point Rosa Marsh



Phragmites Eradication in the Point Rosa Marsh



The restored marshlands are part of the natural filtration system for the adjacent and connected parking lot redevelopment project.

Lake St. Clair Greenscape Project



The existing parking lot was functionally obsolete. At 4,300 spaces, it was oversized for present-day usage levels, and was void of any landscape. Its storm sewers discharged untreated storm water to the adjacent Black Creek, which outlets upstream of one of the most popular swimming beaches on Lake St. Clair.

Lake St. Clair Greenscape Project



Historical data and current usage patterns were extensively analyzed to establish the optimal capacity and layout of the redesigned lot, which now provides 3,600 spaces.



Michigan Chapter of the American Society of Landscape Architects

2014 Awards Program

Lake St. Clair Greenscape Project

Landscape Architectural Design



Phase 2 During Construction

The Project Received Three Separate Great Lakes Restoration Initiative Grants Totaling \$2.7 million from the EPA



Phase 1 During Construction

West Traffic Circle



The lot's layout, geometry, circulation patterns and landscape appearance were revised to improve user-friendliness. Parking areas were segregated to identify different use areas.



Michigan Chapter of the American Society of Landscape Architects

2014 Awards Program

Lake St. Clair Greenscape Project

Landscape Architectural Design

East Traffic Circle



The project increased green space, reduced the area of impervious surface, implemented best management practices and sustainability principles, replaced aging infrastructure and improved vehicle and pedestrian circulation.



Michigan Chapter of the American Society of Landscape Architects

2014 Awards Program

Lake St. Clair Greenscape Project

Landscape Architectural Design



Portions of the existing storm system were retained to direct flows from selected existing catch basins to new vegetated swales. The storm outlet was plugged at the Black Creek and pipes were cut, allowing redirected flow to the Point Rosa Marsh.



Michigan Chapter of the American Society of Landscape Architects

2014 Awards Program

Lake St. Clair Greenscape Project

Landscape Architectural Design



The project features a series of wetlands, ponds, rain gardens, canals and vegetative buffers, which together provide 100-percent biological treatment of runoff pollutants originating from the parking lot.



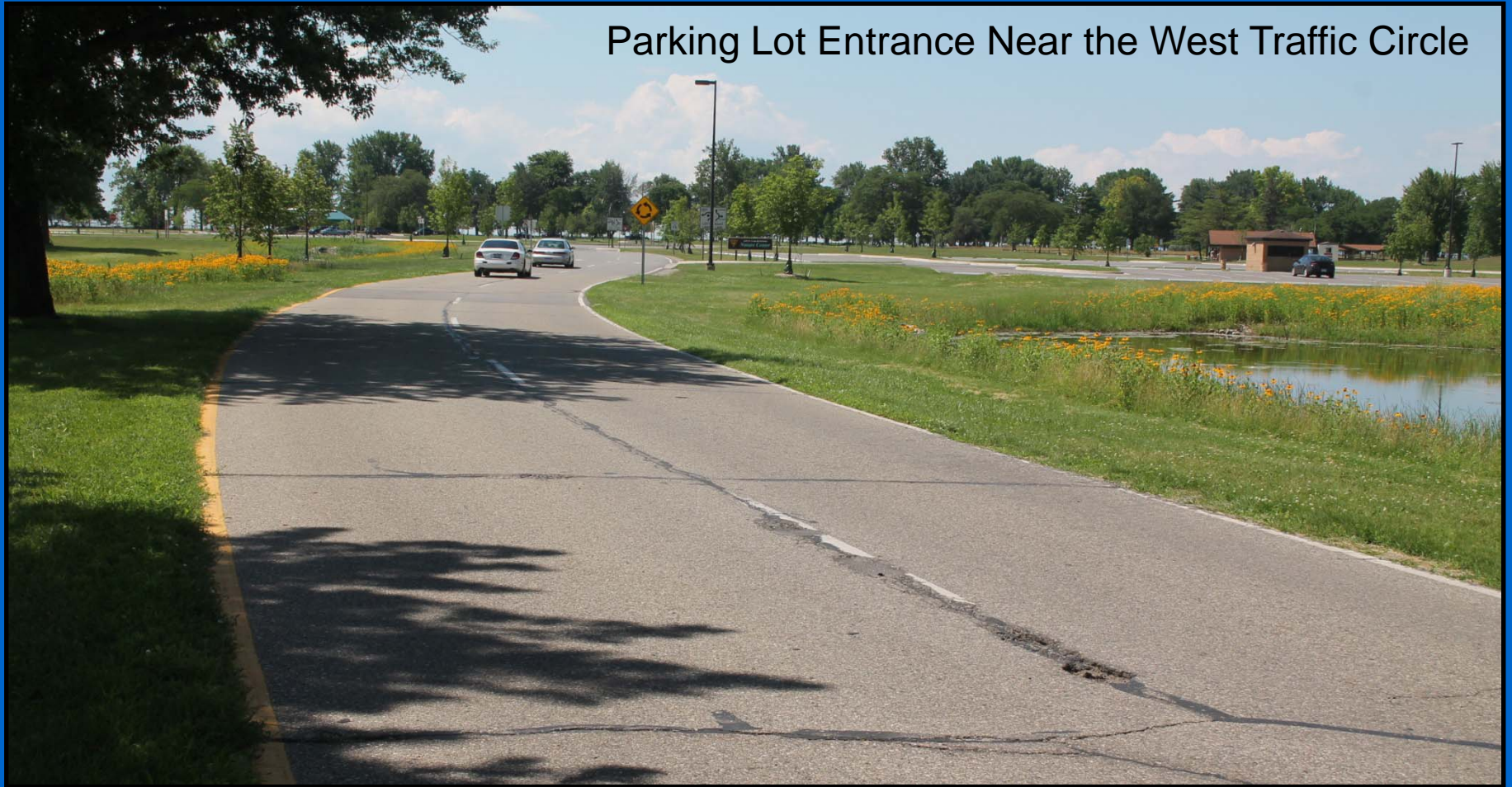
Michigan Chapter of the American Society of Landscape Architects

2014 Awards Program

Lake St. Clair Greenscape Project

Landscape Architectural Design

Parking Lot Entrance Near the West Traffic Circle



The main parking lot presents visitors with their first impression of the park. A key challenge was to transform a stark expanse of asphalt pavement into attractive vistas of water and greenscape.



Michigan Chapter of the American Society of Landscape Architects

2014 Awards Program

Lake St. Clair Greenscape Project

Landscape Architectural Design



Reversal of storm water flow from east to west was hampered by the flatness and uniformity of the site. With minimal hydraulic gradient, conveyances were designed to detain and drain storm water with no risk of flooding during a 10-year event.



Michigan Chapter of the American Society of Landscape Architects

2014 Awards Program

Lake St. Clair Greenscape Project

Landscape Architectural Design



Weir Control Structure



Water Quality Sampling Equipment

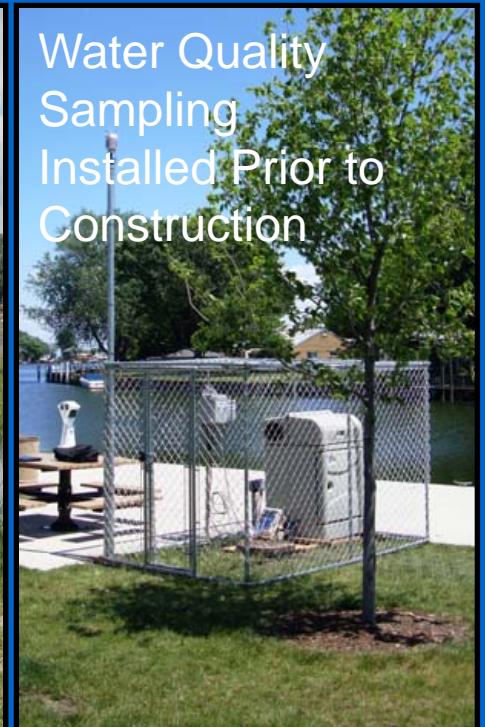


Installation of Flow Meter

Storm water management and water quality improvement were the reasons the project received funding from the EPA's Great Lakes Restoration Initiative. Grant requirements dictated a rigorous quality assurance program be implemented to assure that water quality parameters, before, during and after the project were accurately tracked and measured, and that water quality goals for the project were met.



One of Three Flow Meter Stations



Water Quality Sampling Installed Prior to Construction

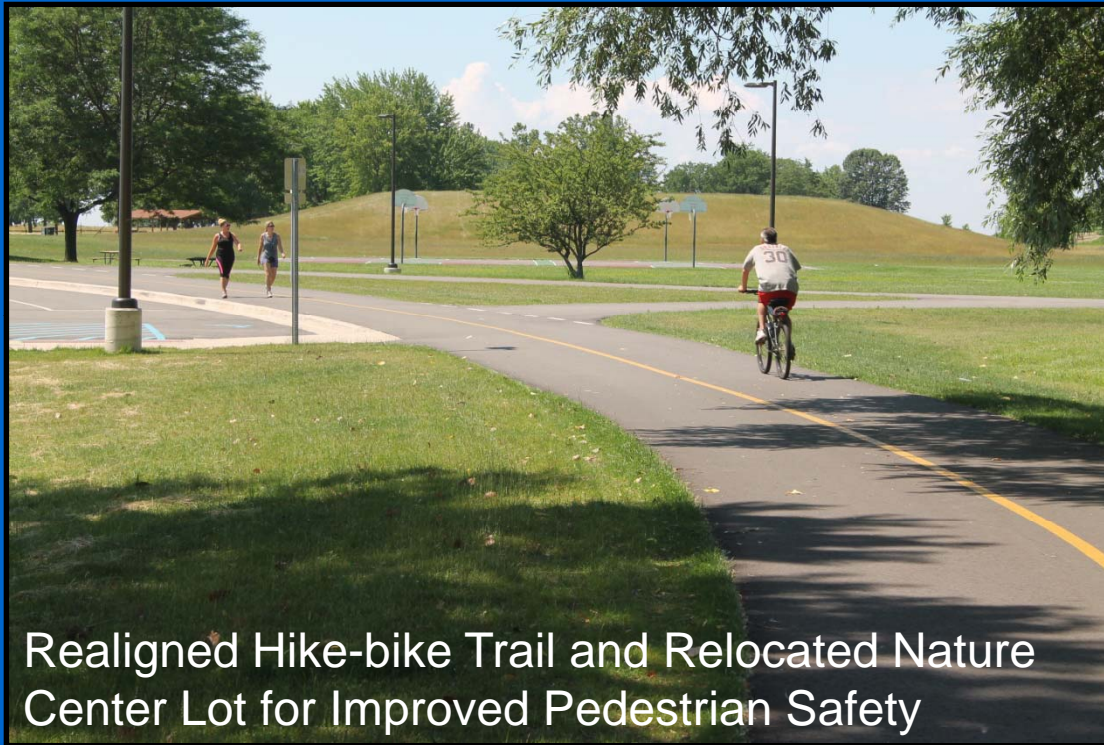


Michigan Chapter of the American Society of Landscape Architects

2014 Awards Program

Lake St. Clair Greenscape Project

Landscape Architectural Design



Realigned Hike-bike Trail and Relocated Nature Center Lot for Improved Pedestrian Safety



New Sledding Hill



One of Two Improved Areas for Ice Skating

A sledding hill and two skating ponds were created using excavated material from the construction of the series of wetlands, ponds, and swales. The hike-bike trail was rerouted to aid in the phasing of construction resulting in an expanded 3 mile looped trail within the park.



Michigan Chapter of the American Society of Landscape Architects

2014 Awards Program

Lake St. Clair Improvements

Landscape Architectural Design

Future phases of the Greenscape Project include the reconstruction of additional lots, the addition of two more vegetated swales within the lot and the removal of additional storm sewer pipe. Creative phasing of the project allowed all of the storm water goals to be achieved in the two initial phases of the project.



Official Entry Form

29th Annual Michigan Chapter ASLA Awards Program

Entry Deadline: July 18, 2014

ENTRY DEADLINE:

Received by July 18th, 2014 at 5:00 p.m.

ENTRY CATEGORY (check one):

- I. Landscape Architectural Design
- II. Landscape Planning & Analysis
- III. Landscape Architectural Research & Communication
- IV. Landscape Architectural Sustainability
- V. Historical Significance (Students not eligible for this category)

ENTRANT INFORMATION:

Tim Phillips / Metroparks Design Team

Name of Entrant (Landscape Architect)

Project Designer / Landscape Architect

Role in Project

Huron-Clinton Metropolitan Authority

Firm/Company Name

School (if applicable)

13000 High Ridge Drive

Street Address

Brighton, MI 48114

City, Zip

(810) 494-6022

Phone

tim.phillips@metroparks.com

E-Mail

PROJECT INFORMATION:

Lake St. Clair Greenscape Project

Name of Project

Lake St. Clair Metropark, Harrison Township

Project Location

ASTI, ASI, Hamilton Anderson Assoc.

Project Consultants to be listed in credit line

Dan's Excavating

Contractor

CLIENT INFORMATION:

Huron-Clinton Metropolitan Authority

Company/Firm/Organization Name

Tim Phillips

Name of Contact

Brighton, MI 48114

City, Zip

(810) 494-6022

Phone

PROFESSIONAL ENTRY FEE:

Make Checks to "Michigan ASLA"

- \$125 Michigan ASLA Members
- \$250 Non-Members

STUDENT ENTRY FEE:

Make Checks to "Michigan ASLA"

- \$25 Michigan ASLA Members
- \$50 Non-Members

ENTRY INSTRUCTIONS:

- Complete Entry Form in Full
- Enclose Entry Fee
- Ensure anonymity on all materials except this entry from.
- Identify project name on CD/thumb drive and insert into a plastic hard case. CD/thumb drive shall contain PowerPoint presentation, project narrative as a WORD document, and separate print-resolution (>300 dpi) image files.
- Place entry form and entry fee in a separate opaque sealed envelope, clearly marked "Concealed Data" and place it inside of the envelope with the project narrative and CD/thumb drive with PowerPoint Presentation.
- Submit oversized Planning & Analysis, Research & Communication documents separately. Do not submit any material not specifically requested. A PowerPoint presentation containing slides 1-3 as described is still required for these submittals. Slide 4 shall be image of the document.

SEND ENTRIES TO:

MiASLA Awards Program
c/o Craig Hondorp, Progressive AE
1811 4 Mile Road, NE
Grand Rapids, MI 49525

Questions: Please contact Craig Hondorp @ 616.361.2664 or awards@michiganasla.org

All submittal materials will become property of MiASLA. MiASLA reserves the right to use graphics and text from the submittals in promotional activities. All Awards will be presented at the Michigan Chapter Annual Meeting Awards Dinner on September 10, 2014.