

Heritage Trail: Phase III



PROJECT: Sleeping Bear Dunes National Lakeshore Heritage Trail: Phase III

CHALLENGE: Tight work site; 600' wetland section; minimizing environmental impact

SOLUTION: Careful planning; reducing invasive weed seed impact, helical piers to span wetland, specific timing to avoid endangered species.

OWNER: Sleeping Bear Dunes National Lakeshore, MDOT, Traverse City TSC

CONTRACT AMOUNT: \$1,726,772.00

DESIGN ENGINEER: David L. Pax, R.E.

LOCATION: On M-22, from Fisher Road (just east of Glen Arbor) moving north to Port Oneida Road in Leelanau County

DATE STARTED: October 27, 2014

DATE COMPLETED: May 22, 2015

SELF-PERFORMED: 90%

PARTNERS: National Park Service, Leelanau Scenic Heritage Route Committee Bella Concrete, Sleeping Bear Dunes National Lakeshore, Friends of Sleeping Bear Dunes, TART Trails, G&J Site Solutions, Give 'Em A Brake Safety

A few years ago, the National Park Service began a mammoth undertaking, to construct a 27-mile non-motorized trail in Northern Michigan's famed Sleeping Bear Dunes National Lakeshore. Team Elmer's submitted the low bid to construct the first three phases of the award winning trail, working with the Michigan Department of Transportation and Friends of the Sleeping Bear Dunes to complete the task. In 2012, Team Elmer's completed the first four miles of the Sleeping Bear Heritage Trail and opened them to the public. In 2014, we wrapped Phase II, which extended the length to 9.5 miles. Now, we have put the finishing touches on Phase III, which adds 3.38 miles of additional trail — stretching from Fisher Road just east of Glen Arbor, to Port Oneida Road in Leelanau County, through the historic Port Oneida district.

Phase III of the Sleeping Bear Heritage Trail, while the shortest of the three phases in terms of mileage, presented some of the biggest challenges that Team Elmer's has faced throughout this sprawling project, including a wetland section, endangered species habitat, tight space constraints, invasive

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species limitation, and an historic district. First, a section of the trail needed to cross a 600-foot area of wetland. Protecting the valuable ecosystem while simultaneously building a sound boardwalk system to span the wetland section required Team Elmer's to come up with a different approach compared to the rest of the project.

The solution to this section was a 600-foot timber boardwalk, which will allow hikers, joggers, bikers, and other trail traffic to observe the natural beauty of the ecosystem without impacting the functionality of the wetland. Team Elmer's was able to install helical piers into a solid surface under the wetland section to serve as a steady foundation for the boardwalk. Given the depth of the wetland and the poor soils beneath it, the heights of the helicals ran quite a range—from 30 to 60 feet. Once the helical piers were drilled and steadied, the boardwalk came together quickly—from cross beams and baseboards to railings.

Another challenge that Team Elmer's encountered during Phase III of the Sleeping Bear Heritage Trail project was the presence of an endangered species. The Sleeping Bear Dunes National Lakeshore is home to a broad array of different wildlife, but one of the area's most fascinating

site to eliminate invasive weed seed introduction from the equipment. Other practices included using native topsoil and duff (on-site materials such as sand, soil, leaves, sticks, and more) in the restoration along the newly installed trail system. The Port Oneida historic district and farm required materials to be used similar to the late 1800's era of the district. The challenge was to create a hard packed bike path that would allow use with little dust and deterioration of the path. The small diameter 100% crushed limestone installed in place of asphalt allowed a solid hard pack surface with no rutting or sinking.

Ultimately, Team Elmer's respected the needs of this project, doing everything possible to reduce the impact this new construction will have on the natural aspect of the Sleeping Bear Dunes National Lakeshore. After all, in 2011, Good Morning America named the Sleeping Bear Dunes, the most beautiful place in America, and we at Team Elmer's wanted to make sure it stayed that way. The goal was to make the trail look like it had been there for 100 years, and by using only on-site materials for restoration (sand, soil, leaves, sticks, and more), we were able to make Phase III of the Sleeping Bear Heritage Trail look as timeless as the dunes themselves.

Sleeping Bear Dunes Heritage Trail By The Numbers

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|---------------------------|----------------------------------|
| - Stabilization: 2938 syd | - Timber Boardwalk: 600 ft |
| - Gravel: 10,564 tons | - Bear Sighting: 1 (Tracks Only) |
| - HMA 2,108 tons LVSP | - Turkey Sighting: Multiple |
| - Helical Pile: 162 ea | - Bat Sightings: 0 |

creatures is the Indiana bat. A unique mouse-eared bat, the Indiana bat has been considered an endangered species by the U.S. Fish and Wildlife Service since 1967. In order to avoid disturbance to on-site colonies of these rare creatures, Team Elmer's had to wait for the bats to go into hibernation to begin clearing trees, brush, and other obstacles for the path, avoiding a spring clearing time when the bats may be mating or nesting in area trees.

Even when clearing work was allowed to begin, in late October 2014, Team Elmer's had to work in a tight space to minimize environmental impact. At any point the trail, scope of work was limited to 20 feet of work space: 10 feet for the trail itself, and five feet on either side. This tight space presented challenges of its own, from controlling the direction in which trees were falling, to getting trucks and other gear or equipment into the workspace.

Park officials were also concerned with exposing invasive weed seed and other non-native plants to the National Park. Equipment was power washed before entering the

