

## Shaping the Horizon

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## Bridging the Gap

The Heritage Trail in Dubuque County, Iowa is a recognized National Recreation Trail and a portion is designated as part of the Mississippi River Trail (MRT). The 26-mile multi-use trail is located on abandoned Chicago and Great Western Railroad right-of-way and passes through six communities from Dyersville, Iowa to Dubuque, Iowa. In the early 1980s, when the Railroad announced plans to abandon the route, Heritage Trail, Inc. raised the funds to acquire the land from adjoining landowners, established the trail, and subsequently turned the trail over to Dubuque County. In 1996, The Iowa Department of Transportation awarded the City of Dubuque a Recreation Trails Grant to extend the Heritage Trail through the City.

However, the final segment of the trail, linking the City's trail system with the Heritage Trail and other regional recreation facilities, remained incomplete. The Dubuque County Conservation Board, recognizing the regional and local significance of a completed trail, accepted the challenge to take on the project and complete the missing segment of trail, which included a pedestrian crossing of US 52/IA 3, just north of Dubuque. The Dubuque County Conservation Board selected WHKS to perform the design of a pedestrian overpass over US 52/IA 3 and the paving of approximately 1 mile of pedestrian trail.



*The Heritage Trail Extension and Pedestrian Overpass of US 52/IA 3 opened to the public in June 2013.*

## Dubuque County, Iowa Heritage Trail

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The Conservation Board selected a 137'x12' single-span prefabricated steel truss pedestrian bridge. In order to meet vertical clearance requirements, the trail needed to rise approximately 17'-6" above the roadway elevation at the US 52/IA 3 crossing. To accommodate this, curved MSE wall embankments were constructed within the limited right-of-way available.

The geotechnical report showed compressible organic clay soils with the prediction of up to 18 inches of settlement under the weight of the MSE wall fill. Several options were considered and ultimately, rammed aggregate pier ground improvement was selected as the most economical and constructible alternative. This option allowed the embankments to be constructed in only 3 months, rather than a year or more with conventional preloading techniques.



*Use of bridge abutment spread footings on MSE embankments is a unique and innovative practice in Iowa.*



*WHKS helped the Dubuque County Conservation Board turn their vision to reality for the completion of the final segment of the Heritage Trail system.*

"The WHKS team provided exceptional professional services to the County Conservation Board throughout all phases of the project. We were very pleased with the services of WHKS, including their responsiveness and attention to detail related to the design and construction of the trail extension and pedestrian bridge. We believe the improvements will be a key feature of both the Heritage Trail and MRT trail system for many years to come," said Brian Preston, Dubuque County Conservation Board Executive Director.

The contributions of Dubuque County and its volunteer Conservation Board of Directors were recognized in June 2013 when the Heritage Trail Extension and Pedestrian Overpass opened to the public. The trail is a functional and scenic contribution to beautiful Eastern Iowa and is used year-round by outdoor enthusiasts, contributing to the County's tourism and economic bases.

***This project received an Honor Award (2<sup>nd</sup> Place) in the Special Projects Category of the American Council of Engineering Companies of Iowa's 2014 Engineering Excellence Awards Competition, which will be presented to WHKS and the Dubuque County Conservation Board in May 2014.***

## WHKS Providing Construction Observation and Administration Services for the Iowa DOT

In 2013, WHKS was selected for an On-Call Design Agreement with the Iowa Department of Transportation (Iowa DOT) Office of Design. The projects assigned with the agreement are expected to include primary and institutional roadway improvements, roadway resurfacing and reconstruction projects including ADA compliant sidewalk design, traffic signal layout and design, reinforced box culvert design, drainage and utility design, traffic studies, and surveys.



*WHKS provided on-site observation services for the I-380/US 151 Overlay Project in Linn County, Iowa.*

The work assigned under these agreements have evolved to include construction observation and administration services for roadway and bridge projects. Varied projects were serviced including HMA overlays, slurry seal, sealcoat, PCC patching, installation of chain link fence, pavement markings, subdrain installation and bridge overlays. WHKS staff members have attended training offered by the Iowa DOT regarding construction and materials and are certified in several areas and have utilized the Field Book application from the Iowa DOT.

Additionally, WHKS was selected by the Iowa DOT Office of Bridges and Structures to provide On-Call Bridge Paint Inspection Services for a three year period. Since 2005, WHKS field observation technicians have worked closely with the Iowa DOT to complete bridge paint inspection projects in 29 counties and have provided services on projects that required weekend and overnight work to meet aggressive project completion schedules.

## Stallsmith Presents at American Society of Civil Engineers Structural Engineering Conference



*Stan Stallsmith, P.E.*

Stanley Stallsmith, P.E., Senior Structural Engineer with WHKS, was a presenter at the American Society of Civil Engineers (ASCE) Structural Engineering Conference held November 4, 2013 in Ames, Iowa.

The topic of the presentation was the Trout Run Trail Bridge Design and Construction project in the City of Decorah, which was completed in 2012. Stallsmith was the WHKS project manager and lead bridge designer for the project.

The Trout Run Trail Bridge was constructed with a post-tensioned monolithic frame system, integral abutments, and high strength concrete which produced a low-maintenance, durable bridge with an ultra-thin superstructure. The project won second place in the transportation category for the 2013 Engineering Excellence Award Competition sponsored by the American Council of Engineering Companies of Iowa.

Mr. Stallsmith has a B.S. Degree in Civil Engineering from Iowa State University and is licensed to practice in multiple states. Prior to joining WHKS, he worked for 6 years at the Oklahoma Department of Transportation. Mr. Stallsmith has been with WHKS since 1992.



*Stallsmith was the lead designer and structural project manager for the Trout Run Trail Bridge over IA 9.*

**Representative Projects Currently Underway**

**Flood Repairs to Roadway and Structures**  
Allamakee County, Iowa

**Site Design for Finley Hospital/UnityPoint  
Health Grandview Expansion**  
INVISION Architecture

**Safe Routes to School Project**  
City of Byron, Minnesota

**US 136 Culvert Replacement Project**  
Iowa Department of Transportation

**I-72 Resurfacing and Bridge Repair**  
Illinois Department of Transportation District Six

**Water Tower Painting and Well House  
Improvements**  
City of Wanamingo, Minnesota

**Hales Mills Roadway and Bridge Improvements**  
Dubuque County, Iowa/City of Asbury, Iowa

**Rosamond Township Bridge Replacement**  
Christian County, Illinois

**Cascade Creek Stream Evaluation**  
Olmsted County, Minnesota

*For additional information on any WHKS  
projects, please contact our offices or visit  
[www.whks.com](http://www.whks.com).*

Happy New Year from WHKS!