



## PROJECT DESCRIPTION

The Iron Ore Heritage Trail (IOHT) is as their website explains "... a 48-mile multi-use trail that connects communities and people to the region's historic sites and human stories. Through a multitude of interpretive methods, we can share the story of the Marquette Iron Range and our 160+ years of mining ore that changed the landscape of Marquette County and the United States" (<http://ironoreheritage.com/>).

In the summer of 2013, a considerably long portion of the trail was bid (through the Michigan Department of Transportation) then completed which included an especially challenging section in the back country near Negaunee, Michigan. Nearly 1,000' of this trail was to utilize an abandoned stretch of railroad track, partially filling its steep embankment while skirting a pristine lake. For environmental reasons it was mandated there be no incursion into the lake. The bidding documents for the project required this portion be of a design/build nature with either a retaining wall, steel sheeting, or other suitable method to insure stability of the trail while maintaining separation from the lake.

Having familiarity with Upper Peninsula Concrete Pipe Co., Inc.'s (UPCPC) Earthlock gravity retaining wall system, the awarded prime contractor, Smith Paving Company of Marquette, Michigan selected UPCPC's Earthlock system as the preferred method. They cited its inherent strength and stability, attractiveness, speed of installation, and consequent installed cost as determining factors.

After alignment and geotechnical work was performed, the structural design of the wall elements and typical installation details were completed, reviewed, and accepted. Production of the 4' lay length Earthlock precast concrete sections at UPCPC's facilities began soon afterward. Installation of the nearly 800 lineal feet of wall, ranging from 6' to 11' in height, was completed in approximately three weeks. Backfilling and trail building took place immediately there-after.

## PROJECT TEAM MEMBERS

**Owners:** IOHT & Marquette County Road Commission  
**Project Engineer:** U.P. Engineers and Architects  
**Precast Producer:** Upper Peninsula Concrete Pipe Co.  
**Precast Design Consultant:** Structure Sight  
**Survey & Geotechnical:** Coleman Engineering  
**Contractor:** Smith Paving Co.

## TECHNICAL DESCRIPTION

**Geometry:** 6 - 11' H x 800' length  
**Installation:** Summer 2013