

Crow Wing County State Aid Highway 10

In 2008, Crow Wing County plans to reconstruct approximately 6.1 miles of CSAH 10 in Bay Lake Township, from Minnesota State Highway 18 to CSAH 14. This highway provides north-south access to areas along the east shore of Bay Lake and connects with a number of local routes serving farms and homes to the east.

PCE has been retained to complete preliminary and final design documents, with right-of-way acquisition in 2007. It is anticipated that the project will receive 80% Federal funding, matched with Local or State Aid monies.

The existing roadway will be replaced by a 10-ton, two lane paved, rural design roadway utilizing 12' wide driving lanes and 6' wide bituminous paved shoulders. A 4' shoulder urban design section, utilizing curb and gutter, will be used along the Bay Lake shoreline to minimize taking of rights-of-way and infringement on the lakeshore.



The project will follow existing road alignments where possible. The roadway will have to be realigned slightly in areas with existing sharp horizontal curves to meet current design standards and to improve safety. Sensitivity to existing utility structures, minimizing displacement of in-place power lines, and a telephone switching structure are important.

Vertical and horizontal alignment has been designed to meet Federal and State Aid design standards for sight distance and super elevation, based on a 50 mph design speed. Risk analysis has been performed to ensure that each drainage structure will have adequate capacity. Special emphasis in design to discourage construction of beaver dams in culverts under the road was an important consideration.

Bay Lake shoreline protection have been incorporated into the design to minimize erosion and lake ice damage consistent with recreational use by residents. Pedestrian and bicycle use of the roadway will be accommodated on wide shoulder areas. Engineering challenges included wetland delineation areas, identified areas of sensitivity, soils conditions, topographic data, the local beaver population, lake level control, and environmental flowages into the lake.

Client: Crow Wing County Highway Department
Client Contact: Duane Blanck, County Engineer
Construction Year: Anticipated Letting in 2008
Project Cost: \$2,754,725 (Estimated)



Progressive Consulting Engineers, Inc.
6120 Earle Brown Dr. Suite 629 Minneapolis, MN 55430
Phone (763) 560-9133 Fax (763) 560-0333
www.pce.com e-mail: pce@pce.com