



Fairground from farm field



Lake County Grading's Ruben Cuevas, chief surveyor, and Joe Gore at the Lake County Fairgrounds site.

The new Lake County fairground is literally a 'green field' site," explained Ruben Cuevas, chief surveyor of Lake County Grading Co., LLC. "It was a piece of farmland when we started. We had to do a massive amount of earthwork including multiple ponds, roadways, parking, and all of the site preparation for the midway and permanent exhibition buildings.

"To make things even more interesting, our work was done in stages. We did a phase and left the site, then we came back and picked up where we left off. That kind of job can be a surveyor's nightmare.

"It's almost like starting over every time you come on the site, because you can't be sure nothing has been disturbed. In the days before GPS you would spend as much time retracing your steps as you would advancing the job.

Company: Lake County Grading Co., LLC

Location: Libertyville, Illinois

Project: Lake County Fairgrounds

Location: Grayslake, Illinois

Scope: Earthwork, multiple ponds, roadways, parking, and site preparation for a 128 acre fairground

Topcon Products:

3D-MC machine control system
HiPer+ networked base stations/rovers
FC-100 field controller

Topcon Dealer:

Positioning Solutions, Inc.
Carol Stream, Illinois
www.1psc.com

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AT WORK

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– Ruben Cuevas, chief surveyor of Lake County Grading Co., LLC

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"That's all different now with today's technology."

Lake County Grading was an early adopter of GPS surveying technology, and GPS-based 3D machine controls for their dozers and graders. They operate nearly a dozen 3D-MC-equipped dozers, and have recently added their first grader.

For the fairground project Lake County Grading added a new capability by joining a Machine Control focused GNSS network created by their Topcon dealer, Positioning Solutions, Inc. GNSS networks link a number of base stations together via a computer network, usually through a cellular connection to the internet.

Inside the network specialized software creates a virtual position. Anywhere in the networked area a surveyor with a rover on a pole can get centimeter-accurate observations.

"We knew that Positioning Solutions was in the process of building a machine control network, so we made the decision to get onboard," Cuevas said.

"Using the network, every time we went back to the Fairground, all we had to do was send out the equipment and operators. As soon as they unloaded they were ready to go to work because nothing had changed with the network reference



(TOP LEFT AND RIGHT) Lake County Grading's Joe Gore operates a John Deere 850 dozer outfitted with Topcon 3DMC that accesses PSG Net for real-time GNSS guidance at the fairgrounds. (BOTTOM RIGHT) Ruben Cuevas, chief surveyor of Lake County Grading Co., uses a HiPer rover in the networked area.

stations.

The fairground project included a number of ponds that presented a special challenge for Cuevas' crews.

"Nobody builds square ponds today," Cuevas said. "We were able to model each pond with our Topcon software and then excavate them accurately using the networked 3D machine controls. We didn't have to stake anything."

"The machine controls are really intuitive," Cuevas said, "and the operators took to them right away. Everyone realizes this is the future of our business."



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Topcon's 3D GPS+ Machine Control

Topcon's 3D-GPS+ system has the ability to track both GPS and GLONASS and can be integrated with your sonic and/or laser system.



Topcon has long set the standard of accuracy, durability, and affordability in machine control and the automation of construction equipment. All Topcon machine control products are scalable and upgradeable. Regardless of the type of hardware you use, Topcon has a machine control product that will increase your equipment's efficiency, accuracy, and reduce the amount of set-up and down-time significantly.