



Machine Control  
Fall 2009



## Reedy Creek Dam project

# AT WORK

**Company:** Ronald Franks Construction

**Location:** Savannah, TN

**Project:** 650,000 yards of fill, extending almost 2,500 feet long and 350 feet wide; a dam bank access road; blanket drain system; slurry cutoff wall; spillway structure and walking bridge; and, clearing of 400 acres.

**Location:** Huntingdon, TN

**Scope:** 650,000 yards of fill, extending almost 2,500 feet long and 350 feet wide.

**Topcon Products:**

HiPer Ga receiver rover/base station  
Pocket 3D software  
X63 excavator control system  
3Di GPS+ machine control  
FC-120 field controller

**Topcon Dealer:**

Earl Dudley, Inc.  
Nashville, Tennessee  
[www.earldudley.com](http://www.earldudley.com)

**O**lin Ellsworth may be “twenty-something,” but he considers himself “old-school” when it comes to construction work.

So when the heavy construction manager for Ronald Franks Construction of Savannah, TN, considered how he might successfully land the Reedy Creek Dam project, his first thought was a conventional, total station approach.

The project will create a watershed lake of almost 1,000 acres in Huntingdon, TN. The dam embankment will involve 650,000 yards of fill, extending almost 2,500 feet long and 350 feet wide. It includes a dam bank access road, blanket drain system, slurry cutoff wall, spillway structure and walking bridge – and the clearing of 400 acres in phase one.

Ellsworth knew he would have to maximize his efficiency and productivity to win the bid. In discussions with Rob Binder and Tim Marshall of the Nashville offices of Earl Dudley Associates,

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**'It gives you the correct grade settings every time, making every pass count.'**

– Olin Ellsworth, heavy construction manager for Ronald Franks Construction

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Ellsworth was asked to consider how Topcon's GPS technology could help.

Ellsworth admitted having minimal enthusiasm for the proposal initially. "But I wound up buying it before they left that day, and it has been one of the best investments I've ever made."

The purchase of a HiPer Ga base, rover and an FC 120 data collector with Pocket 3D software quickly paid for itself. Ellsworth subsequently added a 3D machine control system to a Cat D6N dozer. His "ultimate Christmas wish list" is to equip all his earth-moving equipment with Topcon Global Positioning System (GPS) equipment – the 3D-MC for dozers, the X63 for excavators and the 3Di for scrapers.

"I do 90 percent of the survey layouts. This system and approach lets me cut my layout time at least by half, and I can gather more detailed topography than I ever could have otherwise."

Multi-constellation signals available via the Global Navigation Satellite System (GNSS) reduce downtime and eliminate guesswork from the process. "You can plug in the date and time, pull the file and verify exactly how much dirt has been moved, virtually down to the shovel and scoop full."

Such information helps control

job costs and provides partial pay verification documentation. "It gives you the correct grade settings every time, making every pass count."

It also provides near- and long-term benefits in terms of operators – making experienced finish operators even more effective and allowing new operators to be brought up to speed more quickly.

Utilizing Topcon's equipment and technology "is like having a machine operator with a full-time surveyor there in the cab with him. That's important, because when the grader operator is out of the cab doing grade checks, the dozer idles and I lose money."

Ellsworth said the Topcon system "gave us a significant advantage" and will allow him to complete the project ahead of schedule and at or below budget.

The equipment and technology also are practical for smaller projects, Ellsworth noted, where utilities, building pads, ditches and drainage structures have to be accommodated. A conventional wood-in-the-ground approach on such projects can actually impose additional obstacles to be worked around – increasing completion time and associated expense.



**TOP L-R:** Ronald Franks' heavy construction project manager, Olin Ellsworth with Rob Binder and Tim Marshall of Earl Dudley.

**BOTTOM:** Ellsworth checks settings on the Topcon satellite receiver rover unit.



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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.**

The one overwhelming advantage to Topcon GPS+ is this – we provide access to more satellites than ordinary GPS. That's because GPS+ has the ability to track not only both frequencies of all GPS satellites, it can also receive the signals from GLONASS positioning satellites, giving you precision accuracy around-the-clock.