



Project Summary

LIDAR Mapping

PROJECT NAME AND LOCATION

Marble River Wind Farm Project
Clinton and Ellensburg, NY

PERFORMANCE DATA

Total project fee: NA
Project completed in 8 months in August 2006

OWNER INFORMATION

Horizon Wind Energy
Houston, TX



KEY PROJECT FEATURES

- Project area consisted of a high plateau and semi-mountainous terrain with difficult access.
- Total mapping area was over 16 square miles.
- Light Detection and Ranging (LIDAR) was utilized to develop a terrain model of the project area.

When URS Corporation one of the largest engineering firms in the country needed to map over 39,000 acres of land in the remote areas of Clinton County in upstate New York they chose Erdman Anthony's photogrammetric mapping group EA Maps, LLC to tackle the project. Because of the size the project presented some unique challenges which necessitated using state-of-art digital mapping techniques. Project managers from EA Maps looked at all aspects of the project and decided that a combination of conventional photogrammetric techniques combined with the use of Airbourne Global Positioning System Image Capture and LIDAR would be the most cost effective approach. Some 14 flight lines of 1:7200 photography, which consisted of 300+ exposures were required to blanket the project area.

Primary control for referencing the aerial photography and ground truthing the LIDAR data was established at 37 locations throughout the 16-square-mile mountainous region. EA Maps performed the softcopy aerial triangulation to develop the secondary photo control. The next step was the compilation of all planimetric features which included roads, structures, drainage courses, ponds, tree cover, rock bluffs and other relevant above ground planimetry. Following LIDAR processing and validation the raw data was combined with additional break line data that was collected using conventional stereo-digitizing methods. The combination of the data sets were then used to create a TIN model and generate 2-foot contours of the entire project area. Additional deliverables included 1"=100ft. planimetric base mapping, a digital terrain model and digital orthophotography transmitted in AutoCAD 2004 and SID World File formats. The mapping was prepared in strict accordance with ASPRS (American Society of Photogrammetry and Remote Sensing Accuracy Standard for Large-Scale Maps, Class 1. The horizontal and vertical survey control was based on NYS Plane Coordinate System East Zone, NAD 83 and the USC&GS Mean Sea Level NAVD88 datums.