



	Meas	1,083,913.937
	Meas	16,943.756
	Vol	ft3
4	Meas	27,937.316
	Vol	ft3
5	Meas	1,886.867
	Vol	ft3
9	Meas	8,883.280
	Vol	ft3
7	Meas	20,386.692
	Vol	ft3
8	Meas	21,194.438
	Vol	ft3
2	Meas	223,735.690
	Vol	ft3
3	Meas	12,230.516
	Vol	ft3



GEOMATICS

## OUR SERVICES

- ▶ Wood Chip/Log Piles
- ▶ Material Stock Piles
- ▶ Borrow Pits
- ▶ Mining Operations
- ▶ Landfill

## REACH OUT

www.withersravenel.com  
919.469.3340  
115 MacKenan Drive  
Cary, NC 27511

## our commitment to VOLUME ANALYSIS

Because earthwork is typically the most expensive part of a construction project, any measures to control the amount of earthwork required will have a substantial impact on a project's bottom line. During construction, WithersRavenel uses volume analysis to verify that the design is correctly executed. While this process has historically been time consuming and imprecise, the advent of remote sensing technology has made it faster and more accurate.

Using a laser scanner or an Unmanned Aircraft System (UAS), WithersRavenel surveys the stockpiles of soil, rock, sand, or other fill at intervals to determine the amount of material added or removed. We also survey the site itself: first after clearing and grubbing is completed, and again at intervals throughout construction. By running the results of these surveys through volume analysis calculations, we can report to the contractor or owner whether construction complies with the cut/fill sheets and recommend changes to the earthwork based on emerging conditions in the field.

In addition, surveys performed by UAS are paired with a high-resolution orthophoto and interactive 3D model; in many cases, volumetric calculations can be flown, processed, and delivered same-day, accelerating schedules and allowing staff access to more decision-making capabilities.

