



PHOTOGRAMMETRY UNIT

NCDOT Technical Services Division



The Photogrammetry Unit acquires aerial imagery and generates geospatial information products used for transportation planning, design and construction for NCDOT and projects for other state agencies.

NCDOT owns and maintains a large-format metric camera and aircraft that is used to provide airborne survey and mapping products, offering significant advantage for NCDOT uses, particularly for emergency response terrain mapping and imagery. We also use unmanned aircraft systems (UAS, or drones) for small site project-specific georeferenced digital image products, digital elevation models and earthwork pay quantity survey reports.

Photogrammetry can provide faster, more affordable alternatives

to ground survey mapping and elevation data collection that does not require traffic interruption and safer alternatives for surveying dangerous areas such as landslides.

Turn to the Photogrammetry Unit for your geospatial products needs.

Photogrammetry partners with other government agencies for statewide orthophotography and aerial LiDAR elevation data programs, serving as NCDOT's subject matter experts for aerial surveying.

Services

- ➔ Construction earthwork quantification
- ➔ Digital mosaics
- ➔ Elevation data (digital elevation models and digital terrain models)
- ➔ Emergency response terrain mapping and imagery
- ➔ Geospatial products (submerged aquatic vegetation mapping and imagery, QL1/QL2 LiDAR, county GIS-based property boundaries, cut/fill heat map, change detection)
- ➔ Planimetric mapping with digital terrain and surface models

Contact

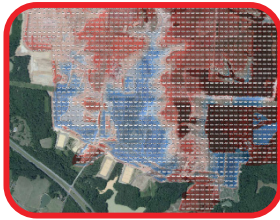
photogrammetry@ncdot.gov

connect.ncdot.gov/resources/photogrammetry/pages/



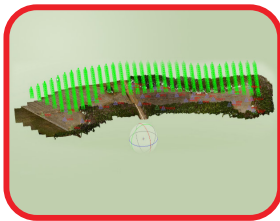


PROJECT EXAMPLES



EARTHWORK PROJECT MAPPING

Photogrammetry can provide geospatial products for large projects such as the 1,600-acre Greensboro Randolph Megasite in a short amount of time. These products include preliminary change detection swipe maps, cut/fill heat maps and preliminary volume calculations via Structure from Motion, which support oversight and management decision-making.



UAS-DERIVED DIGITAL ELEVATION DATA

Digital data secured via drone flights produce highly accurate elevations ideal for use on small bare earth construction sites and borrow pits. Monthly flying of construction sites, borrow pits and stockpiles with UAS can provide accurate digital elevation data showing the amount of material moved in a timely and cost-effective manner.



PLANIMETRIC AND DIGITAL TERRAIN MAPPING

Photogrammetry has flown thousands of missions to provide planimetric and digital terrain mapping to support the planning, design and construction of transportation projects statewide.



SUBMERGED AQUATIC VEGETATION MAPPING

The unit conducts seasonal aerial mapping of the migration of coastal seagrass. This work helps scientists with the N.C. Division of Marine Fisheries and the Albemarle-Pamlico National Estuary Partnership monitor marine health, including conservation and fishing practices.

