

NORTH CAROLINA

Department of Transportation

NCDOT UAS Calibration and Validation Site

Nick Short, PE

Assistant State Photogrammetric Engineer

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Connecting people, products and places safely and efficiently with customer focus, accountability and environmental sensitivity to enhance the economy and vitality of North Carolina

Presentation Outline

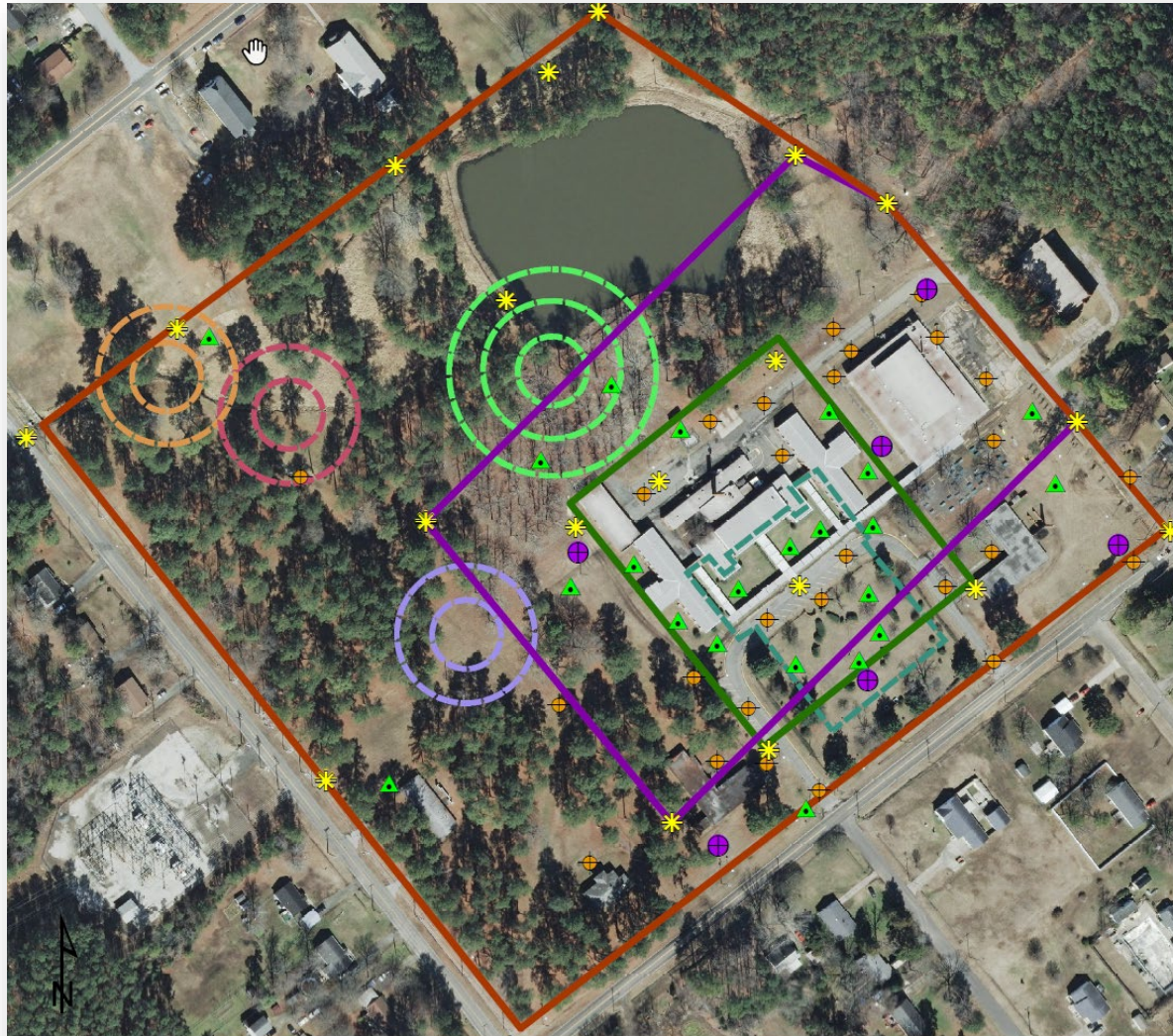
- Butner Test Site for UAS
 - Brief History
 - Site Layout
- Sanford Site
 - Site Layout and background
- Calibration, Validation, and Training
- Future Evaluation/Validation Sites
- Conclusion/Questions

Butner Test Site

- Begin to establish Butner UAS Test Site in 2017
 - Site owned by the Department of Corrections
 - Coordination with NCDOT Photogrammetry, Location & Surveys, Aviation, and NCEM
 - Extensive ground surveys for evaluating geospatial products generated from non-metric cameras & LiDAR systems on UAS platforms



Butner Test Site



UAS Butner Test Site


- ☀ Control
- ⊕ Project_Control
- ⊕ PHOTO_ID_XYZ_Control
- ▲ Paneled_XYZ_Control

Photogrammetry Missions Boundaries

- PH_100ft
- PH_200ft
- PH_400ft

Terrestrial Lidar

- Intersection of hydrologic features
- Ornamental Brick Structures and Building Facade
- Small stream feature
- Swale
- deciduous canopy with slope



Search for a new Test Site

- Preferred New Site Criteria
 - Controlled access
 - Central to NC
 - Ability to visit site often
 - Maintenance of site
 - Diversity of features (buildings, towers, sheds, utilities, etc.), vegetation, road surface types (BST, concrete, gravel), & terrain relief
 - Large for fixed wing testing and evaluation

Sanford Test Site

- Emergency Services Training Center
 - The Emergency Services Training Center is committed to providing accessible, high quality, and cost-effective emergency response training in Emergency Medical Services, Firefighting, Technical Rescue, and Law Enforcement. Our programs strive to develop skilled responders, empowering them to act more effectively in emergency situations.
- Coordination with NCDOT Photogrammetry, Location & Surveys, Aviation, and NCEM

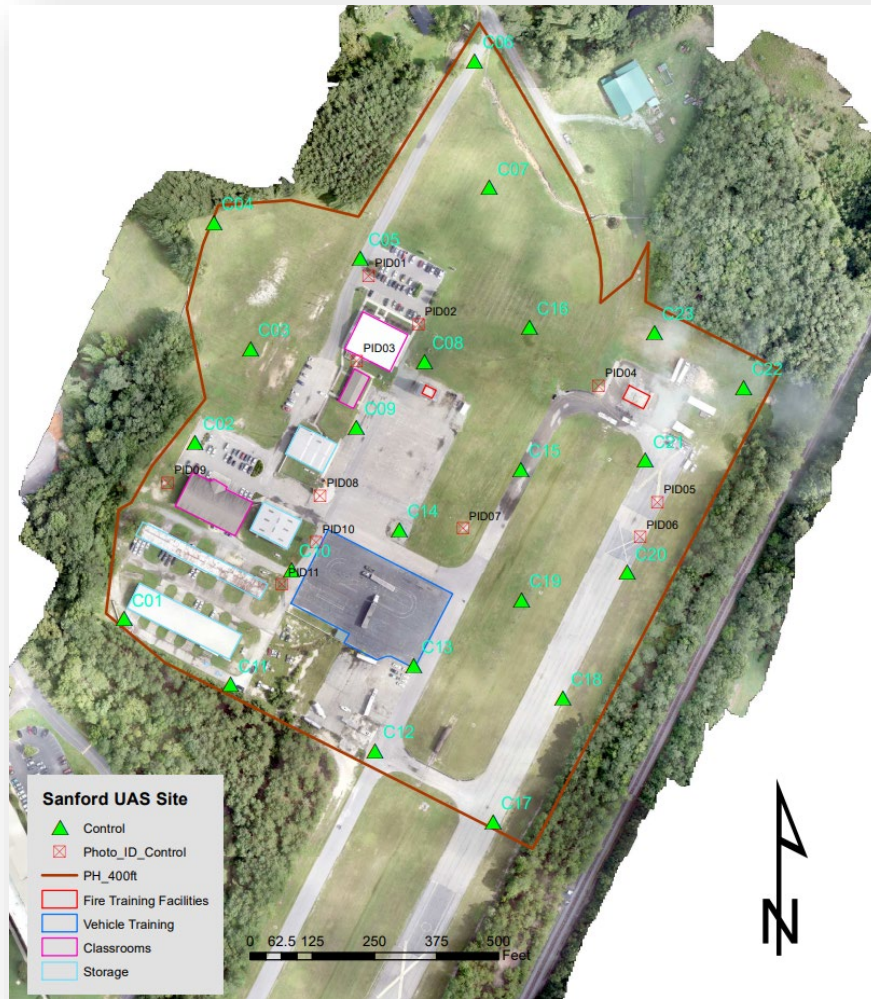


Emergency Services Training Center (ESTC)

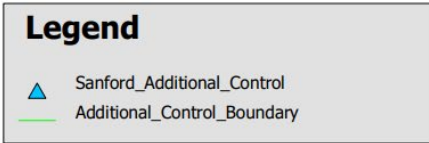
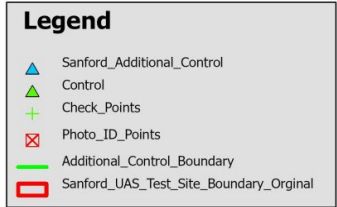
Sanford Test Site



Sanford Test Site



Sanford Test Site



Sanford Test Site

- Future Evaluation/Validation Sites
- Testing and Evaluation of new sensors and UAS platforms
- Testing of new geospatial products
- Artificial Intelligence and Machine Deep Learning
- Datasets from scanned mobile lidar, manned/crewed aircraft photogrammetry and lidar, terrestrial lidar, etc.
- Base line for instrument calibration

