

ABOVE THE SITE

How UAV sensing turns
environmental conditions into
better decisions

Matt Acree, P.G. | Terracon

Ten-minute Power Hour presentation



Multiple Ways to See a Site

RGB

Current visual record

High-resolution imagery for context, exhibits, and communication.

PHOTOGRAMMETRY

Measurable 3D surfaces

Orthomosaics, meshes, and terrain from overlapping imagery.

Lidar

Dense elevation data

Terrain, contours, volumes, drainage, and change analysis.

THERMAL

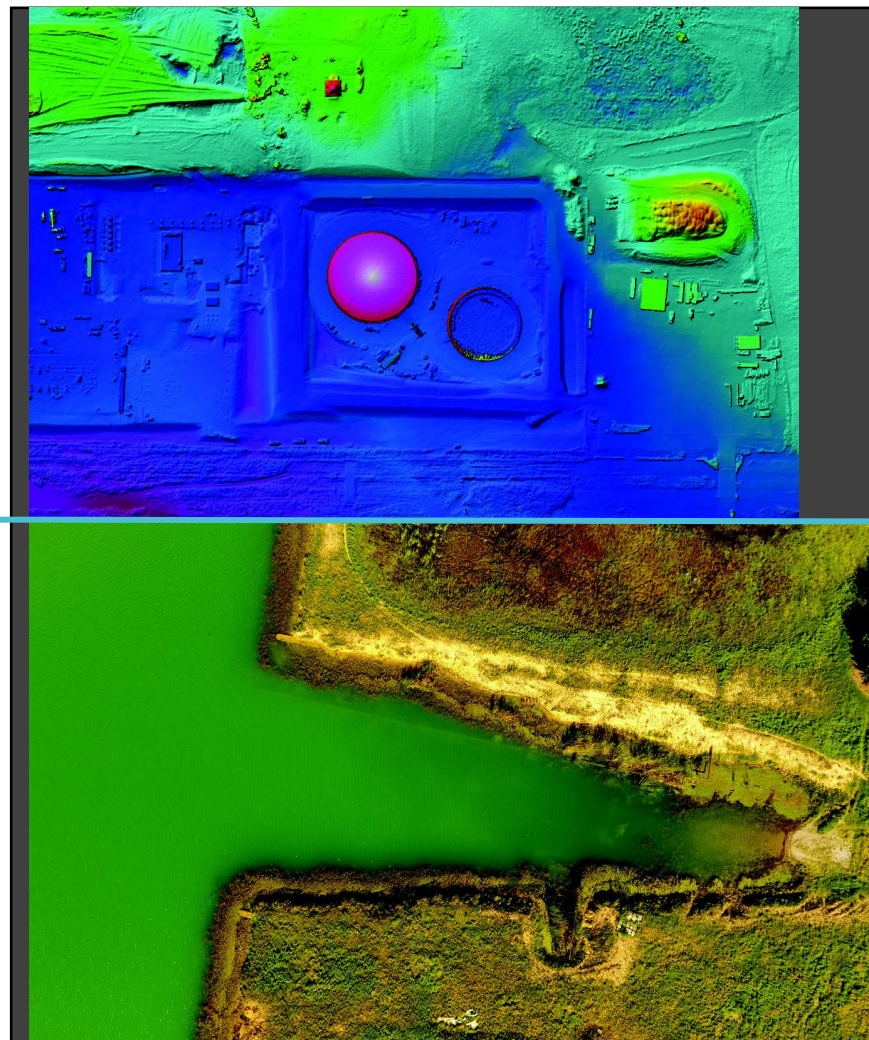
Temperature contrast

Patterns and anomalies for focused follow-up.

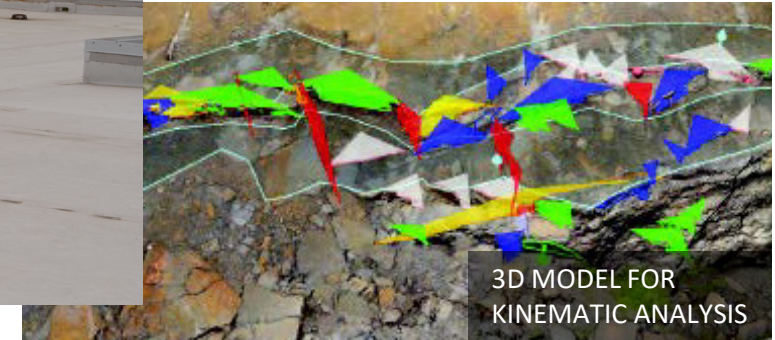
MULTISPECTRAL

Spectral response

Vegetation condition and patterns beyond visible color.



The UAV Process - From Flight to Decision



COLLECT

Capture the site data

PROCESS

Build maps and surfaces

INTERPRET

Apply the information to the task

DELIVER

Provide the final product

Environmental Applications

- **Site Documentation**
 - Assessments, permitting exhibits, and current conditions
- **Water and Terrain**
 - Stormwater, drainage, erosion, sediment, and disturbed areas
- **Change Over Time**
 - Remediation, excavation, restoration, and construction progress
- **Vegetation and Habitat**
 - Condition patterns and difficult-access monitoring
- **Event Response**
 - Flood, storm, wildfire, and slope movement documentation
- **Solid Waste**
 - Airspace, grading, cover, drainage, stockpiles, and compliance support

**Bring us your environmental question.
We'll determine if drone data can help answer it.**



Case Study: Local Municipal Landfill

Repeatable aerial data supported the annual engineering inspection and site understanding.

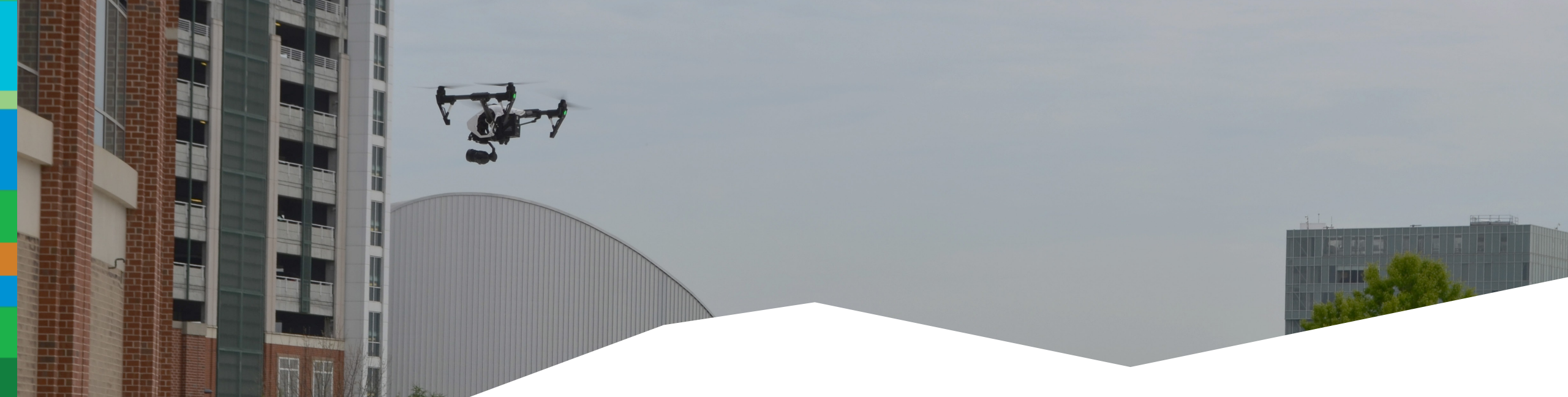


FROM THE AERIAL DELIVERABLES

- **UPDATED SURFACE** Current contours and existing conditions
 - **AIRSPACE USE** Change between repeat aerial topographies
 - **REMAINING CAPACITY** Operational and permitted volume
 - **SITE LIFE** Capacity interpreted against utilization
 - **FILL PROGRESSION** Location and direction of waste placement
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DRONE
IMAGERY

**PRODUCT:
TOPOGRAPHIC
MAP OF SITE**



Any Questions?

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