

Airports and Drones

THE GOOD, THE BAD, AND THE INEVITABLY UGLY

PRESENTED BY:



DECEMBER 6, 2017

The Inevitably Ugly



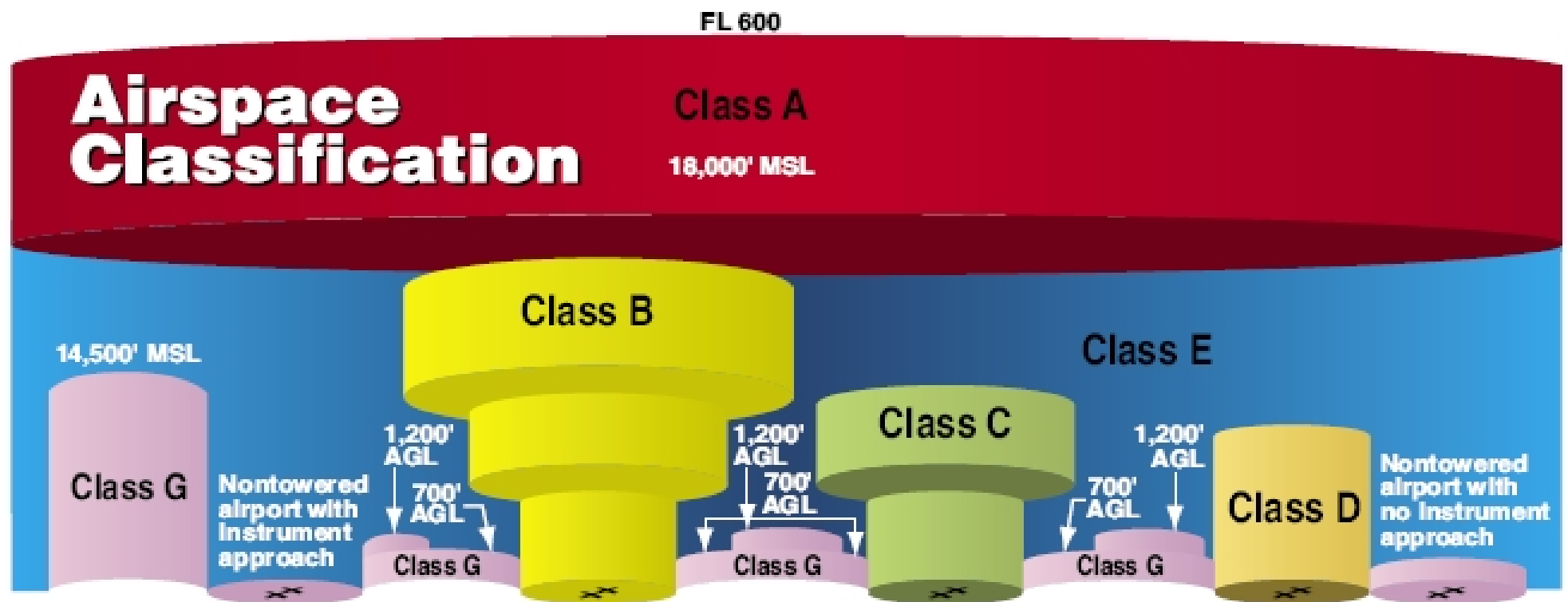
A research team from the Alliance for System Safety of UAS through Research Excellence (ASSURE) today released a [report](#)  that concludes that drones that collide with large manned aircraft can cause more structural damage than birds of the same weight for a given impact speed.



The Bad

	Fly for Fun	Fly for Work
Pilot Requirements	No pilot requirements	Must have Remote Pilot Airman Certificate Must be 16 years old Must pass TSA vetting
Aircraft Requirements	Unless exclusively operated in compliance with Section 336 of Public Law 112-95 (<i>Special Rule for Model Aircraft</i>), the aircraft must be registered if over 0.55 lbs.	Must be less than 55 lbs. Must be registered if over 0.55 lbs. (online) Must undergo pre-flight check to ensure UAS is in condition for safe operation
Location Requirements	5 miles from airports without prior notification to airport and air traffic control	Class G airspace*

Airports and Airspace...



The not so Bad

Airports

Recreational operators are required to **give notice** for flights within five miles of an airport to **both** the airport operator and air traffic control tower, if the airport has a tower. However, recreational operations are not permitted in Class B airspace around most major airports without specific air traffic permission and coordination.

NOTE THAT NOTICE TO THE AIRPORT IS ALL THAT IS REQUIRED FOR THE HOBBY OR EDUCATIONAL FLYER

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The Bad

Airports

Commercial Operators - Part 107 - Controlled Airspace Requests

If you want to fly in controlled airspace (Class B, C, D, or surface area E), you will need to [apply for an airspace authorization or airspace waiver](#).

Airspace Authorization: This is the most direct and efficient way to request access to controlled airspace. Authorizations can be for a specific location or for broad areas governed by a single ATC jurisdiction, thus accommodating the vast majority of requests for airspace access under § 107.41. An airspace authorization is the mechanism under which a proponent may seek ATC approval for their operation **(please do not contact the facility directly)**.

???? The Commercial operator can't but the Hobby flyer can ????

MORE Bad

From: [AirspaceAuthorization](#)
To: [McDougal, Evan R.](#)
Subject: FAA Part 107 Authorization Notification 2017-P107-ESA-13722
Date: Friday, August 11, 2017 4:31:27 PM

Thank you for submitting an Airspace Authorization request to the Federal Aviation Administration. This email is in reference to the application submitted on 8/9/2017 in the vicinity of KMHT.

Request Number: 2017-P107-ESA-13722

Please do not reply to this email address, it is a distribution mailbox only.

Summary of Bad

Hobbyists (non-pilots) can fly for fun within 5 miles just by notifying airport.

Commercial Operators (with Remote Pilot Certificates and training requiring understanding of airspace) must request airspace authorization via FAA web portal to fly within B, C, D or lateral limits of E.

Airspace Authorizations are taking more than 90 days..... Waivers for repeated or long term airspace use are taking longer. Other waivers (BVLOS, Night, from moving vehicles, multiple, over people, etc are more challenging to get.)



The Good! (finally!)

What can Drones do that could help airports?

- **Obstruction Analysis**
- **Pavement Inspection**
- **Cuts and Fills (Quantities)**
- **Contours**
- **PAPI Inspections?**
- **Wildlife harassment?**
- **Construction planning and Monitoring?**
- **Other ?**

Surface Analysis and Visualization - Map

Airport

Visualization

Verification

Penetration Report

Compliance Plan

Mitigation Summary

Notes

No Verification Due date.

Summary

Airport LEW AUBURN/LEWISTON MUNI
City AUBURN/LEWISTON, ME

Utilities

Export Verification

Export Penetration Report

Export Compliance Plan

Export Mitigation Summary

Show Transaction

Submit VGSI Form

Online Help/Resource

Online Help

20:1 Policy Guidance

Legend

Red: > 11 ft.

Yellow: > 3 ft. but <= 11 ft.

Green: <= 3 ft.

Penetrates 30:1

TERPS High Risk

Penetration Surface ☐ All

☐ RUNWAY04 30:1

☐ RUNWAY17 20:1 A All

☒ RUNWAY22 20:1 A All

☐ RUNWAY17 30:1

☐ RUNWAY35 20:1 A All

☐ RUNWAY05 30:1

☐ FAA Ortho Imagery

☐ TERPS Analysis

Target Object

Edit

Create New Object

Tools

Relocate to Airport

Download KML Files

Ruler

The Problem

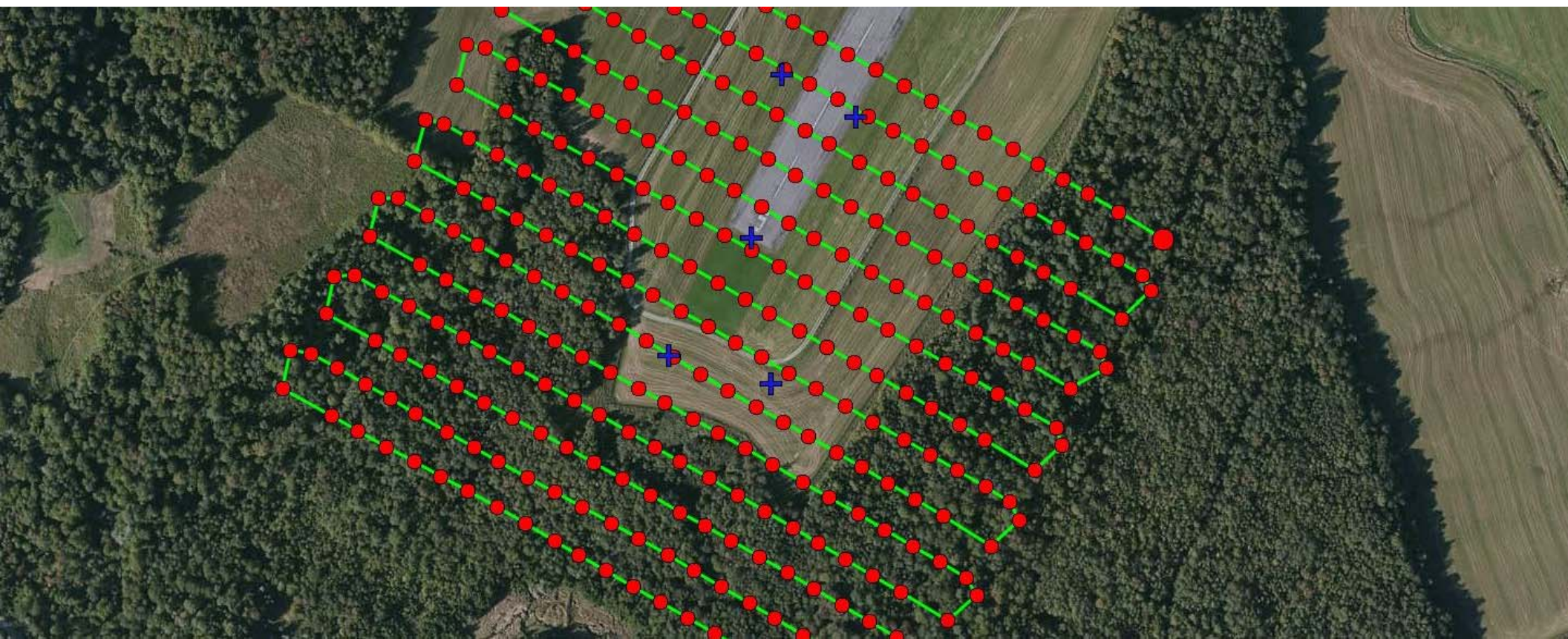
Obstructions Have Safety & Economic Impacts for Airports

Surveyed Ground
Control Points tie
the sUAS data to an
Accurate Latitude,
Longitude, and
Elevation



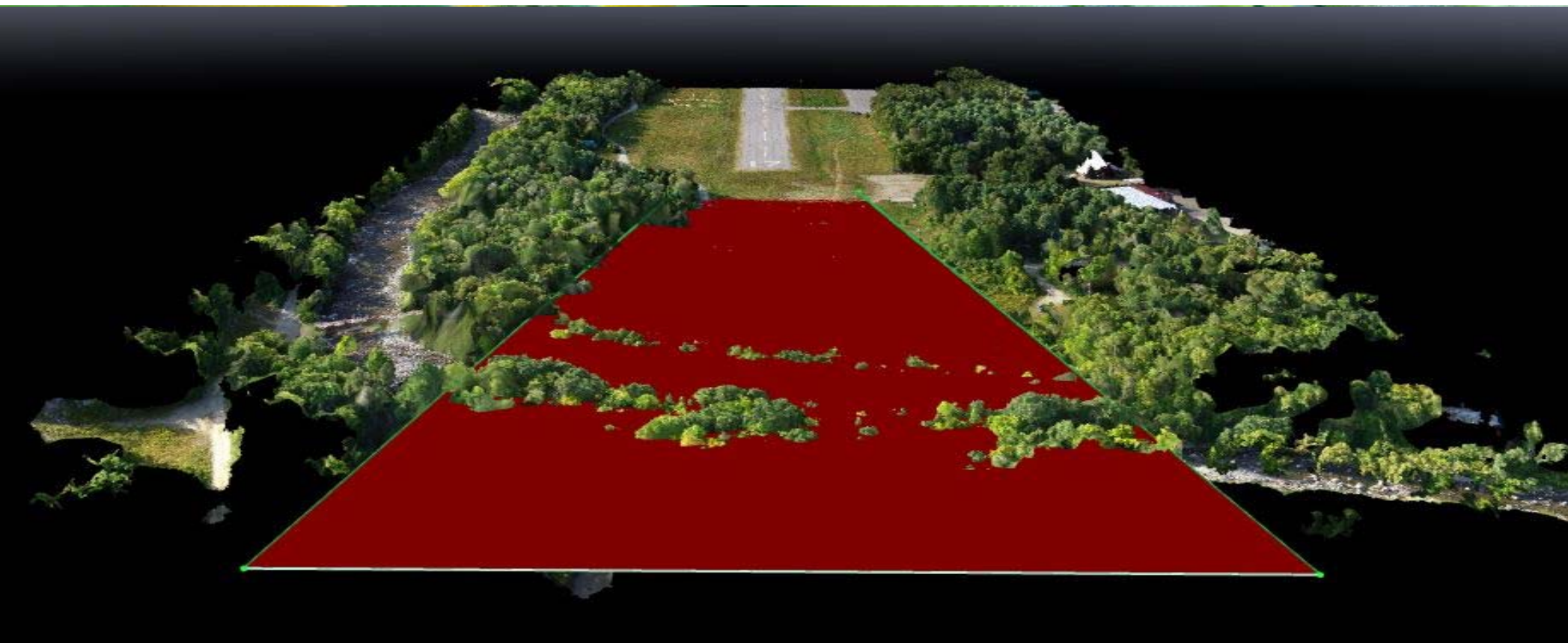
Qualified Remote Pilots Required for Commercial Operations





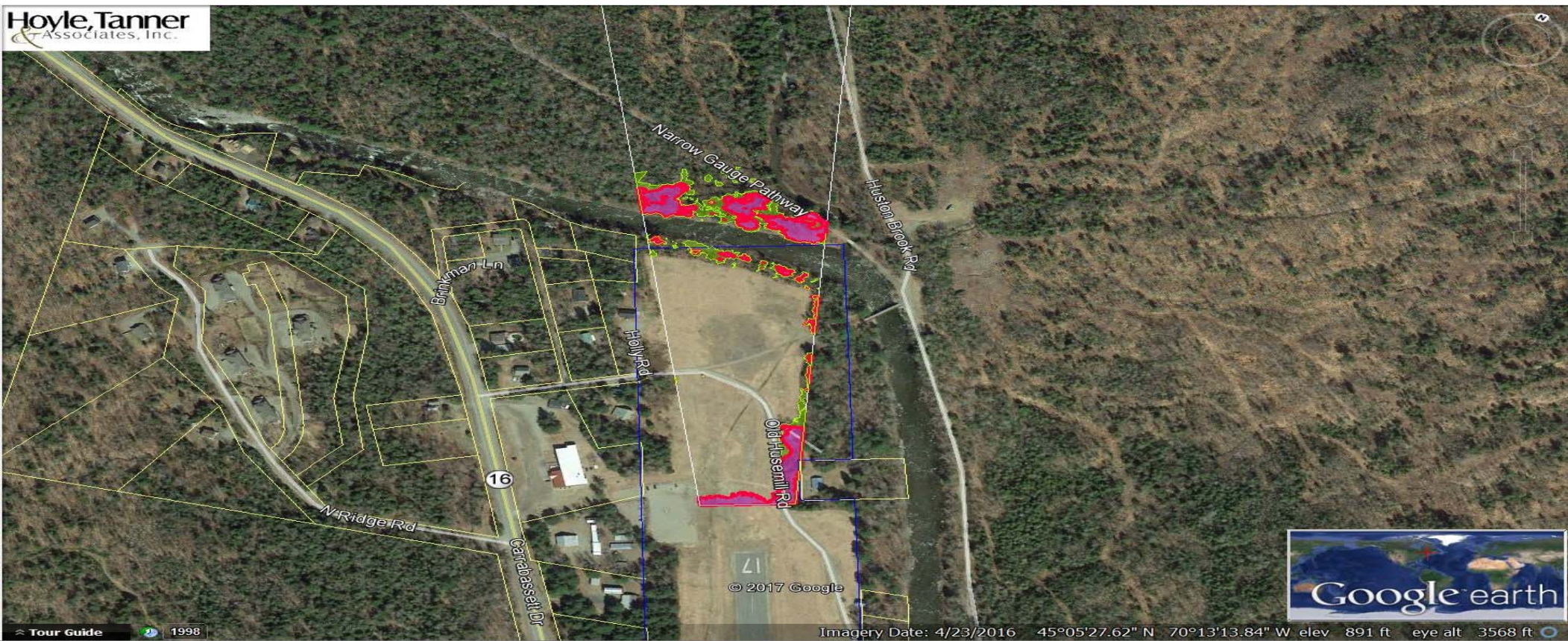
Tested Solution

Mission Planning Software Creates a Flight Plan & sUAS Collects Geotagged Photos



Solution Applications

Add a FAR Part 77 Surface (or a TERPS Surface, etc.)

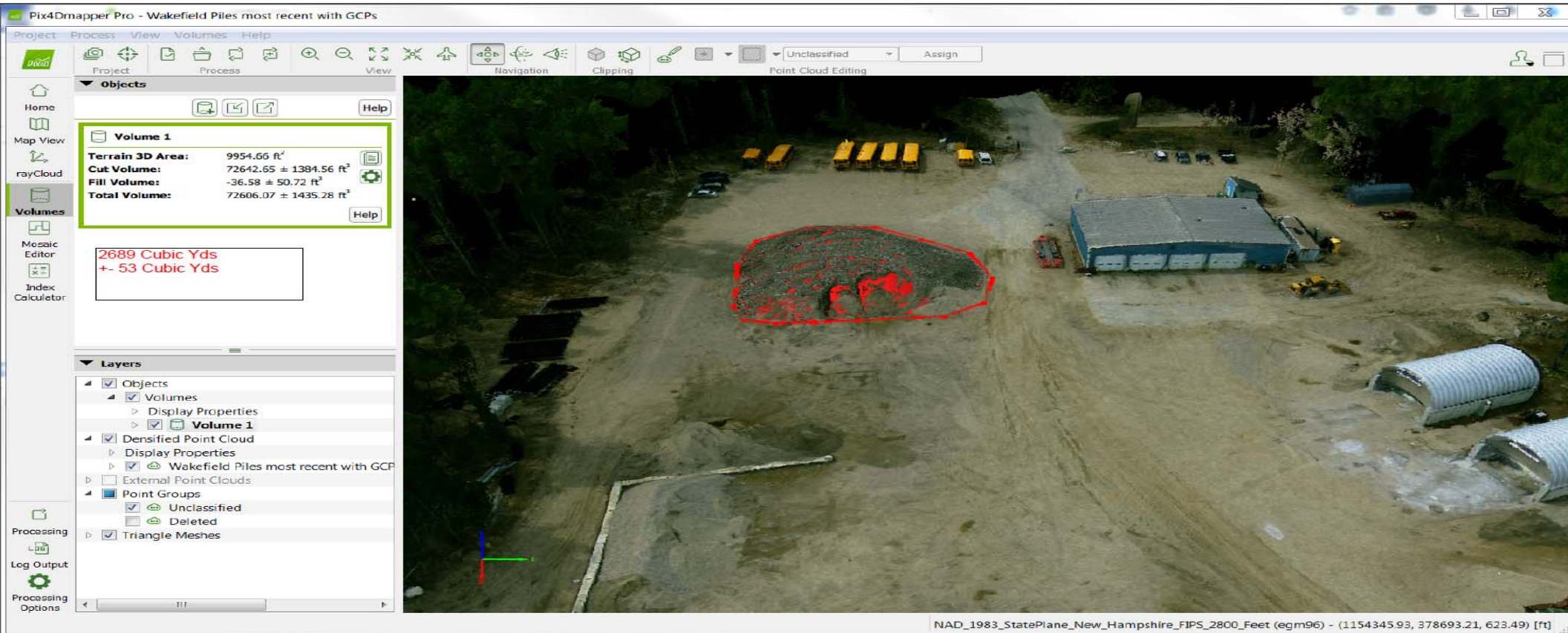


Solution Applications

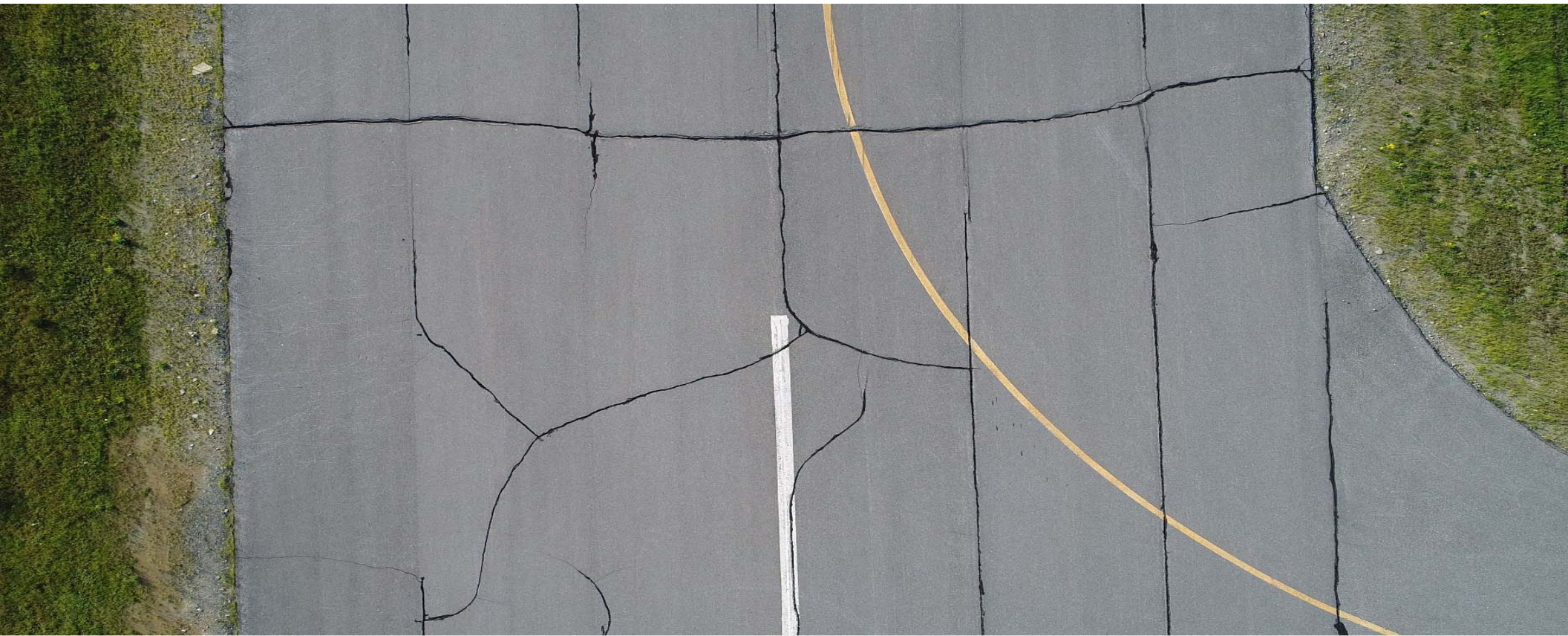
Identify the Areas of Obstructions & Export the Perimeter Coordinates

Fly through of 20:1 Obstruction analysis

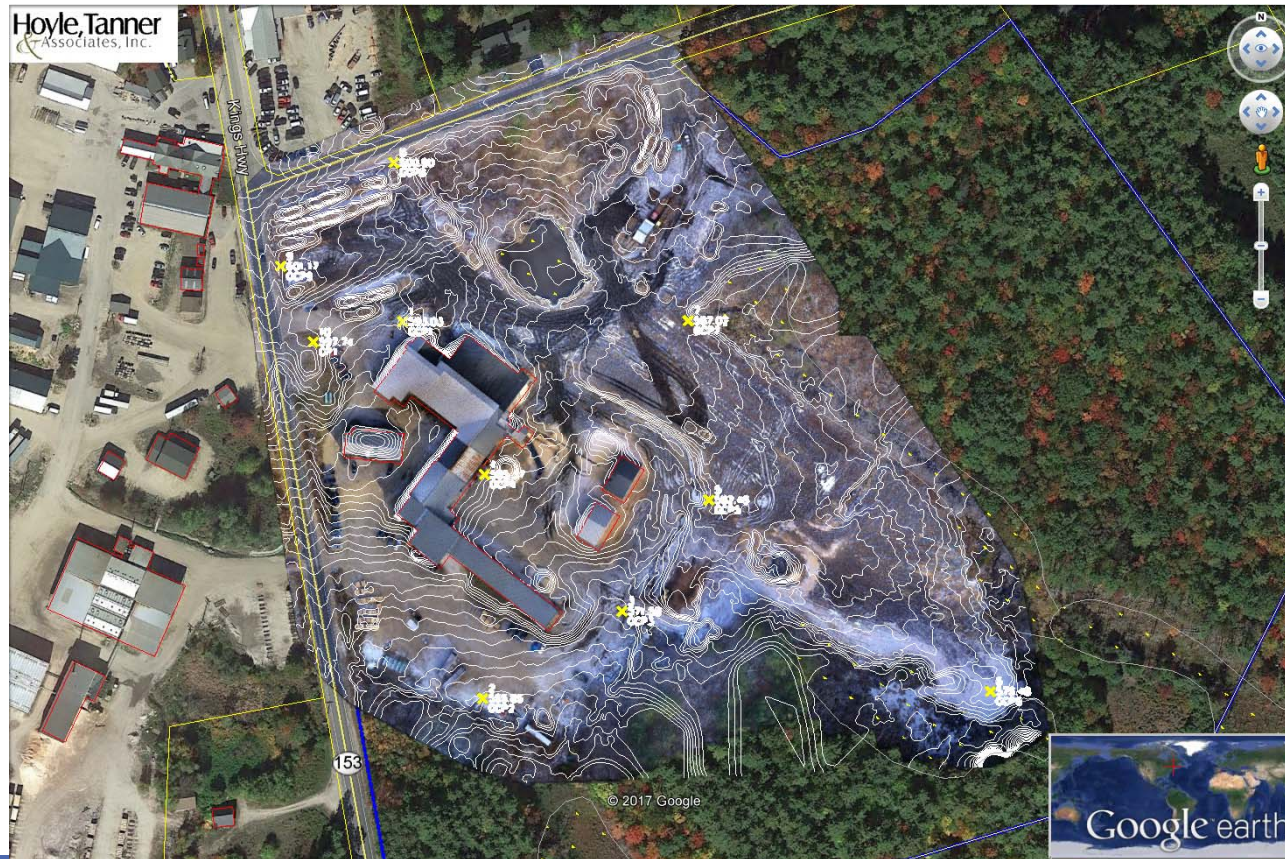
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Additional Applications Cut/Fill Quantities



Additional Applications Runway Inspection





Additional Applications
Post Construction documentation



Additional Applications Transportation Infrastructure Inspection/Monitoring

Questions

