

UA What?

UA Why?

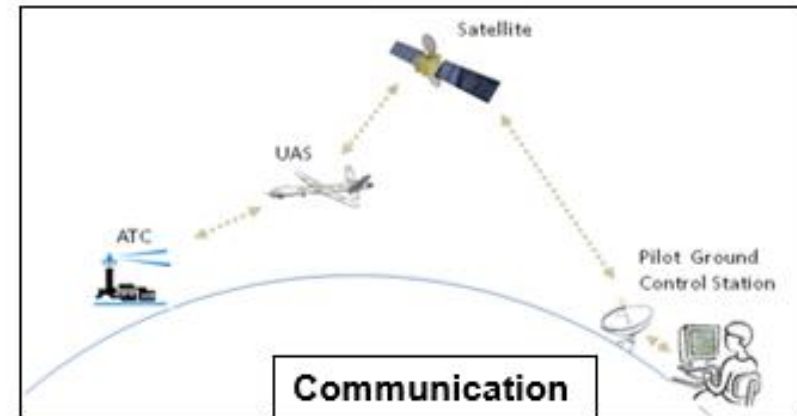
BRYAN BUDDS

MDOT OFFICE OF AERONAUTICS – UAS PROGRAM OFFICE

JUNE 20, 2019

Unmanned...

- ▶ Aerial Vehicle
- ▶ Aerial System
- ▶ Aircraft Vehicle
- ▶ Aircraft System
- ▶ Remote Control Aircraft
- ▶ Remotely Piloted Vehicle
- ▶ Drone



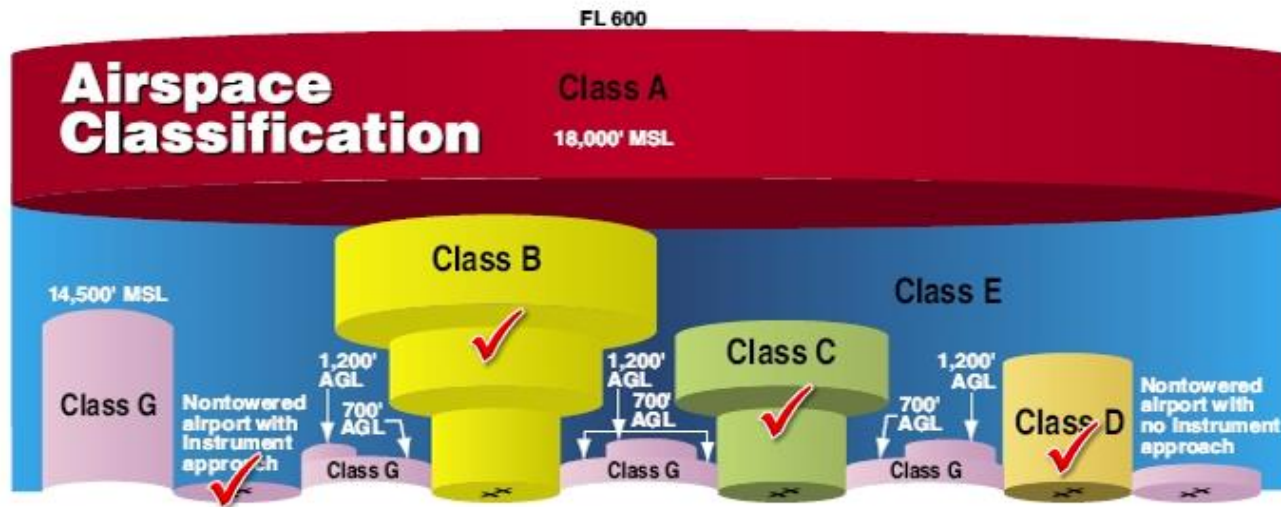
How Fast Does This Thing Go...

- ▶ Or How High?
- ▶ Is that an airport?
- ▶ What can I see with this thing?
- ▶ You mean I need to register this thing?
- ▶ And...take a test??
- ▶ But last year I didn't!?

Types of UAS Operations

	333 Exemption Operations	Model Operations	Part 107 Operations
Pilot Requirements	<ul style="list-style-type: none"> Must have Part 61 pilot certificate 	<ul style="list-style-type: none"> No FAA pilot requirements 	<ul style="list-style-type: none"> Must have Part 107 Remote Pilot certificate
Aircraft Requirements	<ul style="list-style-type: none"> Must be listed in the exemption < 55 pounds must be registered 	<ul style="list-style-type: none"> < .55 pounds must be registered 	<ul style="list-style-type: none"> Must be less than 55 pounds < 0.55 pounds must be registered
Location Requirements	<ul style="list-style-type: none"> Must be away from the Certificate Authority (COA) 	<ul style="list-style-type: none"> Must be away from airports and airports within 5 sm 	<ul style="list-style-type: none"> Class B, C, D, and surface E require ATC permission Class G, & the rest of Class E without ATC permission
Operating Rules	<ul style="list-style-type: none"> Operator must comply with Part 101, and the Conditions & Limitations in the exemption. 	<ul style="list-style-type: none"> Must comply with visual flight rules Must follow community-based safety guidelines 	<ul style="list-style-type: none"> Must comply with Part 107. Operator may have waiver from certain parts of the rule.
Purpose	<ul style="list-style-type: none"> Any Civil operations allowed by the exemption 	<ul style="list-style-type: none"> Only Recreational or certain Educational flying 	<ul style="list-style-type: none"> Any Civil operations allowed under the rule.

Part 107 Airspace Requirements



- Class B, C, D & surface Class E require ATC authorization ✓
- Class G and the rest of Class E without ATC authorization
- Phased approach to airspace authorizations

FAA Part 107
“Drone License”

More Rules?

- ▶ **Michigan Unmanned Aircraft Systems Act**
 - ▶ **Michigan Unmanned Aircraft Systems Task Force**
 - ▶ **No interference with Law Enforcement**
 - ▶ **No interference with critical infrastructure**
 - ▶ **Privacy, Harassment, Sex Offenders**
 - ▶ **No Local Restrictions***
 - ▶ **UAS Program Office within MDOT Office of Aeronautics**



And... A Policy?

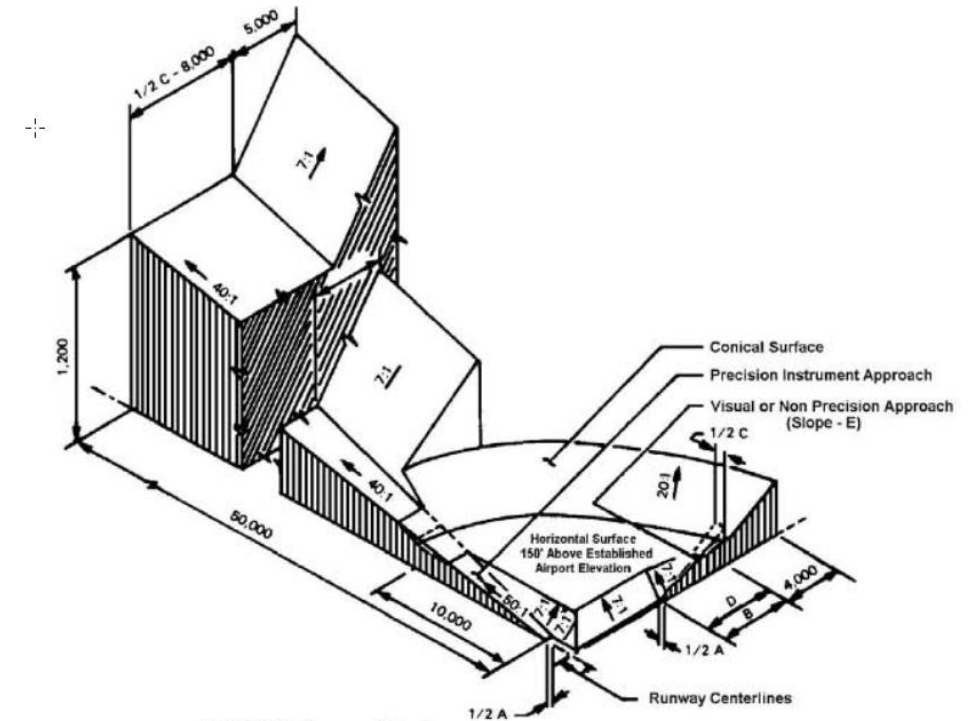
- ▶ Establish internal procedural and operational requirements to ensure the safety and efficiency of all UAS flight operations conducted by MDOT personnel.
- ▶ To ensure that MDOT, its employees, and others* on behalf of MDOT remain compliant with 14 CFR Part 107 and MDOT Certificate of Authorization, and all federal state and local laws.
- ▶ MDOT UAS Program Office - Program Manager
- ▶ Bureau/Office Director, Region Engineer, or designee – UAS Coordinators
- ▶ Remote Pilot in Command, UAS Pilots, UAS Operators, UAS Visual Observer
- ▶ Open to all comments : Thanks to Design Survey, SW Region, Research, and others for participating!



UA Why? - Data Driven Inspections

- ▶ Current airport inspection process are “good.”
- ▶ Tree growth causes a very expensive issue for community airports
- ▶ State law prohibits anyone from allowing trees to grow into airport protected areas
- ▶ But “good” isn’t good enough

Imaginary Surfaces



Source: <http://www.ngs.noaa.gov/AERO/oisspec.html>



RUNWAY 04 APPROXIMATE 20:1 LINE.



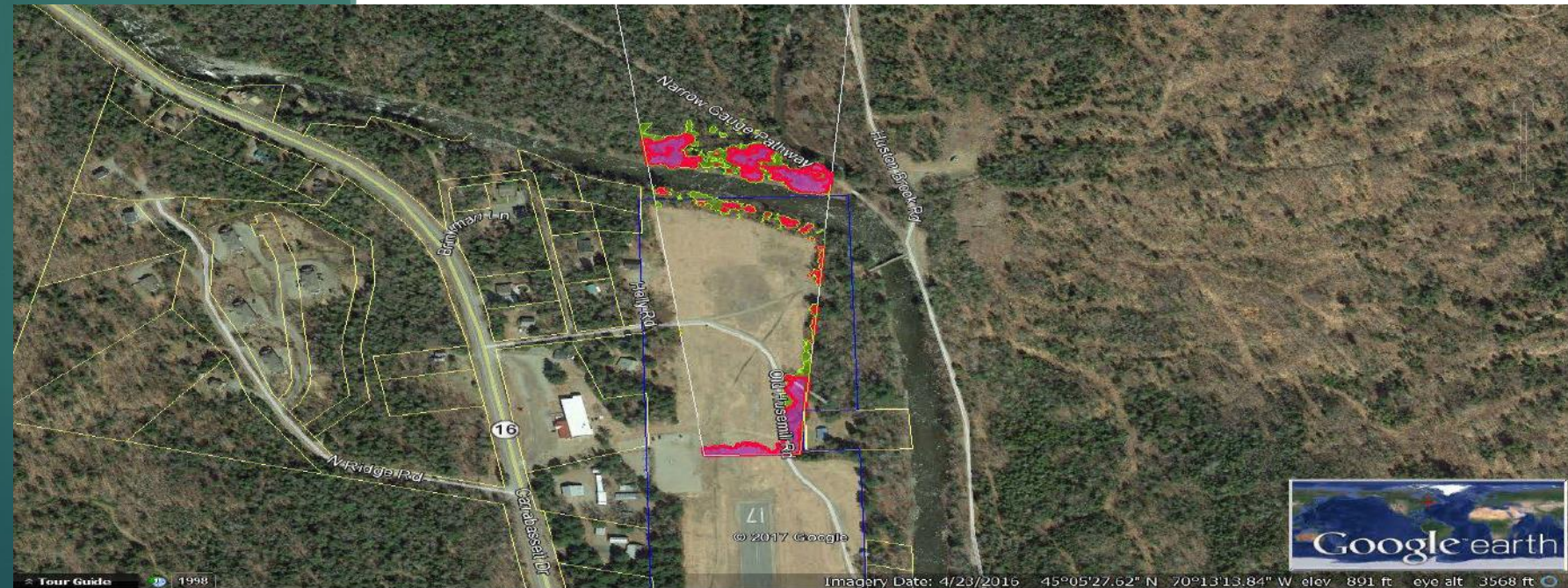
Current FAA Standards*





Progress Being Made

- ▶ Better, actionable data
- ▶ Fraction of cost
- ▶ Reduced need for land acquisition
- ▶ Fewer grants needed for non-capital projects
- ▶ Safer system





Need Help with UAS?

- ▶ Mike Soper – soperm1@Michigan.gov
- ▶ Bryan Budds – buddsb@Michigan.gov

