Small UAS

Key Testing Areas

TO APPLY FOR A sUAS RATING YOU MUST:

01

AGE

Be at least 16 years of age

02

ENGLISH

Read, write, and speak, and understand the English language (Exceptions will be made for medical reasons)

03

CONDITION

Be in a physical and mental condition that would not interfere with the safe operation of sUAS

04

TRAINING

Fulfill training and testing requirements

PART 107
DEFINITIONS

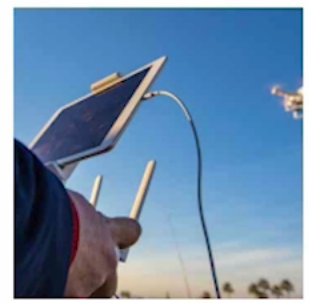
The FAA Breaks The Crew Down Into 3 Main Members

Remote PIC

A person who holds a current remote pilot certificate with an sUAS rating and has the final authority and responsibility for the operation and safety of the sUAS

Visual Observer

A person acting as a flight crewmember to help see and avoid air traffic or other objects in the sky, overhead, or on the ground



The Person Manipulating The Controls

A person controlling the sUAS under direct supervision of the Remote PIC

REMOTE PIC RESPONSIBILITY

01 FINAL AUTHORITY

The Remote PIC has the final authority and responsibility for the operation and safety of the sUAS

02 SEE & AVOID

The Remote PIC also has a responsibility to remain clear of and yield right-of-way to all other aircraft, manned or unmanned, and avoid other potential hazards that may affect the Remote PIC's operation of the aircraft. This is traditionally referred to as "see and avoid"

03 RESPONSIBLE FOR THE CREW

The Remote PIC must ensure all crewmembers who are participating in the operation are not impaired by drugs or alcohol

REMOTE PIC RESPONSIBILITY

04 OPERATING CONDITION

The responsibility to inspect the small unmanned aircraft system (sUAS) to ensure it is in a safe operating condition rests with the Remote PIC

05 VISUAL LINE OF SIGHT

The Remote PIC must ensure that they or their crew always maintain visual line of sight on their sUAS. The Remote PIC or person manipulating the controls may have brief moments in which he or she is not looking directly at or cannot see the small unmanned aircraft, but still retains the capability to see it or quickly maneuver it back to line of sight

06 YIELD THE RIGHT OF WAY

The Remote PIC must ensure that they or the person manipulating the controls yield right-of-way to all other aircraft, including aircraft operating on the surface of the airport

REMOTE PIC RESPONSIBILITY

07 KNOW THE SURROUNDINGS

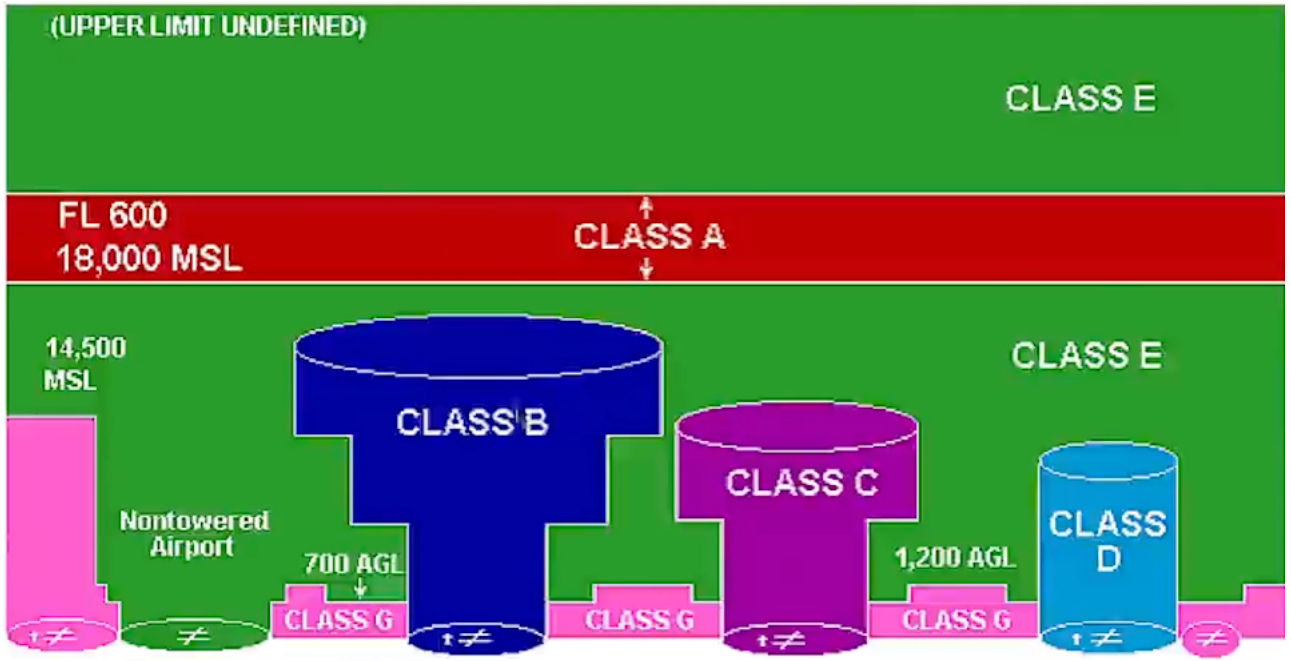
Know the location and flight path of his or her small unmanned aircraft at all times. Be aware of other aircraft, persons, and property in the vicinity of the operating area

08 AIRSPACE

The Remote PIC must know and understand what airspace they are operating in and seek approval from the controlling agency if approval is required

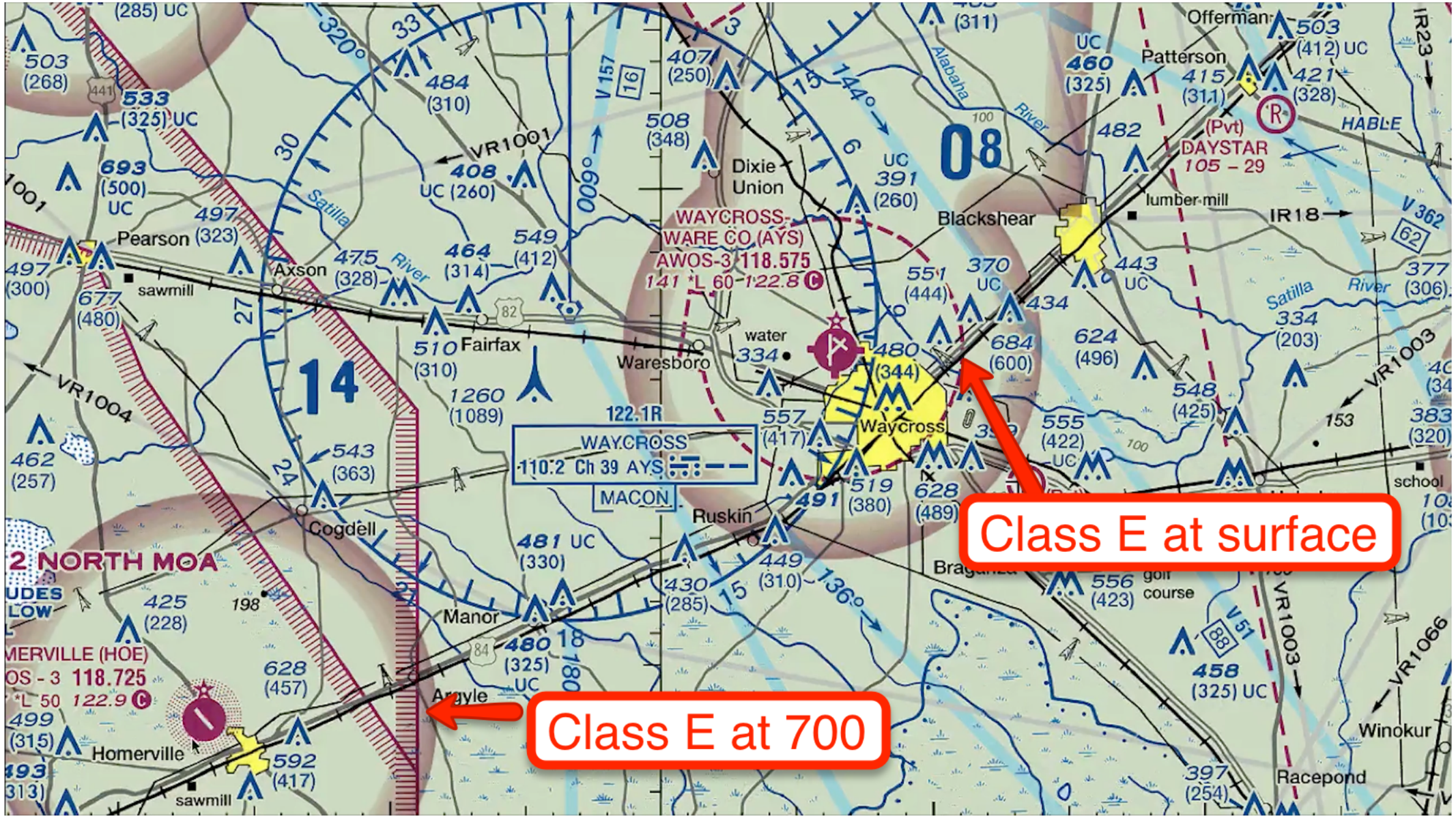
09 CERTIFICATE OF WAIVER

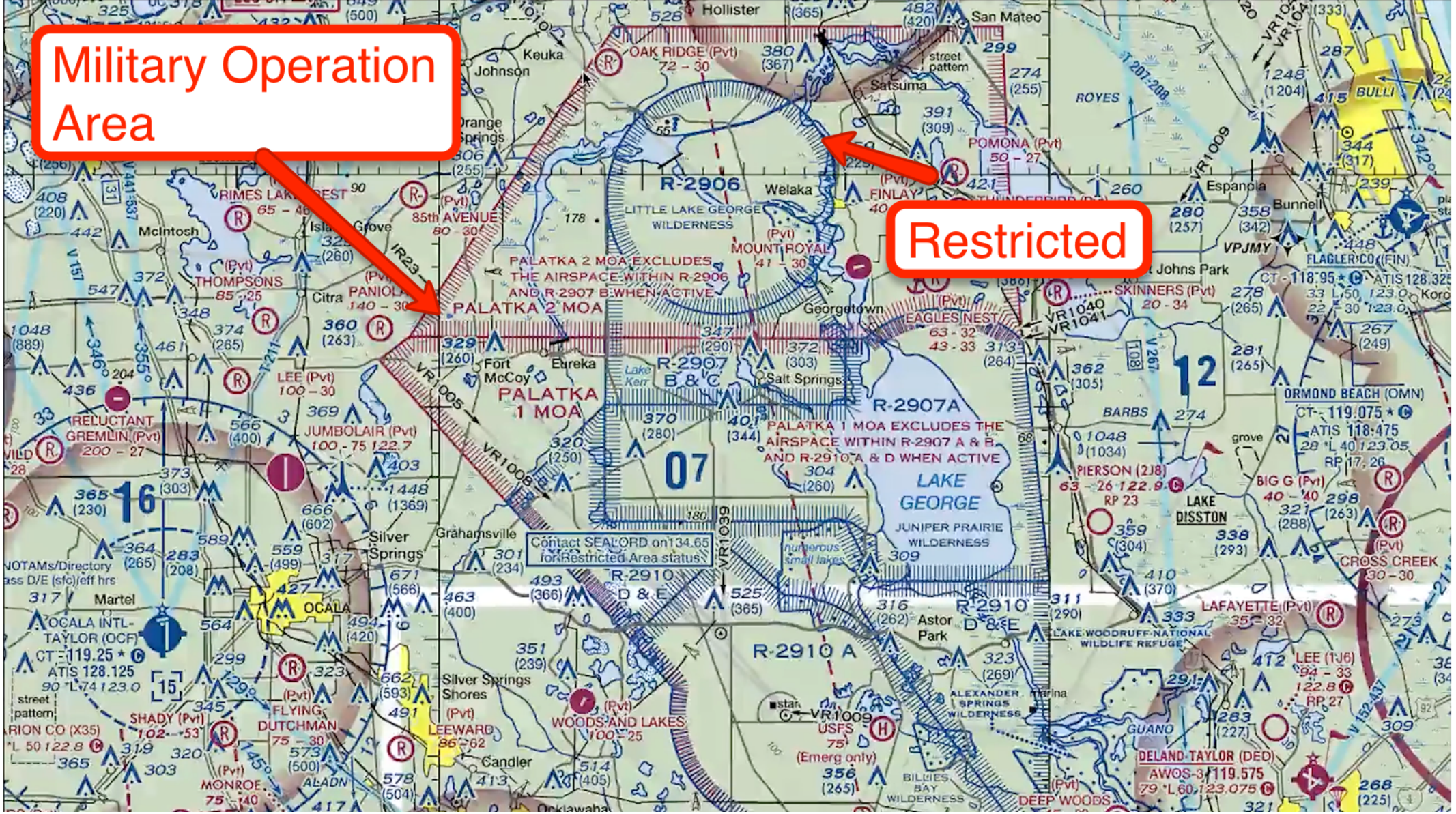
If the Remote PIC determines that the operation cannot be conducted within the regulatory structure of part 107, he or she is responsible for applying for a Certificate of Waiver in accordance with 14 CFR part 107.200 and proposing a safe alternative to the operation



CLASS B = SOLID BLUE LINE
CLASS C = SOLID MAGENTA LINE
CLASS D = DASHED BLUE LINE
CLASS E = DASHED MAGENTA LINE

Glass E starts at 700 or 1200 feet AGL - above the highest obstacle…
Class E can start at surface if dashsed. SEE https://skyvector.com/


Class E at surface
Class E at 700
WAYCROSS-WARE CO (AYS)
AWOS-3 118.575
141 °L 60 122.8 C
WAYCROSS
110.2 Ch 39 AYS
MACON
122.1R
Dixie Union
BlacksHear
Waycross
Waresboro
Fairfax
Axson
Pearson
sawmill
Cogdell
Ruskin
Manor
Argyle
Homerville
Patterson
Offerman
DAYSTAR
105 – 29
HABLE
lumber mill
water
golf course
school
Racepond
Winokur
Alabaha River
Satilla River
VR1001
VR1003
VR1004
VR1066
IR18
IR23
V 157
V 362
V 51
08
14
2 NORTH MOA



Can fly into Restricted (with approval), MOA, Alert area, Warning area. Prohibited area - NO)

Weather
Metar &Tafs

Aviationweather.gov

Fog- temp/due point converge

1. Radiation Fog (no wind)
2. Advection Gog (cool surface warm air over cold water)
3. Upslope fog
4. Steam fog

Low - <6500

Middle – Altocumulus and alto stratus (alto – middle)

High – cumulonimbus

Lenticular – rainier

Nimbo - rain

METAR (Aviation Routine Weather Report)

Issued +55 past the hour and valid hourly

Example:

METAR KJFK 242235Z 28024G36KT 7SM -RA BR BKN009 OVC020CB 26/24 A2998 RMK AO2 SLP993 T02640238 56012

KJFK - Station ID

242235Z - Prepared on the 24th at 2235 Zulu (UTC)

28024G36KT - Winds are from 280 at 24 Knots Gusting to 36 Knots

7SM - Visibility 7 Statute Miles

-RA BR - Light Rain (-RA) Mist (BR)

BKN009 OVC020CB - Ceiling 900ft broken, 2,000ft Overcast, Cumulonimbus

26/24 - Temperature 26 degrees C, dew point 24 degrees C

A2998 - Altimeter 29.98

RMK - Remarks

AO2 - Station has automatic precipitation discriminator

SLP993 - Sea level pressure 999.3 hectopascals (add either a "9" or "10" whichever makes the number closest to 1,000

T02640238 - Exact Temperature 26.4, Exact Dewpoint 23.8

56012 - Atmospheric Pressure lower since previous 3 hours ago ("5" means Atmospheric Pressure. If the next number is a 1,2,3 the Atmospheric Pressure has increased since the previous 3 hours. 4 means it has stayed the same, 5,6,7,8 Means its has decreased. In our case it has decreased "thus the 6" by . 12

Quick Weather Help:

- Light Moderate
+ Heavy
VC In the Vicinity
MI Shallow
PR Partial
BC Patches
DR Low Drifting
BL Blowing
SH Shower(s)
TS Thunderstorm
FZ Freezing
DZ Drizzle
RA Rain
SN Snow
SG Snow Grains
IC Ice Crystals
PL Ice Pellets
GR Hail
GS Small Hail and/or Snow Pellets
UP Unknown Precipitation
BR Mist
FG Fog
FU Smoke
VA Volcanic Ash
DU Widespread Dust
SA Sand
HZ Haze
PY Spray
PO Well-Developed Dust/Sand Whirls
SQ Squalls
FC Funnel Cloud Tornado Waterspout
SS Sandstorm
SS Duststorm

Provided by: www.MzeroA.com

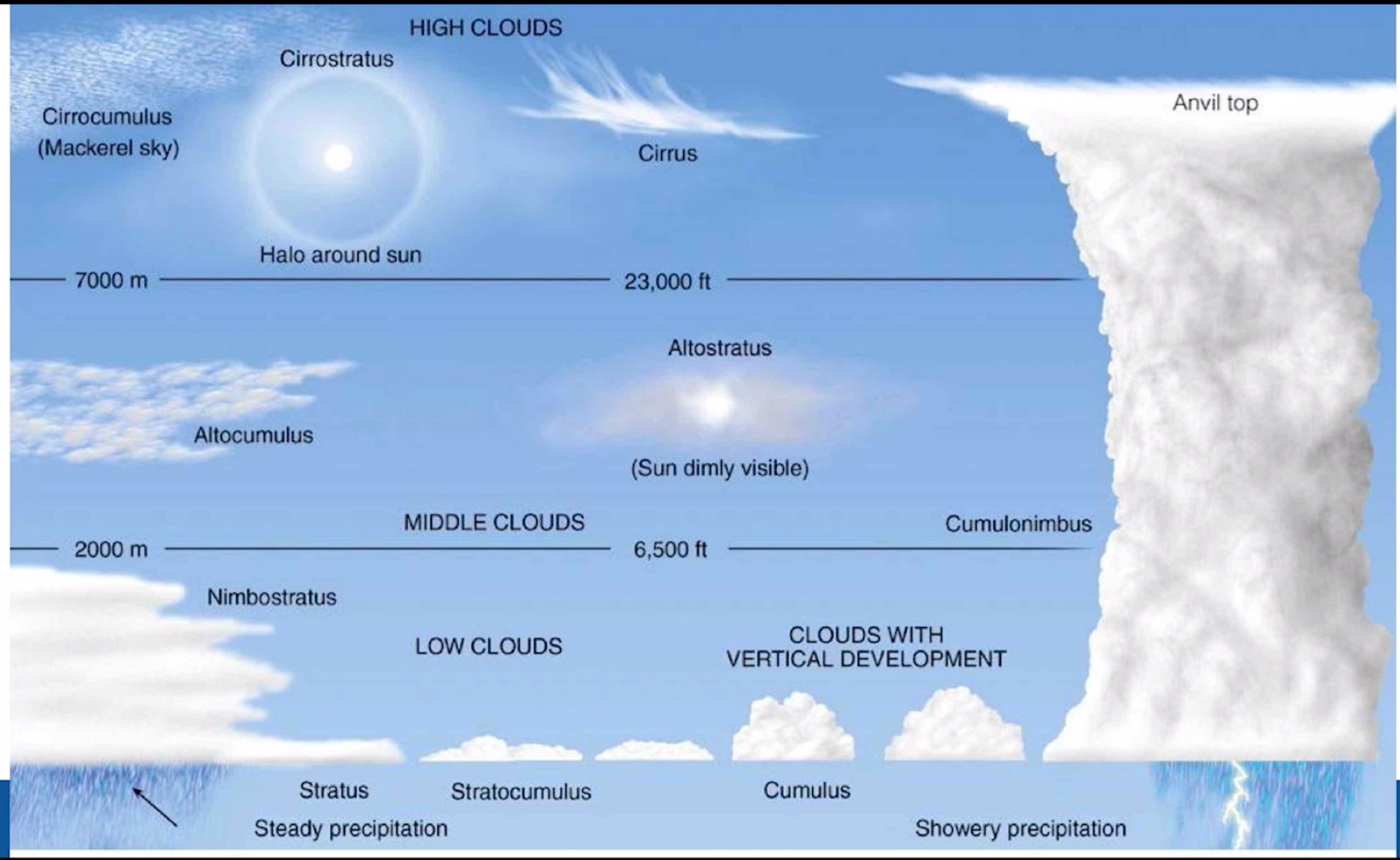
STABLE AIR

- **STRATIFORM** CLOUDS
  Look for Stratus Clouds
- **FAIR** TO POOR VIS
  Visibility Lower Than Normal
- **CONTINUOUS** PRECIPITATION
  Precipitation Falls at a Constant and Continuous Rate

UNSTABLE AIR

- **CUMULUS** CLOUDS
  Look for Building Cumulus Clouds
- **GOOD** VISIBILITY
  Visibility Will Appear Fine
- **SHOWERY** PRECIPITATION
  Precipitation Falls Inconsistently and Would Be Defined As Showery

HEMS tool – life flight tool


HIGH CLOUDS
Cirrostratus
Cirrocumulus
(Mackerel sky)
Cirrus
Anvil top
Halo around sun
7000 m
23,000 ft
Altostratus
Altocumulus
(Sun dimly visible)
MIDDLE CLOUDS
Cumulonimbus
2000 m
6,500 ft
Nimbostratus
LOW CLOUDS
CLOUDS WITH
VERTICAL DEVELOPMENT
Stratus
Stratocumulus
Cumulus
Steady precipitation
Showery precipitation

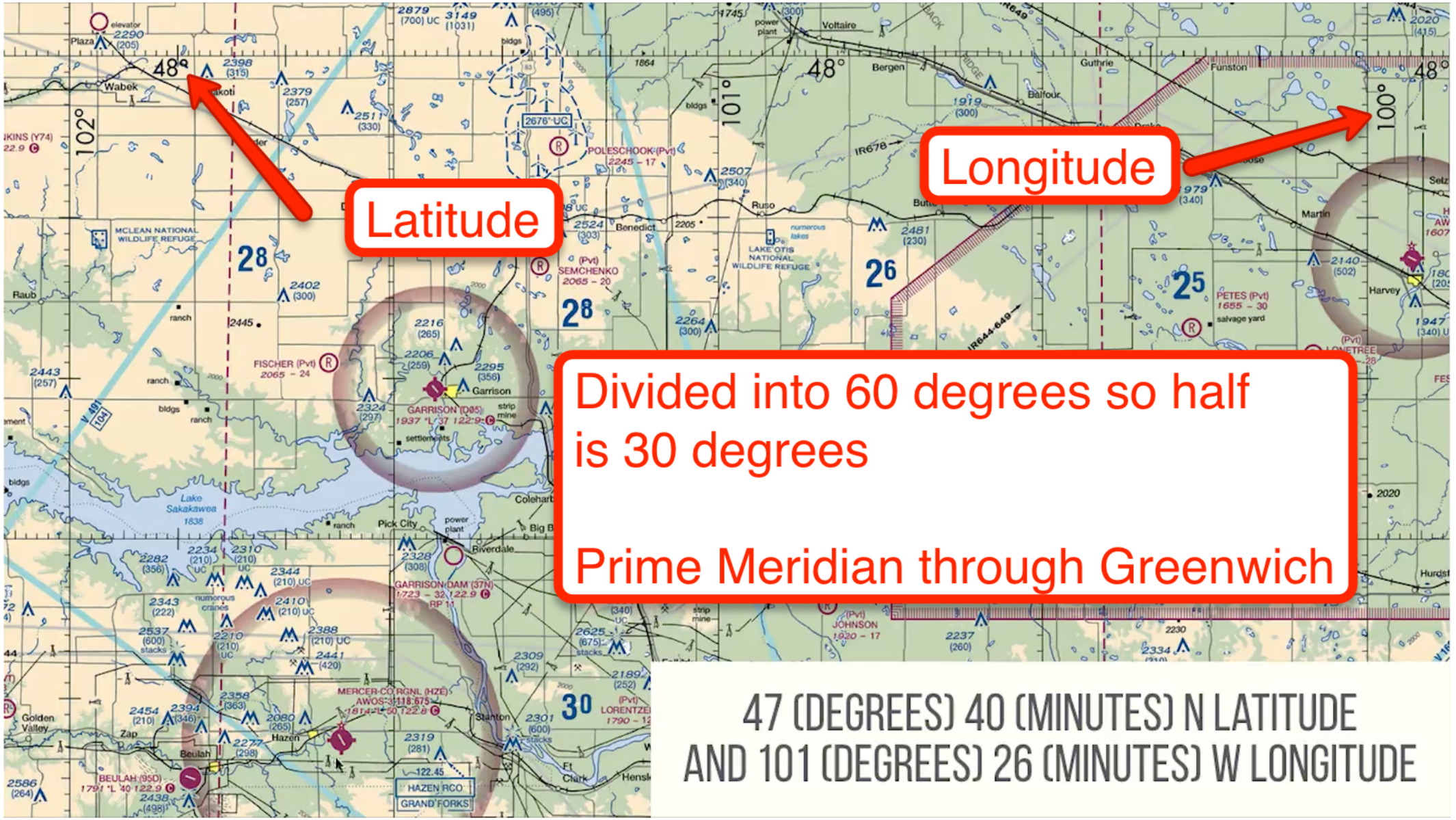
Notam & TFR
Drotams – see skyvector.com

Notams – updates on TFRs, GPS issues, etc.

If get inspected will ask for 1. certificate 2. how get Notam and TFR data

Flight planning app. – search for Notam

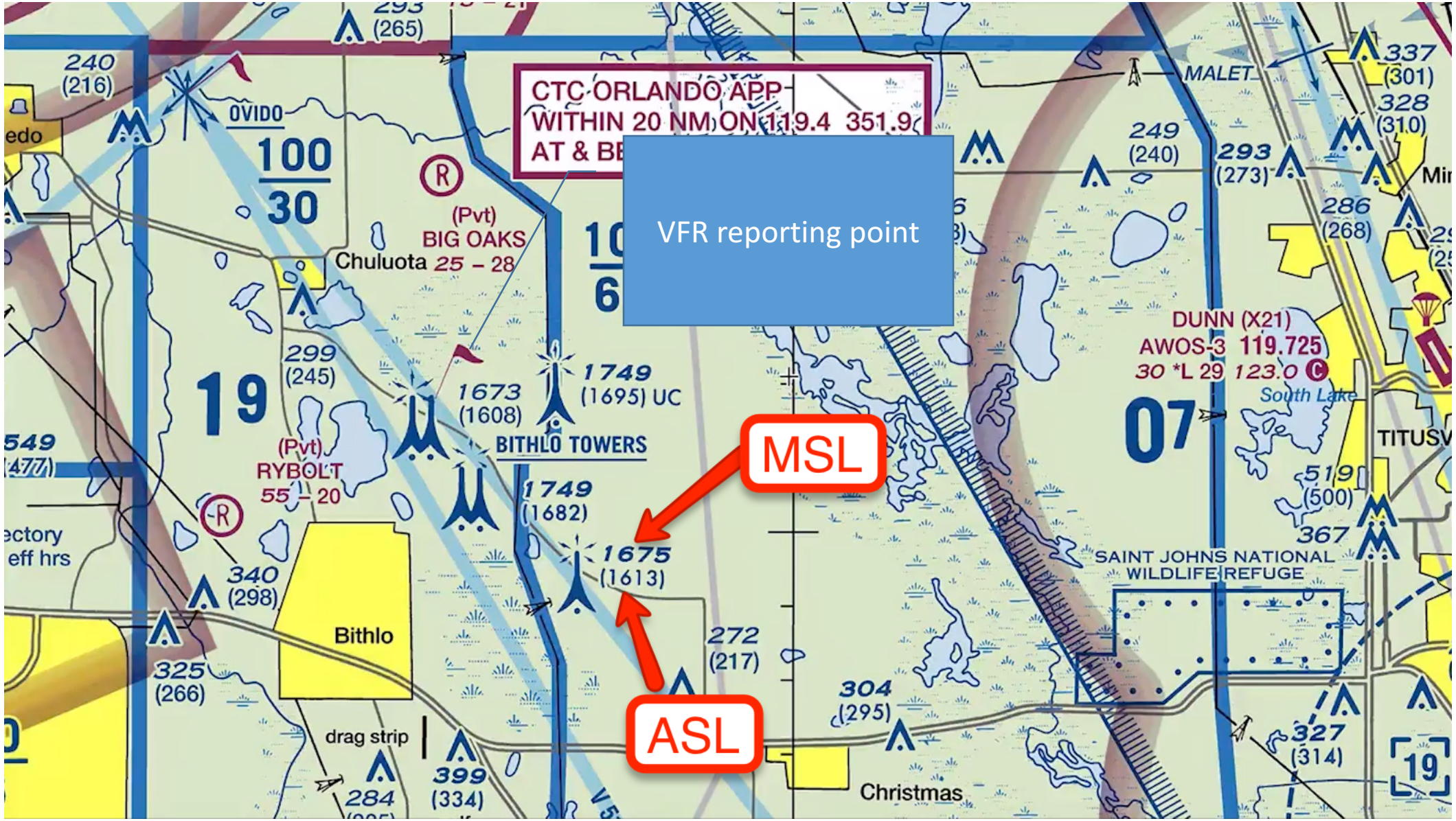
TFR – temporary flight restrictions. Google FAA TFR – tfr.faa.gov or skyvector.com



Blue airports are manned ATC. Red no ATC

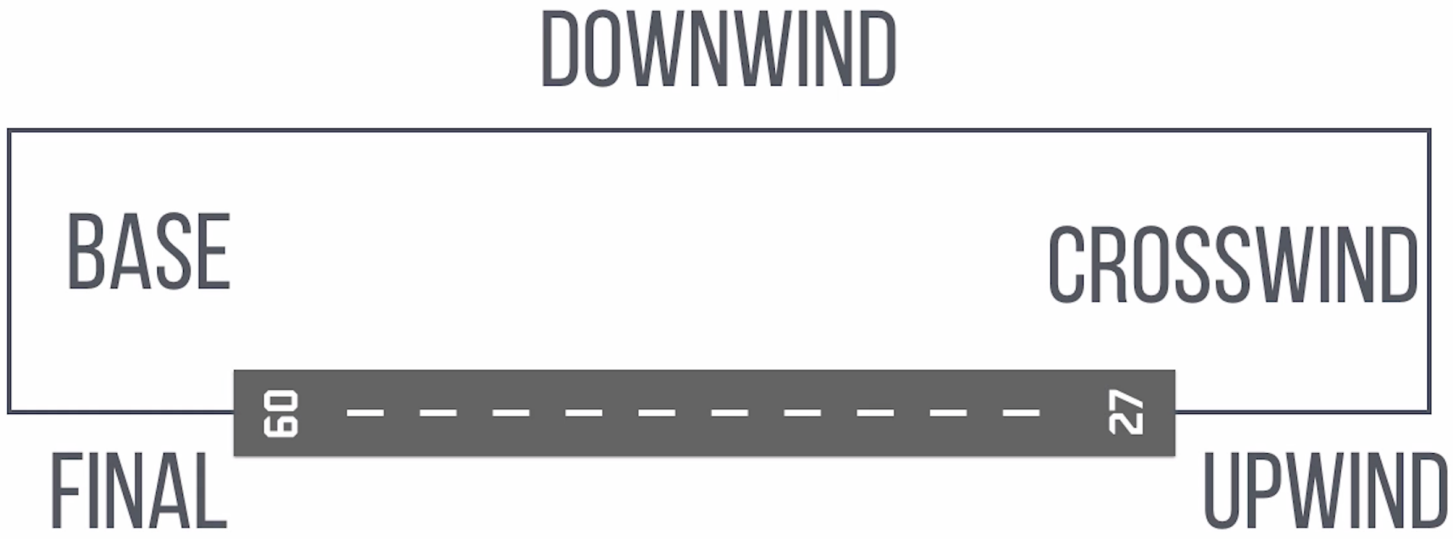
FAA

THE MOST COMMONLY USED sUAS FREQUENCIES ARE 2.4GHZ AND 5.8GHZ



MSL - Means Sea Level \ ASL – Above Ground Level R circle private, Circle public airport

Recommend rectangular traffic pattern usually to left. 09 is to east and 27 is to west based on magnetic north.



Public Safety Flight

Phantom 2 Vision + Mission Checklists

psFlight.org

Arrival Checklist

1. If day and operating out of back of vehicle, point vehicle into sun.
2. Remove case and place on level surface.
3. Check distance to nearest airport and/or controlled airspace using smartphone or tablet app.
4. If required, use VHF aviation transceiver, to contact tower of field if closer than 5 NM.
5. Inform tower / CTAF of UAS ops, location, and max height of flight.

Preflight Checklist

1. Remove transmitter.
2. Router - On
3. Transmitter - On
4. Toggle Switches - Full Up
5. Video Monitor - On
6. Remove UAS from case.
7. Gimbal Lock & Lens Cap - Removed
8. Micro-SD card - Inserted.
9. UAS Battery - Inserted
10. Place UAS in clear and safe launch and recovery position if it returns to home.
11. UAS Battery - On
12. Wifi Connection to Monitor - Verified
13. DJI Application - Load
14. DJI application - Connect to Camera
15. SD Card - Format
16. Camera - Full Up
17. Satellite Connections - Verified
18. Charge Levels - Safe for Flight
19. Video Recording - Start
20. Takeoff

After Takeoff Checklist

1. Hover approximately ten feet above the ground to confirm UAS is under control.
2. All sticks operate correctly while in hover - Verified

Pre-Landing Checklist

1. Camera - Full Up
2. Video Recorder - Stop
3. Landing Zone - Clear / Safe

Post-Landing Checklist - Returning to Flight Immediately

1. Battery - Remove & Replace
2. Wifi Connection to Monitor - Verified
3. DJI application - Connect to Camera
4. Takeoff

End of Ops Checklist

1. Battery - Off
2. Transmitter - Off
3. Router - Off
4. Notify Tower/CTAF - End of Ops

FIVE HAZARDOUS ATTITUDES

This WILL Be on The Knowledge Test!

01 ANTI-AUTHORTY

02 IMPULSIVITY

03 INVULNERABILITY

04 MACHO

05 RESIGNATION