Ohio | UAS Initiative

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UAS
OHIO UNMANNED AIRCRAFT SYSTEMS
CENTER

UAS Midwest
How to fly BVLOS
August 8, 2019

Ohio UAS Center

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Rich Fox, Airspace Manager
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Ohio Unmanned Systems Center

uas.ohio.gov

UAS
OHIO UNMANNED AIRCRAFT SYSTEMS
CENTER

ABOUT | NEWS | STRATEGIC PLAN 2019 | SKYVISION

ODOT Home ▸ Divisions ▸ UAS

Welcome to the Ohio UAS Center

The Ohio UAS Center serves as the state's one-stop shop for UAS technology, connecting government, industry, academia to advance the use and commercialization of UAS technology.

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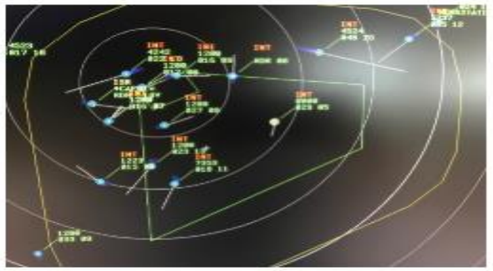
ABOUT | NEWS | STRATEGIC PLAN 2019 | SKYVISION

ODOT Home ▸ Divisions ▸ UAS

SkyVision

Ohio's Ground Based Detect and Avoid System



SkyVision airspace provide our teammates a variety of diverse, variable-altitude, over-land interactions to increase knowledge and confidence in UAS operations. The intent is to provide users a path to test operations based on performance-based standards to support advanced missions such as: night, over humans, and/or "beyond visual line of sight" (BVLOS).The airspaces integrate advanced technologies, personnel, and processes following a linked maturity-complexity and risk model that ties data and demonstrated performance to the minimum operational performance requirements and operating environment for emerging operations. The three independent FAA radar sites allow for entities who wish to fly at Springfield an additional risk mitigation by utilizing an air traffic management system to test and train on new UAS platforms in the NAS with the potential to operate Beyond Visible Line of Sight (BVLOS).

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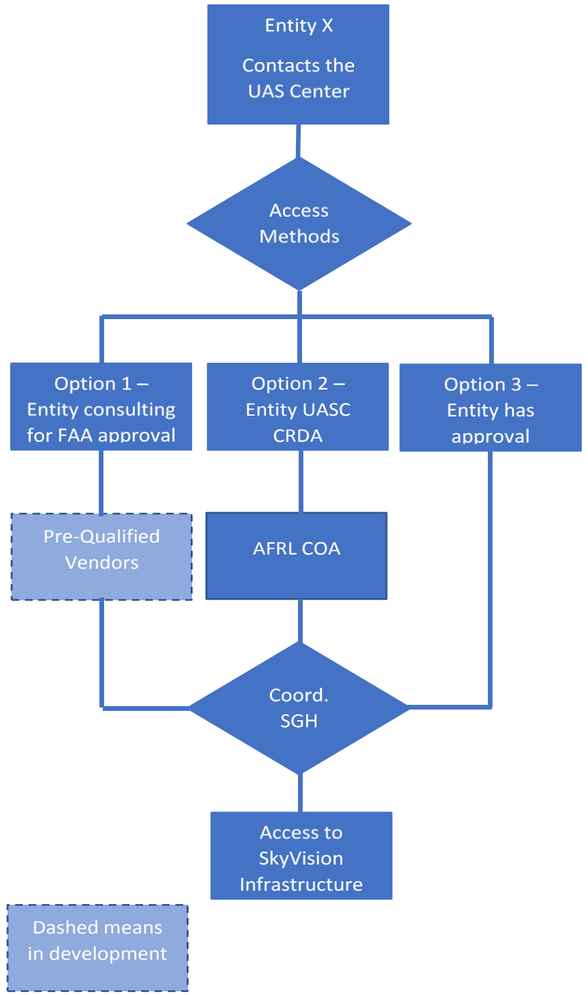
Methods of Access to use SkyVision Services



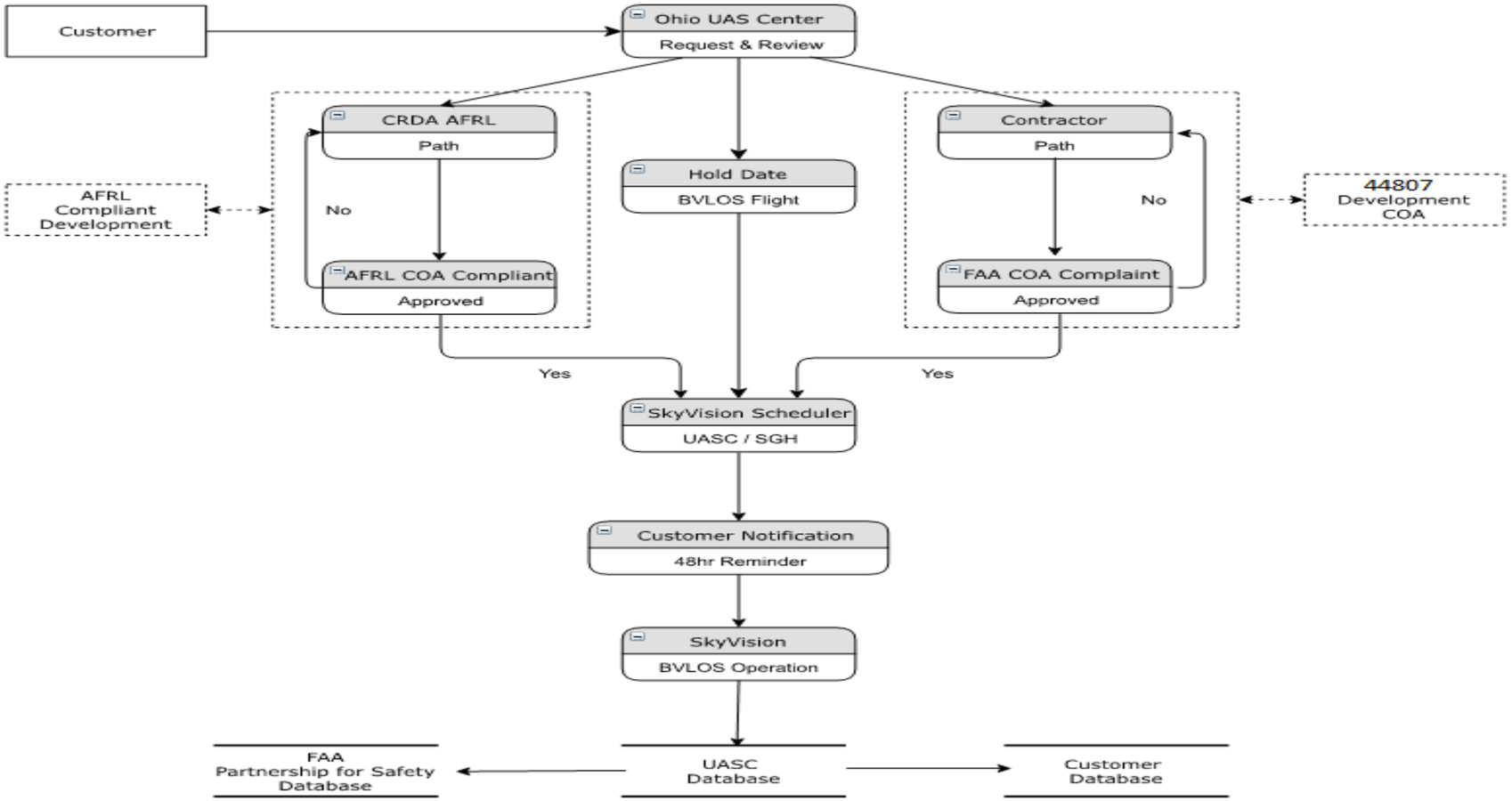
General - An entity seeking to use SkyVision services to assist with the deconfliction of aircraft in the defined SkyVision area begins by contacting the UASC. The appropriate method(s) of accessing the NAS are identified and any approvals from the FAA are acquired. Coordination by the UASC, the entity and the Springfield-Beckley Airport will then be completed to operate in the SkyVision area.

Option 1 (Long Term R&D) – The entity contacting the UASC is seeking to perform R&D and does not have the appropriate approval for NAS access. The UASC has a set of pre-qualified vendors that the entity could choose from for services for FAA review (44807 or 107 waiver). Once the documents are developed and approved by the FAA, the entity can access the NAS using SkyVision services.

Option 2 (Short Term Access) - The entity contacting the UASC seeking to operate using SkyVision does not have the appropriate approval to access the NAS. AFRL wants to examine the "state-of-the-art" purpose of the entity's access. The entity enters into a MOA with the UASC to use the UASC CRADA and the entity coordinates with AFRL to access the NAS with AFRL's COA. With AFRL's approval, the entity can access SkyVision services.

Option 3 (Long Term R&D Established Program) - The entity contacting the UASC wishes to operate using SkyVision and the entity has the appropriate documents for NAS access. With the approved documents from the FAA, the entity can access the NAS using SkyVision services.

BVLOS Process



SkyVision Scheduling Tool

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ABOUT | NEWS | STRATEGIC PLAN 2019 | SKYVISION

Status: Checked in and viewable by authorized users.

ODOT Home ▸ Divisions ▸ UAS

Scheduler

July 2019

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
30	1	2	3	4	5	6
7	8 10:00 am - 3:00 pm A1L	9 9:00 am - 4:00 pm A1L	10 9:00 am - 4:00 pm A1L	11 9:00 am - 4:00 pm A1L	12	13
14	15	16	17 8:00 am - 5:00 pm UC Translator Testing	18 8:00 am - 5:00 pm UC Translator Testing	19 8:00 am - 5:00 pm UC Translator Testing	20
21	22	23	24	25	26	27
28	29	30	31	1	2	3

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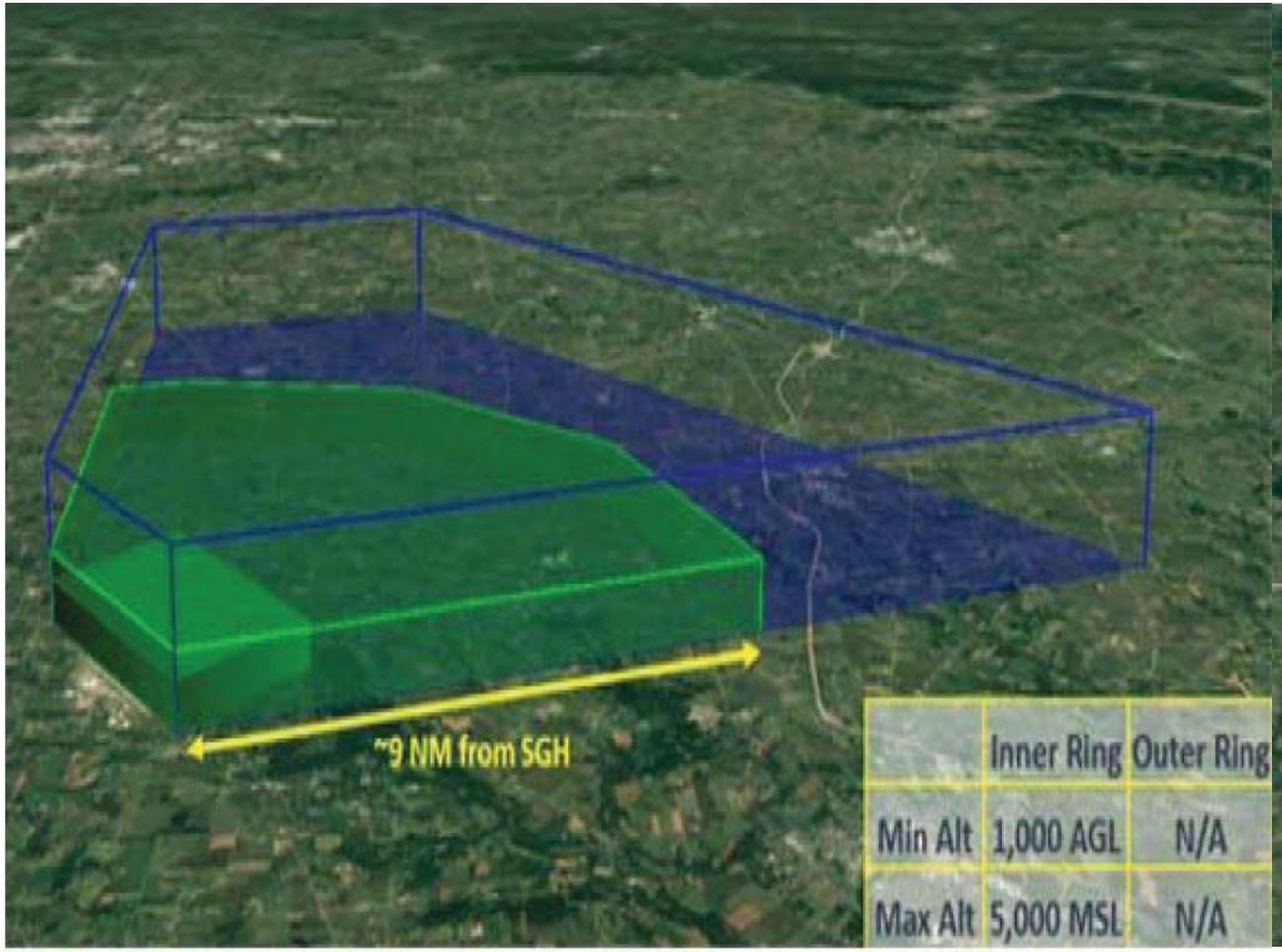
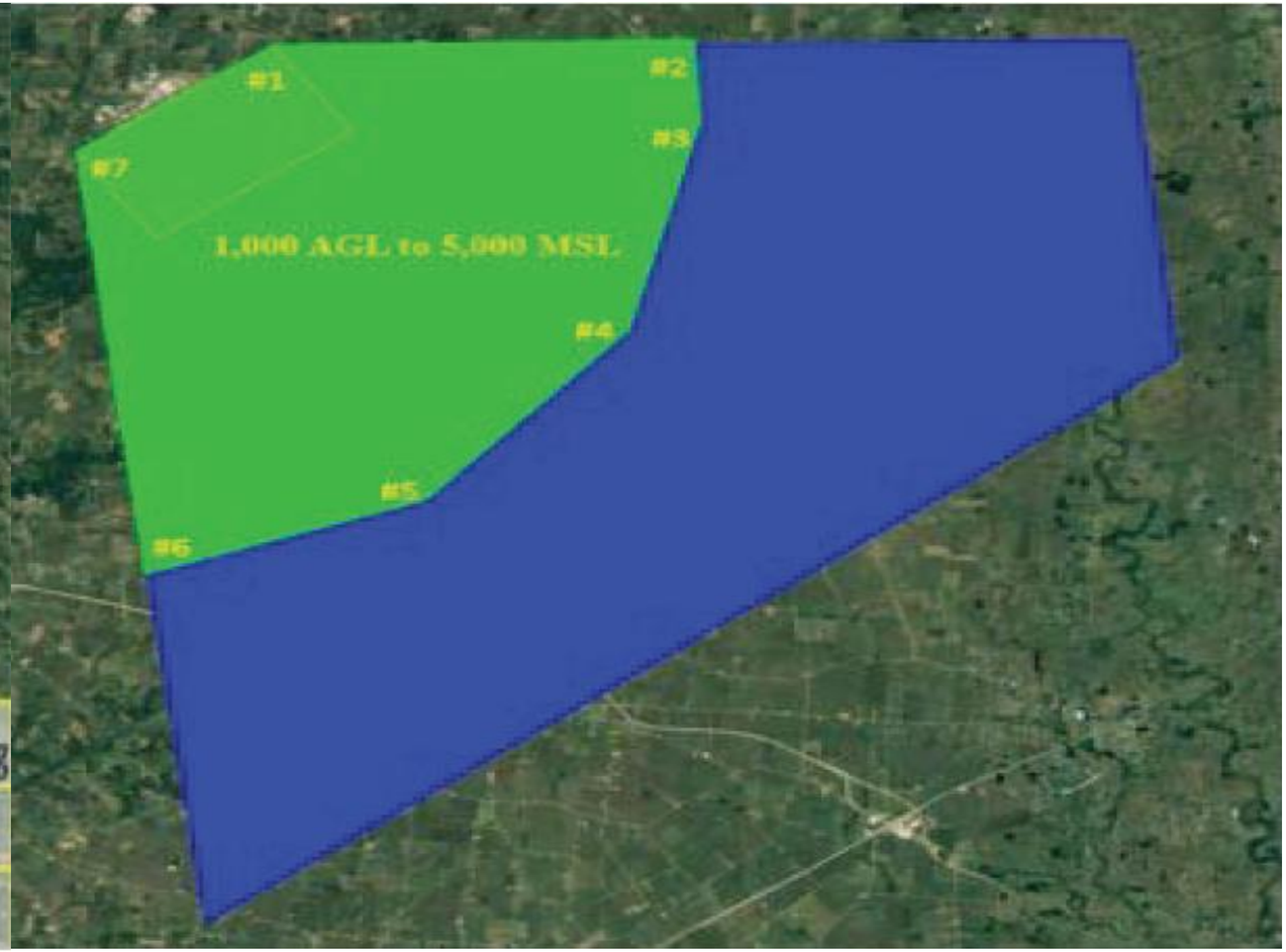
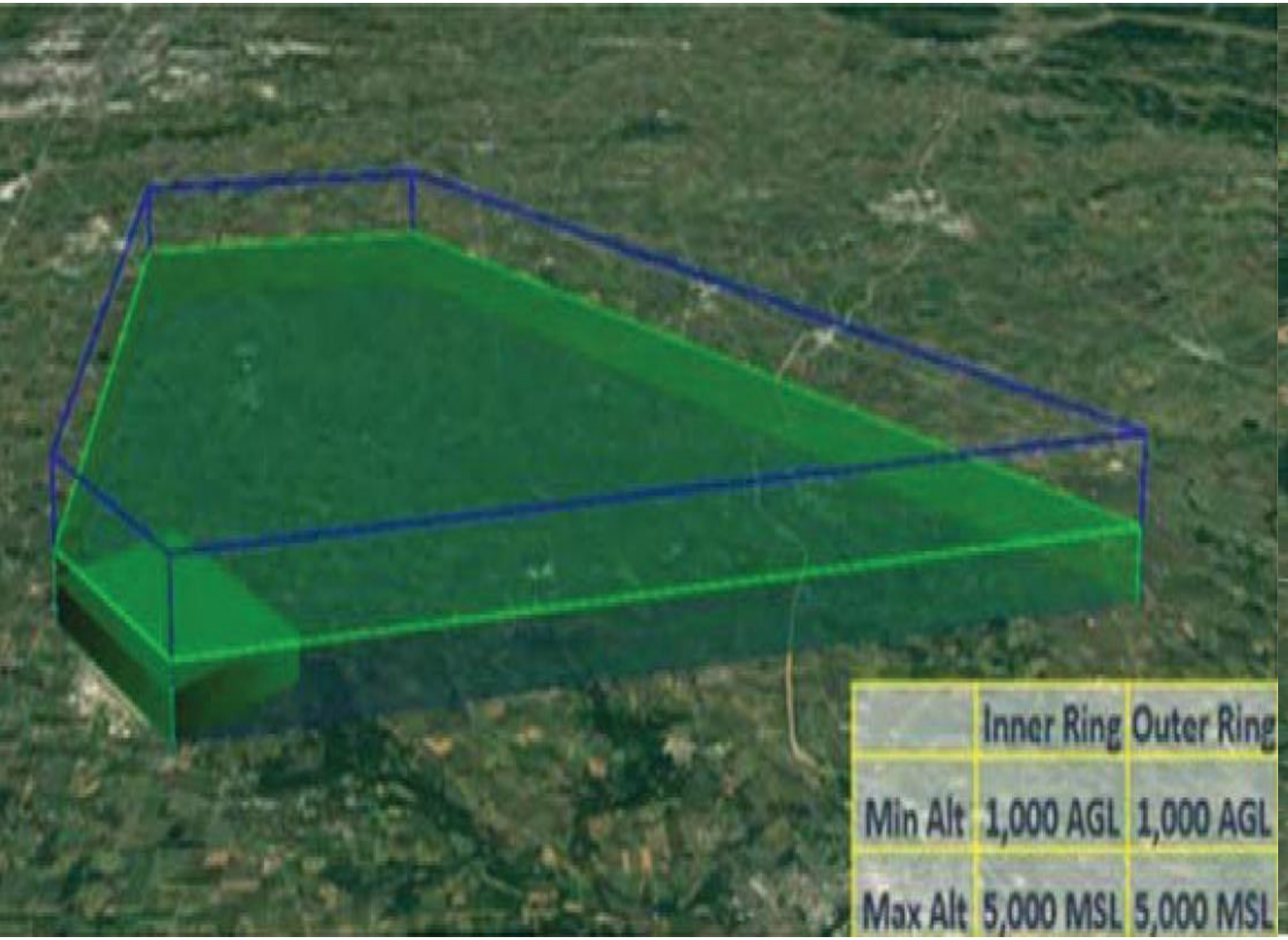
Remote Operating Area Low Quadrants



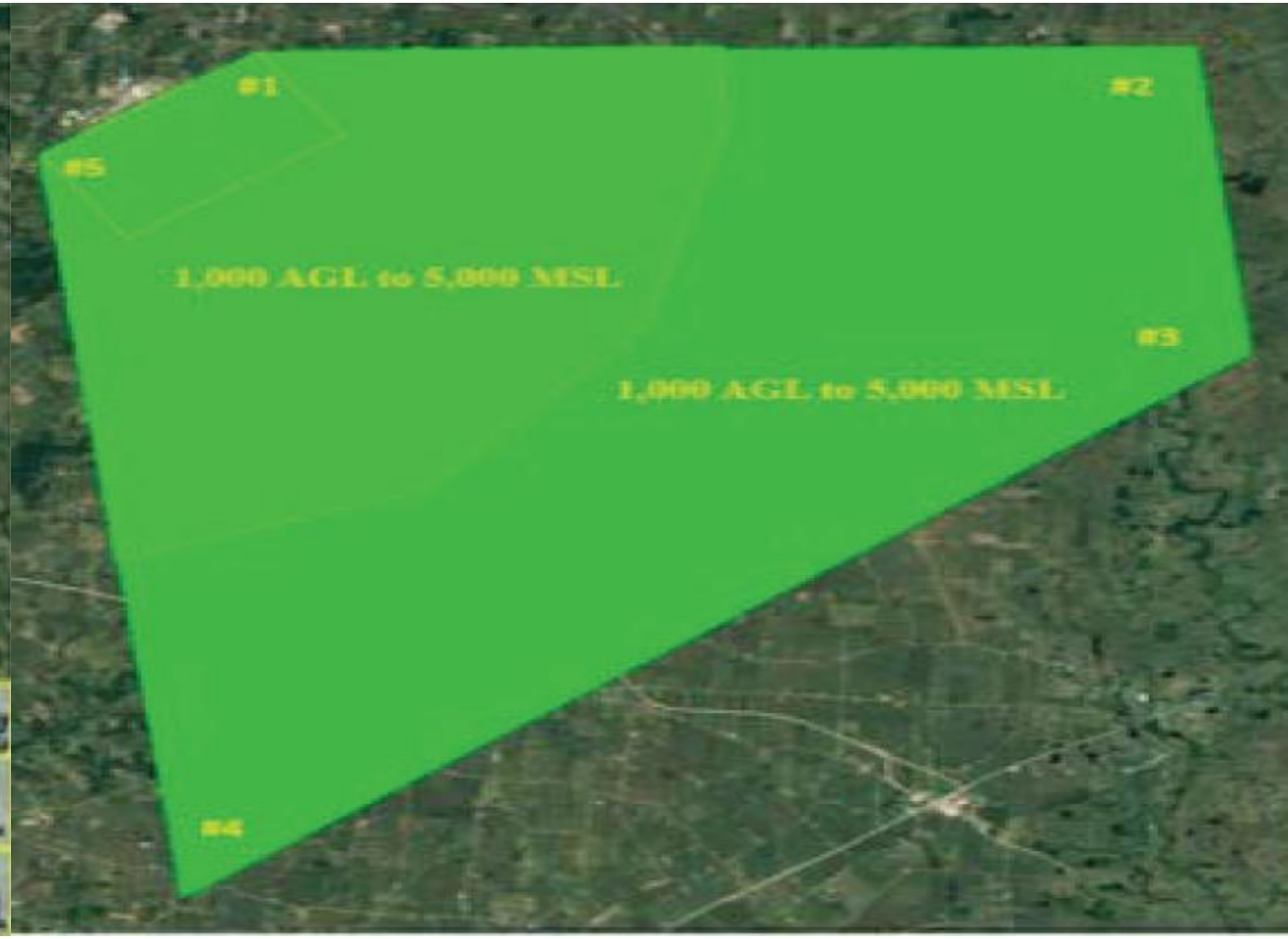
	Inner Ring	Outer Ring
Min Alt	1,000 AGL	N/A
Max Alt	5,000 MSL	N/A



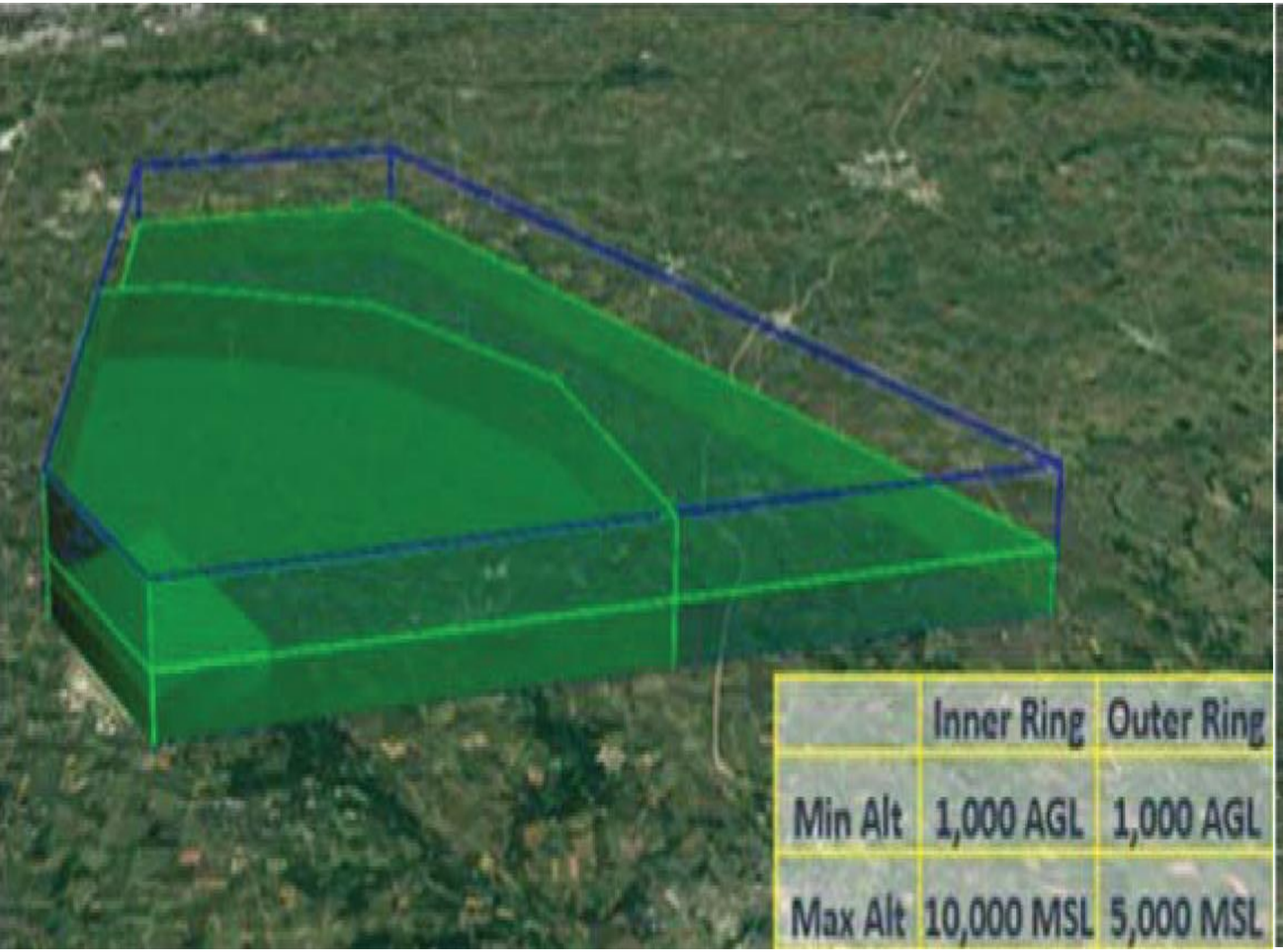
Remote Operating Area Low Quadrants



	Inner Ring	Outer Ring
Min Alt	1,000 AGL	1,000 AGL
Max Alt	5,000 MSL	5,000 MSL

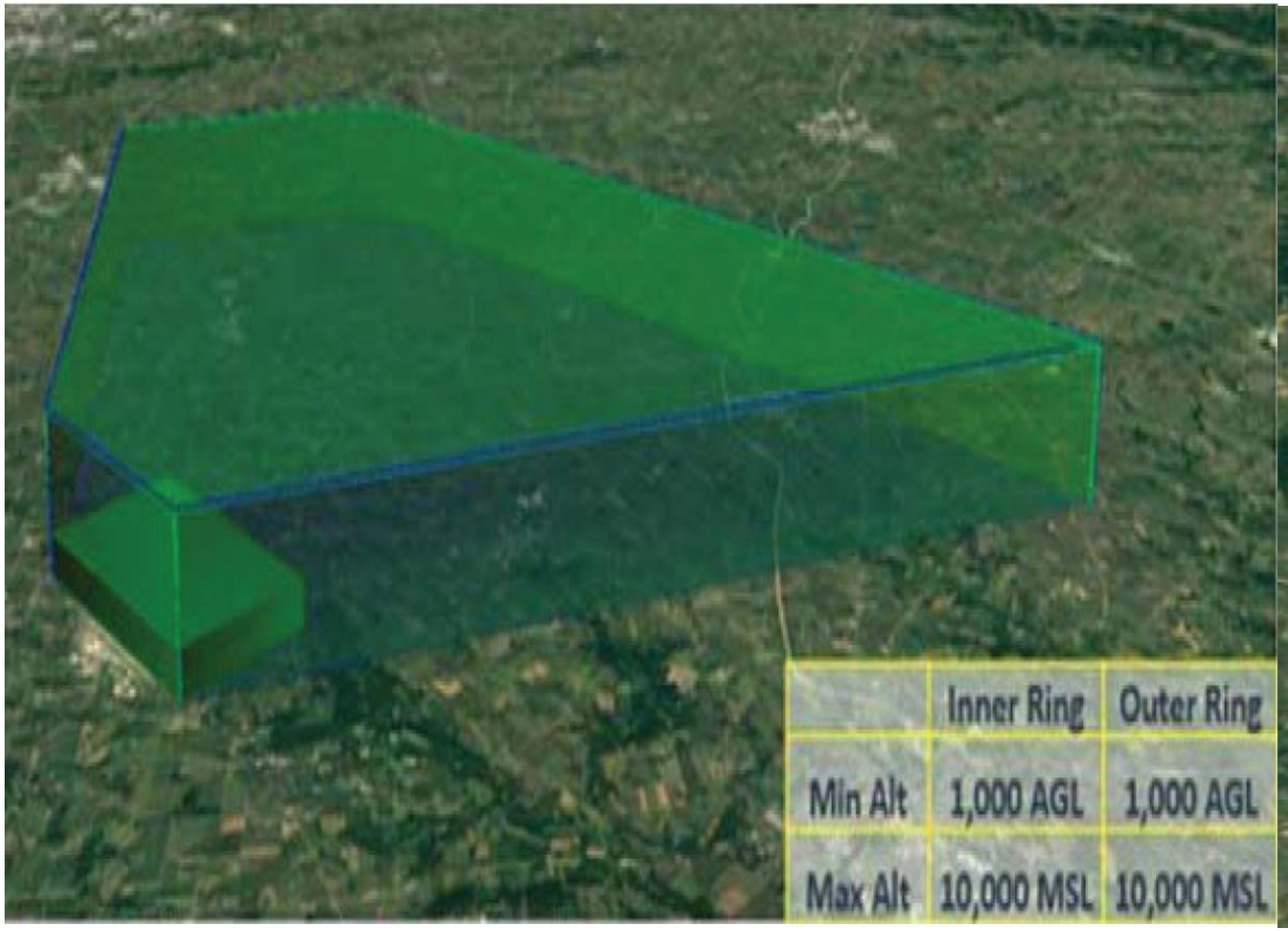


Remote Operating Area High Quadrants

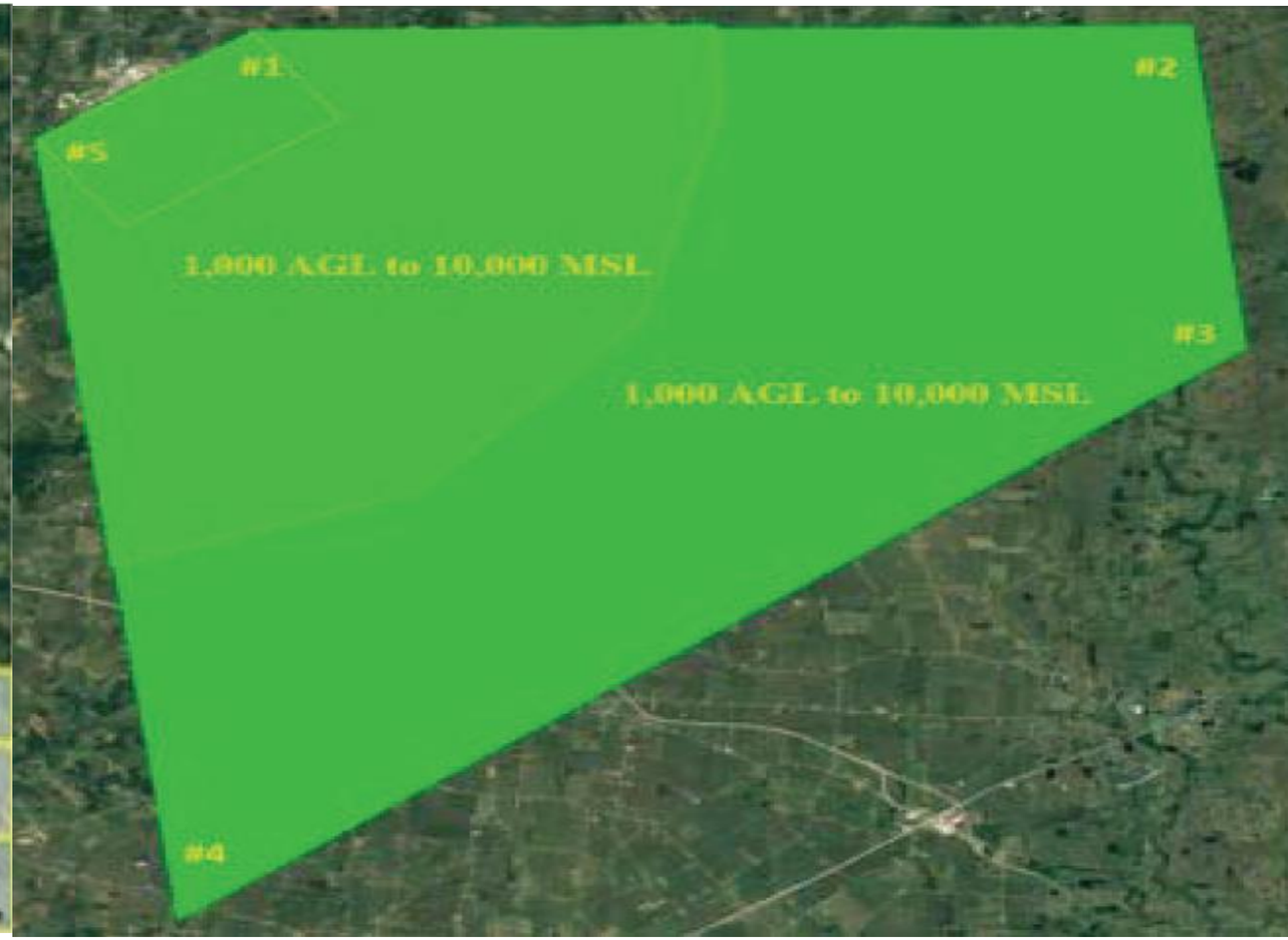


	Inner Ring	Outer Ring
Min Alt	1,000 AGL	1,000 AGL
Max Alt	10,000 MSL	5,000 MSL

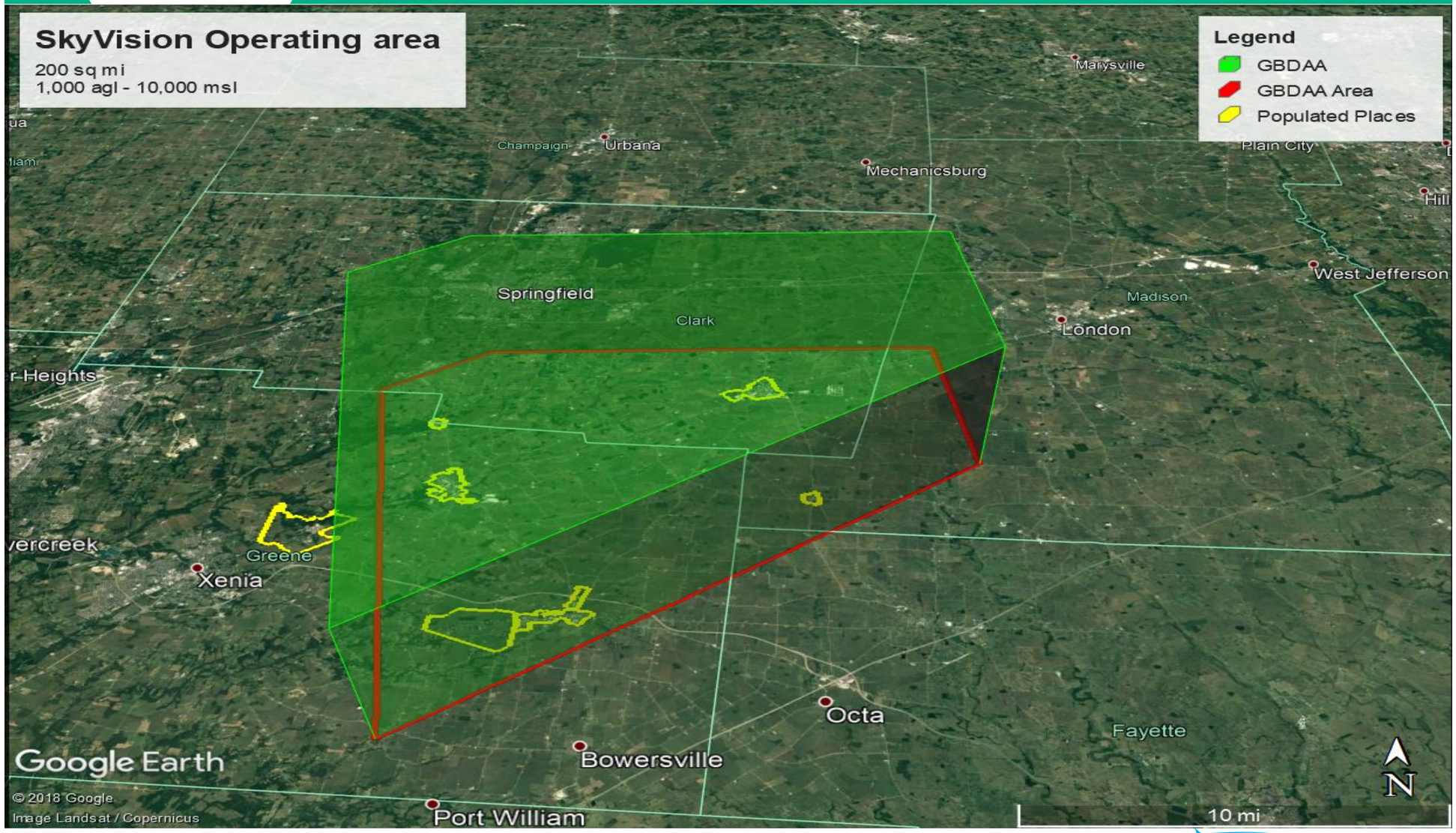
Remote Operating Area High Quadrants



	Inner Ring	Outer Ring
Min Alt	1,000 AGL	1,000 AGL
Max Alt	10,000 MSL	10,000 MSL



"SkyVision"
Remote Operating Area



Remote Operating Area Quadrants

SkyVision Scheduling Form

Date | Start Time | End Time

After previewing the SkyVision calendar choose a date and time for your requested mission. Once your date and time has been entered complete the document by filling in all required fields below.

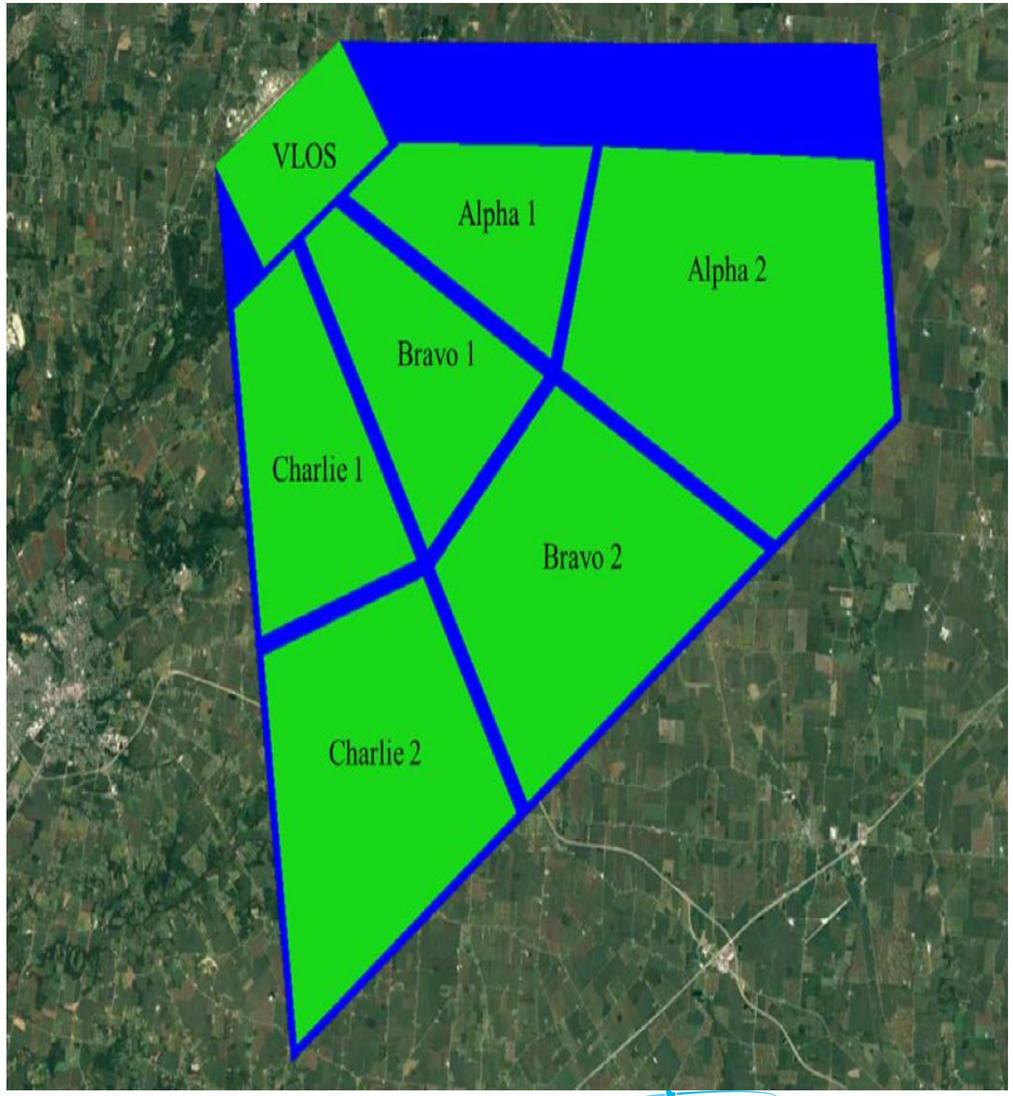
COMPANY INFORMATION

Point of Contact:	*	Company:	*
Address:	*	City	*
State:	OH	Zip Code	*
Phone:	*	Email:	*

TEST RANGE INFORMATION

Choose Test Range Area(s) after reviewing the Flight Test Range; At least one test range area must be chosen to submit the request.

		Altitude (ft)	Mission Type	Notes
Alpha 1 Low:	☐			
Alpha 2 Low:	☐			
Bravo 1 Low:	☐			
Bravo 2 Low:	☐			
Charlie 1 Low:	☐			
Charlie 2 Low:	☐			
Alpha 1 High:	☐			
Alpha 2 High:	☐			
Bravo 1 High:	☐			
Bravo 2 High:	☐			
Charlie 1 High:	☐			
Charlie 2 High:	☐			



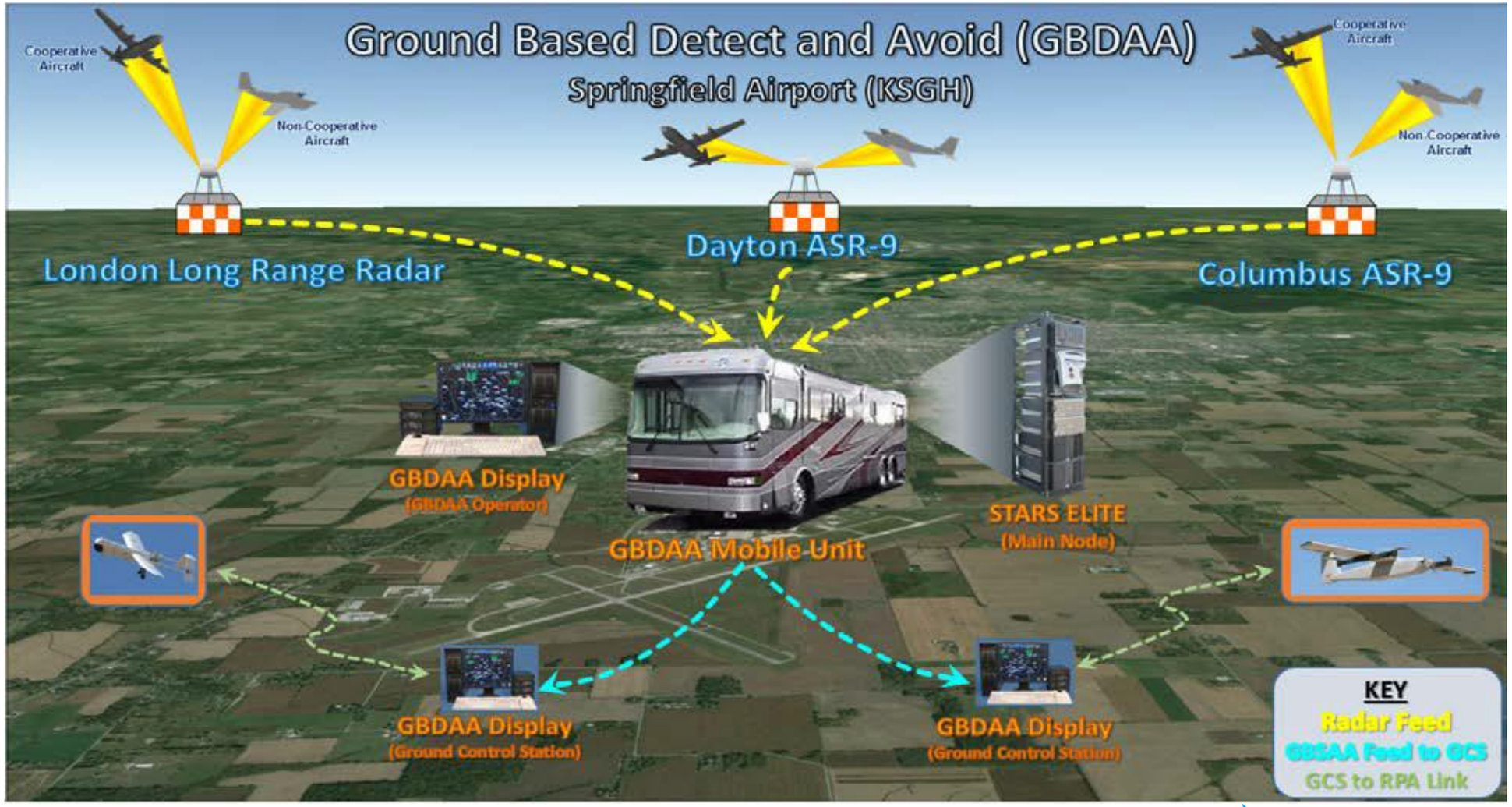
Future Applications

Contact Ohio UAS Center

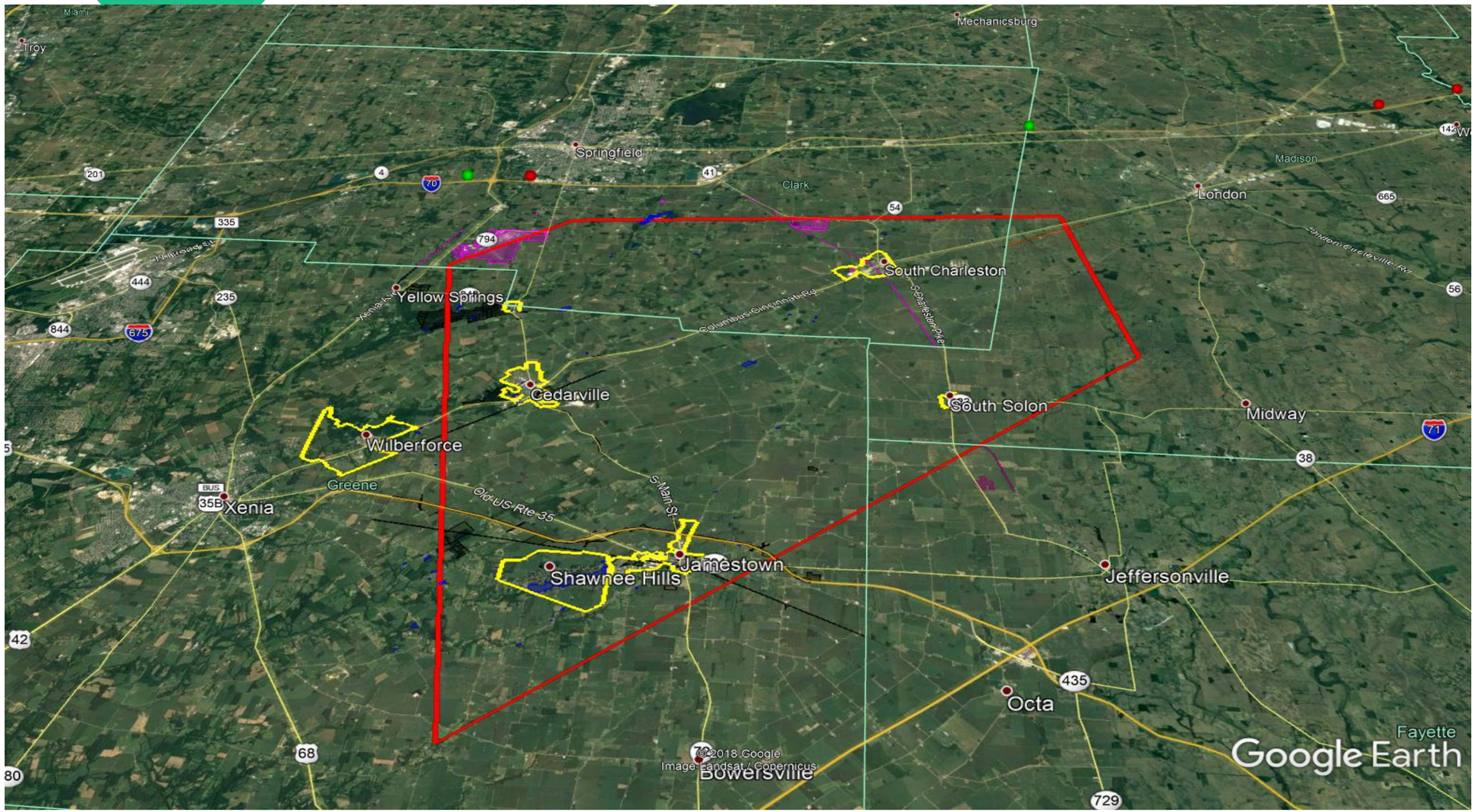
SkyVision@dot.ohio.gov

Richard Fox
Ohio UASC Airspace Manager
(937) 497-6740

Fused Radar


Ground Based Detect and Avoid (GBDAA)
Springfield Airport (KSGH)
Cooperative Aircraft
Non-Cooperative Aircraft
Cooperative Aircraft
Non-Cooperative Aircraft
London Long Range Radar
Dayton ASR-9
Columbus ASR-9
GBDAA Display
(GBDAA Operator)
GBDAA Mobile Unit
STARS ELITE
(Main Node)
GBDAA Display
(Ground Control Station)
GBDAA Display
(Ground Control Station)
KEY
Radar Feed
GBSAA Feed to GCS
GCS to RPA Link

SkyVision Remote Operations Area



SkyVision - Ground Based Detect and Avoid

Scope

5 year partnership with AFRL

Allows beyond visual line of sight operations for UAS

Fuses air traffic control radar feeds from London, Columbus, and Dayton airports

Mobile Operations Center located at Springfield-Beckley Municipal Airport in Springfield

UASC operates and manages the system

Provides a testing ground for advanced UAS operations and supports research and development activities

Allows for public and private partnership opportunities

Supports the warfighter