FAA ATO

Low Altitude Authorization and Notification Capability (LAANC)

Phase 1 USS Onboarding Test Procedure and Report

26 February 2018
Version 1.0

Revision History

Version	Description	Date
1.0	Release Version	2/26/18

Contents

1 Introduction

1.1 Background

As the FAA and industry move toward integration of all types of UAS into the NAS, two rules have been introduced governing the requirements for small UAS (sUAS), defined as UAS that weigh less than 55 pounds: 14 CFR Part 107 and Section 336 of the FAA Modernization and Reform Act (P.L. 112-95), which the FAA subsequently codified under 14 CFR Part 101 (Subsection E). LAANC was developed to provide Part 107 and Part 101E sUAS operators an automated, streamlined, and efficient solution to either receive airspace authorization or provide notification to ATC. LAANC includes a collaboration between the FAA and private UAS Service Suppliers (USSs). See the LAANC Concept of Operations document for more detail on the function and features of LAANC.

1.2 Purpose

This test document correlates USS operating rules to onboarding test activities designed to verify that a USS is ready to participate in LAANC.

1.3 Scope

The scope of this document is USS onboarding testing for LAANC Phase 1. LAANC is expected to implement additional features beyond Phase 1 which are not covered in this document.

LAANC Phase 1 is an initial deployed set of capabilities including:

- support for automatically approved Part 107 authorizations using altitude maps established by the FAA around airport facilities,
- a mechanism for “further coordination” of Part 107 authorizations that cannot be provided automatically, and
- providing sUAS operations information to ATC/ATM personnel.

2 Onboarding Test Event Log

USS	
USS Representatives	
FAA Representatives	
Date / Time	
Location	

Test Notes

Test Outcomes

☐ **Pass** (USS is approved to participate in operational LAANC system)

☐ **Fail** (USS is not approved to participate in operational LAANC system)

☐ **Final Outcome Pending Further Testing** (document below)

If final outcome pending, note which sections must be tested in a future test event:

Signatures Approving Test Event and Documented Outcomes

FAA: _____

USS: _____

3 Onboarding Tests

All USS Operating Rule references link to "LAANC Phase 1 USS Operating Rules," version 1.2, dated 26 February 2018.

USSs may or may not support all LAANC operation types. At this time, Part 107 auto-approved authorizations and Part 107 further coordination requests can be tested together or separately.

If a USS is testing to support both types, all test scenarios should be run. If a USS is testing for only Part 107 auto-approvals, only test scenarios #1 through #6 need to be run. If a USS is testing for only Part 107 further coordination requests, only test scenarios #1, #4, and #7 through #10 need to be run.

"DNT" is used to indicate "Did Not Test". It does not necessarily correlate to a test failure as in cases of partial support for LAANC types. The designation can also be used in partial testing identifying deferred tests. Document any such situations in the test log (Section 2).

3.1 Scenario #1: Pilot User Login & Required Content

1. Demonstrate how an operator logs into your application.
2. Explain individual accounts and "reasonably secure identification methods".

USS Operating Rule(s)	*Pass / Fail / DNT*
3.1b	☐ Pass ☐ Fail ☐ DNT

3. Explain process by which LAANC records could be reviewed by the FAA on request.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.1c	☐ Pass ☐ Fail ☐ DNT

4. Demonstrate the LAANC association statement to operators.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.1d	☐ Pass ☐ Fail ☐ DNT

5. Demonstrate privacy statement to operators.

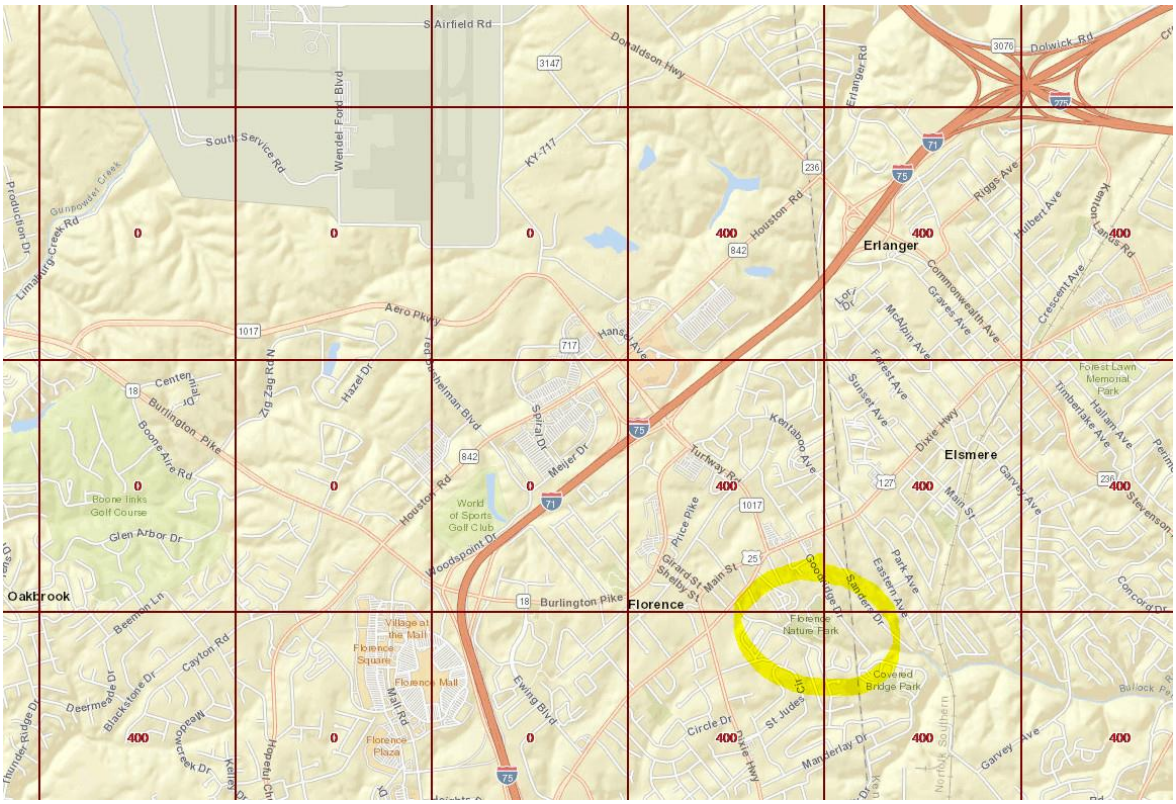
USS Operating Rule(s)	*Pass / Fail / DNT*
3.1e	☐ Pass ☐ Fail ☐ DNT

6. Identify any content in your application related to swarm operations.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.1f	☐ Pass ☐ Fail ☐ DNT

3.2 Scenario #2: Part 107 Basic Auto-Approved Authorization

The area of the test operation is Florence Nature Park in Florence, KY. The test operation is under the CVG UASFM. Prior to the start of this test, your application should be configured to communicate with the FAA LAANC "Staging" environment.



1. Demonstrate how an operator using your application would initialize an authorization in this area for a flight maximum altitude of 300'.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.1a	☐ Pass ☐ Fail ☐ DNT

2. Demonstrate how your application identifies the operation as eligible for auto-approved authorization.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.3.1a, 3.5.1a	☐ Pass ☐ Fail ☐ DNT

3. From where and how frequently does your system retrieve UASFMs?

USS Operating Rule(s)	*Pass / Fail / DNT*
3.2.2a, 3.3.1b, 3.3.1c	☐ Pass ☐ Fail ☐ DNT

4. Does your application clip or aggregate UASFM grids?

USS Operating Rule(s)	*Pass / Fail / DNT*
(informational, see 3.3.2)	n/a

5. How far in advance could an operator make the authorization submission?

USS Operating Rule(s)	*Pass / Fail / DNT*
3.5.3a	☐ Pass ☐ Fail ☐ DNT

6. Submit the operation to the FAA.
7. Verify on the FAA side that the submission is received with the correct content.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.2.1a	☐ Pass ☐ Fail ☐ DNT

8. How and when does your application indicate a successful auto-approved authorization?

USS Operating Rule(s)	*Pass / Fail / DNT*
3.5.4a	☐ Pass ☐ Fail ☐ DNT

9. Demonstrate the authorization text provided to the operator.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.5.5a	☐ Pass ☐ Fail ☐ DNT

10. Demonstrate the operator's access to the 9-character operation reference code.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.5.5b	☐ Pass ☐ Fail ☐ DNT

11. Demonstrate how the operator could cancel the authorization.

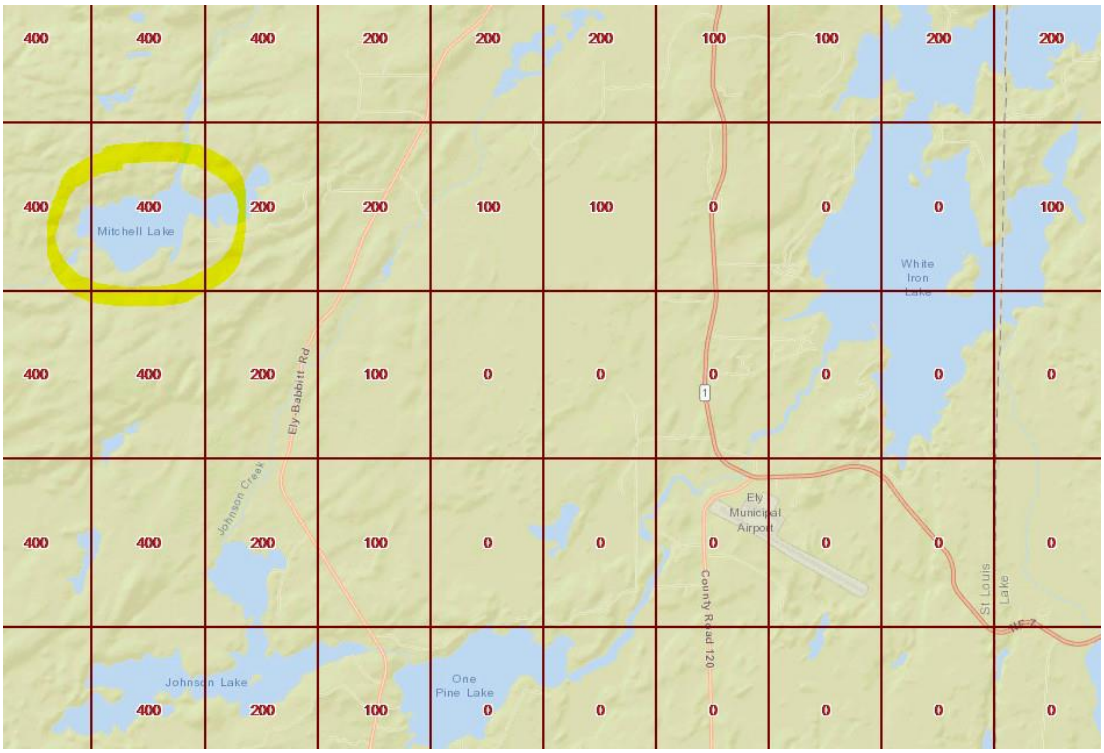
USS Operating Rule(s)	*Pass / Fail / DNT*
3.7.1a	☐ Pass ☐ Fail ☐ DNT

12. Submit the cancellation.
13. Verify on the FAA side that the operation has been cancelled.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.2.1a	☐ Pass ☐ Fail ☐ DNT

3.3 Scenario #3: Part 107 Auto Class E & Authorization Changes

The area of the test operation is Mitchell Lake near Ely, MN. The test operation is under the ELO UASFM. Prior to the start of this test, your application should be configured to communicate with the FAA LAANC "Staging" environment.



1. Demonstrate how an operator using your application would initialize an authorization in this area for a flight maximum altitude of 100'.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.1a	☐ Pass ☐ Fail ☐ DNT

2. Submit the operation to the FAA.
3. Verify on the FAA side that the submission is received with the correct content.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.2.1a	☐ Pass ☐ Fail ☐ DNT

4. Demonstrate how the Class E caveat is provided to the operator.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.5.2a	☐ Pass ☐ Fail ☐ DNT

5. Demonstrate how the operator can change something about the operation (time, altitude, etc.).

USS Operating Rule(s)	*Pass / Fail / DNT*
3.7.2a	☐ Pass ☐ Fail ☐ DNT

6. Submit the change to the FAA.
7. Verify on the FAA side that the change is received with the correct content.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.7.2b, 3.2.1a	☐ Pass ☐ Fail ☐ DNT

8. Rescind the operation on the FAA side.
9. How does your system receive LAANC messages from the FAA?

USS Operating Rule(s)	*Pass / Fail / DNT*
3.7.3a	☐ Pass ☐ Fail ☐ DNT

10. Verify that the rescind message was received.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.7.3a, 3.2.1a	☐ Pass ☐ Fail ☐ DNT

11. Demonstrate how soon operator contact is initiated and how the operator is directed to cancel the operation in confirmation that it was rescinded.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.7.3b, 3.7.1a	☐ Pass ☐ Fail ☐ DNT

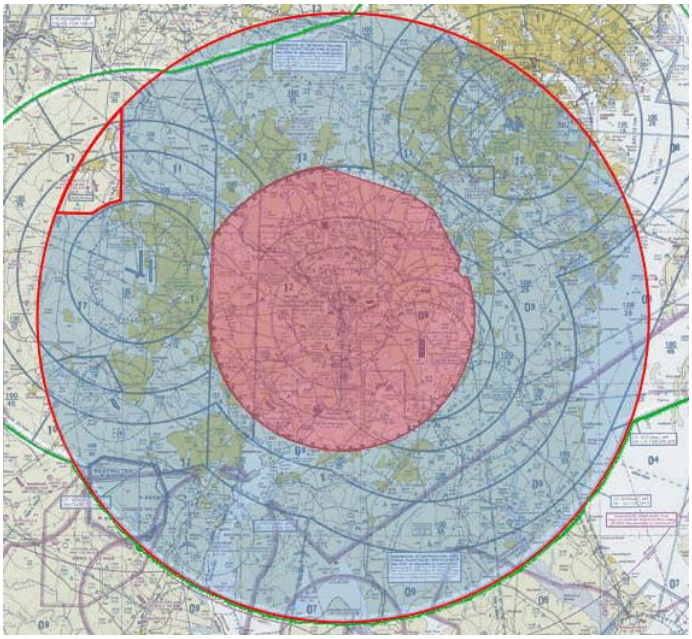
12. Cancel the operation.
13. Verify that the operation is cancelled on the FAA side.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.7.1a	☐ Pass ☐ Fail ☐ DNT

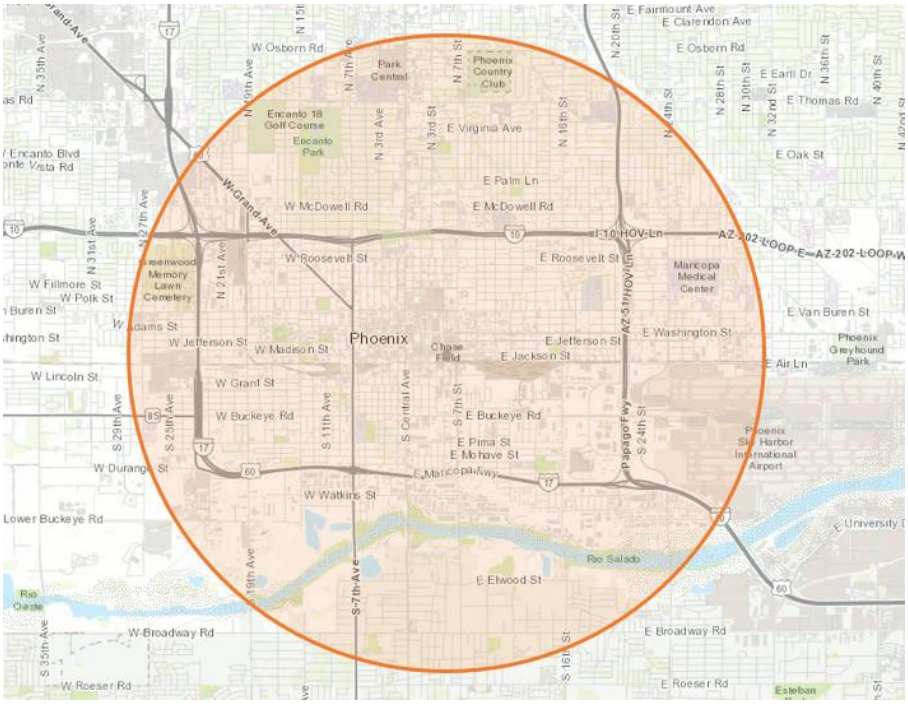
3.4 Scenario #4: Part 107 Flight Restrictions & Other Factors

Example Temporary Flight Restriction (TFR) near Anaheim, CA. This TFR (NOTAM FDC 4/3635) overlaps with the FUL UASFM:

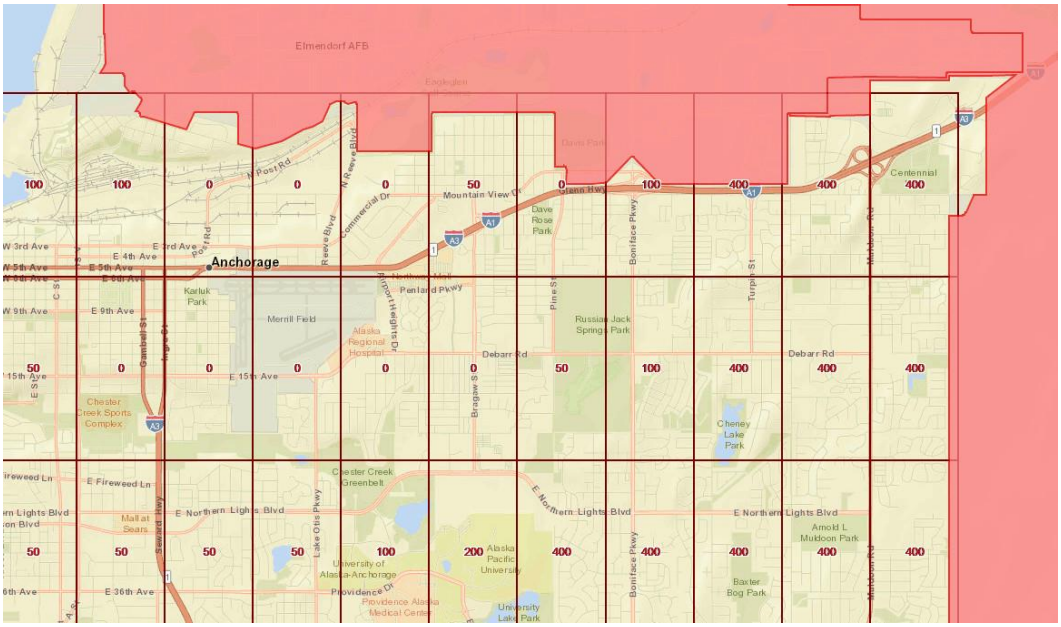
Current DC area UAS restrictions (NOTAMs ZDC 6/7196 and ZDC 6/7201, and referenced 14 CFR 93.335):



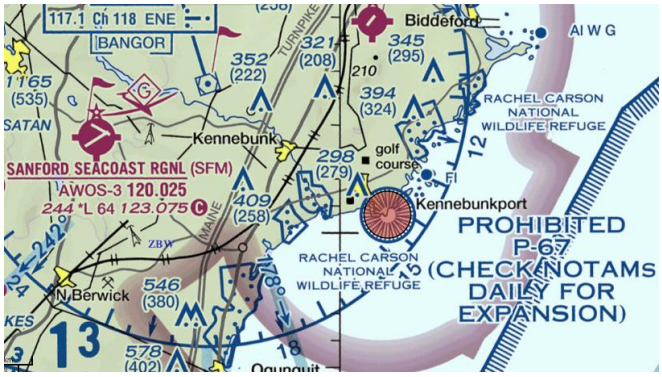
Example Stadium NOTAM (FDC 7/4319) restriction in Phoenix, AZ (Chase Field).. This overlaps with the PHX UASFM:



Example National Security UAS Flight Restriction near Anchorage, AK. The restriction overlaps with the MRI UASFM:



Example Special Use Airspace near Kennebunk, ME. This is prohibited-type airspace, which are usually segregated from airport surface airspace. However, there are many restricted-type and other types of airspaces that may overlap with UASFMs (see, for example, NJM UASFM and R-5306D) which may apply to sUAS.



1. If your application reads NOTAMs and/or TFRs, identify the source and frequency.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.2.3a	☐ Pass ☐ Fail ☐ DNT

2. Demonstrate or explain how your application informs operators of general NOTAM-based restrictions (including TFRs).

USS Operating Rule(s)	*Pass / Fail / DNT*
3.5.1c, 3.6.1c	☐ Pass ☐ Fail ☐ DNT

3. Demonstrate how your application explicitly checks for DC area UAS restrictions.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.5.1d, 3.6.1d	☐ Pass ☐ Fail ☐ DNT

4. Demonstrate how your application explicitly checks for stadium UAS restrictions.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.5.1d, 3.6.1d	☐ Pass ☐ Fail ☐ DNT

5. Demonstrate how your application explicitly checks for NSUFRs.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.5.1d, 3.6.1d	☐ Pass ☐ Fail ☐ DNT

6. From where and how frequently does your system retrieve NSUFRs?

USS Operating Rule(s)	*Pass / Fail / DNT*
3.2.3b	☐ Pass ☐ Fail ☐ DNT

7. If your application reads Special Use Airspaces, identify the source and frequency.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.2.3c	☐ Pass ☐ Fail ☐ DNT

8. Demonstrate or explain how your application informs pilots of SUAs.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.5.1c, 3.6.1c	☐ Pass ☐ Fail ☐ DNT

9. Demonstrate or explain how your application checks against operators flying at night.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.5.1b, 3.6.1b	☐ Pass ☐ Fail ☐ DNT

10. Describe how your application checks blocks spurious or illegitimate submissions.

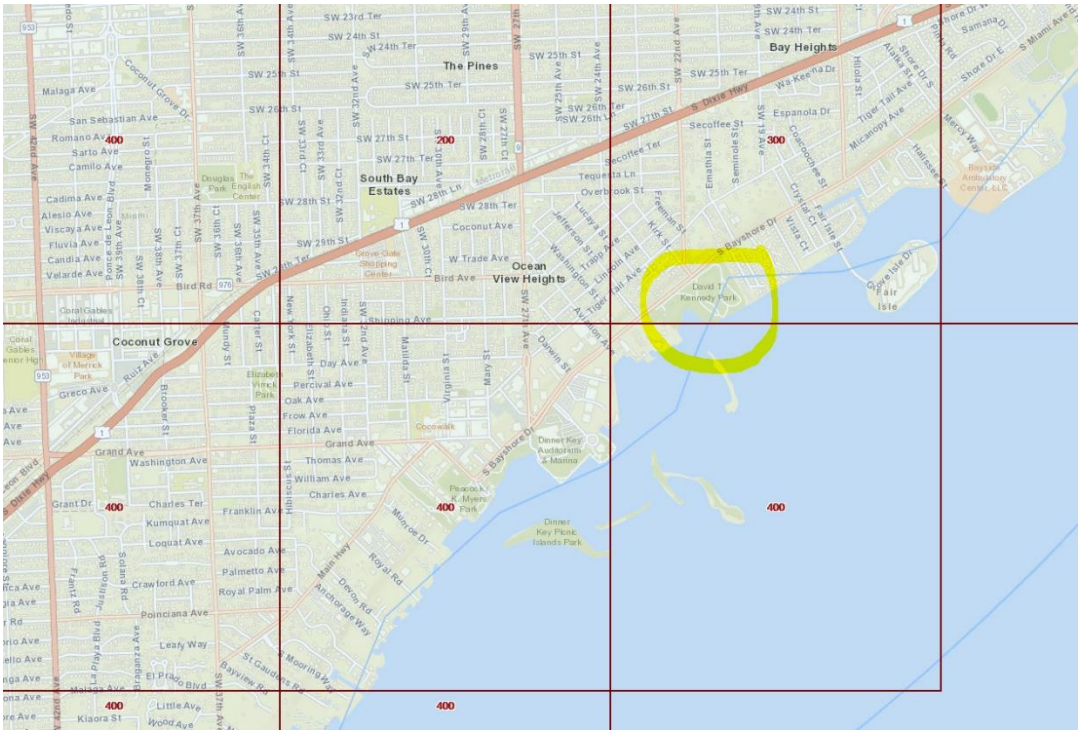
USS Operating Rule(s)	*Pass / Fail / DNT*
3.8a	☐ Pass ☐ Fail ☐ DNT

11. Describe how your application will continue to function in the contingency situation that FAA LAANC systems are unavailable.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.9a	☐ Pass ☐ Fail ☐ DNT

3.5 Scenario #5: Part 107 Auto In/Out Airspace Boundary

The area of the test operation is David T. Kennedy Park in Miami, FL. The test operation is under the MIA UASFM. Note that, at the surface level, MIA airspace has an irregularly shaped boundary that passes over the park. Prior to the start of this test, your application should be configured to communicate with the FAA LAANC "Staging" environment.



1. Demonstrate how an operator using your application would initialize an authorization in this area for a flight maximum altitude of 300'.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.1a	☐ Pass ☐ Fail ☐ DNT

2. From where and how frequently does your system retrieve surface airspace boundaries?

USS Operating Rule(s)	*Pass / Fail / DNT*
3.2.2b	☐ Pass ☐ Fail ☐ DNT

3. Demonstrate how your application manages operations that cross a surface airspace boundary.

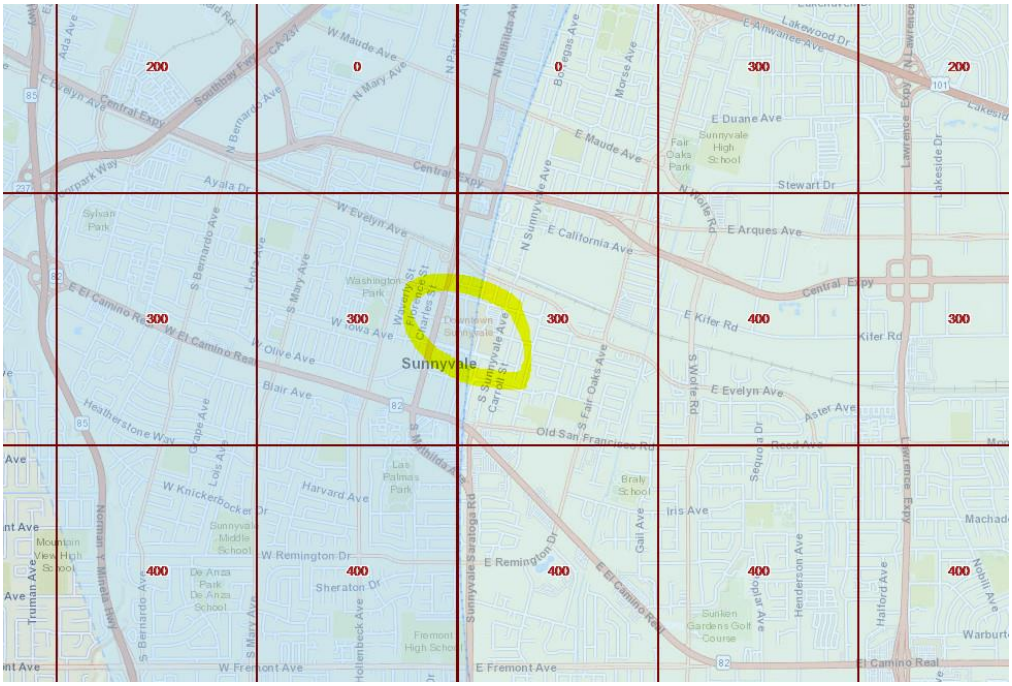
USS Operating Rule(s)	*Pass / Fail / DNT*
3.3.4a	☐ Pass ☐ Fail ☐ DNT

4. Submit the operation to the FAA.
5. Verify on the FAA side that the submission is received with the correct content.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.2.1a	☐ Pass ☐ Fail ☐ DNT

3.6 Scenario #6: Part 107 Auto Crossing Airspace Boundaries

The area of the test operation is downtown Sunnyvale in CA. The test operation falls under both SJC and NUQ UASFMs. The airspace boundary between the two intersects the operational area. Prior to the start of this test, your application should be configured to communicate with the FAA LAANC "Staging" environment.



1. Demonstrate how an operator using your application would initialize an authorization in this area for a flight maximum altitude of 250'.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.1a	☐ Pass ☐ Fail ☐ DNT

2. Demonstrate how your application manages operations that cross a surface airspace boundary between two facilities that have UASFMs.

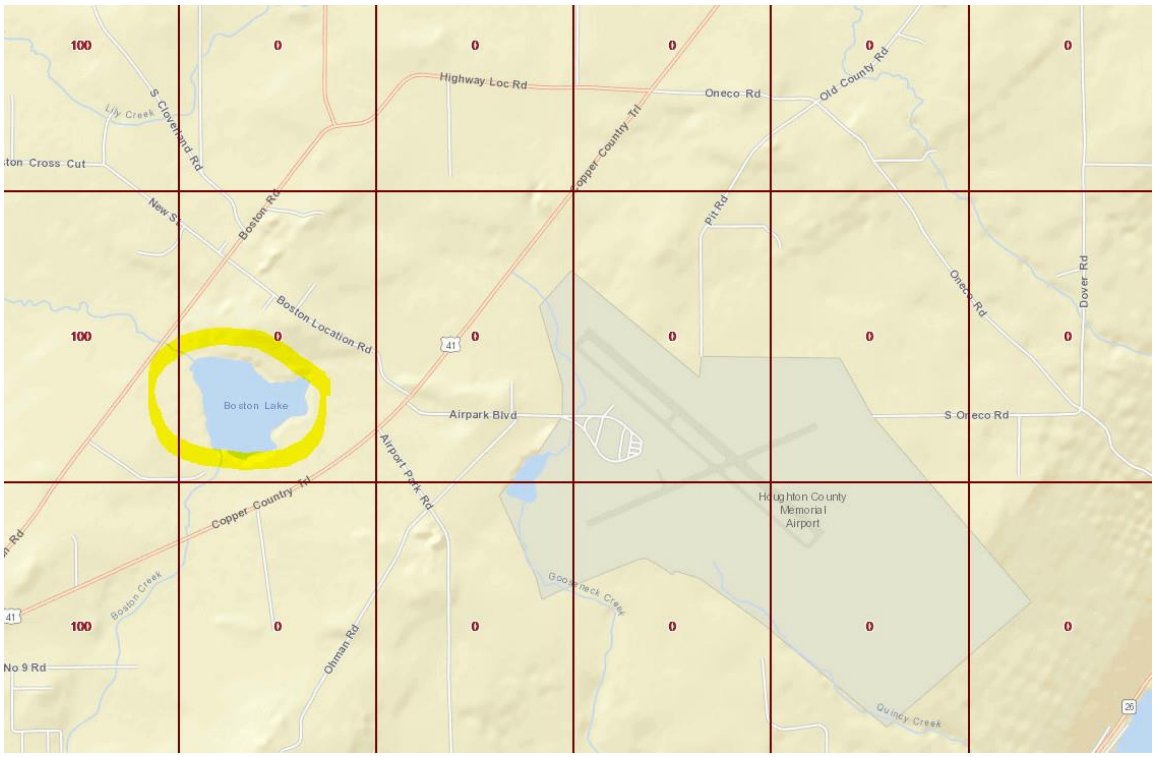
USS Operating Rule(s)	*Pass / Fail / DNT*
3.3.4a	☐ Pass ☐ Fail ☐ DNT

3. Submit the operation to the FAA.
4. Verify on the FAA side that the submission is received with the correct content.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.2.1a	☐ Pass ☐ Fail ☐ DNT

3.7 Scenario #7: Part 107 Basic Further Coordination Class E

The area of the test operation is Boston Lake near Hancock, MI. The test operation is under the CMX UASFM. Prior to the start of this test, your application should be configured to communicate with the FAA LAANC "Staging" environment.



1. Demonstrate how an operator using your application would initialize an authorization in this area for a flight maximum altitude of 100'.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.1a	☐ Pass ☐ Fail ☐ DNT

2. Demonstrate how your application identifies the operation as eligible for further coordination.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.3.1a, 3.6.1a	☐ Pass ☐ Fail ☐ DNT

3. From where and how frequently does your system retrieve UASFMs?

USS Operating Rule(s)	*Pass / Fail / DNT*
3.2.2a, 3.3.1b, 3.3.1c	☐ Pass ☐ Fail ☐ DNT

4. Does your application clip or aggregate UASFM grids?

USS Operating Rule(s)	*Pass / Fail / DNT*
(informational, see 3.3.2)	n/a

5. How does your application inform users of the manual timeline of further coordination?

USS Operating Rule(s)	*Pass / Fail / DNT*
3.6.3a	☐ Pass ☐ Fail ☐ DNT

6. How far in advance could an operator make the further coordination request submission?

USS Operating Rule(s)	*Pass / Fail / DNT*
3.6.3b	☐ Pass ☐ Fail ☐ DNT

7. Submit the operation to the FAA.
8. Verify on the FAA side that the submission is received with the correct content.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.2.1a	☐ Pass ☐ Fail ☐ DNT

9. How does your application indicate a successful submission and discourage operators from contacting ATC?

USS Operating Rule(s)	*Pass / Fail / DNT*
3.6.4a, 3.6.5a	☐ Pass ☐ Fail ☐ DNT

10. Approve the authorization request on the FAA side.
11. How does your system receive LAANC messages from the FAA?

USS Operating Rule(s)	*Pass / Fail / DNT*
3.7.3a	☐ Pass ☐ Fail ☐ DNT

12. Verify that the approval message was received.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.6.4a	☐ Pass ☐ Fail ☐ DNT

13. How does your application indicate an approved further coordination request to the operator?

USS Operating Rule(s)	*Pass / Fail / DNT*
3.6.4a	☐ Pass ☐ Fail ☐ DNT

14. Demonstrate the authorization text provided to the operator.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.6.6a	☐ Pass ☐ Fail ☐ DNT

15. Demonstrate how the Class E caveat is provided to the operator.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.6.2a	☐ Pass ☐ Fail ☐ DNT

16. Demonstrate the operator's access to the 9-character operation reference code.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.6.6b	☐ Pass ☐ Fail ☐ DNT

17. Demonstrate how the operator could cancel the authorization.

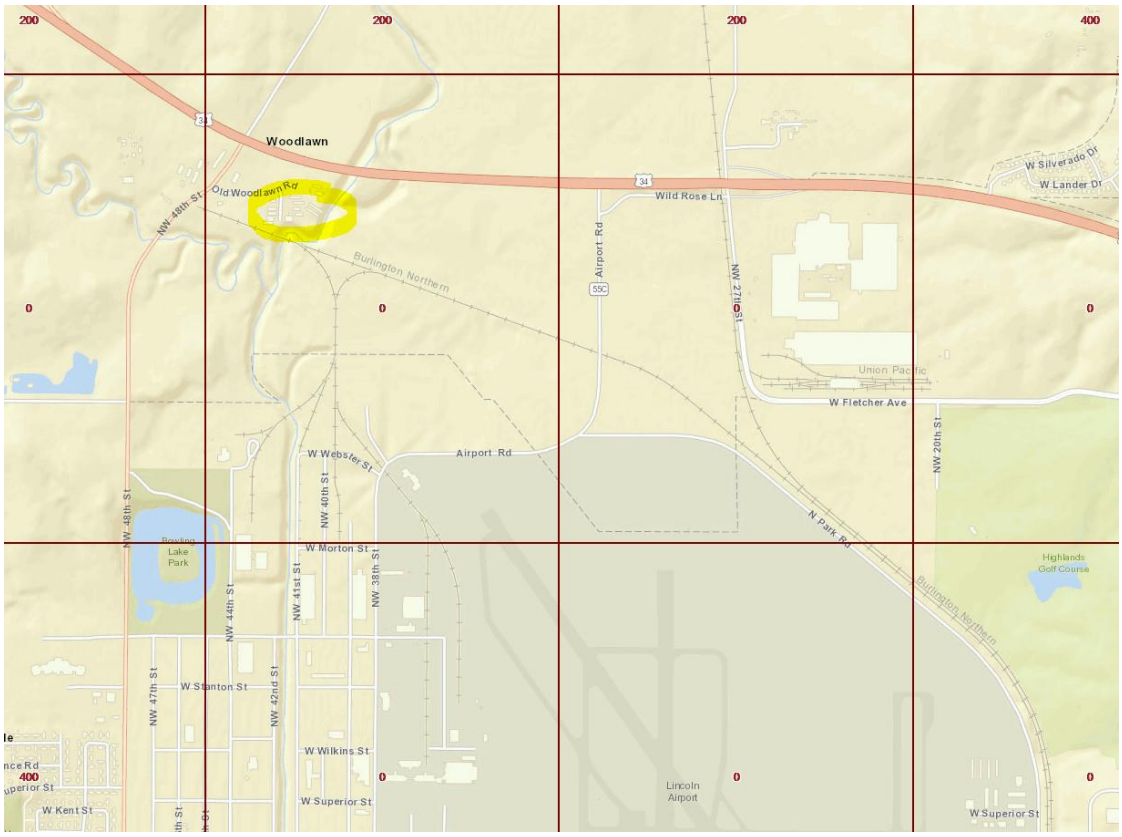
USS Operating Rule(s)	*Pass / Fail / DNT*
3.7.1a	☐ Pass ☐ Fail ☐ DNT

18. Submit the cancellation.
19. Verify on the FAA side that the operation has been cancelled.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.2.1a	☐ Pass ☐ Fail ☐ DNT

3.8 Scenario #8: Part 107 Further Coordination Denied

The area of the test operation is commercial properties in the Woodlawn area near Lincoln, NE. The test operation is under the LNK UASFM. Prior to the start of this test, your application should be configured to communicate with the FAA LAANC "Staging" environment.



1. Demonstrate how an operator using your application would initialize an authorization in this area for a flight maximum altitude of 400'.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.1a	☐ Pass ☐ Fail ☐ DNT

2. Demonstrate how your application identifies the operation as eligible for further coordination.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.6.1a	☐ Pass ☐ Fail ☐ DNT

3. Submit the operation to the FAA.
4. Verify on the FAA side that the submission is received with the correct content.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.2.1a	☐ Pass ☐ Fail ☐ DNT

5. Deny the authorization request on the FAA side.

6. Verify that the approval message was received.

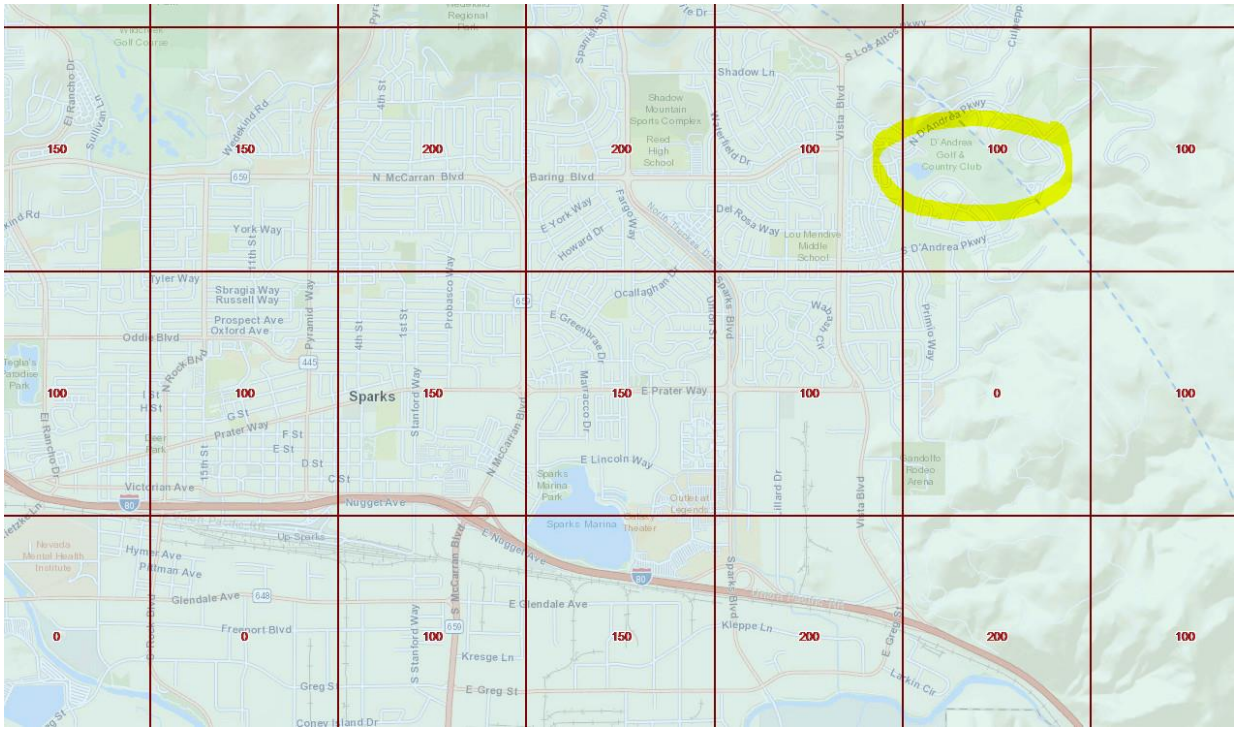
USS Operating Rule(s)	*Pass / Fail / DNT*
3.6.4a	☐ Pass ☐ Fail ☐ DNT

7. How does your application indicate a denied further coordination request?

USS Operating Rule(s)	*Pass / Fail / DNT*
3.6.4a	☐ Pass ☐ Fail ☐ DNT

3.9 Scenario #9: Part 107 Further Coordination In/Out Airspace Boundary

The area of the test operation is D'Andrea Golf and Country Club near Sparks, NV. The test operation is under the RNO UASFM. Prior to the start of this test, your application should be configured to communicate with the FAA LAANC "Staging" environment.



1. Demonstrate how an operator using your application would initialize an authorization in this area for a flight maximum altitude of 250'.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.1a	☐ Pass ☐ Fail ☐ DNT

2. From where and how frequently does your system retrieve surface airspace boundaries?

USS Operating Rule(s)	*Pass / Fail / DNT*
3.2.2b	☐ Pass ☐ Fail ☐ DNT

3. Demonstrate how your application manages operations that cross a surface airspace boundary.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.3.4a	☐ Pass ☐ Fail ☐ DNT

4. Submit the further coordination request to the FAA.
5. Verify on the FAA side that the submission is received with the correct content.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.2.1a	☐ Pass ☐ Fail ☐ DNT

6. Approve the authorization request on the FAA side.
7. Verify that the approval message was received.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.6.4a	☐ Pass ☐ Fail ☐ DNT

8. Rescind the authorization on the FAA side.
9. Verify that the rescind message was received.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.7.3a	☐ Pass ☐ Fail ☐ DNT

10. Demonstrate how soon operator contact is initiated and how the operator is directed to cancel the operation in confirmation that it was rescinded.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.7.3b, 3.7.1a	☐ Pass ☐ Fail ☐ DNT

11. Cancel the operation.
12. Verify that the operation is cancelled on the FAA side.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.7.1a, 3.2.1a	☐ Pass ☐ Fail ☐ DNT

13. Initialize a new, similar authorization (same area, 250’ maximum) for 24 hours + several minutes in the future.
14. Submit the further coordination request to the FAA.
15. Verify on the FAA side that the submission is received with the correct content.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.2.1a	☐ Pass ☐ Fail ☐ DNT

16. How does your application cancel unanswered requests at the 24 hour mark?

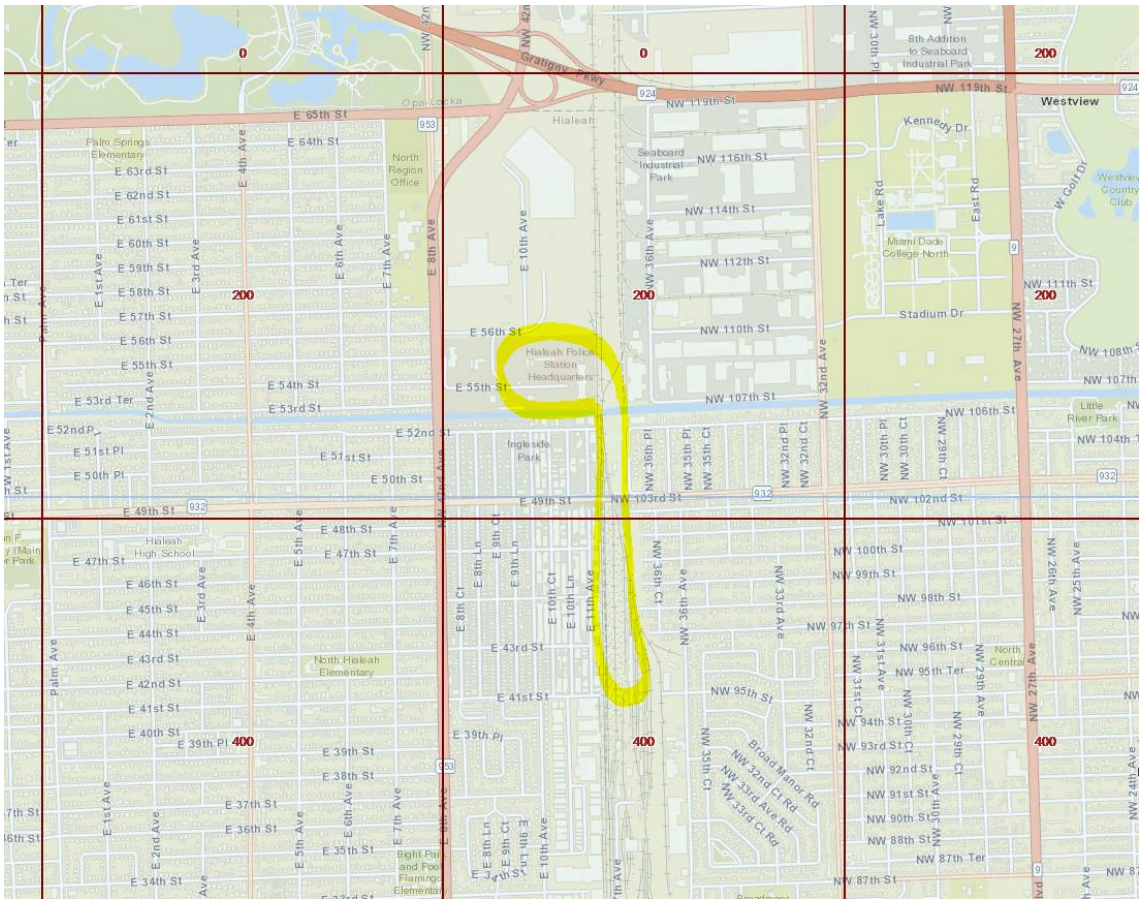
USS Operating Rule(s)	*Pass / Fail / DNT*
3.6.3c	☐ Pass ☐ Fail ☐ DNT

17. Verify that the request / operation is cancelled at the 24 hour mark.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.6.3c	☐ Pass ☐ Fail ☐ DNT

3.10 Scenario #10: Part 107 Further Coordination Crossing Airspace Boundaries

The area of the test operation is Hialeah Police Station Headquarters and the train yard south of it near Miami, FL. The test operation is under the MIA and OPF UASFMs. Prior to the start of this test, your application should be configured to communicate with the FAA LAANC "Staging" environment.



1. Demonstrate how an operator using your application would initialize an authorization in this area for a flight maximum altitude of 300'. *Note that part of the operation requires further coordination with OPF (max 200'), part requires further coordination with MIA (max 200'), and part can be auto-approved under the MIA UASFM (max 400').*

USS Operating Rule(s)	*Pass / Fail / DNT*
3.1a	☐ Pass ☐ Fail ☐ DNT

2. Demonstrate how your application manages operations that cross a surface airspace boundary between two facilities that have UASFMs.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.3.4a	☐ Pass ☐ Fail ☐ DNT

3. Submit the operation to the FAA.
4. Verify on the FAA side that the submission is received with the correct content.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.2.1a	☐ Pass ☐ Fail ☐ DNT

5. Approve the OPF further coordination request.
6. Verify that the approval message was received.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.6.4a	☐ Pass ☐ Fail ☐ DNT

7. Demonstrate how a partly approved / partly pending operation is indicated in your application.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.6.4a	☐ Pass ☐ Fail ☐ DNT

8. Approve the MIA further coordination request.
9. Verify that the approval message was received.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.6.4a	☐ Pass ☐ Fail ☐ DNT

10. Demonstrate how the fully approved operation is indicated in your application.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.6.4a	☐ Pass ☐ Fail ☐ DNT

11. Rescind the OPF authorization (resulting from further coordination) on the FAA side.
12. Verify that the rescind message was received.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.7.3a	☐ Pass ☐ Fail ☐ DNT

13. Demonstrate how soon operator contact is initiated and how the operator is directed to cancel the OPF further coordination portion of the operation in confirmation that it was rescinded.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.7.3b, 3.7.1a	☐ Pass ☐ Fail ☐ DNT

14. Cancel the OPF further coordination portion of the operation.
15. Verify that the appropriate part of the operation is cancelled on the FAA side.

USS Operating Rule(s)	*Pass / Fail / DNT*
3.7.1a	☐ Pass ☐ Fail ☐ DNT