



Date of Event (UTC) May 5, 2023	Review Date Jul 7, 2024
Time of Event (UTC) 1957 UTC	Time of Event (LCL) 1457 EST
Investigation Number ERA23FA137	Keys Number 106819

ATC Services Review Worksheet

CHART AIRFIELD SIAP/SID/STAR

A review of the ATC services provided in the above incident/accident was conducted by an ATC Investigator. Investigative work was limited to a review of the factual data collected over the course of the investigation and consideration of the current rules, regulations, and procedural guidance current at the time. The ATC investigator did not travel to the scene, nor to any ATC facilities in support of this investigation. Additionally, the ATC investigator did not conduct any personnel interviews, and all investigative work was conducted from their assigned office.

ATC Investigator: Brian Soper, Lead ATC Accident Investigator SRT RELEASE APPROVED

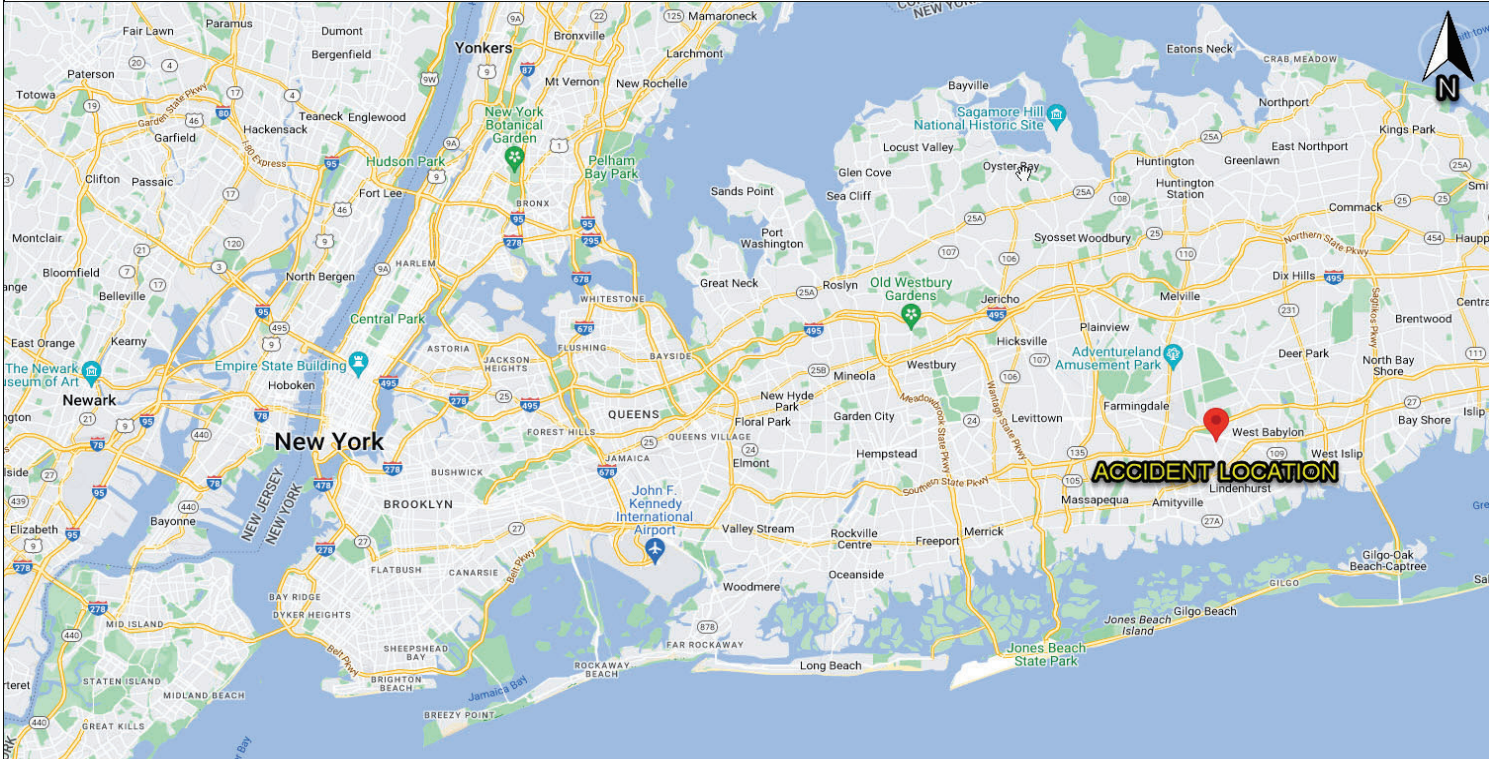
Involved ATC Facilities: Facility 1: FRG ATCT	Facility 2: NA	Facility 3: NA	Facility 4: NA
Involved Aircraft: Aircraft 1: N8149R	Aircraft 2: NA	Aircraft 3: NA	Aircraft 4: NA

<input checked="" type="checkbox"/> Data Requested	<input type="checkbox"/> NOTAM Issues	Surveillance Data Source	Audio Data Source
<input type="checkbox"/> ATC Procedures	<input type="checkbox"/> Safety Improvements	OpsVue and FAA ADS-B	FALCON Replay Audio

PRELIM Summary Information - SAFTI

On March 5, 2023, at 1459 eastern standard time, a Piper PA-28-161, N8149R, was destroyed when it was involved in an accident in Lindenhurst, New York. The flight instructor and one passenger were seriously injured, and the second passenger was fatally injured. The airplane was operated as a Title 14 Code of Federal Regulations Part 91 instructional flight.

Accident Location - SAFTI



ATC Service Review Summary

An ATC services review was conducted at the request of the IIC. A FALCON Replay, ADS-B data, MOR's from both Republic Airport Traffic Control Tower (FRG ATCT) and New York Terminal Radar Approach Control (N90 TRACON), and SRT findings provided by the FAA were used to conduct this review.

According to the FALCON replay, N8149R had initially departed FRG at about 1415 and was returning from the east-southeast and was set up for a straight in to runway 32. The tower controller was moderately busy, and appeared to be working about 8-10 aircraft. N8149R had received landing clearance to and when the aircraft was about 1-2 miles from the runway, the controller canceled their takeoff clearance and instructed them to break-off their approach to the left. This was consistent with routine ATC instructions for sequencing (there was an aircraft landing ahead of them, and an aircraft behind them that was faster and closing. The airplane flew an extended downwind, and was turned back in for another straight in approach to runway 32.

On the second approach, the pilot was again cleared to land, this time number 4. The approach was uneventful until about 3 nm from the runway at about 1454 when the pilot reported smoke in the cockpit, and a subsequent MAYDAY declaration. The controller immediately provided priority handling to N8149R reiterating his clearance to land and coordinating other traffic to ensure there was no conflict. According to preliminary information provided by the FAA in the Services Rendered Telcon (SRT), the controller recalled seeing smoke coming from the left side of the airplane. The airplane continued inbound toward the airport but crashed about 1 nm short of the runway, and the controller immediately activated the crash phone and initiated emergency response.

Air traffic services in this event were considered unremarkable, and consistent with all current rules, regulations and procedures.

ATC Supporting Data

- Automatic Dependent Surveillance - Broadcast (ADS-B) Data
- FAA SRT Findings
- FAA FALCON Replay
- FAA ATC MOR and Accident Notice

FAA SRT Findings - Released

An SRT was conducted on 5/5/2023, and according to preliminary findings provided by the FAA at that time:

- The ATM described the traffic volume as moderate to heavy and complexity as moderate. The weather was described as wind 330 at 16 knots, gusting to 25 knots, visibility 10 miles with clear skies.

- There were five controllers and one operational supervisor on duty. There were two controllers on position, two controllers on other duties, and one controller available. The Outer Local Control (OLC) position was combined to the Inner Local Control (LC) position, the involved position. The Clearance Delivery and Flight Data positions were combined to the Ground Control position. An OS was providing general supervision. The staffing and configuration was considered normal for time of day and volume of traffic. The ATM stated that the OLC position is not normally open.

- N8149R was on an approximate three-mile final to Runway 32 when they reported smoke in the cockpit and requested an immediate landing. The LC controller instructed N8149R to continue straight-in for Runway 32. The pilot acknowledged the transmission and advised the LC controller that they were going to turn off their radio. The LC controller then cleared them to land on Runway 32. The LC controller instructed the preceding arrival to turn off the final for resequencing to the airport due to a "priority" aircraft. On a two-mile final, N8149R declared "mayday" and the LC controller re-cleared them to land on Runway 32. The aircraft began turning to the left and the LC controller issued instructions back to Runway 32 with no response. N8149R was observed with smoke coming from the left side of the aircraft, then descending rapidly.

- The crash phone was activated in the tower immediately after N8149R reported smoke in the cockpit. The rescue vehicles were at the emergency hold point when N8149R declared "mayday", and then left the field to assist with locating N8149R when advised by the tower that N8149R was not going to make the runway. The ATM was advised of the event within 5 minutes.

Airport / Airfield Information

- REPUBLIC (FRG)(KFRG) 1 E UTC-5(-4DT) N40°43.76' W73°24.81'
- 82 B TPA—See Remarks LRA ARFF Index—See Remarks NOTAM FILE FRG
 - RWY 14-32: H6833X150 (ASPH-GRVD) S-45, D-60 PCN 51 F/B/X/T HIRL
 - RWY 14: PAPI(P4L)—GA 3.0° TCH 59'. Thld displcd 675'. Pole.
 - RWY 32: REIL. PAPI(P4L)—GA 3.0° TCH 61'. Road. Rgt tfc.

AIRPORT REMARKS: Attended continuously. Birds invof arpt. Class IV ARFF Index A. Index B avbl on request call 631-752-7707. Acft with wingspan 79' or larger are adzd to taxi or back-taxi on rwys. Twys may not provide adequate width, turning radius, and or separation from obstructions. Wooded area south of Twy A, east of Twy G clsd to helicopters. Jet maint runups pmtd only in the Twy A, D, F, & G holding bays. TPA—1180(1100) reciprocating eng, 1680(1600) Turboprop/Jet. Acft parking for US Cstms is located on the main terminal ramp. All international arrivals must ctc FBO for svc when clearing cstms. All international arrivals must not enter the main terminal ramp until FBO personnel are present for marshalling. Ctc arpt ops 122.9 MHz for instructions. Terminal use fees apply. Ldg fee for all acft exc mil and government.

OpsVue Data

The below information and included graphics were developed using OpsVue data which is track data only. PASSUR's OpsVue uses NextGen Data which includes flight identification and location data for advisory purposes only. This NextGen Data is a multi-sensor system that aggregates and georeferences FAA data sources including data from FAA ASDE-X and ASSC systems, FAA Terminal and En Route Radars, the FAA certified ADS-B Network and Flight Plan data from the En Route Automation Modernization (ERAM) system. The reported altitude is derived from the reported pressure altitude, adjusted for the local pressure reported with the Rapid Update Cycle (RUC) data within the Continental United States (CONUS). Outside of the CONUS, only pressure altitude is reported. The accuracy of altitude data can vary, sometimes up to several hundred feet, however trend information (ie; rates of climb and descent) is considered accurate and reliable.

FAA Certified ADS-B Data

The below information and included graphics were developed using certified Automatic Dependent Surveillance - Broadcast (ADS-B) data provided by the FAA. These data are direct source data that has extracted and exported by the FAA's Office of Accident Investigation and Prevention (AVP-100) using the SBS Analysis Tool (SAT). A surveillance system in which an aircraft or vehicle to be detected is fitted with cooperative equipment in the form of a data link transmitter. The aircraft or vehicle periodically broadcasts its GPS-derived position and other information such as velocity over the data link, which is received by a ground-based transmitter/receiver (transceiver) for processing and display at an air traffic control facility. ADS-B data is subject to coverage limitations like any other system that relies on line-of-sight signal transmission, so there can be portions of a flight track that are unavailable, or will have to be combined with other source data for the most complete flight track.

Flight Track Information

Track data indicates that the accident airplane departed runway (RWY) 32 at Republic Airport (FRG), Farmingdale, NY, at about 1419. The airplane made a right turnout and flew southeast bound until crossing the coastline and proceeding out over the Atlantic Ocean, then returning northwest bound toward FRG. The track was consistent with an approach to RWY 32 until reaching about 1-2 nm from the RWY when the aircraft turned left and entered a left downwind to return for another approach. The track continued on an extended downwind, then turned back in toward FRG and was again lined straight in for RWY 32 on the second approach never ascending higher than about 2,000 feet. The airplane continued straight in to RWY 32 @ FRG until reaching a point about 1 nm from the runway when track data was lost at about 1457 EST and approximately coincident with the reported area of the accident.

- First Track Data: 1415:01 EST // On Deck // Holding short of RWY 32 @ FRG

- Last Track Data: 1457:07 EST // 350 ft msl // 101 kts // H328 // About 1 nm short of RWY 32 @ FRG

ATC Communications

A FALCON replay was provided by the FAA and the following is a summarized account of the communications between N8149R and FRG ATCT. Times have been converted from UTC in the FALCON to EST and have been rounded to the nearest minute. A partial transcript has been produced and provided as an attachment to this ATC Service Review. This is only a summarized sequence of events and does not include every communication exchange between the accident aircraft and ATC.

1437 N8149R first checked in with FRG ATCT. The tower controller did not respond.

1438 The tower controller queried who had called and N8149R responded with their callsign. The controller then instructed the pilot to "keep it slow" and to continue straight in for runway 32 and the pilot acknowledged.

1439 The controller instructed N8149R to do a right 360 degree turn to rejoin final for sequencing. The pilot acknowledged.

1442 The controller advised N8149R to expect a delayed landing clearance for traffic. The pilot acknowledged.

1445 The controller cleared N8149R to land number three. The pilot acknowledged.

1446 The controller instructed N8149R to break off their approach to the left. The pilot acknowledged.

1450 The controller instructed N8149R to turn base. The pilot acknowledged.

1454 N8149R reported smoke in the cockpit and requested immediate landing. The controller instructed him to continue straight in and cleared him to land. The pilot acknowledged and advised he may turn off his radio, and the controller reiterated he was cleared to land runway 32.

1456 N8149R declared "FIRE MAYDAY MAYDAY" followed immediately by "MAYDAY MAYDAY MAYDAY" (this was the last recorded transmission that could be verified as N8149R). The controller re-stated the landing clearance to runway 32 followed a few seconds with an advisory that the runway was two miles ahead.

1457 The controller instructed N8149R to turn right 20 degrees toward the runway.

1458 An unidentified person reported seeing a plume of smoke about a mile from the end of the runway coming from the ground.

The replay included the controller continuing to request assistance for other aircraft in the vicinity, and immediately activated the crash phone and initiated emergency response.

Included Figures

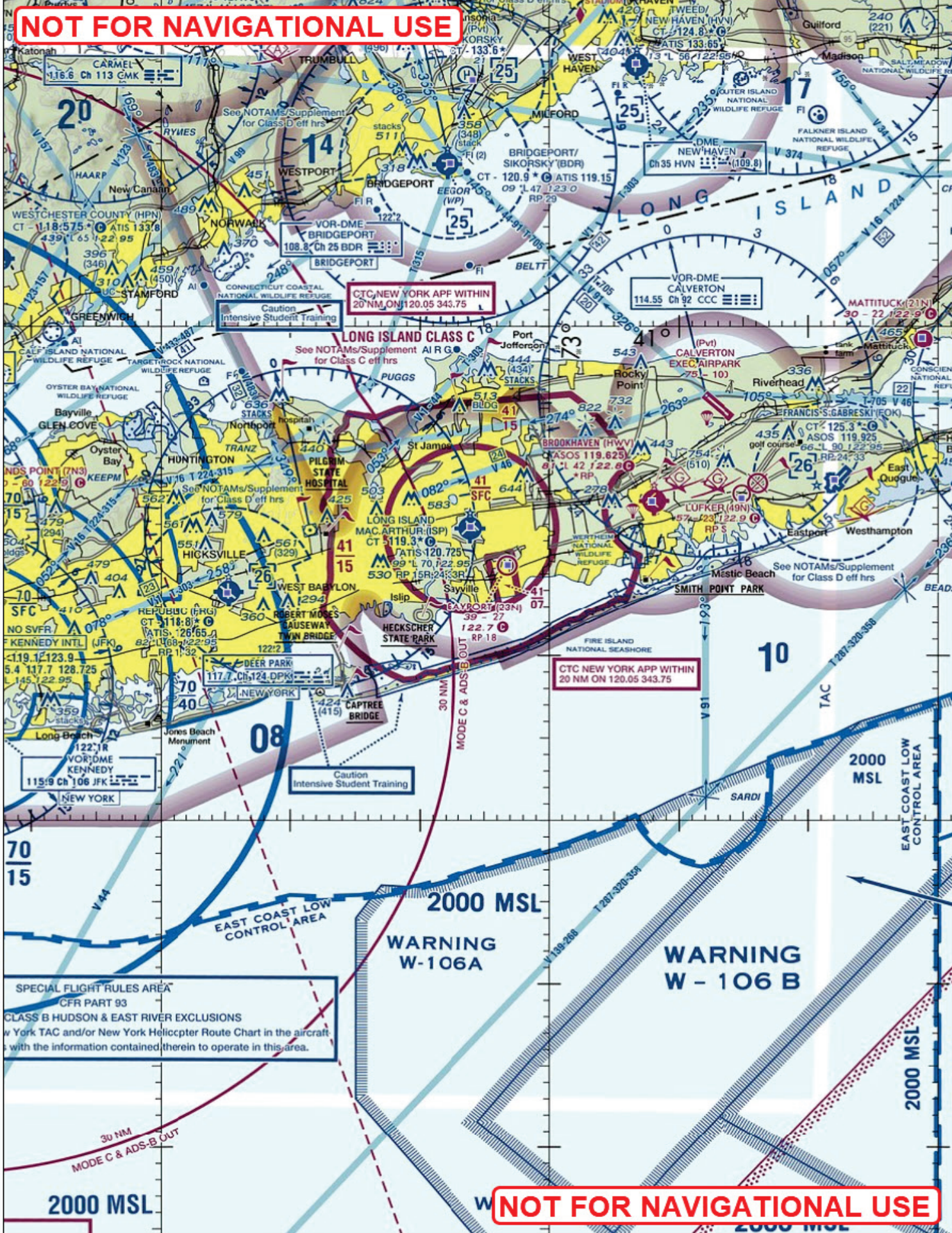
- *Figure 1: Picture of accident airplane.*
- *Figure 2: Wreckage picture of the accident airplane obtained from the Internet.*
- *Figure 3: Copy of FAA Registry for accident airplane.*
- *Figure 4: Overhead view of the entire accident flight track overlaid on satellite imagery.*
- *Figure 5: Profile view of the final segment of the accident flight track overlaid on satellite imagery.*
- *Figure 6: Detail view of the final segment of the accident flight track overlaid on satellite imagery.*

Docket Attachments

- *Attachment 1: FAA ADS-B Data - AVP-100*
- *Attachment 2: FAA ATC Mandatory Occurrence Reports (MOR) - N90 and FRG (2)*
- *Attachment 3: ATC Partial Audio Transcript - FRG*
- *Attachment 4: FAA Form 8020-9, Aircraft Accident Prelim Notice - N90/FRG*
- *Attachment 5: (CUI - FOUO) - FAA FALCON Replay - FRG*

AERONAUTICAL CHART EXCERPT

NOT FOR NAVIGATIONAL USE



NOT FOR NAVIGATIONAL USE

AIRFIELD DIAGRAM

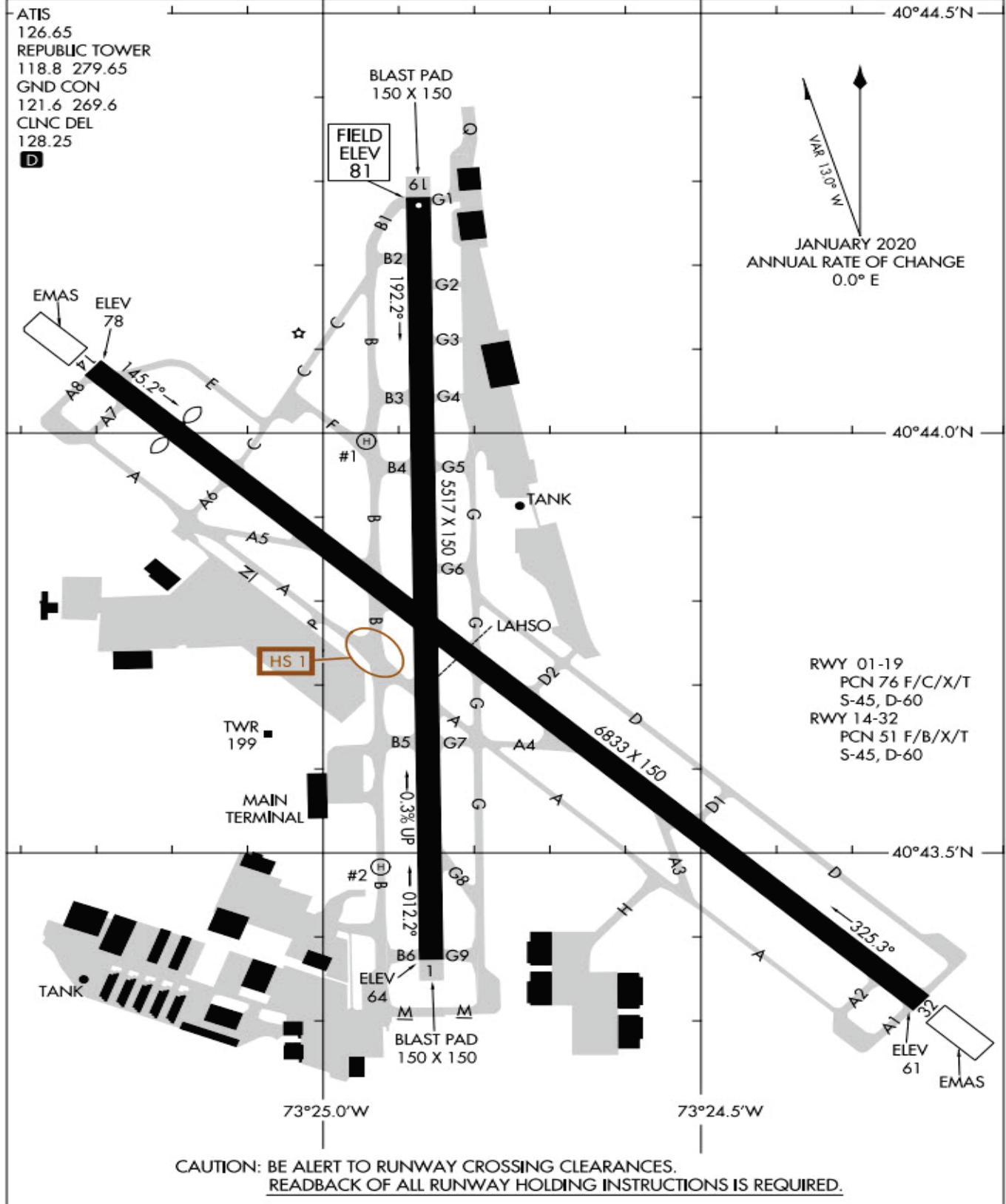
NOT FOR NAVIGATIONAL USE

24137

AIRPORT DIAGRAM

AL-704 (FAA)

REPUBLIC (FRG)
FARMINGDALE, NEW YORK



NE-2, 13 JUN 2024 to 11 JUL 2024

NE-2, 13 JUN 2024 to 11 JUL 2024

AIRPORT DIAGRAM

24137

FARMINGDALE, NEW YORK
REPUBLIC (FRG)

NOT FOR NAVIGATIONAL USE

Figure 1



Caption: Picture of accident airplane. Citation: Accessed from - JetPhotos, Photographer - Maik Voigt, Taken - 5/8/2020, Uploaded - 7/19/2021, Approved for use - 7/7/2024.

ADD

Figure 2



Caption: Wreckage picture of the accident airplane. Screen capture from New Jersey News 12 newsreel footage.

ADD

Figure 3

N-NUMBER ENTERED: 8149R

AIRCRAFT DESCRIPTION

Serial Number	28-8016254	Status	Valid
Manufacturer Name	PIPER	Certificate Issue Date	03/12/2020
Model	PA-28-161	Expiration Date	03/31/2027
Type Aircraft	Fixed Wing Single-Engine	Type Engine	Reciprocating
Pending Number Change	None	Dealer	No
Date Change Authorized	None	Mode S Code (base 8 / Oct)	52615733
MFR Year	1980	Mode S Code (Base 16 / Hex)	AB1BDB
Type Registration	Corporation	Fractional Owner	NO

REGISTERED OWNER

Name	REPUBLICAVIATION CORP		
Street	3511 SILVERSIDE RD STE 105		
City	WILMINGTON	State	DELAWARE
County	NEW CASTLE	Zip Code	19810-4902
Country	UNITED STATES		

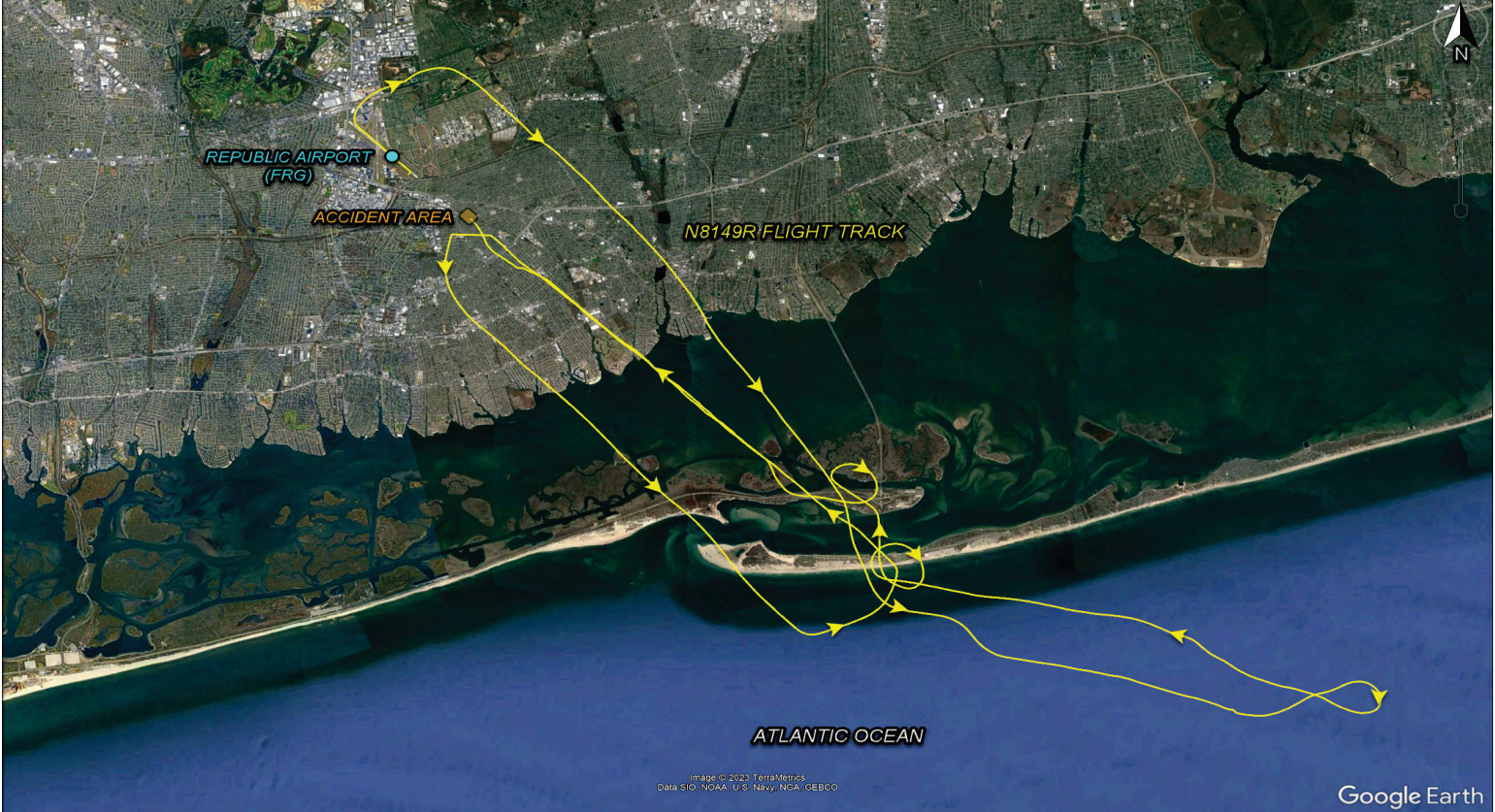
AIRWORTHINESS

Type Certificate Data Sheet	None	Type Certificate Holder	None
Engine Manufacturer	LYCOMING	Classification	Standard
Engine Model	0-320 SERIES	Category	Utility Normal
AWW Date	01/18/1980	Exception Code	No

Caption: Copy of FAA Registry for accident airplane.

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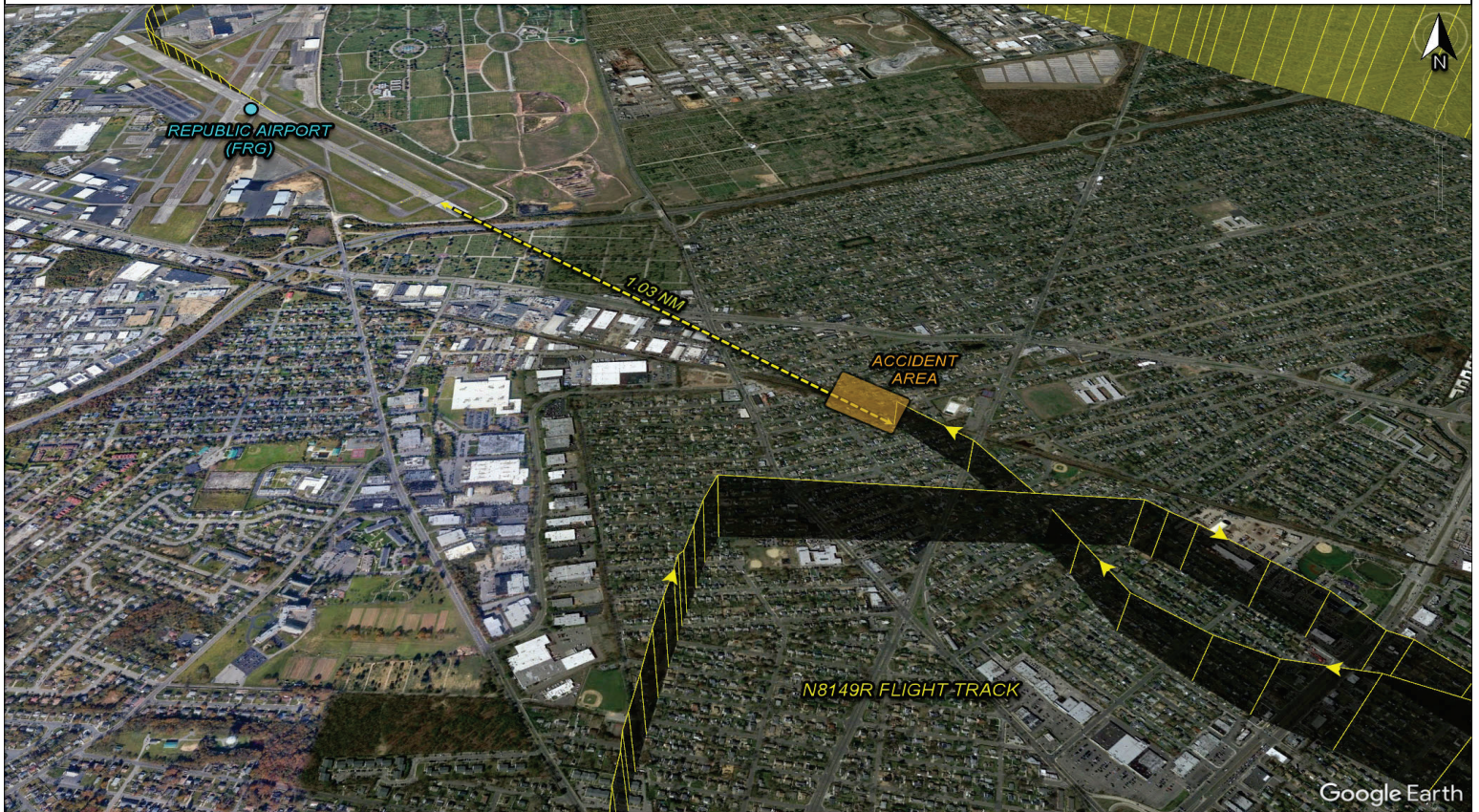
Figure 4



Caption: Overhead view of the entire accident flight track overlaid on satellite imagery.

ADD

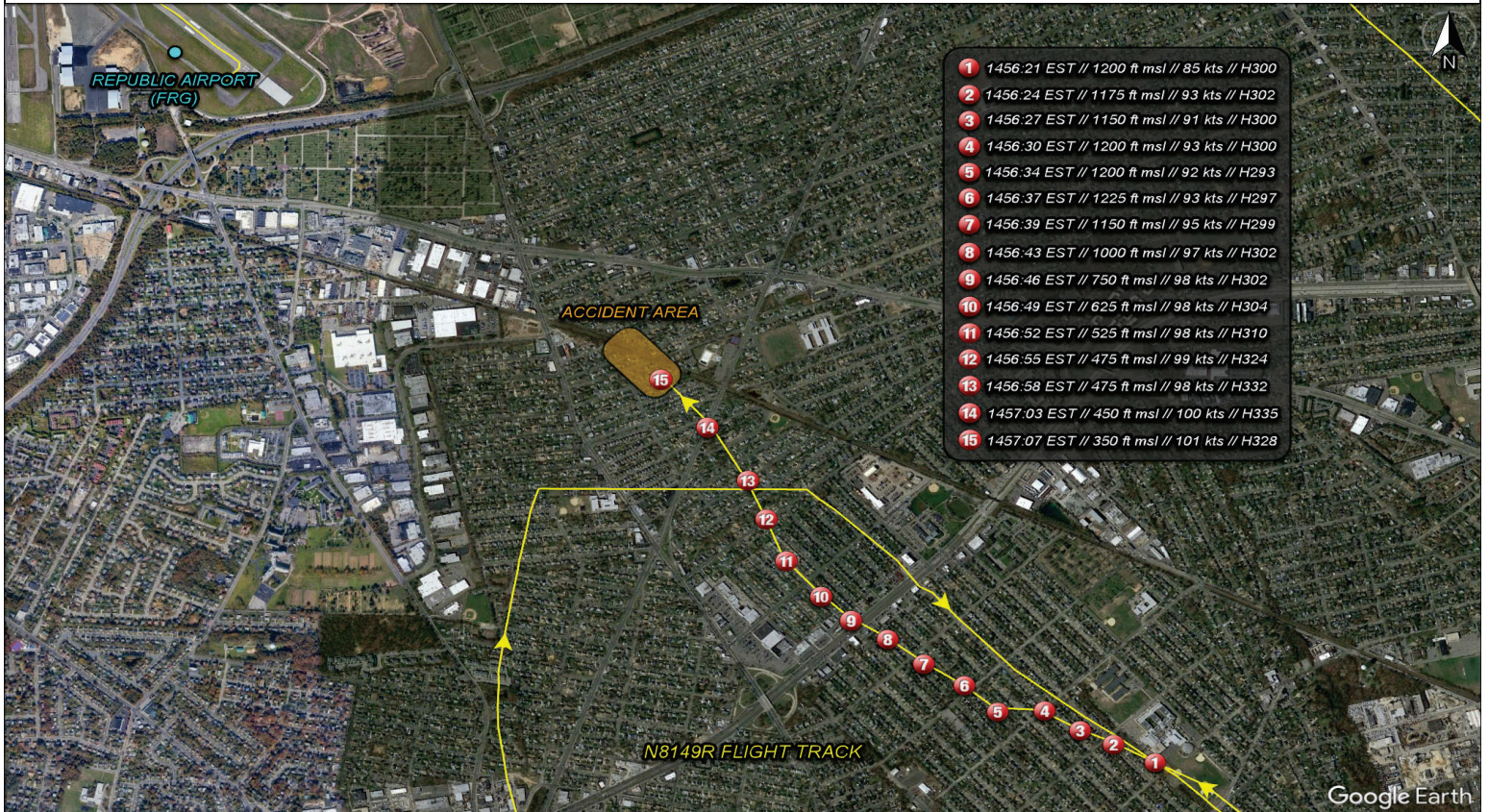
Figure 5



Caption: Profile view of the final segment of the accident flight track overlaid on satellite imagery.

ADD

Figure 6



Caption: Detail view of the final segment of the accident flight track overlaid on satellite imagery.

ADD