



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

July 6, 2020

Group Chairman's Factual Report

AIR TRAFFIC CONTROL

ANC19LA031

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A. ACCIDENT

Location: Bethel, Alaska
Date: July 8, 2019
Time: 1506 Alaska daylight time (AKDT)¹
2306 coordinated universal time (UTC)²
Airplane: Cessna 208B, N9448B

B. AIR TRAFFIC CONTROL GROUP

Andy Olvis
Group Chairman
Operational Factors Division (AS-30)
National Transportation Safety Board

Noreen Price
Investigator in Charge (IIC)
National Transportation Safety Board

Jason Kufta
Event Investigation Manager
Compliance Services AJI-13
Federal Aviation Administration (FAA)

C. SUMMARY

On July 8, 2019, about 1505 Alaska daylight time, Grant Aviation flight GV262, a turbine-powered Cessna 208B airplane, N9448B, was destroyed by a post-crash fire after impacting terrain during a go-around maneuver at the Bethel Airport (BET), Bethel, Alaska. The commercial pilot and five passengers sustained minor injuries. The airplane was registered to Avion Capital Corp., and operated under visual flight rules by Grant Aviation, Inc, Anchorage, Alaska, as a scheduled commuter flight under the provisions of 14 *Code of Federal Regulations* Part 135. Visual meteorological conditions prevailed and company flight following procedures were in effect. The flight departed the Newtok Airport (EWU), Newtok, Alaska, about 1430.

D. DETAILS OF THE INVESTIGATION

The air traffic control work group convened to conduct interviews of the air traffic controllers involved in the accident. The IIC travelled to the Bethel Air Traffic Control Tower (BET ATCT) and met with the two air traffic controllers to be interviewed. The air traffic work group chairman and FAA part member telephonically interviewed the BET local controller (LC) and the BET air traffic manager (ATM). At the completion of the interviews, the ATM and the IIC conducted tests to validate the time stamp of the audio playback provided to the investigation. The IIC departed BET at the conclusion of the communications testing.

Bethel Air Traffic Control Tower (ATCT) is part of the Federal Aviation Administration's federal contract tower (FCT) program and is managed by Serco NA based out of Murfreesboro Tennessee.

¹ All times Alaska daylight time unless otherwise noted.

² Coordinated Universal Time or UTC is the primary time standard by which the world regulates clocks and time.

E. FACTUAL INFORMATION

1.0 History of Flight

At 2301:05, the pilot of N617AV contacted Bethel ATCT LC and reported 10 nautical miles southwest and reported the Automatic Terminal Information Service (ATIS)³ code as “Quebec”. The Bethel LC instructed the pilot to enter a left base for runway 1 Left (1L) and to report 2 miles; the pilot read back the instructions.

At 2302:35, the pilot of N9448B contacted Bethel ATCT LC and reported 10 miles west and advised “if it makes it easier I can take one two⁴”. The LC confirmed with the pilot that they could accept runway 12; the pilot responded, “affirmative if its better for you...”. The LC instructed the pilot of N9448B to continue inbound for the airport and that there would be a runway assignment 4 miles west of the airport. The pilot acknowledged.

At 2303:37, the LC advised the pilot of N617AV and N9448B of traffic departing runway 1 Left.

At 2303:54, the LC instructed the pilot of N617AV to “turn eastbound now for your base”. The pilot acknowledged.

At 2304:21, the LC instructed the pilot of N9448B to make a straight in approach to runway 12 and to report one mile west.

At 2304:54, the LC instructed the pilot of N617AV to “proceed direct to the numbers runway one left, runway one left cleared to land”. The pilot acknowledged the instructions.

At 2305:02, the LC transmitted “and four eight bravo wind variable at three runway one two cleared to land traffic landing ah one left is a airvan”. The pilot acknowledged the instructions.

At 2305:32, the LC instructed the pilot of N9448B to square the turn to final just a little. The pilot asked if it was for N9448B. The LC said, “...affirmative just square your turn to final just a little bit for the ah traffic landing runway one left”. The pilot acknowledged and read back the instruction.

At 2306:09, the pilot of N9448B confirmed he was cleared to land. The LC advised “affirmative, runway one two cleared to land”. The pilot acknowledged.

At 2306:47, the pilot of N9448B attempted to contact the LC, however, the transmission abruptly ended, and the LC can be heard urgently saying “four eight bravo make a left turn out immediately”.

³ ATIS is the continuous broadcast of recorded noncontrol information in selected terminal areas. Its purpose is to improve controller effectiveness and to relieve frequency congestion by automating the repetitive transmission of essential but routine information

⁴ “One two” refers to runway 12.

At 2306:54 the LC keyed the transmit button and an audible yell could be heard in the background. The LC again said, “four eight bravo make a left” and the transmission stopped.

At 2307:02, the LC began instructing arriving aircraft to depart the Bethel ATCT delegated airspace. There were no further transmissions from the pilot of N9448B.

2.0 Surveillance Data

Automatic Dependent Surveillance-Broadcast (ADS-B)⁵ surveillance data used for the investigation was provided by the FAA. ADS-B is a performance-based surveillance technology that is more precise than radar. The accident aircraft was equipped with ADSB and the ADSB data was requested from the FAA. The data was of good quality and useable to the investigation. Figure 1 illustrates the track of N9448B when the aircraft was about 4.01 nautical miles from the threshold of runway 12.

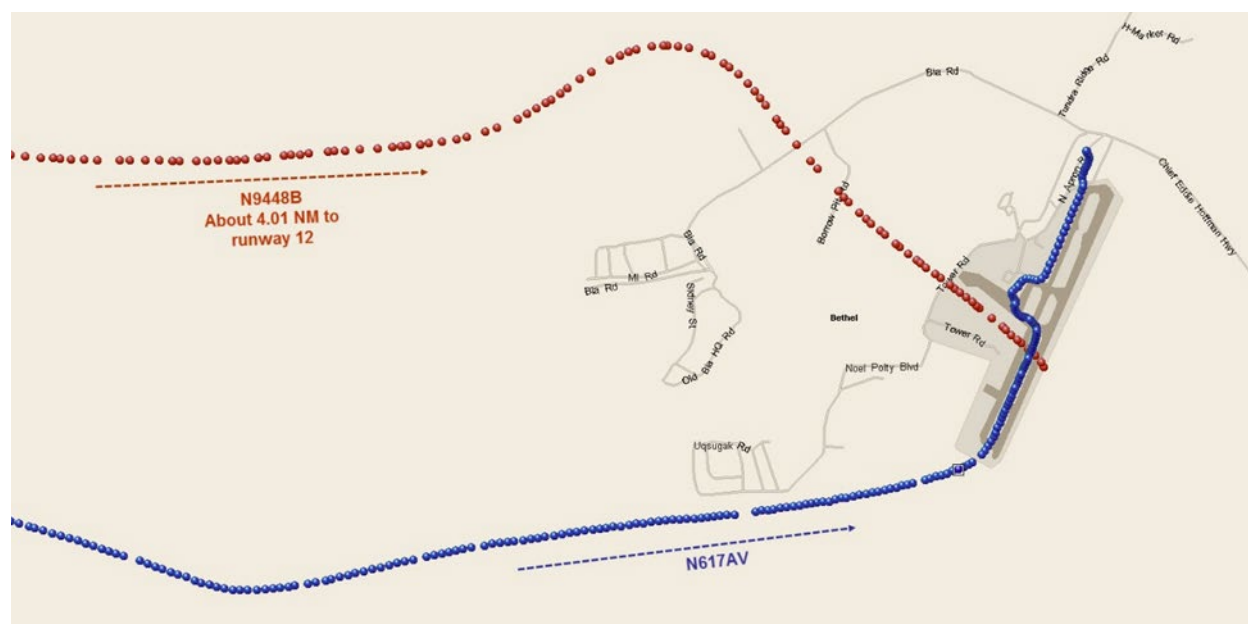
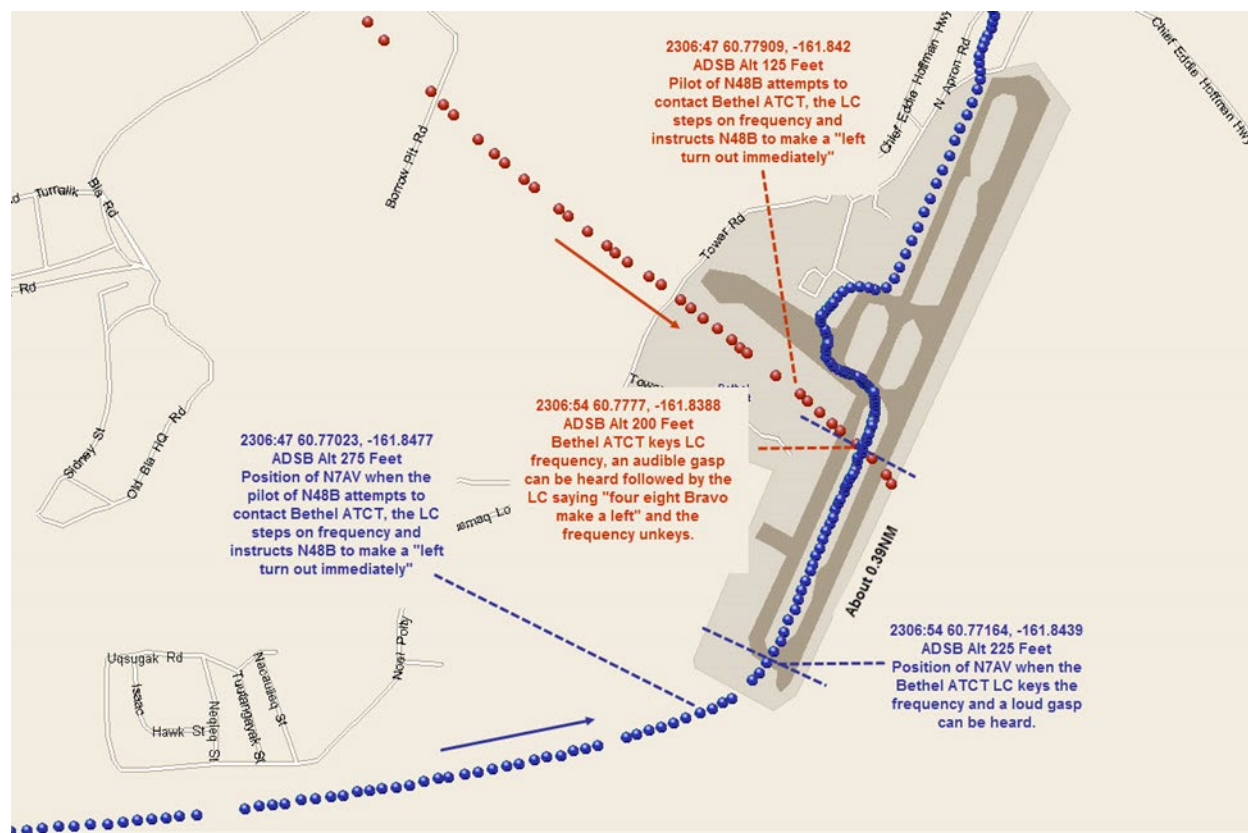


Figure 1 - Illustrating the flight path of N9448B when the aircraft was about 4.01 NM from the runway threshold.

⁵ 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.



Additional data was obtained from L3 Harris Technologies Inc. OpsVue; a commercially available web base product that that aggregates and geo-references 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)⁶ system. The OpsVue data was used to provide groundspeed in conjunction with FAA ADSB altitude data.

Figure 3 illustrates the groundspeed and altitude of N9448B at 0.10 nautical miles from the landing threshold of runway 12. The data indicates the aircraft was at an ADSB reported altitude of 225 feet mean sea level (149.4 feet above ground level) and a groundspeed of 110 knots.

⁶ The ERAM system processes flight and surveillance data provide communications and generates display data to air traffic controllers.

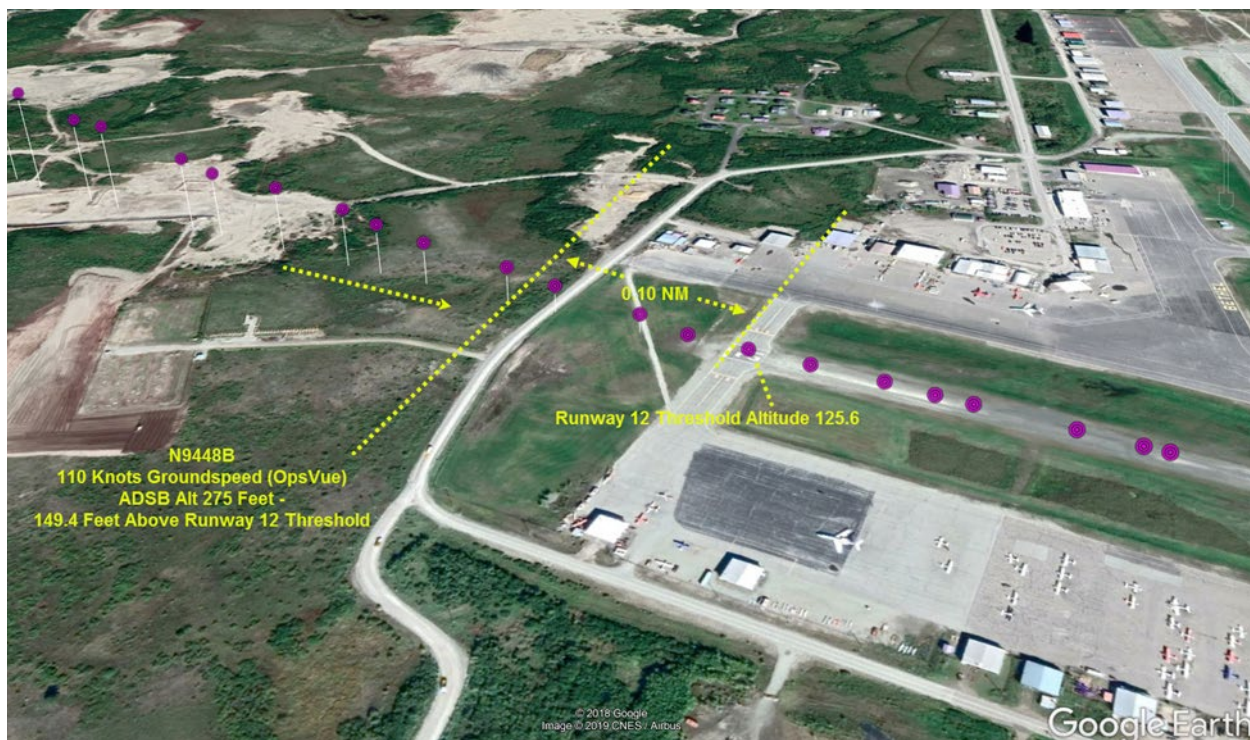


Figure 3 - Illustrates the groundspeed and altitude of N9448B at 0.10 nautical miles from the landing threshold of runway 12.

Figure 4 illustrates the groundspeed and altitude of N9448B over the landing threshold of runway 12. The data indicates the aircraft was at an ADSB reported altitude of 175 feet mean sea level (49.4 feet above ground level) and a groundspeed of 98 knots.

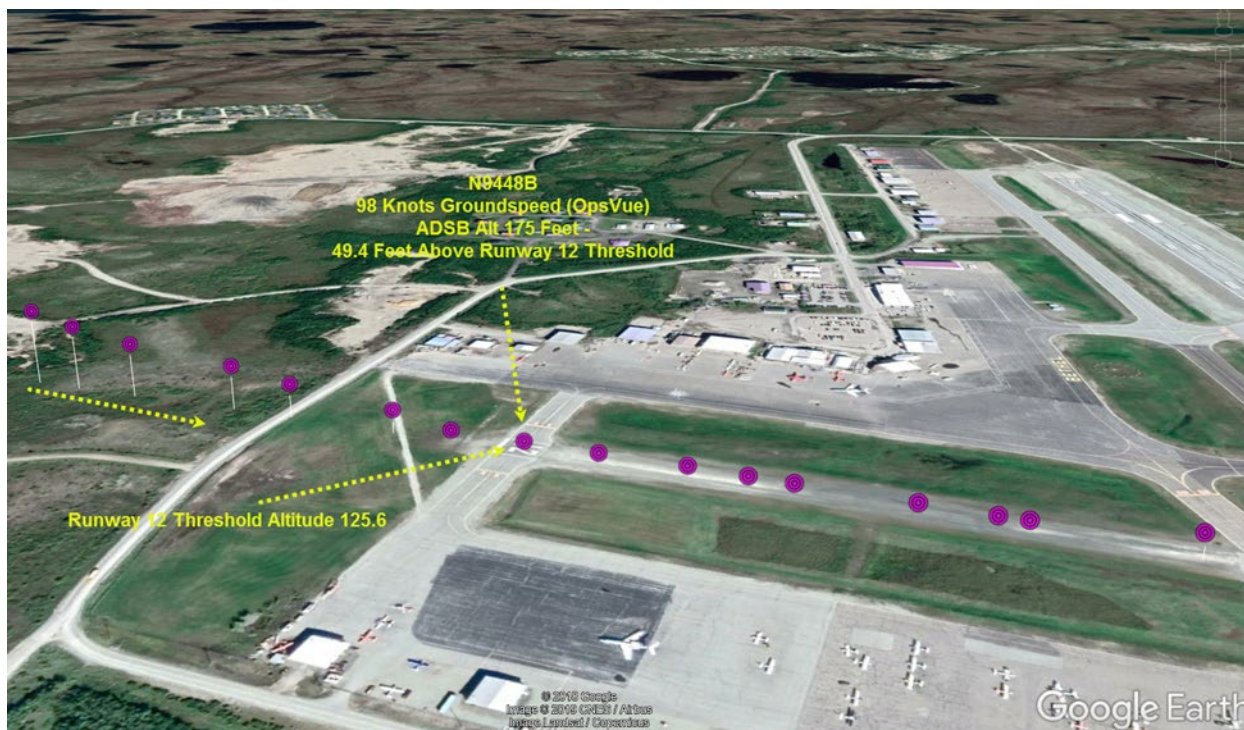


Figure 4 - Illustrates the groundspeed and altitude of N9448B over the landing threshold of runway 12

3.0 Weather Data

At 2253, the Bethel (PABE) automated surface observation system (ASOS) recorded wind variable at 3 knots, 3 statute miles visibility with haze, sky clear, temperature 31° Celsius (C), dew point 19° C, altimeter setting 29.84 inches of mercury.

METAR PABE 082253Z VRB03KT 3SM HZ CLR 31/19 A2984 RMK AO2

4.0 Air Traffic Controllers

4.1 Local Controller

The local controller began working for Serco NA reporting to Bethel ATCT in December 2018. He had received his air traffic control training at Advanced Air Traffic Control (AATC) located at Wiregrass Georgia Technical College in Valdosta, Georgia. After successfully completing the control tower training course in August 2018, he received a Federal Aviation Administration (FAA) Control Towers Operators (CTO) certificate for Valdosta Regional Airport (VLD) VLD. After obtaining his CTO, he maintained proficiency at VLD, by working 16 hours per month. He maintained proficiency at VLD until October 2018 when he was notified that he would be hired by Serco NA in December 2018. While working on his proficiency at VLD, he was hired as a remote pilot operator (RPO) at the FAA's Southern California terminal radar approach control (TRACON) facility for air traffic control simulations where he worked until starting with Serco NA.

The local controller was qualified on all operating positions at BET; however, he was not designated as a Controller in Charge (CIC). He held no other current aeronautical certifications,

and his ATC medical was current with a restriction for eyeglasses which he reported to be wearing on the date of the accident.

4.2 Air Traffic Manager (ATM)

The ATM began working for Serco NA reporting to Bethel ATCT in April 2003. In June of 2006 he transferred to Kodiak Airport, Kodiak, Alaska (ADQ). In April 2014, he transferred back to Bethel Alaska where he has remained. He had received his air traffic control training with the United States Navy (USN). He joined the USN in April 1998 and was stationed at Corpus Christi Naval Air Station/Truax Field (NGP). In December 2001, he was transferred to Naval Air Station Diego Garcia until he left the Navy in April 2003. He had received three control tower operating certificates (CTO's), NGP, Waldron Field NOLF (NWL), and Cabaniss Field Naval Outlying Field (NGW).

The ATM was qualified on all operating positions at BET, was designated as a CIC. His medical was current with a restriction to wear eyeglasses and he reported that he was wearing them during the accident. He held a commercial pilot's license and was a certified flight instructor and certified instrument instructor. His pilot's license was current although he reported that he did not fly often.

5.0 Air Traffic Control Directives

5.1 FAA Job Order 7110.65X *Air Traffic Control* (FAA JO 7110.65)

5.1.1 ATC Service

According to the FAA 7110.65X, *Air Traffic Control*, paragraph 2-1-1, *ATC Service*, the primary purpose of the ATC system is to prevent a collision between aircraft operating in the system and to provide a safe, orderly, and expeditious flow of traffic. This includes collisions between aircraft and collisions with terrain or obstructions.

5.1.2 Duty Priority

The first duty priority for an air traffic controller is to separate aircraft and issue safety alerts. FAA JO 7110.65X paragraph 2-1-2, *Duty Priority*, states [in part]:

2-1-2. DUTY PRIORITY

a. Give first priority to separating aircraft and issuing safety alerts as required in this order. Good judgment must be used in prioritizing all other provisions of this order based on the requirements of the situation at hand.

5.1.3 Providing Service

Air traffic controllers provide service to pilots based on known or observed traffic. FAA JO 7110.65X paragraph 3-1-1, *Provide Service*, states [in part]:

3-1-1. PROVIDE SERVICE

Provide airport traffic control service based only upon observed or known traffic and airport conditions.

NOTE-

When operating in accordance with CFRs, it is the responsibility of the pilot to avoid collision with other aircraft. However, due to the limited space around terminal locations, traffic information can aid pilots in avoiding collision between aircraft operating within Class B, Class C, or Class D surface areas and the terminal radar service areas, and transiting aircraft operating in proximity to terminal locations.

5.1.4 Runway Selection

Air traffic controllers will select and utilize the runway most aligned with the wind except when specifically requested by a pilot. FAA JO 7110.65X paragraph 3-5-1, Selection states [in part]:

3-5-1. SELECTION

a. Except where a “runway use” program is in effect, use the runway most nearly aligned with the wind when 5 knots or more or the “calm wind” runway when less than 5 knots (set tetrahedron accordingly) unless use of another runway:

- 1.** Will be operationally advantageous, or
- 2.** Is requested by the pilot.

b. When conducting aircraft operations on other than the advertised active runway, state the runway in use.

5.1.5 Sequencing and Spacing

Air traffic controllers will instruct pilots to adjust flight patterns to achieve the proper spacing and sequencing to work air traffic expeditiously and with proper separation. FAA JO 7110.65X paragraph 3-8-1, Sequencing/Spacing Application states [in part]:

3-8-1. SEQUENCE/SPACING APPLICATION

Establish the sequence of arriving and departing aircraft by requiring them to adjust flight or ground operation, as necessary, to achieve proper spacing.

PHRASEOLOGY—

MAKE SHORT APPROACH.

NUMBER (landing sequence number),

FOLLOW (description and location of traffic), or if traffic is utilizing another runway, TRAFFIC (description and location) LANDING RUNWAY (number of runway being used).

TRAFFIC (description and location) LANDING THE PARALLEL RUNWAY

CLEARED TO LAND.

5.1.6 Intersecting Runway Flight Path Separation

Runway 12 at the Bethel airport does not intersect runway 1 Left; however, the flight path of runway 12 does intersect runway 1 Left. FAA JO 7110.65X paragraph 3-10-4, Intersecting

Runway/Intersecting Flight Path Separation addresses the required separation between two arriving aircraft to runway 12 and runway 1 Left and states [in part]:

3-10-4. INTERSECTING RUNWAY/INTERSECTING FLIGHT PATH SEPARATION

Issue traffic information to each aircraft operating on intersecting runways.

a. Separate an arriving aircraft using one runway from another aircraft using an intersecting runway or a nonintersecting runway when the flight paths intersect by ensuring that the arriving aircraft does not cross the landing threshold or flight path of the other aircraft until one of the following conditions exists:

2. A preceding arriving aircraft is clear of the landing runway, completed landing roll and will hold short of the intersection/flight path, or has passed the intersection/flight path.

3. Issue traffic information to both aircraft involved and obtain an acknowledgment from each. Request a read back of hold short instructions when they are not received from the pilot of the restricted aircraft.

F. LIST OF ATTACHMENTS

Attachment 1 Interview Summaries.

Attachment 2 ADSB data.

Attachment 3 communications.

Submitted by:

Andy Olvis
Senior Air Traffic Investigator