BY ORDER OF THE COMMANDER
GRAND FORKS AIR FORCE BASE
(ACC)

GRAND FORKS AIR FORCE BASE
INSTRUCTION13-204

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Nuclear, Space, Missile, Command, and Control

AIRFIELD AND AIR TRAFFIC OPERATIONS

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This instruction establishes procedures to be used for flying, airfield, and airfield vehicle operations at Grand Forks Air Force Base (GFAFB). It implements policy guidance in AFPD 11-2, *Flight Rules and Procedures*, and AFPD 13-2, *Air Traffic Control, Airspace, Airfield, and Range Management*, and applies to all personnel conducting flying and airfield operations at GFAFB. It furnishes pilots and other interested personnel with procedures to be used in the control of aircraft at GFAFB and prescribes policy, responsibilities, and procedures for the control of motor vehicle traffic on the airfield. These procedures, although directive in nature, do not replace good judgment on the part of all personnel concerned. These procedures are supplemental to AFI 11-202V3 ACC Supplement, *General Flight Rules*, AFMAN 13-204 Volume 1-3, *Airfield Operations Procedures and Programs*, AFMAN 20-306, *Operations of Air Force Government Motor Vehicles*, FAAO JO 7110.65, *Air Traffic Control* and other applicable Air Force and Federal Aviation Administration (FAA) directives. The 319th Reconnaissance Wing Commander (319 RW/CC) is the waiver authority for this instruction. Ensure that all records created as a result of processes prescribed in this publication are maintained In Accordance With (IAW) Air Force Instruction (AFI) 33-322, *Records Management and Information Governance Program*, and disposed of IAW with the Air Force Records Information Management System (AFRIMS). Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Form 847s from the field through the appropriate functional chain of command.

SUMMARY OF CHANGES

This document has been revised to reflect the transition from the 319th Air Base Wing to the 319th Reconnaissance Wing. Additionally, there were minor administrative fixes made to acronyms and numbering. The Airfield hours have been updated and corrected and are specified in 2.9.2. The procedures for the Arm/De-arm area on the airfield have been changed to Taxiway Delta. Ground fuel dump areas were removed. 2.11.3.2. has been updated to match new Time Compliant Technical Order changes in the AFMAN 13-204. 2.12.1. has been updated to reflect the 319 OG/CD as the approval authority for afterhours Transient Alert requests. 6.16 Digital Airport Surveillance RADAR Antenna Free Wheel procedures were updated to match local capabilities. 9.29 has been added to go over procedures for requesting additional airfield hours of operations. 9.4.1. updated phrasing to clarify approval authority for PPR's

Chapter 1

GENERAL INFORMATION

1.1. Purpose.

1.1.1. This instruction prescribes procedures and outlines policies for the safe, orderly, and expeditious flow of airfield and air traffic operations. This instruction will serve as a letter of agreement between Grand Sky Tenant Units and GFAFB Airfield Operations.

1.2. Scope.

1.2.1. This instruction prescribes local procedures and policies concerning aircraft and airfield vehicular operations at GFAFB. It does not supersede United States Air Force, Air Combat Command (ACC), or FAA directives. Deviation from this instruction is authorized only in emergencies where adherence would jeopardize safe aircraft or vehicular operation. Airfield and flight operations in the Grand Forks area necessitate compliance with the procedures established herein.

1.3. Revisions.

1.3.1. This instruction will be reviewed annually. Recommendations for revisions to this instruction are encouraged and should be forwarded to the 319th Operations Support Squadron (OSS), Airfield Operations Flight (AOF), 319 OSS/OSA.

1.4. Deviations.

1.4.1. Any party subject to these procedures may deviate from the policy contained herein only in the interest of safety. All other deviations or waiver requests must be approved by the 319 RW/CC before operations begin. All deviations must be reported to the OPR for this publication.

Chapter 2

GFAFB AIRFIELD AND AREA DESCRIPTION

2.1. Runways and Taxiways.

2.1.1. See **Attachment 4** for a Comprehensive Airfield Diagram. GFAFB has one precision approach runway (17/35). Published dimensions are 12,351 ft long and 150 ft wide with 25 ft non-load bearing shoulders. The runway is composed of 1,100 ft of concrete on both ends of a 10,151 ft asphalt strip. The overruns at each end are 1,000 ft long and consist of non-load bearing asphalt.

2.1.2. When ambient temperature is higher than 60 degrees F/15 degrees C, only small type aircraft may be authorized to make 180 degree turns on the asphalt portion of the runway.

2.1.3. Location and Field Elevation. GFAFB is located 13 miles west of Grand Forks, North Dakota at N 47 58' and W 97 24'. The official field elevation for GFAFB is 911 ft MSL; this elevation is at the approach end of Runway 35. The average gradient is –0.12 degrees for Runway 35. The airport identifier is KRDR.

2.1.4. Runway 35 is designated as the Primary Instrument Runway.

2.1.5. Taxiways. There are twelve main taxiways (Alpha, Alpha 1, Alpha 2, Alpha 3, Alpha 4, Bravo, Charlie, Delta, Echo, Foxtrot, Golf, and Hotel). All taxiways are 75ft wide and composed of concrete with 25ft or 50ft non-load bearing shoulders. All taxiways are weight bearing capable for heavy aircraft. Taxiways Bravo, Delta (east of Alpha), and Alpha (south of Delta) have no paved shoulders. Taxiways Alpha 1 through Alpha 4 have 25ft non-load bearing shoulders.

2.1.6. See **Paragraph 4.5** for Intersection Departure Distances.

2.2. Runway Selection Procedures.

2.2.1. The Tower Watch Supervisor or Senior Controller shall determine the runway in use. When conflicting wind information is received from the dual-wind sensors, Runway 35 should be the designated runway.

2.2.2. Runway 35 is the calm wind runway. Unless mission requirements dictate otherwise, the calm wind runway will be used when the wind is less than 5 knots.

2.2.3. Tower shall coordinate runway changes with GFAFB RADAR Approach Control (RAPCON) and notify Base Weather prior to changing the runway in use.

2.2.4. Tower shall notify Airfield Management Operations (AMOPS) when the runway change has been completed.

2.2.5. Upon notification of a change in the active runway, AMOPS shall notify the following agencies:

2.2.5.1. Command Post

2.2.5.2. GFAFB Fire Department

2.2.5.3. TA

2.2.5.4. All GFAFB tenant flying agencies

2.2.6. When the wind indicators in the Tower are inoperative, Tower shall request a wind reading from the weather observer before selecting the active runway and every hour thereafter.

2.3. Controlled Movement Area (CMA).

2.3.1. Driving procedures will be IAW GFAFBI 13-213, *Airfield Driving*. The CMA is depicted on **Attachment 4** and consists of:

2.3.1.1. The runway and overruns.

2.3.1.2. All areas between the runway and the VFR hold lines/signs.

2.3.1.3. The first 185 ft of all vehicle access roads leading from the west edge of the runway, defined by a white “stop bar” painted on the access road and a “STOP, CMA” sign located adjacent to the “stop bar”.

2.3.1.4. The first 400 ft of the vehicle access road leading from the north overrun, defined by a "stop bar" and a "STOP, CMA" sign. **Note:** Drivers reporting off the runway when leaving the overrun must also report out of the CMA.

2.3.1.5. The southern boundary is located just north of the south localizer support shelter (1,900ft from end of runway) and is marked with a white "stop bar" and "STOP, CMA" sign. A white stop bar is also located just off the south end of the south overrun. This stop bar is for FOD checks and is marked with a white “STOP, FOD” sign. **Note:** Vehicles that report "OFF THE RUNWAY" at the south overrun are still in the controlled movement area. Drivers who report off the runway but remain in the CMA must request and receive permission from Tower before proceeding back on to the runway/overrun.

2.3.1.6. The boundaries of the CMA in the grassy areas will be defined as a line parallel to the runway located at the same distance as the VFR hold lines on the east side of the runway, and the stop bars located on the vehicle access roads on the west side. This line will extend beyond the end of the runway and terminate at a point adjacent to the stop bars located on the north/south vehicle access roads.

2.3.2. Tower controls all personnel and equipment requiring access to the CMA except when Tower is closed. Aircraft, vehicles, and pedestrians must establish and maintain two-way radio contact with Tower and receive approval before entering the CMA and report exiting the CMA as outlined below. Only vehicles used in direct support of mission essential activities are authorized to operate on the CMA.

2.4. Procedures to enter/exit the CMA.

2.4.1. All vehicles/personnel requesting entry onto the runway from Taxiways Charlie, Delta, Echo, Foxtrot, Golf, and Hotel will remain behind the runway VFR hold lines. For vehicles entering the CMA from access roads, remain behind the white Stop Bars. Establish radio contact with Tower via the airfield FM “Tower” net. Fire Department vehicles are permitted to use the “crash” FM net. Tower must grant specific approval for entry onto the CMA.

2.4.2. Maintain radio contact with Tower the entire time while operating within the CMA. Monitor the radio to ensure that radio failure has not occurred. If radio contact is lost, vehicle operators will exit the CMA immediately and will stay out of the CMA until communication with Tower is restored. A request for approval back into the CMA is required.

2.4.3. Notify Tower as soon as vehicles, personnel, and/or equipment have departed the CMA.

2.4.4. When Tower needs a vehicle to depart the runway and the vehicle is unresponsive to radio calls/Tower light gun signals, Tower will apply the following procedures:

2.4.4.1. When the runway lights are on, increase and/or decrease brightness by one or more steps and then return them to the original setting.

2.4.4.2. When the runway lights are off, turn them on and then turn them off again.

2.4.5. Upon observing the above procedures, vehicles/personnel will immediately depart the runway via the nearest taxiway, taking any equipment with them, and remain behind the hold line. Once the vehicle/personnel are safely off the runway, contact Tower. Do not delay exiting the runway in order to find out "why."

2.4.6. If the vehicle operator exits a vehicle while on the runway or within the CMA, a portable hand-held radio will be used for monitoring at all times.

2.4.7. Entering the CMA and crossing the runway merely for convenience is strictly prohibited.

2.4.8. Maintenance crews may work in the grass infield areas with prior coordination with AMOPS, but must request approval to proceed within 225 feet of the east side of the runway and 185 feet of the west side of the runway pavement edge from Tower. Direct two-way radio communication with Tower must be maintained at all times. **Note:** A letter of agreement with maintenance crews is not required.

2.4.9. Drivers must report when off the runway and when leaving the CMA.

2.4.10. All other airfield areas where aircraft operate are designated as non-CMA. Vehicles and personnel operating in these areas are not required to establish radio contact with Tower; however, personnel equipped with a radio should continuously monitor the Tower Net in the event of unforeseen circumstances. Tower is not responsible for vehicles operating on the non-CMA. Communication with personnel or agencies other than the tower should occur on the RAMP NET while in the non-CMA area.

2.5. Airfield Lighting System.

2.5.1. Tower has primary control over all airfield lighting. Runways 17 and 35 have High Intensity Runway Lights (HIRL), Approach Lighting System (ALS), classified as ALSF1, with Sequenced Flashing Lights (SFL) and Precision Approach Path Indicator (PAPI) lights. The rotating beacon is located on the base's southwest water tower and is operated IAW FAAO JO 7110.65.

2.5.2. With regards to airfield lighting inspections, maintenance, and malfunctions, AMOPS shall conduct at least one airfield lighting inspection daily. AMOPS shall immediately notify Tower if the approach lights or HIRLs are out of service and when they are returned to service.

2.5.3. RAPCON shall inform arriving aircraft of any approach lighting problems.

2.5.4. Tower/RAPCON shall relay pilot reports of airfield lighting malfunctions to AMOPS who shall, in turn, issue the appropriate NOTAM and coordinate with 319 CES for prompt repair.

2.5.5. In the event that the airfield lighting or Tower lighting panels fail:

2.5.5.1. Tower shall advise AMOPS of the outage and provide lighting requirements.

2.5.5.2. AMOPS shall immediately advise 319 CES airfield lighting personnel of lighting outage and post applicable NOTAM.

2.5.6. In the event Tower closes, AMOPS may operate the airport lighting system for maintenance, snow control or emergency purposes only. AMOPS does not have the ability to control Taxiway Hotel lights.

2.6. Permanently Closed/Unusable Portions of the Airfield.

2.6.1. Permanently closed portions of the airfield. Parking spots C-1 through C-12, and the Trim Pad at the north end of Taxiway Alpha are permanently closed portions of the airfield.

2.7. Aircraft Arresting Systems.

2.7.1. GFAFB has no arresting systems installed.

2.8. Parking Plans/Restrictions.

2.8.1. The primary parking areas for Grand Forks assigned units are as follows:

2.8.1.1. 319 Operations Group: Hangars 601, 603, 605, 613, and 649, bays 1-3.

2.8.1.2. Customs and Border Protection: Hangar 600, 602.

2.8.1.3. Transient Parking: Bravo Ramp and Parking areas 25-32 on Charlie Ramp.

2.9. Air Traffic Control (ATC) Facilities.

2.9.1. The 319 OSS/CC is responsible for AMOPS, ATC operations and RAWS.

2.9.2. The AOF executes the AMOPS, ATC and RAWS missions. These facilities are open as follows:

2.9.2.1. Monday: 0600L – 2330L

2.9.2.2. Tuesday: 0600L – 2330L

2.9.2.3. Wednesday: 0600L – 2330L

2.9.2.4. Thursday: 0600L – 2330L

2.9.2.5. Friday: 0600L – 2330L

2.9.2.6. Saturday: 0600L – 2330L

2.9.2.7. Sunday: 0600L – 2330L NOTAMS are issued for closure periods which may occur during holidays and/or wing down days. Contact 319 RW Command Post (747-6711) for mission aircraft support during airfield closure periods. To request additional Airfield operations hours see 9.29

2.9.3. ATC Facilities include:

2.9.3.1. Red River Tower. Red River Tower is the USAF military control tower located on GFAFB. **Note:** The control tower at Grand Forks International Airport is designated “Grand Forks Tower” and is operated by the FAA. All references to "Tower” in this instruction refer to Red River Tower.

2.9.3.2. Grand Forks RAPCON is the USAF military RAPCON, located on GFAFB. It provides approach control service to the base, Grand Forks International Airport, and 13 civilian airfields. The RAPCON is part of the National Airspace System.

2.10. GFAFB Frequencies.

2.10.1. For GFAFB Frequencies see **Attachment 2**.

2.11. Radar, Airfield, and Weather Systems (RAWS).

2.11.1. ATC Watch Supervisors and Weather personnel will report equipment deficiencies and outages to 319 OSS/OSAM RAWS maintenance. Exception: For ILS and TACAN, ATC Watch Supervisors will contact RMC at DSN: 312-734-8651, Comm: 405-884-8651 ATC Watch Supervisors and Weather personnel will supply the following information:

2.11.1.1. Equipment Description/Action performed.

2.11.1.2. Nature of Discrepancy.

2.11.1.3. Caller's initials.

2.11.1.4. Work orders will be closed by the initiating facility.

2.11.2. 319 OSS ATC Element and Weather Flight will verify open jobs daily with the RAWS maintenance, between 0800L – 0900L, except when RAWS maintenance is closed (i.e. weekends, holidays, and ACC down days). **Exception:** If NAVAID is assigned to RMC, then the work order and information will be held by AFFSA. DSN 852-8651

2.11.3. 319 OSS ATC Automation will:

2.11.3.1. Respond to Standard Terminal Automation Replacement System (STARS) outages/problems during other than normal duty hours within 60 minutes of notification from RAPCON and/or RAWS Maintenance.

2.11.3.2. Time Compliance Technical Order (TCTO) Management.

2.11.3.2.1. When notified by RAWS Maintenance of a TCTO for STARS, determine whether the TCTO is applicable to our STARS system.

2.11.3.2.2. If the TCTO is applicable, accomplish the TCTO in accordance with the instructions and notify RAWS Maintenance of completion date.

2.11.3.2.3. If the TCTO is not applicable notify RAWS Maintenance.

2.11.3.2.4. Notify RAWS Maintenance if a STARS System Support Modification (SSM), System Documentation Release (SDR), System Technical Release (STR), etc. is received from the DoD Operational Support Facility.

2.11.3.2.5. Notify RAWS Maintenance when the SSM/SDR/STR/etc. has been completed, or is not applicable.

2.11.4. 319 OSS RAWS Maintenance will:

2.11.4.1. Verify with the affected facility that maintenance actions are complete before identifying the equipment as returned to service.

2.11.4.2. Coordinate any planned Weather outages with on-duty Weather personnel. Weather personnel are responsible for coordinating with RAPCON (DSN 362-6110) and Tower (DSN 362-3815) Watch Supervisors during weather outages.

2.11.4.3. Coordinate any planned ATC outage with the AOF Commander (AOF/CC) or designated representative IAW **Paragraph 2.11.5.6** RAWS maintenance may coordinate directly with the Watch Supervisor of the affected facility, if:

2.11.4.3.1. Maintenance action is required to preclude the imminent failure of equipment.

2.11.4.3.2. Maintenance actions to RAWS equipment such as individual frequencies/landlines, DALR, and FMQ-19 will last less than two hours. **Note:** One DASR channel may be released to maintenance, as long as the other channel is operational.

2.11.4.4. For malfunctions or restoring equipment that requires coordinating downtime, RAWS maintenance shall coordinate immediately with the affected facility. The response time will begin as soon as the required downtime is authorized.

2.11.4.5. TCTO Management.

2.11.4.5.1. RAWS Maintenance will notify ATC Automation when a TCTO is received for STARS.

2.11.4.5.2. When notified by ATC Automation that a STARS TCTO has been completed, or is not applicable, RAWS Maintenance will document this status in the appropriate tracking system (IMDS, etc…).

2.11.4.5.3. When notified by ATC Automation that a STARS SSM/SDR/STR/etc. has been completed, or is not applicable, RAWS Maintenance will document this status in the appropriate tracking system.

2.11.5. RAWS General:

2.11.5.1. RAPCON is designated as the GFAFB NOTAM monitoring facility. RAPCON will notify AMOPS of any extended NAVAID outages.

2.11.5.2. AMOPS will prepare and disseminate appropriate NOTAMs.

2.11.5.3. Tactical Air Navigation System (TACAN). The Red River TACAN is located just west of the runway at midfield. Its identifier is RDR, Channel 111. There are two TACAN approaches for the base, one for each runway (17 and 35).

2.11.5.3.1. The no NOTAM maintenance time is from 0630Z-1400Z ++Mon- Fri. **Note:** A ++ Indicates that during periods of daylight saving time, effective hours will be one hour earlier than shown. These times may be delayed during extended flight hours in the summer to support University of North Dakota and Grand Forks International Airport.

2.11.5.4. DASR. GFAFB is equipped with a DASR. The no NOTAM maintenance time is from 0630Z-1300Z ++ Mon-Fri. **Note:** These times may be delayed during extended flight hours in the summer to support University of North Dakota and Grand Forks International Airport.

2.11.5.5. RAWS maintenance personnel will coordinate through the AOF/CC or designated representative to initiate a request for release of RAWS at least 72 hours prior to any planned outage outside of no NOTAM maintenance periods of the RAPCON/STARS, DASR, TACAN, Tower, or any GFAFB ILS component.

2.11.5.6. The AOF/CC will coordinate RAWS downtime with all impacted organizations and concerned parties.

2.11.5.7. Before approving downtime, AOF/CC will obtain approval from the RW/CC or designated representative and notify AMOPS for appropriate NOTAM/airfield advisory action. Schedule no more than one RAWS facility for maintenance at a time. **Exception:** Multiple ILS facilities installed at opposite ends of the same runway.

2.11.5.8. Request planned maintenance shutdown of RAWS during periods of least activity, including nighttime, as much as possible.

2.11.5.9. The AOF/CC will notify RAWS maintenance of approval/disapproval of requested downtime. If disapproved, the AOF/CC will coordinate an alternate time with RAWS maintenance.

2.11.5.10. Fifteen minutes prior to a planned outage (including published no NOTAM maintenance periods), RAWS maintenance must contact the Watch Supervisor of the primary facility concerned for final approval to remove the RAWS from service. RAWS maintenance will also provide notification of the completion of maintenance.

2.11.6. Releasing RAWS for Maintenance

2.11.6.1. Definitions:

2.11.6.1.1. When equipment is released to RAWS, it is still useable but ATC may not have the ability to make immediate changes without coordinating with the maintenance crew working on the equipment.

2.11.6.1.2. Equipment that is taken out of service is no longer useable and may have significant mission impact.

2.11.6.2. Watch Supervisors will consider traffic conditions and adhere to criteria in current USAF, DOD, and FAA regulations prior to releasing RAWS for maintenance, generator tests, Uninterruptible Power Supply (UPS) test, or other auxiliary power tests.

2.11.6.3. In no case will RAWS equipment be *taken out of service* when weather conditions fall below or are forecasted to fall below a Ceiling of 3,000 feet or Visibility of 5 miles, unless damage or failure of RAWS is imminent. Watch Supervisor may *release* RAWS for maintenance so long as the equipment is still usable for control of air traffic.

2.11.6.4. Except for ILS facilities, schedule no more than one RAWS facility for maintenance, generator tests, UPS test, or other auxiliary power tests at a time. Maintenance personnel may bypass the interlock of ILS facilities only to accommodate facility installation, maintenance actions, or airfield inspection.

2.11.6.5. The Tower Watch Supervisor is the approval authority for releasing Tower equipment for scheduled maintenance, generator tests, UPS test, or other auxiliary power tests.

2.11.6.6. The RAPCON Watch Supervisor is the approval authority for releasing GFAFB DASR, GFAFB ILS components, Red River TACAN, and RAPCON including generator tests, UPS test, or other auxiliary power tests. When releasing the GFAFB ILS and Red River TACAN, prior coordination with Tower Watch Supervisor is necessary. The RAPCON Watch Supervisor shall notify Tower of generator tests.

2.11.6.7. Preventive Maintenance Inspections (PMI) requiring downtime will be accomplished during no NOTAM maintenance downtime, unless prior coordination has been accomplished by affected users and approved by AOF.

2.11.6.8. If Tower or RAPCON is closed, the opposing facility will serve as approval authority for the closed facility with approved coordination from facility Chief Controller or AOF.

2.11.7. Unscheduled RAWS Interruptions and Malfunctions

2.11.7.1. Tower and RAPCON will report unscheduled changes in the status of RAWS to RAWS Maintenance, AMOPS, and, for STARS-related outages, also inform ATC Automation Personnel.

2.11.7.2. Response times and restoration priorities for GFAFB RAWS malfunctions are as listed in **Attachment 11**.

2.12. Transient Alert (TA) Services.

2.12.1. Limited fleet service is available. Available TA services and normal hours of operation are listed in the DOD IFR Supplement under TRAN ALERT, or within NOTAMs. Hours of operation can be adjusted to facilitate aircraft arrivals and departures outside of normal operating hours when prior notification is given through a PPR and 319 OG/CD approval is granted.

2.13. Automatic Terminal Information Service (ATIS) Procedures.

2.13.1. The ATIS is a continuous Ultra High Frequency (UHF) broadcast of recorded advisory information for GFAFB. Its purpose is to relieve frequency congestion by automating the repetitive transmission of essential but routine information. It is operated 24 hours a day, seven days a week.

2.13.2. The ATIS must be updated to reflect when Unmanned Aerial System (UAS) operations are conducted and when they terminate.

2.13.2.1. Include in the ATIS broadcast remarks that, “unmanned aircraft operations are in progress.” This advisory is required once a UAS requests to taxi or launch, and 15 minutes prior to its estimated time of arrival, if operating outside of the terminal airspace.

2.13.2.2. Terminate advisory when UAS operations are complete; UAS is not returning for over one hour, or when the UAS lands, exits the runway, and no longer poses a potential impact to taxi operations.

2.13.3. During periods of rapidly changing weather, the following statement may be broadcast on the ATIS: “GRAND FORKS AFB, CONTACT GROUND ON FREQUENCY 119.15 FOR CURRENT WEATHER AND AIRFIELD INFORMATION.”

2.13.4. When Tower is closed the following statement will be broadcast, "GRAND FORKS AFB, CONTROL TOWER IS CLOSED UNTIL (DATE) AT (TIME.)"

2.13.5. Pilots will use the ATIS to the maximum extent possible and report the ATIS code to either Tower or RAPCON upon initial contact. Problems or comments on the ATIS should be reported to Tower.

2.14. Aircraft Special Operations Areas/Ramps.

2.14.1. The primary Arm/De-Arm area is located on Taxiway Golf and the alternate Arm/De-Arm area is located on Taxiway Delta. Aircraft will be pointed in a direction where the armament will be facing away from populated areas.

2.14.2. Engine Run-up Areas. Large/Heavy aircraft engine runs on Charlie Ramp parking spots C13 through C22 are not authorized above flight idle. Maintenance engine runs are not authorized on C14 – C17.

2.14.3. Drag Chute Jettison Areas. Tower will instruct transient landing aircraft not to release their drag chutes until after exiting the runway. When pilots report their chutes have been released, Tower will notify TA. At night or when visibility is poor, and pilots report their chutes have been released, Tower will suspend runway operations until the chute is retrieved.

2.14.4. Hot Pit refueling is not available.

2.14.5. RQ-4 engine start areas are:

2.14.5.1. Primary- C-24 or C-13.

2.14.5.2. Alternate- C-32.

2.14.6. If programmed taxi route is blocked or closed, aircraft will be towed to:

2.14.6.1. Taxiway Delta- for Runway 35.

2.14.6.2. Taxiway Golf- for Runway 17.

2.14.7. The MQ-1 and MQ-9 do not have designated Engine Start Areas.

2.15. Aircraft Towing Procedures.

2.15.1. All tow operations shall be coordinated with Tower. The coordinating agency shall pass call-sign/aircraft tail number, current parking location and new parking location.

2.16. Aircraft Taxiing Requirements.

2.16.1. Taxiway Alpha 3 is restricted to aircraft with wingspans of 110 feet or less when aircraft are parked on spots C25-C28. Aircraft requiring the use of Taxiway Alpha 3 with wingspans greater than 110 feet will require wing walkers when parking spots C25-C28 are occupied.

2.17. Airfield Maintenance.

2.17.1. All required airfield maintenance shall be pre-coordinated with the Airfield Manager. All sweeper operations, grass mowing, airfield lighting maintenance, and snow removal shall be IAW the *Airfield Sweeper Support Operations Letter*; GFAFBI 91-212, *Bird/Wildlife Aircraft Strike Hazard (BASH) Plan*; *Documenting and Tracking Airfield Lighting Outages*

Operations Letter and GFAFBI 32-1002, *Snow and Ice Control*. Contact 319 OSS/OSA for a copy of the above Letters of Procedure (LOP).

2.17.2. Rubber Removal Plan and Airfield Paint/Removal Plan. Airfield striping and painting is conducted annually during the summer months of the year. The project is contracted through CE with the coordination of the Airfield Manager to ensure those areas requiring special attention are given the proper consideration. Due to the limited amount of aircraft traffic and the aggressive snow removal procedures, rubber removal is not necessary at GFAFB.

2.17.3. Airfield Construction.

2.17.3.1. Coordination with AMOPS, Instrument Flight Procedures (IFP) (HQ ACC/A3AO), and Wing Safety shall occur in design through pre-work, and project initiation throughout the work-in-progress phase.

2.17.3.2. AMOPS requires at least 45 days prior notice to the start of any airfield construction for processing of NOTAMs, ATC procedure review, and coordination of airfield limitations and closures. Due to mission planning limitations of the RQ-4 Global Hawk, any construction which impacts the designated start point or taxi routes for the Global Hawk requires at least 60-days' notice to AMOPS for coordination prior to the start of construction.

2.17.3.3. Restrictions. If a construction project covers a significant area on the airfield, a free zone may be established for that area of work. To the maximum extent possible, the free zone will include a travel route to/from the project site to an entrance/exit of the airfield proper. If this travel route cannot be incorporated into the free zone, the contractor must be escorted by personnel with airfield escort privileges and authorized by AMOPS.

2.17.4. Waivers to Airfield and Airspace Criteria.

2.17.4.1. Any construction or maintenance work within or near the airfield environment shall be coordinated with the Airfield Manager prior to commencement of work, normally at the pre- construction meeting. If no pre-construction meeting is scheduled, coordinate with the Airfield Manager at least 45 days prior to commencement of work.

2.17.4.2. The Airfield Manager will coordinate with the Base Community Planner, Wing Safety and ACC Terminal Instrument Procedures (TERPS) to ensure appropriate waivers to airfield and airspace criteria, IAW Unified Facilities Criteria (UFC) 3- 260-01, *Airfield and Heliport Planning and Design Criteria,* are accomplished. All applicable waivers must be approved prior to the project start date.

2.17.4.3. A temporary construction waiver is required for all construction activity on GFAFB that violates any airfield criteria, including imaginary surface or lateral clearance limits as identified in UFC 3-260-01.

2.17.4.4. IAW UFC 3-260-1, temporary construction waivers must be requested from the installation commander no later than 45 days prior to construction start unless it is an emergency situation. Provide signed copy of temporary construction waiver to 319 OSS/OSAA prior to construction start.

2.17.4.5. 319 CES/CEN and AMOPS are the OPRs for all temporary construction waivers. Temporary waivers must address the required areas outlined in UFC 3-260-01 and include an operational risk management assessment. Temporary waivers will include the

particulars of the construction project to include airfield criteria violations, impacts to airfield operations, and mitigating actions to reduce the risk of mishap.

2.17.4.6. The airfield waiver package contains the number of permanent and temporary waivers. Contact the Airfield Manager to view the waiver package and the status of each waiver.

2.18. Runway Surface Condition (RSC) and Runway Condition Reading (RCR) Values.

2.18.1. AMOPS will conduct periodic runway friction readings in accordance with TO 33-1-23, *Equipment and Procedures for Obtaining Runway Condition Readings*, when there is snow, ice or slush on the airfield.

2.18.2. AMOPS will relay RSC and/or RCR information to Weather, Command Post, Snow Control, local flying units, and Tower for inclusion on the ATIS. Tower will verbally notify RAPCON.

2.18.3. RSC shall be reported as dry, wet, slush (SLR), packed snow (PSR), loose snow (LSR), or ice (IR). The RSC depth will be reported to the nearest 1/10th of an inch. **Note:** Regardless of a wet or dry RSC, report the existence, location, and depth of any standing water (ponding, water patches, puddles, etc.).

2.18.4. RCR values are used by aircrews to determine what operations can and cannot be conducted due to friction concerns on the airfield pavement. An RCR is given when the runway/taxiways are covered by LSR, PSR, or IR.

2.19. Airfield Inspections/Checks.

2.19.1. AMOPS is responsible for forwarding all pertinent airfield condition information that could constitute an aircraft safety hazard to Tower, RAPCON, Command Post, Wing Safety, and Base Weather. Personnel operating on the airfield should report any observed safety hazards to AMOPS.

2.19.2. AMOPS is responsible for accomplishing airfield inspections and checks. Airfield inspections and checks are accomplished to identify obstructions or conditions that are hazardous to aircraft operations. Conditions checked will include, but are not limited to, construction areas, RCR, obstruction lights, airfield lighting, wildlife/bird watch condition, grass mowing, standing water, and snow removal. AMOPS will relay all pertinent information and any changes to Tower, Command Post, Wing Safety, and Base Weather. Tower shall notify RAPCON of changes via automated or verbal means.

2.19.3. Tower shall notify all aircraft of airfield conditions prior to the start of taxiing or the issuance of landing clearance, with the exception of aircraft switching from RAPCON. Tower will notify RAPCON and AMOPS of any airfield conditions or discrepancies not previously reported.

2.19.4. RAPCON shall notify all aircraft of runway conditions on initial contact or prior to relaying landing clearance.

2.20. Opening/Closing the Runway.

2.20.1. AMOPS is the opening and closing authority for the runway and taxiways.

2.20.2. AMOPS shall open the runway after any runway closure, prior to any aircraft operations on the airfield. AMOPS will ensure all checks and notifications are accomplished IAW AFMAN 13-204 and local checklists.

2.20.3. AMOPS has the authority to close the runway due to any unsafe condition or when:

2.20.3.1. Construction, airfield repair, or during snow removal operations on or near the runway.

2.20.3.2. There is an aircraft mishap on the airfield.

2.20.3.3. Directed by the Crisis Action Team, 319 RW/CC, 319 OG/CC, 319 OSS/CC AOF/CC, Airfield Manager, or designated representative.

2.20.3.4. There is any unsafe condition that will affect runway operations, typically for an extended period of time.

2.20.4. NOTAMs will be published for extended periods of closure, normally more than one hour. For planned closures, AMOPS will send applicable NOTAM(s) no earlier than seven days in advance and advise all agencies concerned (ATC, Command Post, flying units, 319 CES, Wing Safety, etc). AMOPS will perform the required checks prior to reopening the runway(s). AMOPS will cancel the applicable NOTAMs when the runway is ready to reopen.

2.21. Suspending/Resuming Runway/Taxiway Operations.

2.21.1. AMOPS/Tower Watch Supervisor shall suspend runway/taxiway operations when:

2.21.1.1. An emergency aircraft lands. **Exception:** Emergency fuel and physiological emergencies will not automatically result in runway suspension.

2.21.1.2. A disabled aircraft is on or near the runway/taxiway.

2.21.1.3. There is a possibility of debris or fluid on the runway/taxiway.

2.21.1.4. Directed by the 319 RW/CC, 319 OG/CC, 319 OSS/CC, AOF/CC, Airfield Manager, Tower Watch Supervisor, or designated representative.

2.21.1.5. In AMOPS' or the Tower Watch Supervisor's opinion, safety of flight is jeopardized for any reason.

2.21.2. If runway/taxiway operations are suspended, the agency suspending runway operations shall notify Tower immediately and relay the reason for suspension.

2.21.3. Tower will notify RAPCON when runway/taxiway operations are suspended or resumed.

2.21.4. Tower shall not resume normal operations until AMOPS has determined that the runway/taxiway is safe and operations should be resumed. All airfield checks will be IAW AFMAN 13-204. **Note:** When runway operations are suspended, access on to the runway still requires Tower authorization.

2.22. Engine Test/Run-up Procedures.

2.22.1. All engine runs shall be coordinated through Tower. The coordinating agency shall pass call-sign/aircraft tail number and parking location. Tower will terminate any engine run if it impacts, or has the potential to impact, airfield operations.

2.22.2. Aircrews or maintenance teams conducting engine runs must maintain radio contact with Tower. C-24 is the only designated high power engine run location for the RQ-4.

2.22.3. Contact Tower on ground control frequency prior to engine start and advise Tower of the following:

2.22.3.1. Call sign or aircraft tail number.

2.22.3.2. Parking location.

2.22.3.3. Intent to run engines and time of planned engine start.

2.22.4. Monitor ground control frequency during the entire engine run.

2.22.5. Terminate the engine run or reduce power immediately if directed to do so by Tower.

2.22.6. Advise Tower on ground control frequency upon termination of engine run.

2.22.7. Transient Aircraft must request permission for engine runs with TA and Tower.

2.22.8. Large/Heavy aircraft engine runs on Charlie Ramp parking spots C13 through C22 are not authorized above flight idle. Maintenance engine runs are not authorized on C14 – C17.

2.23. Noise Abatement Procedures.

2.23.1. Aircraft should avoid flying below 2400ft MSL, east of the runway, except for pre-coordinated flights.

2.24. Protecting Precision Approach Critical Areas.

2.24.1. Precision Approach Critical Areas. Precision approach critical areas shall be protected IAW AFMAN 13-204 and FAAO JO 7110.65.

2.24.2. Runways 17/35 ILS Localizer Critical Areas. These areas encompass the rectangular area extending from the localizer antenna to 2,000 ft toward the approach end of the runway and 150 ft on each side of the runway centerline. It also includes a 50 ft extension behind the localizer antenna.

2.24.3. Runways 17/35 ILS Glideslope Critical Areas. These areas encompass the fan-shaped area that extends from the glideslope antenna to 1,300 ft toward the approach end of the runway. It covers an area 30 degrees to each side of a line drawn through the glideslope.

2.24.4. Precision Obstacle Free Zone (POFZ). This zone is an 800 ft wide by 200 ft long rectangular area centered on the runway centerline, beginning at and extending outward from the end of runway, designed to protect aircraft flying precision approaches from ground vehicles and other aircraft when the ceiling is less than 300 ft, or the visibility is less than 3/4 statute mile.

2.24.5. The portions of the POFZ affected at GFAFB are Taxiway Hotel. The POFZ is protected by Instrument Hold Lines on Taxiways Hotel.

2.24.6. When the ceiling is less than 300 ft or the visibility is less than 3/4 statute mile, no vehicles or any vertical aircraft surfaces may penetrate this area when an aircraft is less than 2 miles on the final approach course to the Runway in use. Horizontal aircraft surfaces such as wings may penetrate this area with no restrictions.

2.24.7. Vehicles must be in radio contact with Tower when inside the POFZ and weather conditions dictate the POFZ will be protected.

2.24.8. Tower will advise drivers to hold at or behind the Instrument Hold Line until inbound aircraft have landed. IAW FAAO JO 7110.65, Tower will advise aircraft on final approach when vehicles or aircraft are unable to exit the POFZ.

2.25. Restricted/Classified Areas.

2.25.1. Restricted Areas.

2.25.1.1. Charlie Ramp and Bravo Ramp are Restricted Areas when aircraft are present. All other times they are Controlled Areas. The area surrounding the 600-series hangars and the 3-Bay are permanent Restricted Areas. Red lines depict the boundary of the restricted area.

2.25.1.2. Refer to the airfield diagram in **Attachment 4** for Airfield Restricted Areas.

2.25.2. Classified Areas. There are no Classified Areas on the airfield.

2.26. Auxiliary Power for RAWS Facilities.

2.26.1. Building 699. The Tower Watch Supervisors will notify Power Production, 319 CES/CEO and RAWS Maintenance whenever the generator auto-starts. If the Tower is closed, then the RAPCON Watch Supervisor will notify Power Production, 319 CES/CEO and RAWS Maintenance whenever the generator auto-starts. All ATC related equipment in Building 699 is protected by an UPS system. The UPS will allow equipment to remain online until the generator starts and is able to maintain power for the building.

2.26.2. TACAN. The TACAN is protected by back-up batteries and generator. If commercial power is lost, the Remote Maintenance Center (RMC), (DSN 884-8651, Comm. 405-734-8651), at Oklahoma City, Oklahoma will receive an alarm. They will notify RAWS Maintenance, to assess the situation and contact Power Production.

2.26.3. ILS. The ILS is protected by back-up batteries. If commercial power is lost the Remote Maintenance Center (RMC), (DSN 884-8651, Comm. 405-734-8651), at Oklahoma City, Oklahoma will receive an alarm. They will notify RAWS Maintenance, to assess the situation and contact Power Production.

2.26.4. For additional information on RMC responsibilities contact 319 OSS/OSA for a copy of the ACC RMC Support Memorandum of Agreement.

2.26.5. Generator Test Runs.

2.26.5.1. The RAPCON Watch Supervisor must give approval before transferring power at a Navigation Aid or DASR site.

2.26.5.2. Facility managers or Watch Supervisors of each ATC facility must give approval before transferring power at transmitter/receiver sites as well as at the tower or radar facility.

2.26.6. The generator test memorandum (**Attachment 13**) must be submitted to the facility manager or CCTLR no later than 72 hours prior to an annual generator test. Coordinate any proposed maintenance actions and cuts of commercial power to include generator tests at least 72 hours in advance.

2.26.7. When cutting commercial power to a RAWS system, RAWS Maintenance will be present during the changeover and equipment must be returned 30 minutes prior to IFR published downtime. This includes the following facilities:

2.26.7.1. RAPCON, Bldg 699, DSN 362-6110.

2.26.7.2. Tower, Bldg 699, DSN 362-3808.

2.26.7.3. TACAN Bldg 877; affected facility RAPCON and US Customs and Border Protection GDT antennas.

2.26.7.4. Any component of the ILS, Bldgs 817, 852, 864, 870, 871, and 872; affected facility RAPCON.

2.26.7.5. Any transmitter/receiver sites, and Ground Air Transmitter Receiver sites, Bldg 834; affected facility RAPCON and Tower.

2.26.7.6. The radar or DASR sites, Bldgs 890 and 891; affected facility RAPCON.

2.26.7.7. The FMQ-19 sites, Bldgs 873 and 874; affected facility Tower.

2.26.7.8. Maintenance actions that are required to preclude the imminent failure of equipment, and short-term maintenance actions or generator tests that will last less than two hours may be coordinated and approved by the Watch Supervisor.

2.26.8. 15 minutes prior to performing any maintenance actions or tests, Power Pro will contact the ATC Watch Supervisor to ensure that the work being performed will not impact operations. Power Pro will also notify the ATC facility upon completion of tests and/or return to commercial power.

2.26.8.1. Tower Watch Supervisor DSN 362-3808.

2.26.8.2. RAPCON Watch Supervisor DSN 362-6110.

2.27. Wear of Hats and Smoking Policy.

2.27.1. GFAFB airfield is a no hat area due to the potential foreign object damage they may cause. Winter/watch caps and Balaclavas are approved during winter months.

2.27.2. Smoking, to include e-cigarettes, is permitted in designated areas only.

2.28. Custodial Control of ATC Recordings.

2.28.1. The AOF/CC has custodial control of all audio recordings of ATC and AMOPS frequencies and landlines. Contact 319 OSS/OSA for necessary access to recorded media and tape transcripts.

Chapter 3

FLYING AREAS

3.1. Local Flying Area/Designation of Airspace.

3.1.1. GFAFB Class D Airspace. That airspace extending upward from the surface to and including 3,400 feet MSL within a 4.9-mile radius of GFAFB, and within 2.3 miles each side of the 174° bearing from the airport extending from the 4.9-mile radius to 5.6 miles south of the airport, excluding that airspace within the Grand Forks International Airport, ND, Class D airspace area. Tower provides VFR ATC services to aircraft within the Class D airspace.

3.1.2. Grand Forks International Airport (GFK) Tower's Class D Airspace. That airspace extending upward from the surface to and including 3300 feet MSL within a 4.2-mile radius around the airport and is adjacent to Red River Tower's airspace directly to the west.

3.1.3. RAPCON controls the Class E airspace covering 4,200 square miles over northeastern North Dakota and a small portion of northwest Minnesota. Within this airspace, there are two main airports (GFAFB – RDR and Grand Forks International Airport – GFK) and 9 satellite airfields. This Class E airspace is from the surface to 10,000 ft MSL (the actual floor where Class E starts differs throughout the airspace, from the surface to 1,200 ft above ground level, depending on proximity to airports with precision approaches.) RAPCON provides the following services:

3.1.3.1. Advisories, separation, and sequencing to IFR aircraft landing at or departing from GFAFB or Grand Forks International Airport and transitioning through GFAFB's airspace.

3.1.3.2. Advisories to VFR aircraft landing at GFAFB or Grand Forks International Airport.

3.1.3.3. VFR/IFR service to GFAFB, Grand Forks International, Crookston, Grafton, Warren, Larimore, Northwood, Mayville, Park River, Red Lake Falls, Fertile, Drayton, Stephen, Lakota, and Hillsboro airports.

3.1.3.4. VFR flight following services, time and workload permitting.

3.1.4. A 99.7 Special Security Instruction (99.7 SSI), Temporary Flight Restriction (TFR) is used by GFAFB when UAS are operating or proposed to be operating. The airspace is depicted in FAA NOTAMS when active. Use of this airspace is dependent on FAA and base leadership guidance. 319 OSS/OSO is the scheduling authority for use of the 99.7 SSI airspace. For information regarding the Grand Forks AFB, ND TFR, including active times and airspace dimensions, see **http://tfr.faa.gov/tfr2/list.html**.

3.1.5. Military Training Routes (MTR): IR 678 (**Attachment 8**) is the only MTR located in RAPCON's airspace. It enters near Cooperstown to the southwest and exits near Park River to the northwest. Aircraft on IR 678 operate at 3,000 ft MSL and below.

3.2. VFR Local Training Areas.

3.2.1. There are no VFR Local Training Areas defined for military aircraft at GFAFB.

Chapter 4

VISUAL FLIGHT RULES (VFR) PROCEDURES

4.1. VFR Weather Minimums.

4.1.1. VFR traffic pattern weather minimums: 500 ft cloud clearance and 3 SM visibility for the VFR traffic pattern to be open. The Tower Watch Supervisor has the discretion to close the VFR traffic pattern (**Attachment 5**).

4.2. VFR Traffic Patterns.

4.2.1. All VFR traffic patterns are to be conducted within Tower's Class D airspace under Tower's control. Primary patterns are flown to the west. East pattern traffic is authorized for large or smaller aircraft, and helicopters.

4.2.2. Pattern altitudes are as follows:

4.2.2.1. Light aircraft/helicopter traffic pattern - 1,500 ft MSL or as directed by ATC.

4.2.2.2. Rectangular traffic pattern - 2,000 ft MSL or as directed by ATC.

4.2.2.3. Overhead traffic pattern - 2,500 ft MSL.

4.2.3. In order to protect the overhead traffic pattern, Tower shall issue the following instructions to departing aircraft when an aircraft is in the overhead traffic pattern: "*MAINTAIN AT OR BELOW 2,000 FT MSL (OR 500 FT BELOW OVERHEAD PATTERN ALTITUDE ASSIGNMENT) UNTIL DEPARTURE END OF RUNWAY".*

4.2.4. RDR VFR holding/Lost Link points: Tower will issue one of the following points to all departing and arriving UAS aircraft. If multiple aircraft utilize the same point ATC will assign different holding altitudes.

4.2.4.1. MOLLE- Located northwest of the runway at 308R/3.3DME.

4.2.4.2. JOEEI- Located southwest of the runway at 241R/2.6DME.

4.2.4.3. SVENN- Located northeast of the runway at 030R/2.5DME.

4.2.5. Pilots shall commence closed traffic patterns at the departure end of the runway unless approved otherwise by Tower.

4.2.6. Closed traffic patterns will be flown east of Turtle River State Park.

4.2.7. Simulated Flameout Patterns shall only be accomplished by military flying organizations who have an approved Letter of Agreement (LOA) with Tower and RAPCON.

4.2.8. The High & Tight and the Spiraling Overhead patterns are the approved UAS engine out procedures (**Attachment 6**).

4.3. Special Procedures.

4.3.1. Helicopter Operations.

4.3.1.1. There are no designated Helipads.

4.3.1.2. Helicopters will arrive and depart as directed by ATC.

4.3.2. Functional Check Flights (FCF). FCFs will be conducted IAW an LOA or LOP between the aircraft operator and the 319 OSS. Procedures will be specific to effectively handle the airframe being flight checked.

4.3.3. Paradrop Operations. Paradrop operations shall only be accomplished by organizations who have an approved LOA with 319 OSS/OSA.

4.3.4. 360-Overhead Pattern Protection. See **Paragraph 4.2.3**

4.4. Reduced Same Runway Separation.

4.4.1. There are no provisions for Reduced Same Runway Separation at GFAFB. Runway separation minimums will be IAW FAAO JO 7110.65 and AFMAN 13-204.

4.5. Intersection Departures.

4.5.1. Intersection departures are authorized IAW AFMAN 13-204 and FAAO JO 7110.65. Distance remaining from each intersection are as follows:

4.5.2. Runway 35:

4.5.2.1. Taxiway Delta: 11,450 ft remaining.

4.5.2.2. Taxiway Echo: 9,150 ft remaining.

4.5.2.3. Taxiway Foxtrot: 4,050 ft remaining.

4.5.3. Runway 17:

4.5.3.1. Taxiway Echo: 3,200 ft remaining.

4.5.3.2. Taxiway Foxtrot: 8,300 ft remaining.

4.5.4. Helicopters will arrive and depart as directed by ATC.

Chapter 5

INSTRUMENT FLIGHT RULES (IFR) PROCEDURES

5.1. Radar Traffic Patterns.

5.1.1. The standard radar traffic pattern is a west pattern at 3,000 ft MSL (**Attachment 7**). Light aircraft and rotary aircraft may use the east pattern.

5.2. Surveillance (ASR) Approaches/Precision Approach Radar (PAR) Approaches and Monitoring.

5.2.1. ASR and PAR approaches are not available at GFAFB.

5.3. Local Departure Procedures.

5.3.1. Local Departure Procedures are established for base assigned UAS only and are defined in the organizational LOP.

5.4. Radar Vector to Initial Procedures.

5.4.1. Requests from IFR aircraft for an overhead approach shall be made with Grand Forks Approach Control. If approved, aircraft will be sequenced no closer than a five mile initial unless otherwise coordinated between Tower and RAPCON.

Chapter 6

EMERGENCY PROCEDURES

6.1. Primary Crash Alarm System (PCAS) and Secondary Crash Net (SCN).

6.1.1. Primary Crash Net.

6.1.2. Tower will activate the PCAS on all declared and observed aircraft and airfield emergencies, including exercise inputs. If the PCAS is out of service, Tower will notify AMOPS via landline and AMOPS will activate the SCN, relay that PCAS is out of service, and forward the emergency information. Participants with two-way communications shall be:

6.1.2.1. Tower (Activator).

6.1.2.2. AMOPS.

6.1.2.3. Fire Department.

6.1.2.4. Flight Medicine

6.1.2.5. Command Post.

6.1.3. Testing. Tower shall check the PCAS daily between 0800-0830L or within 30 minutes of opening the facility outside of normal operating hours.

6.1.4. Tower shall activate the PCAS when information is received regarding an aircraft with an In Flight Emergency (IFE) or a Ground Emergency (GE) and reactivate the net if the aircraft crashes, or encounters other hazardous situations. Tower controllers will attempt to provide the following information:

6.1.4.1. Aircraft call sign and type.

6.1.4.2. Nature of emergency.

6.1.4.3. Pilot’s desires.

6.1.4.4. Additional information:

6.1.4.4.1. Fuel status.

6.1.4.4.2. Number of personnel on board.

6.1.4.4.3. Estimated Time of Arrival.

6.1.4.4.4. Landing Runway.

6.1.4.4.5. Wind direction and speed.

6.1.4.4.6. Hazardous cargo information.

6.1.4.4.7. Aircraft tail number and parking location (if known, for ground emergencies).

6.1.4.4.8. Any other pertinent information. **Note:** Controllers should not delay activation to obtain all the above information. Tower should activate the PCAS as soon as sufficient information is received to start the emergency response process.

6.1.5. Tower will also activate the PCAS for the following reasons:

6.1.5.1. On/off-base aircraft accidents.

6.1.5.2. Suspected/actual hi-jack situations.

6.1.5.3. Natural disasters that affect the airfield.

6.1.5.4. Tower evacuation.

6.1.5.5. Aircraft no radio situations.

6.1.5.6. UAS Lost Link.

6.1.5.7. Bomb threats.

6.1.6. PCAS users will be prepared to copy information and refrain from asking questions until the end of a transmission.

6.1.7. SCN.

6.1.8. AMOPS is the SCN manager. The following agencies are on the SCN with two-way communications:

6.1.8.1. AMOPS (Activator).

6.1.8.2. Command Post (Alternate Activator).

6.1.8.3. Fire Department.

6.1.8.4. Base Weather.

6.1.8.5. Security Forces.

6.1.8.6. Flight Medicine.

6.1.8.7. Global Hawk Maintenance Operations Control Center.

6.1.8.8. Emergency Management.

6.1.8.9. MSG/CC.

6.1.8.10. Wing Safety

6.1.9. The following agencies have receive only capability on the SCN:

6.1.9.1. TA.

6.1.10. If AMOPS is unable to activate the SCN (due to evacuation of the building, equipment outage, etc.), Tower will activate the PCAS, then immediately relay the information to Command Post.

6.1.11. Testing. AMOPS will test the SCN daily between 0800-0900L. Command Post will test the alternate SCN on Fridays immediately after the AMOPS SCN test.

6.1.12. If Tower, RAPCON or AMOPS receive initial notification from a suspicious caller about a bomb or threat to any agency or building on base, call 911 and pass on all available information.

6.2. Emergency Response Procedures.

6.2.1. GFAFB‘s emergency response procedures are outlined in the *319 RW Integrated Defense Plan (IDP), 319 RW Installation Emergency Management Plan (IEMP) 10-2*, and

GFAFB Mishap Safety Investigation Response Plan 91-2. These publications document the procedures for on and off base in-flight/ground emergencies and the responsibilities of the incident commander.

6.3. External Stores Jettison Area.

6.3.1. Stores should be jettisoned at the north end of the airfield in a 500 ft (east-west) by 3,500 ft (north-south) area, bounded on the south by the Runway 35 localizer antenna array and on the north by the airfield boundary. Tower will activate the PCAS when informed of an impending external stores jettison.

6.3.2. Stores shall only be dropped directly west of the localizer antenna. Jettisons made beyond this point may result in an impact beyond the airfield boundary.

6.3.3. Aircraft should notify Tower and/or RAPCON as soon as possible when the stores jettison area is required and advise Tower when the drop has been completed.

6.3.4. Approach to the area is made by flying south to north, approximately 1,000 ft west of the runway, at an altitude of 1,600 ft MSL. During night and/or IFR conditions, the area may be located by executing the TACAN Runway 35 missed approach, proceeding out R-353, jettisoning between 1.0 and 1.5 DME. Time and circumstances permitting, a dry run should be made prior to actually dropping stores in order to become familiar with the proper drop area. Controller assistance in reaching the jettison area is limited to providing a description of the area.

6.3.5. If the first jettison attempt is unsuccessful, aircraft should avoid flying over structures and aircraft parking ramps.

6.3.6. Tower shall direct any available radio equipped vehicle to assist in clearing the stores jettison area whenever non-radio equipped vehicles are observed near the area. Aircraft/vehicles shall not be authorized access to the runway or Taxiway Golf during stores jettison operations.

6.4. Fuel Dumping.

6.4.1. Ground Fuel Dumping. There is no ground fuel dumping at GFAFB.

6.4.2. Airborne Fuel Dumping. The airborne fuel dump area is located on the RDR 220 radial, between 25 and 60 DME, above FL210. This area shall be used for all fuel dumping in the Grand Forks area, except when a delay incurred going to the area or altitude would compromise flight safety.

6.5. Emergency Aircraft Arresting System.

6.5.1. GFAFB has no Arresting Systems installed.

6.6. Hot Brake Area.

6.6.1. After aircrew or TA advises Tower of an aircraft with possible hot brakes, Tower will activate the PCAS and provide the location/type of aircraft, in addition to any further emergency information that is available. The south hot brakes parking area is located on Taxiway Charlie. The north hot brakes parking area is located on Taxiway Golf.

6.7. Abandonment of Aircraft.

6.7.1. Designated bailout is one mile north of the runway, 8,000 ft to 10,000 ft MSL, and heading 350 degrees.

6.8. Emergency Locator Transmitter (ELT).

6.8.1. Upon receipt of an ELT signal on 243.0 or 121.5 MHz, Tower shall notify RAPCON who shall notify Minneapolis Center and Command Post and AMOPs, which will initiate search procedures.

6.8.2. Upon termination or after locating the source of the ELT, Tower shall notify RAPCON who shall notify Minneapolis Center and Command Post.

6.9. Hung Ordnance/Hot Armament.

6.9.1. Tower will direct aircraft landing with hot armament or hung ordnance (guns, rockets, etc.) to the Arm/De-arm area located on Taxiway Golf or Taxiway Delta, and notify AMOPS.

6.9.2. The direction in which the aircraft is pointing will be situation dependent.

6.9.3. Aircraft landing with "hot" armament will not be treated as an emergency unless specifically declared by the pilot.

6.9.4. When an aircraft is parked and its "line of fire" is across the runway, Tower will suspend runway operations until the aircraft is de-armed in the case of hot armament.

6.9.5. When an aircraft has hung ordnance, Tower will direct the aircraft to the Arm/De- arm area on Taxiway Golf, Taxiway Delta or an area designated by TA, and activate the PCAS. GFAFB does not have the capability to Arm/De-arm aircraft. Tower will call Command Post for the location of the nearest Explosive Ordinance Disposal unit.

6.10. Wind Limitations on Control Tower.

6.10.1. Tower will evacuate to the first floor conference room, Bldg 699, when sustained winds exceed 78 knots or in the event of approaching tornados. In the event a tornado affects the building, ATC will notify 319 CES for a structural evaluation on the facility and will remain in RAPCON until the structural evaluation deems it safe to return to the Tower Cab.

6.11. Evacuation of Airfield Operations Facilities.

6.11.1. ATC and/or AMOPS facilities may be evacuated due to bomb threats, approaching tornadoes, high winds, structural damage due to fire, and communications failures, or as determined for safety.

6.11.2. All facilities will evacuate to locations specified within their quick reaction checklists.

6.11.3. Prior to Tower evacuation, time permitting, Tower personnel will:

6.11.3.1. Broadcast on all ATC frequencies (to include emergency and ATIS frequencies) that Tower is being evacuated and runway operations are suspended. All airborne aircraft shall be advised to contact Grand Forks Approach Control for further instructions. All taxiing aircraft shall be advised to return to parking and contact Command Post.

6.11.3.2. Direct all transient aircraft conducting practice approaches to depart the traffic pattern.

6.11.3.3. Activate the PCAS. **Note:** If unable to complete the evacuation checklist, Tower will contact AMOPS via telephone.

6.11.4. Upon notification of Tower evacuation, AMOPS will:

6.11.4.1. Notify Grand Forks Approach Control.

6.11.4.2. Activate the SCN and relay all information verbatim.

6.11.4.3. Issue the following NOTAM: "Grand Forks AFB Control Tower has been evacuated and the airfield is closed. Contact Command Post for further instructions."

6.11.5. Based on the expected duration of the outage (more than one week), it may be necessary to request Combat Communications support through HQ ACC/A3A.

6.11.6. RAPCON Evacuation.

6.11.6.1. Minneapolis Center shall assume control of RAPCON airspace and provide approach control services. As a result, practice radar approaches normally provided by RAPCON will be curtailed due to the increased workload placed on Minneapolis Center and its inability to see all traffic in and around GFAFB due to equipment limitations.

6.11.6.2. Direct all transient aircraft conducting practice approaches to depart the traffic pattern.

6.11.7. For Tower and RAPCON evacuations, all procedures for Tower and RAPCON will be completed, and:

6.11.7.1. If there is an IFE or GE AMOPS will activate the SCN in lieu of the PCAS.

6.11.7.2. Routine access by RAWS personnel to buildings within the CMA (i.e., localizer, glideslope, etc.) will follow standard airfield closure operations.

6.11.8. Resumption of ATC Service.

6.11.8.1. Both Tower and RAPCON have internal procedures/checklists for reopening the facilities, notifying on and off-base agencies, and assuming control of airspace and traffic. These procedures will be followed when the facilities are returned to service.

6.11.9. AMOPS Evacuation

6.11.9.1. AMOPS will notify Tower with reason for evacuation, relocation site and request PCAS activation if the situation warrants. Time permitting they will activate the SCN and also notify Command Post and RAPCON.

6.12. Other Emergency Procedures.

6.12.1. If a civilian pilot requests the location of the nearest explosive detection K-9 team, ATC will contact the FAA Washington Operations Center (AEO-100) at (202) 267-3333, DSN 851-3750 IAW AFMAN 13-204. Civil use of military working dogs must be approved by the 319 RW/CC.

6.12.2. Provide AEO-100 with the aircraft's identification, position, and pilot's intentions.

6.12.3. If a military aircraft landing at GFAFB requests an explosive detection K-9 team, Tower shall activate the PCAS and relay all available information. Tower will then coordinate

necessary information with Base Defense Operations Center via the landline. This request must be approved by the 319 SFS/CC

6.12.4. Aircraft suspected of having a bomb onboard will be taxied to northernmost portion of the airfield via the runway. They will hold there until cleared by the Incident Commander.

6.13. Alternate Facility Procedures.

6.13.1. GFAFB is not equipped with alternate facilities for ATC operations in the event the Tower and/or RAPCON are evacuated or are otherwise not operational.

6.13.2. In the event of an evacuation, AMOPS will bring required equipment to their alternate facility and make required notifications, both defined in local Quick Reaction Checklist (QRC) and AFMAN 13-204.

6.14. Aircraft Rescue and Firefighting.

6.14.1. GFAFB is manned and equipped as a vehicle Set 1 Airfield.

6.15. Weather Dissemination/Coordination and Hazardous/Severe Weather Notification Procedures.

6.15.1. Weather dissemination/coordination and hazardous/severe weather notification procedures including lightning response are outlined in GFAFBI 15-101, *Weather Support*. Tower, RAPCON, and AMOPS will respond IAW GFAFBI 15-101 and their facility checklists.

6.16. Digital Airport Surveillance Radar (DASR) Antenna Free Wheeling.

6.16.1. DASR must be in Free Wheel at sustained wind speeds of 85 knots or more

6.16.2. RAPCON will notify RAWS maintenance if wind speeds of 85 knots or more exist or are forecast to exist. RAPCON will make notifications IAW their local QRC.

6.16.3. If wind speeds of 85 knots or more exist and RAWS maintenance is unable to respond in 30 minutes, RAWS maintenance will authorize RAPCON to follow Radar Control Panel Antenna Shutdown Procedures.

6.16.4. If the Tower is open and RAPCON is closed, Tower will notify RAWS directly when winds are observed or forecasted to reach 85 knots or more.

Chapter 7

FLIGHT PLANNING PROCEDURES

7.1. Flight Planning.

7.1.1. Flying units with an approved LOA shall file a flight plan with AMOPS in person, via email (**319oss.osaa.amops@us.af.mil**) or through direct fax, (747-4217). Email or direct fax filings require a follow-up phone call to AMOPS, (747-4409), 15 minutes after submittal to verify receipt and accuracy of flight plan. Per AFMAN 13-204, if AMOPS is not provided the original flight plan, flying units are responsible for maintaining the original.

7.2. Forwarding Flight Plan Data.

7.2.1. AMOPS shall forward the following information to Tower on proposed departures and scheduled arrivals:

7.2.1.1. Type of flight plan.

7.2.1.2. Call sign.

7.2.1.3. Type aircraft.

7.2.1.4. Proposed departure and/or estimated time of arrival.

7.2.1.5. Destination airport (departures only).

7.2.1.6. Estimated time en route (IFR local flight plans only).

7.2.1.7. Special information or instructions relating to hazardous cargo, DV, and medical evacuation flights.

Chapter 8

UNMANNED AERIAL SYSTEM (UAS) OPERATIONS

8.1. General.

8.1.1. UAS operations are conducted as outlined in individual LOAs, Certificate of Authorizations (COA), and agreements between GFAFB and each agency/airframe.

8.1.1.1. Arrival, departure, and lost link procedures are outlined individually for each organization within the referenced LOAs, COAs, and agreements.

8.1.2. UAS cannot be instructed to follow another aircraft or UAS.

8.1.3. Use of visual separation between UAS and manned aircraft or UAS and UAS is not authorized. This does not restrict the tower controller's ability to visually separate aircraft.

8.1.4. Special Visual Flight Rules (SVFR) is not authorized with UAS.

8.1.5. Issue cautionary wake turbulence advisories, and the position, altitude, and direction of flight to landing UAS pilot/operator, if in your opinion, wake turbulence may have an adverse effect on it.

8.1.6. Wake turbulence rules cannot be waived by the UAS/Remotely Pilot Aircraft pilot/operator.

8.1.7. For the purpose of ATC separation and sequencing, classify UAS as Category III, subject to change dependent on the COA or appropriate guidance.

8.1.8. Arresting gear is not used to recover GFAFB assigned UAS aircraft.

8.1.9. Operators of UAS platforms must abide by all COA restrictions. ATC and AMOPS will assume that any request made by a UAS operator is authorized by their COA.

8.1.10. UAS proponents operating out of GFAFB must establish an agreement with the 319 OSS formalizing any special ATC or AMOPS requirements, procedures or restrictions that result from the COA process.

8.1.11. UAS proponents should coordinate their COAs with the 319 OSS Airspace Manager prior to submitting them to the FAA

8.1.12. Simultaneous operations of UAS and mixing of UAS and manned aircraft are authorized in GFAFB class D airspace. These operations must be conducted in accordance with **Chapter 4**. COA limitations and any other limitation put in place by agreement or procedure.

8.1.13. It is the responsibility of the operator to ensure ATC is aware of any COA limitation with regards to multiple UAS or mixing of manned/unmanned aircraft.

8.1.14. The ATIS must be updated to reflect when UAS operations are conducted and when they terminate. Include in the ATIS broadcast remarks that "unmanned aircraft operations are in progress." This advisory is required once a UAS requests to taxi or launch, and 15 minutes prior to its estimated time of arrival, if operating outside of the terminal airspace.

8.1.15. When communicating with other aircraft regarding the UAS, describe the UAS to other aircraft by stating “unmanned aircraft/unmanned (TYPE).”

8.1.16. Prior to commencing and at the conclusion of UAS operations, ATC facilities shall advise adjacent approach control facilities that UAS operations are being conducted or terminated.

Chapter 9

MISCELLANEOUS PROCEDURES

9.1. Airfield Operations Board (AOB) Membership.

9.1.1. This board provides a forum for discussing, updating, and tracking various activities in support of the wing-flying mission. The AOB will convene at least once per quarter IAW AFMAN 13-204.

9.1.2. The 319 RW/CV or appropriate level of authority IAW AFMAN 13-204 shall establish and chair the AOB. The 319 RW/CV is able to delegate this, IAW AFMAN 13-204 as low as, but not lower than, the OG/CC.

9.1.3. The following organizations or individuals are appointed as required board members. They, or a designated representative, shall attend all meetings:

9.1.3.1. Commander, 319th Mission Support Group (319 MSG/CC).

9.1.3.2. Commander, 319th Operations Group (319 OG/CC).

9.1.3.3. Commander, 348th Reconnaissance Squadron (348 RS/CC).

9.1.3.4. Deputy Director, NASOC-GF (US CBP).

9.1.3.5. Commander, 319th Operations Support Squadron (319 OSS/CC).

9.1.3.6. Commander, 319th Communications Squadron (319 CS/CC).

9.1.3.7. Commander, 319th Civil Engineer Squadron (319 CES/CC).

9.1.3.8. 319 RW Defense Force Commander (DFC), typically the 319 SFS/CC.

9.1.3.9. 319 OG Standardization and Evaluation (319 OG/OGV).

9.1.3.10. Wing Safety Representative (319 RW/SE).

9.1.3.11. Airfield Operations Flight Commander (AOF/CC).

9.1.3.12. Airfield Management (319 OSS/OSAA).

9.1.3.13. RAWS Maintenance Representative (319 OSS/OSAM).

9.1.3.14. Chief Controller, RAPCON (319 OSS/OSAR).

9.1.3.15. Chief Controller, Tower (319 OSS/OSAT).

9.1.3.16. ATC Automation Representative (319 OSS/OSAX).

9.1.3.17. Airspace Manager/Scheduling Representative (319 OSS/OSO).

9.1.3.18. Base Weather Representative (319 OSS/OSW).

9.1.3.19. Command Post Representative (319 RW/CP).

9.1.3.20. 319 RW Plans and Programs (319 RW/XP).

9.1.3.21. 319 RW Inspector General (319 RW/IG).

9.1.3.22. Instrument Flight Procedures (HQ ACC/A3AO)

9.1.4. Non-Mandatory Members:

9.1.4.1. Grand Forks Tower representatives, the Air Force Representative, Minneapolis Air Route Traffic Control Center, Grand Sky and University of North Dakota Aerospace are invited to all meetings.

9.1.4.2. Other base agencies/organizations will be invited when issues to be discussed pertain to their area of responsibility.

9.1.5. The AOB agenda shall be IAW AFMAN 13-204 and shall report on all required annual reviews performed in the quarter(s) indicated below, or as changes occur:

9.1.5.1. Annual self-inspection results – January

9.1.5.2. Special Interest Items (SII) – February

9.1.5.3. Air Installation Compatibility Use Zone – June

9.1.5.4. Aircraft Parking Plan – June

9.1.5.5. LOP Review – September

9.1.5.6. Airfield Waivers – September

9.1.5.7. Annual Airfield Certification/Safety Inspection – October

9.1.5.8. TERPS – November

9.2. Notice to Air Missions (NOTAM) Procedures.

9.2.1. AMOPS is the NOTAM authority, and the RAPCON is the primary NOTAM monitoring facility. AMOPS will ensure all pertinent airfield information not already included in DOD publications is posted, IAW AFI 11-208, and available for all users on: **https://notams.aim.faa.gov/dnotam/#1**. Additionally, the number of NOTAMs currently in effect is listed on the Airfield Status Board and copies of the NOTAMs are maintained at the dispatch counter.

9.2.2. HQ ACC IFP is the NOTAM authority for all "V" class NOTAMS affecting IFPs. All NOTAMS will be coordinated through the AOF/CC for awareness and required actions.

9.3. Flight Information Publication (FLIP) Accounts.

9.3.1. See General Planning, **Chapter 3**, and Chart Update Manual Supplement for specific information on FLIP accounts and procedures for requesting changes. Contact AMOPS for procedures and requesting changes. **Note:** All administrative and office based FLIP requests will be met primarily through the FLIP DVD.

9.4. Prior Permission Requested (PPR) Procedures.

9.4.1. PPRs are required for all transient aircraft. AMOPS is the focal point for all PPR requests, and can be contacted at DSN 362-4409. AMOPS assigns, coordinates, and approves PPR requests.

9.4.2. The Airfield Manager and Deputy Airfield Manager are designated representatives of the 319 RW/CC for GFAFB civil aircraft landing permits, as outlined in AFI 10-1001, *Civil Aircraft Landing Permits*.

9.4.3. All original DD Form 2400, *Civil Aircraft Certification of Insurance*, DD Form 2401, *Civil Aircraft Landing Permit*, and DD Form 2402, *Civil Aircraft Hold Harmless Agreement*, paperwork will be maintained at AMOPS IAW RDS Table 10-09 Rule 01.00.

9.5. Air Evacuation Notification and Response.

9.5.1. AMOPS will complete the appropriate QRC checklist and is the designated base agency for coordinating with Command Post, Fire Department, TA and the GFAFB Clinic for aeromedical aircraft.

9.5.2. RAPCON will advise Tower and AMOPS of arriving aeromedical aircraft no later than 30 flying miles.

9.5.3. Tower will advise AMOPS when the aeromedical aircraft is 10 flying miles from the base.

9.6. Unscheduled/Unauthorized Aircraft Arrivals/Movement.

9.6.1. Unscheduled Aircraft.

9.6.1.1. Tower and/or RAPCON shall notify AMOPS immediately when an aircraft without a proper flight plan requests to land at GFAFB. Pass all known information, such as call sign, type of aircraft, and departure airport.

9.6.1.2. AMOPS shall attempt to verify the identification of the aircraft by contacting the appropriate agency. If unable to verify the aircraft's identity and authorization to land at a military airfield, AMOPS shall deny landing permission and the aircraft shall be treated as an unauthorized aircraft.

9.6.1.3. Tower will instruct all unscheduled aircraft landing at GFAFB to clear the runway at the first available taxiway and hold its position.

9.6.2. Unauthorized Aircraft Movement.

9.6.2.1. For all unauthorized aircraft movement, to including landing, taxi, and engine run, with or without establishing radio contact, Tower shall activate the PCAS and pass all known information on the aircraft, including specific location and direction of travel.

9.6.3. AMOPS shall activate the SCN.

9.7. Distinguished Visitor (DV) Notification Procedures.

9.7.1. AMOPS will advise RAPCON and Tower of any aircraft carrying a DV when they pass arrival or departure information.

9.7.2. RAPCON will advise Tower and Tower will advise AMOPS when an arriving aircraft carrying a DV has made initial contact and provide their distance from the airfield. AMOPS will, in turn, notify Command Post of the inbound aircraft.

9.7.3. Tower will advise AMOPS when the arriving DV aircraft is 15 flying miles from the base. AMOPS will, in turn, notify Command Post of the update. **Note:** Relaying of DV arrival information by ATC is secondary to providing ATC services.

9.8. Dangerous/Hazardous Cargo.

9.8.1. AMOPS will advise Tower when passing arrival or departure information of aircraft with explosive/hazardous cargo to be uploaded/offloaded.

9.8.2. AMOPS will publish a NOTAM when aircraft are parked on the Hazardous Cargo area.

9.8.3. Aircraft will park on the Hazardous Cargo area located on the north end of Taxiway Alpha facing north, if possible. The area is marked by a nose wheel box painted on the concrete between Taxiway Foxtrot and Taxiway Golf.

9.9. Night Vision Device (NVD) Operations.

9.9.1. Flying units wishing to conduct NVD operations on GFAFB must establish an LOA with the 319 OSS.

9.10. Local Aircraft Priorities.

9.10.1. Aircraft are prioritized for arrivals and departures IAW FAAO JO 7110.65.

9.10.2. Local aircraft priorities are:

9.10.2.1. Local alert missions.

9.10.2.2. DoD mission Arrivals/Departures.

9.10.2.3. Department of Homeland Security mission Arrival/Departures.

9.10.2.4. DV aircraft.

9.10.2.5. Training sorties/Grand Sky operations

9.10.2.6. Other civilian aircraft.

9.11. Lost Communications Instructions.

9.11.1. Aircraft experiencing radio failure shall proceed IAW Code of Federal Regulation 91.185 and FLIP directives. UAS operators shall proceed IAW FAA COA directives.

9.12. Standard Climb-out.

9.12.1. Runways 17 and 35: Maintain 2,000 ft MSL until departure end of runway, then climb and maintain 3,000 ft MSL, fly runway heading.

9.13. Opposite Direction Take-Offs and Landings.

9.13.1. ATC has final authority to approve or disapprove opposite direction operations. Approval or disapproval is based on other traffic, airport conditions, and weather. Opposite direction approaches or departures should be limited to operational need or aircrew training requirements.

9.13.2. Once an aircraft begins an opposite direction approach, that aircraft has priority over routine operations to the runway in use.

9.13.3. Use a 10-mile minimum cutoff limit for separation between IFR/VFR aircraft during opposite direction operations. This limit is necessary due to the closure rate of aircraft on converging paths. Tower and RAPCON shall utilize the following cutoff points/distances during opposite direction operations:

9.13.4. Arrival vs. Arrival: Once an arriving aircraft is at or within 10 miles from the runway in use, do not allow the aircraft making an approach to the other runway to proceed closer than ten miles to the runway, until the first aircraft does one of the following:

9.13.4.1. Makes a full stop landing.

9.13.4.2. Executes a missed approach and is established on a course or at an altitude that ensures approved separation.

9.13.4.3. Begins a circling maneuver.

9.13.5. Arrival vs. Departure: Do not allow an arriving aircraft to proceed closer than 10 miles to the runway, until a departure (low approach/touch and go/stop and go aircraft) has crossed the departure end of the runway and is established on a course or at an altitude that ensures approved separation.

9.13.6. Departure vs. Arrival: Do not allow a departing aircraft to takeoff when an arriving aircraft is at or within 10 miles of the runway, until the arriving aircraft does one of the following:

9.13.6.1. Makes a full stop landing.

9.13.6.2. Executes a missed approach and is established on a course or at an altitude, which ensures approved separation.

9.13.6.3. Pilots requesting opposite direction approaches/departures can expect lengthy delays when other aircraft are operating on the runway in use.

9.14. Breakout/Go-Around/Missed Approach Procedures.

9.14.1. Breakout Procedures

9.14.1.1. RAPCON shall initiate breakout/coordination instructions for an aircraft conducting an instrument approach prior to the aircraft reaching 7 miles. RAPCON controllers will inform Tower of breakout.

9.14.1.2. If Tower must breakout an aircraft conducting an instrument approach, the controller shall request breakout instructions from the RAPCON.

9.14.2. Go-Around Procedures

9.14.2.1. Go-Around procedures will be as directed by Air Traffic Control.

9.14.3. Missed Approach Procedures

9.14.3.1. In the event an aircraft executes the missed approach, tower will advise RAPCON.

9.14.3.2. Aircraft will fly the missed approach procedure as published in the FLIPS unless otherwise coordinated with ATC.

9.15. Civilian Aircraft Operations.

9.15.1. Civil aircraft are restricted to only executing low approaches unless having previously received approval for an authorized landing IAW AFI 10-1001, *Civil Aircraft Landing Permits*.

9.16. Civil Use of Military RAWS.

9.16.1. Civil aircraft are permitted to use GFAFB and its associated RAWS to conduct practice approaches. Either the RAPCON or Tower may disapprove civil aircraft approaches, but Tower is the final authority for approving approaches and must ensure the wing's mission is not adversely affected.

9.17. Aero Club Operations.

9.17.1. GFAFB does not have an Aero Club.

9.18. Airfield Snow Removal.

9.18.1. Snow removal shall be IAW GFAFBI 32-1002, *Snow and Ice Control*.

9.19. Bird/Wildlife Control.

9.19.1. Bird and Wildlife Control shall be IAW GFAFBI 91-212, *Bird/Wildlife Aircraft Strike Hazard (BASH) Program*.

9.20. Bird Watch Conditions (BWC).

9.20.1. Tower will advise AMOPS of any increase or decrease in bird activity on the airfield. AMOPS, the Tower Watch Supervisor, and the Safety Officer/NCO may raise the BWC on the airfield. AMOPS is the central authority in downgrading the bird watch condition. When the BWC changes, all agencies will be notified IAW GFAFBI 91-212.

9.20.2. The BWC shall be provided on the ATIS if it is Moderate or Severe.

9.21. Supervisor of Flying (SOF).

9.21.1. Flying units wishing to establish a SOF program must establish a LOA with the 319 OSS.

9.22. Airfield Photography.

9.22.1. Individuals or organizations wishing to take photographs of airfield activities/facilities or aircraft must first gain permission from 319 RW/PA, the designated approval authority for 319 RW/CC. The 319 OG/CC can approve photography within their respective areas of the airfield restricted and controlled areas with coordination by 319 RW/PA.

9.23. Tactical Arrival/Departure Procedures.

9.23.1. Tactical arrival or departure procedures shall only be accomplished by flying organizations who have an approved LOA with Tower and RAPCON.

9.24. Airfield Closure Procedures.

9.24.1. The 319 RW/CC may approve the closure of the airfield, including Tower/RAPCON/AMOPS, for 96 hours or less. 319 OSS/OSA will be the focal point for coordinating any airfield operations closures, initiating appropriate NOTAMs, and notifying affected base agencies. **Note:** If Tower, AMOPS, or RAPCON closes due to a bomb threat or other forced evacuation reason, AOF personnel will follow all procedures outlined in **Paragraph 6.11**.

9.25. Exercise Coordination Procedures.

9.25.1. All exercises and inspections involving use of the airfield or affecting ATC operations shall be coordinated through the AOF/CC at least 48 hours in advance.

9.25.2. All exercise messages shall be preceded by the statement, “EXERCISE, EXERCISE, EXERCISE.”

9.25.3. 319 OSS/OSA will coordinate taxi, takeoff, and landing operations with 319 RW/CP, or IG during exercises/inspections which impact/coincide with flying operations. This coordination should be accomplished during pre-exercise meetings.

9.25.4. Tower and RAPCON Watch Supervisors have the authority to determine the extent of facility participation once an exercise begins. Watch Supervisors may terminate their facility's participation if safety of flight will be jeopardized. Under such instances, the Watch Supervisor will cease their facility's exercise participation then immediately notify their Chief Controller. The Chief Controller will coordinate with 319 RW/CP, or IG and the appropriate OSS staff members.

9.25.5. Any agency (Command Post, TA, Fire Department, Security Forces, etc.) that identifies a need to terminate an exercise due to a real-world contingency (emergency, safety hazard, etc.) shall immediately notify Tower. Tower will broadcast the following message over the PCAS and all appropriate frequencies: *"THIS IS TOWER, TERMINATE, TERMINATE, TERMINATE (reason and approving authority)."* Tower will notify RAPCON who will, in turn, advise airborne aircraft.

9.25.6. Tower will notify the Fire Department if they observe smoke, but do not receive notification of an exercise. Tower will not report additional smoke sightings once initial notification has been made unless specifically directed to do so by evaluation team members or as coordinated during pre-exercise meetings.

9.26. Unusual Maneuvers.

9.26.1. Unusual maneuvers as defined in FAR Part 91 are not authorized at GFAFB unless approved by the 319 RW/CC or part of a Wing approved special event.

9.27. Airspace Letters of Agreement (LOA) and Certificates of Authorization (COA).

9.27.1. Publications are maintained on a local shared drive and reviewed annually. Documents requiring more frequent review are processed individually, as necessary.

9.28. Taxiway Hotel Operations.

9.28.1. Airfield Access:

9.28.1.1. All vehicle operators entering the airfield via the Taxiway Hotel gate must be fully qualified IAW AFI 13-213, *Airfield Driving*, and GFAFBI 13-213, *Airfield Driving Instruction*.

9.28.1.2. All personnel requiring airfield access must coordinate with the 319th Security Forces Squadron for issuance of a Restricted Area Badge.

9.28.2. Obstruction Clearance Criteria:

9.28.2.1. Taxiway Hotel falls under both UFC and FAA obstruction clearance criteria. **Note:** Aircraft Operator/Aircrew/Ground Observer is responsible to ensure proper wingtip clearance during taxi operations.

9.28.2.2. The portion of the taxiway from the runway edge to the gate across the taxiway (approximately 1200 feet from the runway edge), falls under UFC 3-260-01.

9.28.2.3. The taxiway Lateral Clear Zone for obstruction clearance is 200 feet from the taxiway centerline.

9.28.2.4. The portion of the taxiway from the gate to the entrance of the Grand Sky Ramp falls under FAA AC 150/5300-13B.

9.28.2.4.1. ADG II allows for aircraft with wingspans of no more than 78ft to meet the wingtip clearance for the perimeter fence. Aircraft with a wingspan greater than 78ft will require wing tip clearance observers or must be towed through the Taxiway Hotel gate to ensure safe wingtip clearance.

9.28.3. Gate Operations:

9.28.3.1. Grand Sky Operations Control Center (GSOCC) is responsible for opening and closing the gate on Taxiway Hotel.

9.28.4. GSOCC will:

9.28.4.1. Ensure Taxiway Hotel Gate is completely open prior to informing Tower and AMOPS that the Taxiway is open.

9.28.4.2. Not close the Taxiway Hotel Gate with aircraft on Taxiway Hotel.

9.28.4.3. Notify Tower, AMOPS and Security Forces after Taxiway Hotel is closed. If the gate is closed, the taxiway must be declared closed.

9.28.4.4. Monitor the gate at all times when it is open to ensure safety and security of GFAFB Airfield.

9.28.4.5. Ensure the Taxiway Hotel Gate is open prior to aircraft landing.

9.28.5. Aircraft Operator/Aircrew/Ground Observer is responsible to ensure gate is open and proper wingtip clearance can be achieved prior to taxiing.

9.28.6. Taxiway Hotel Lights are controlled by Tower. To coordinate lights for daily inspections, contact Tower.

9.29. Requesting Additional Airfield Operating Hours:

9.29.1. 319 OSS/OSA will be the focal point for coordinating any airfield operations hours extensions, initiating appropriate NOTAMs, and notifying affected base agencies. See 2.9 for published Airfield Hours.

9.29.2. Requesting daily or weekly additional operating hours:

9.29.2.1. Daily and/or weekly extended hours requests will need to be approved by the 319 OSS/CC

9.29.2.2. Requesting organization will need to coordinate support through 319 AOF/CC no less than 2 weeks prior to the requested additional airfield operating hours to ensure adequate staffing to support the request.

9.29.3. Short Notice Requests:

9.29.3.1. During published airfield operating hours:

9.29.3.1.1. Requesting organization will contact Airfield Management to process the request. If Airfield Management cannot be reached contact the Tower. *NOTE: Requests cannot be approved immediately due to staffing and crew rest requirements. Once request is evaluated Airfield Management or the Tower will contact the requestor stating if the request is approved/denied.*

9.29.3.2. Outside of published airfield hours:

9.29.3.2.1. Requestor should contact 319 Command Post (319 RW/CP) to initiate the 319 OSS/OSA recall process. *NOTE: the 319 OSS/OSA facilities will respond to short notice arrivals and departures within one hour of notification.*

TIMOTHY J. CURRY, Colonel, USAF
Commander, 319th Reconnaissance Wing

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFROMATION

References

AFPD 11-2, *Flight Rules and Procedures*, 31 Jan 2019

AFPD 13-2, *Air Traffic Control, Airspace, Airfield, and Range Management*, 3 Jan 2019

AFI 11-202V3 ACC Supplement, *General Flight Rules*, 7 Jul 2019

AFMAN 13-204v1, *Management of Airfield Operations*, 22 Jul 2020

AFMAN 13-204v2, *Airfield Management*, 22 Jul 2020

AFMAN 13-204v3, *Air Traffic Control*, 22 Jul 2020

AFI 13-213 GFAFB Supplement, *Airfield Driving*, 22 Jul 2019

AFMAN 20-306, *Operations of Air Force Government Motor Vehicles*, 30 Jul 2020

FAAO JO 7110.65Y, *Air Traffic Control*, 15 Aug 2019

AFI 33-322, *Records Management and Information Governance Program*, 23 Mar 2020

Prescribed Forms

There are no forms prescribed by this publication.

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

Abbreviations and Acronyms

ACC—Air Combat Command

AFI—Air Force Instruction

ALS—Approach Lighting System

AMOPS—Airfield Management Operations

AOB—Airfield Operations Board

AOF—Airfield Operations Flight

ASR—Airport Surveillance Radar

ATC—Air Traffic Control

ATIS—Automatic Terminal Information Service

BASH—Bird/Wildlife Aircraft Strike Hazard

CBP—U.S. Customs and Border Protection

CC—Commander

CMA—Controlled Movement Area

COA—Certificate of Authorization

DV—Distinguished Visitor

ELT—Emergency Locator Transmitter

ETVS—Enhanced Terminal Voice Switch

FAA—Federal Aviation Administration

FAAO JO—Federal Aviation Administration Order, Joint Order

FCF—Functional Check Flight

FLIP—Flight Information Publication

GE—Ground Emergency

GFAFB—Grand Forks Air Force Base

GFK—Grand Forks International Airport

HIRL—High Intensity Runway Lighting

IAW—In Accordance With

IDP—319 RW Integrated Defense Plan

IEMP—319 RW Installation Emergency Management Plan

IFE—In-Flight Emergency

IFP—Instrument Flight Procedures

IFR—Instrument Flight Rules

ILS—Instrument Landing System

IR—Instrument Route

LOP—Letter of Procedure

MSL—Mean Sea Level

MTR—Military Training Route

NM—Nautical Mile

NOTAM—Notice to Air Missions

NVD—Night Vision Device

OPR—Office of Primary Responsibility

PAPI—Precision Approach Path Indicator

PCAS—Primary Crash Alarm System

PMI—Preventive Maintenance Inspection

POFZ—Precision Obstacle Free Zone

PPR—Prior Permission Required

RAPCON—Radar Approach Control

RAWS—Radar, Airfield, and Weather Systems

RCR—Runway Condition Reading

RDR—Grand Forks AFB Identifier

RSC—Runway Surface Condition

RW—Reconnaissance Wing

SCN—Secondary Crash Net

SE—Wing Safety Office

SFL—Sequence Flashing Lights

SOF—Supervisor of Flying

TA—Transient Alert

TACAN—Tactical Air Navigation

TCW—Terminal Control Workstation

TERPS—Terminal Instrument Procedures

UAS—Unmanned Aircraft System

UFC—Unified Facilities Criteria

UHF—Ultra High Frequency

UPS—Uninterrupted Power Supply

USAF—United States Air Force

VFR—Visual Flight Rules

Attachment 2

GFAFB FREQUENCIES

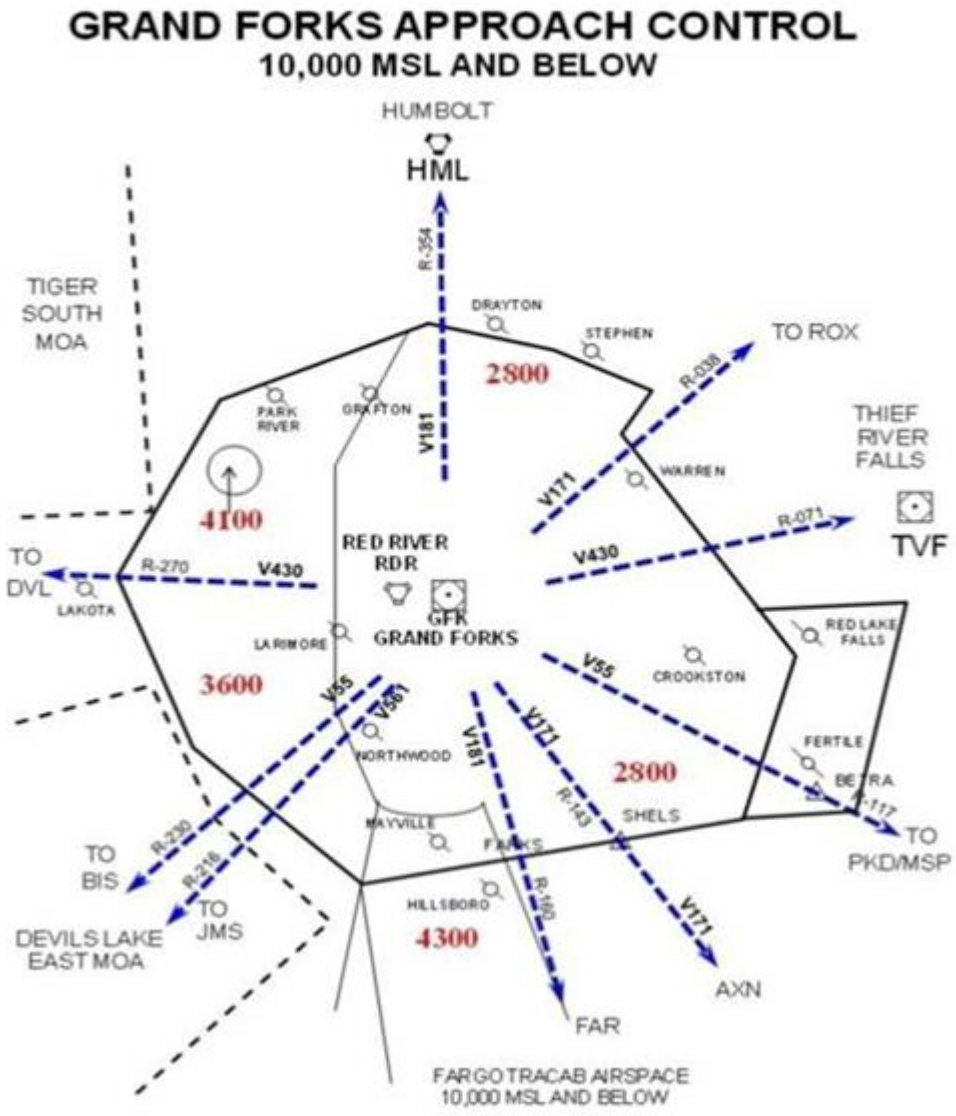
Table A2.1. GFAFB Frequencies.

FREQUENCY	FACILITY
275.8/119.15	Red River Ground Control
349.0/124.9	Red River Tower
273.45	ATIS
360.7/119.15	Clearance Delivery
294.7/132.3	Grand Forks Approach/VFR
318.1/118.1	Grand Forks Approach/Departure
371.85/126.6	Red River Arrival
121.1	Grand Forks Arrival
346.25	RAPCON (Discrete)
322.35	RAPCON (Discrete)
270.3/124.2	Minneapolis Center (West)
269.6/132.15	Minneapolis Center (East)
278.3/127.35	Minneapolis Center (South)
311.0	319 RW Command Post (Primary)
321.0	319 RW Command Post (Alternate)
372.2	GFAFB Pilot to Dispatch
343.5	Grand Forks PMSV (METRO)
255.4	Automated Flight Service Station
305.5	AR 106L (Primary)
364.2	ADC/GCI Common
243.0/121.5	Emergency

Attachment 3

GRAND FORKS APPROACH CONTROL

Figure A3.1. GFAFB Approach Control Airspace.



Attachment 4

GFAFB AIRFIELD DIAGRAM

Figure A4.1. South Third of GFAFB Airfield Diagram.

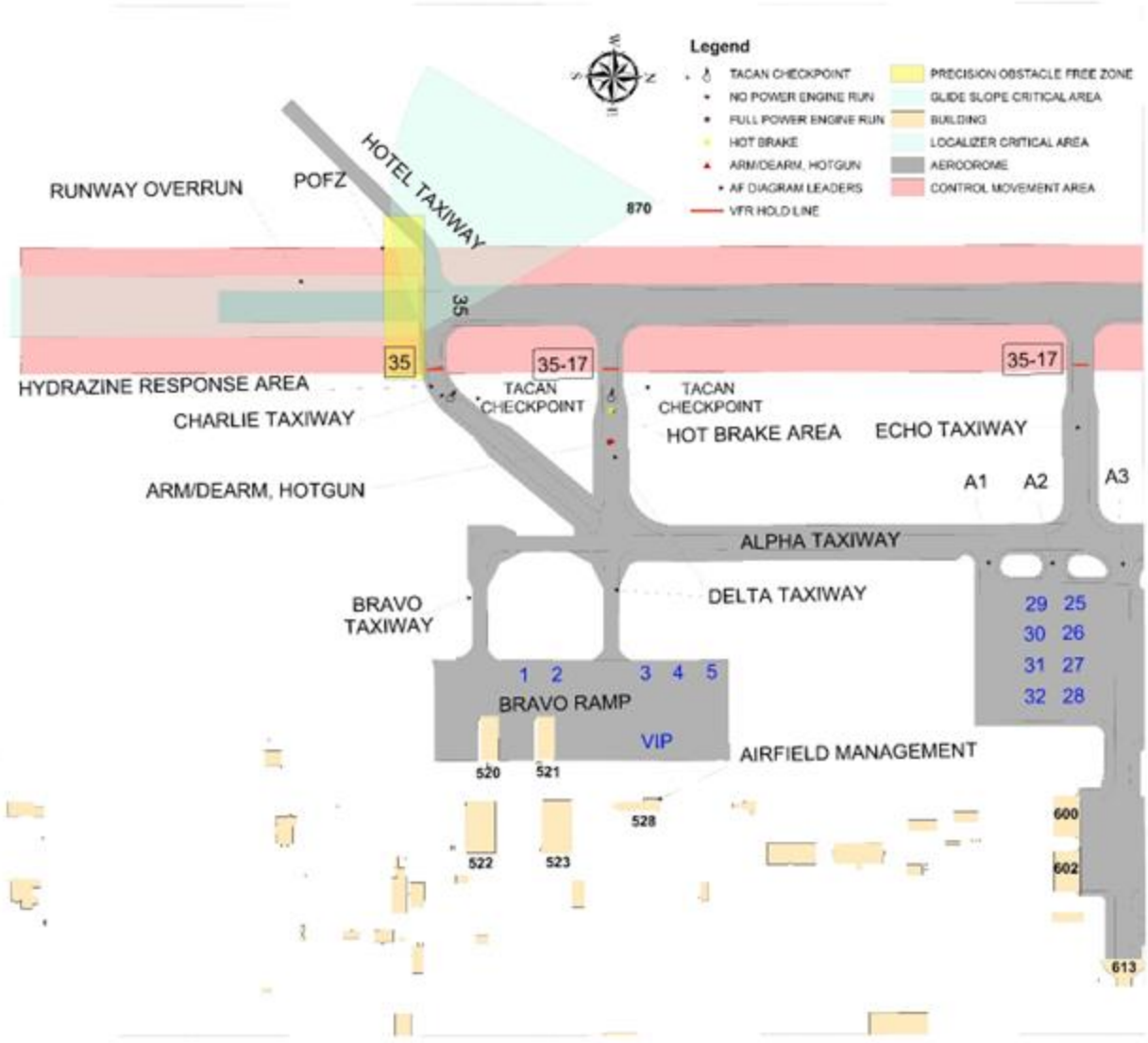


Figure A4.2. Middle Third of GFAFB Airfield Diagram.

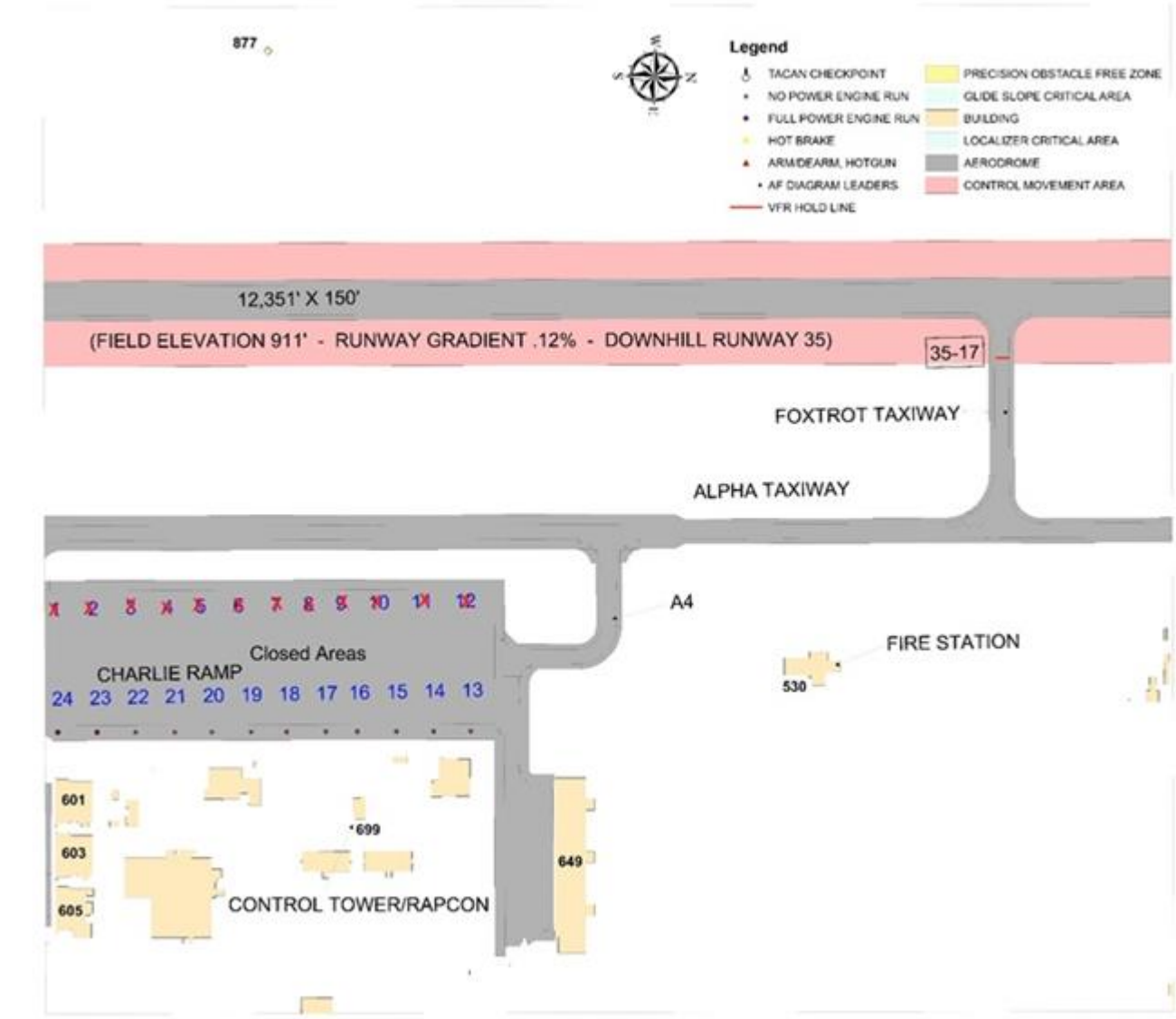
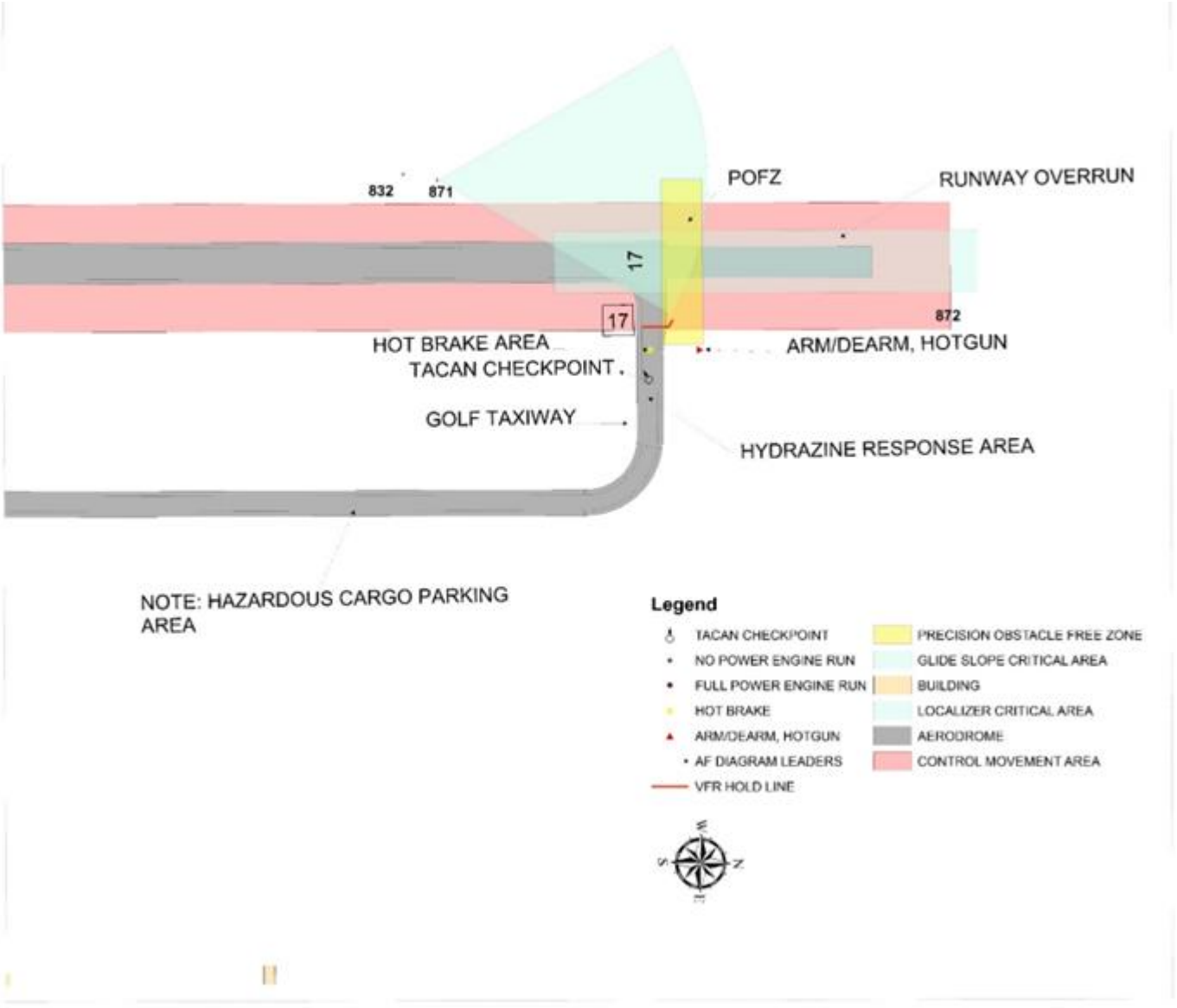


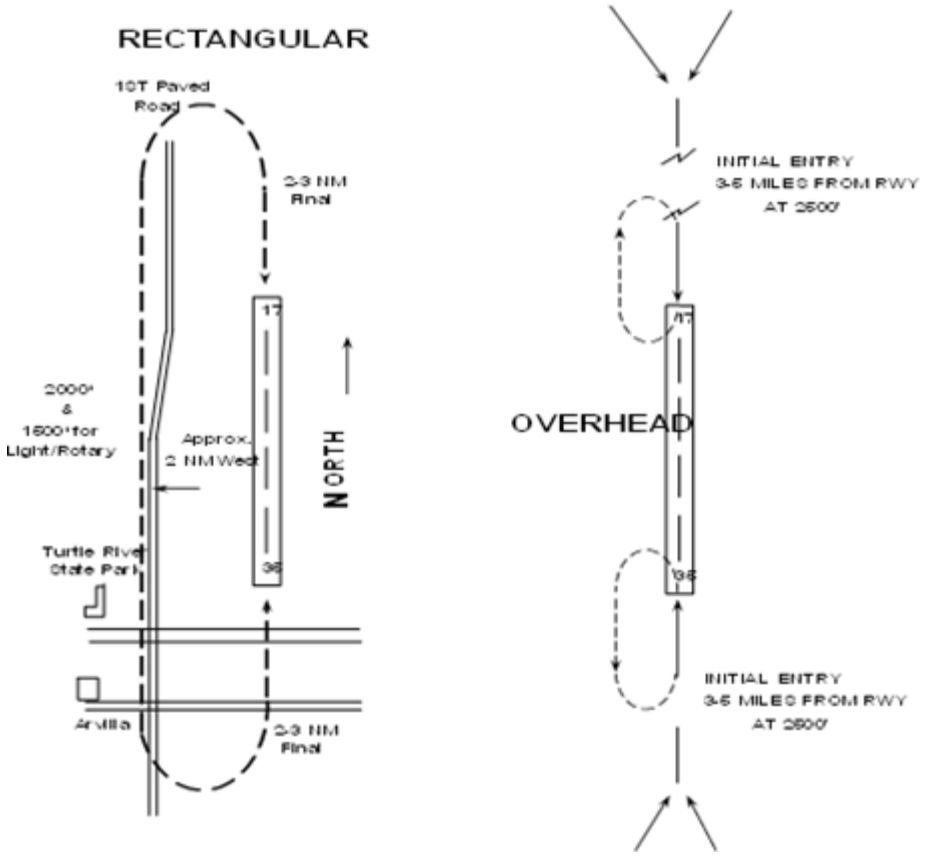
Figure A4.3. North Third of GFAFB Airfield Diagram.



Attachment 5

RDR VFR PATTERNS

Figure A5.1. RDR VFR Patterns.

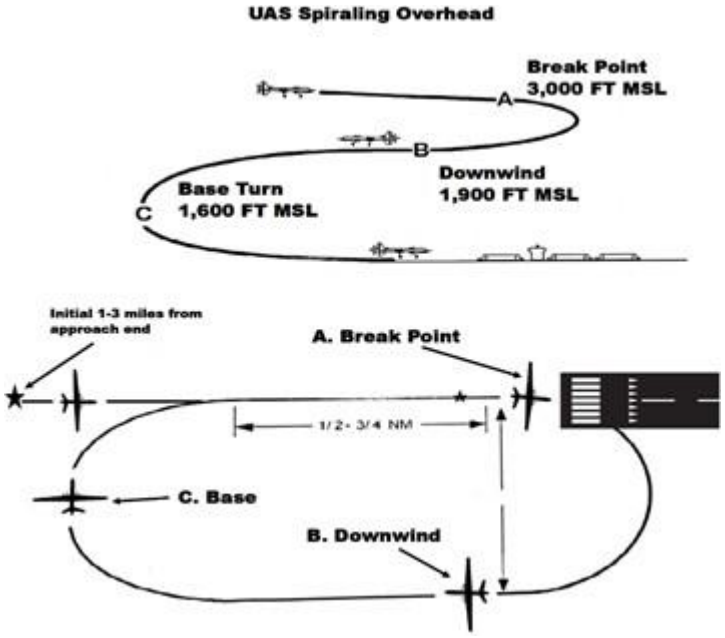


Attachment 6

UAS VFR ENGINE-OUT PATTERNS

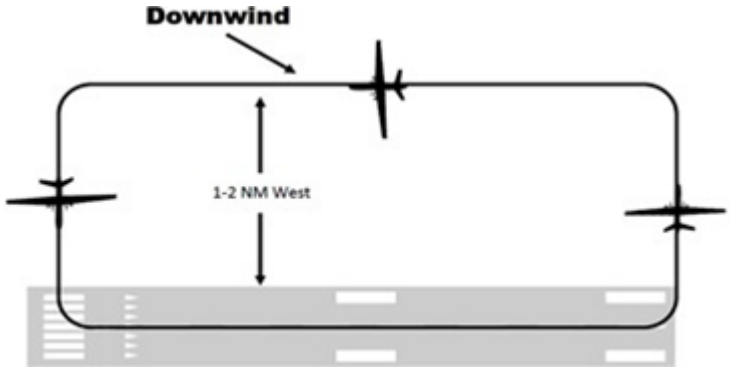
A6.1. Spiraling Overhead. Will only be executed with permission from ATC. As directed by ATC, the pilot will report initial (1-3 miles from the runway) at 3000' MSL. ATC will issue break instructions. Pilots will break to the west unless otherwise directed by ATC. Upon commencing break turn, a spiraling decent is authorized.

Figure A6.1. UAS Spiraling Overhead Pattern.



A6.2. High and Tight. Will only be executed with permission from ATC. The pilot will climb to 2500' MSL and execute a downwind 1 - 2 miles west of the field and initiate a base leg turn abeam the approach end of the runway.

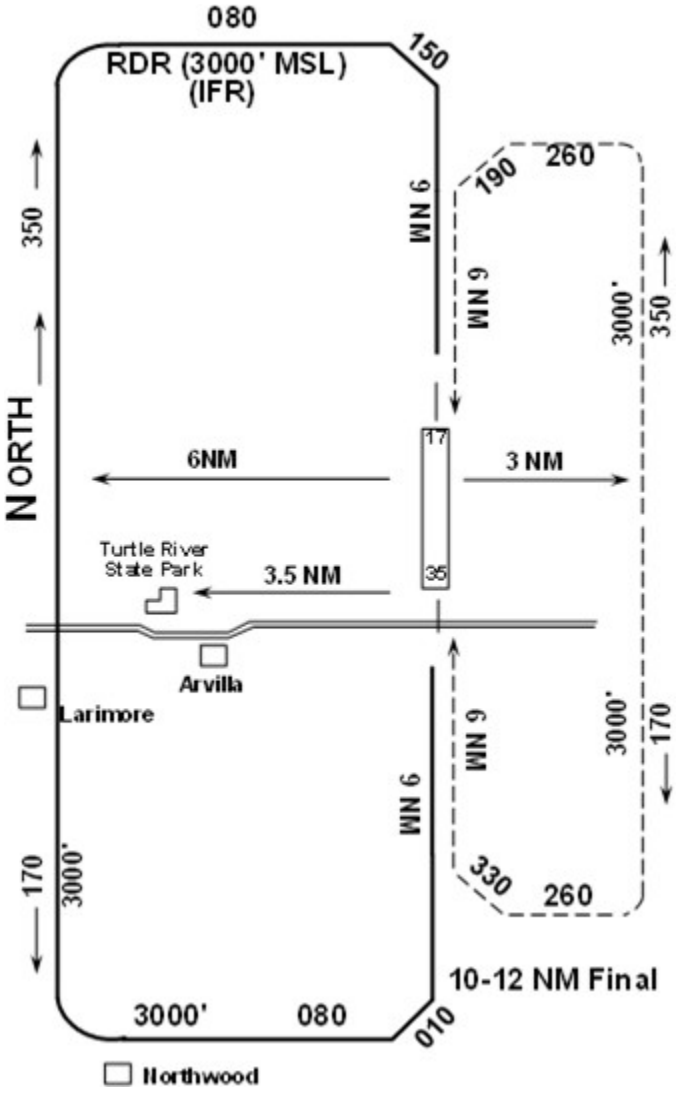
Figure A6.2. UAS High and Tight Pattern.



Attachment 7

RDR RADAR PATTERNS

Figure A7.1. RDR Radar Patterns.

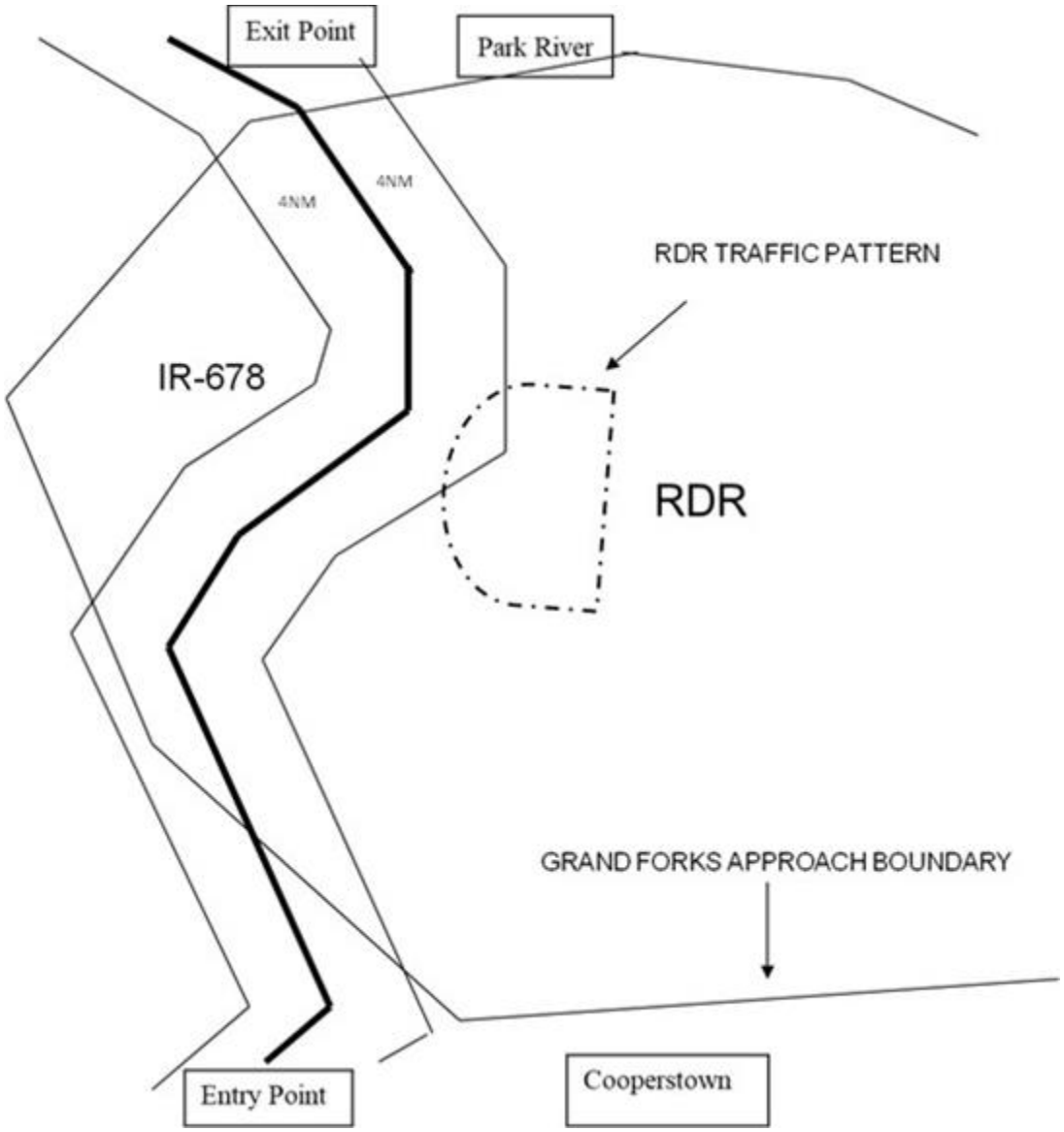


Attachment 8

IR 678

A8.1. Aircraft on IR 678 at 3000 MSL and below.

Figure A8.1. IR 678.



Attachment 9

UAS VFR AIRSPACE CONFIGURATION

Figure A9.1. UAS VFR Airspace Configuration.

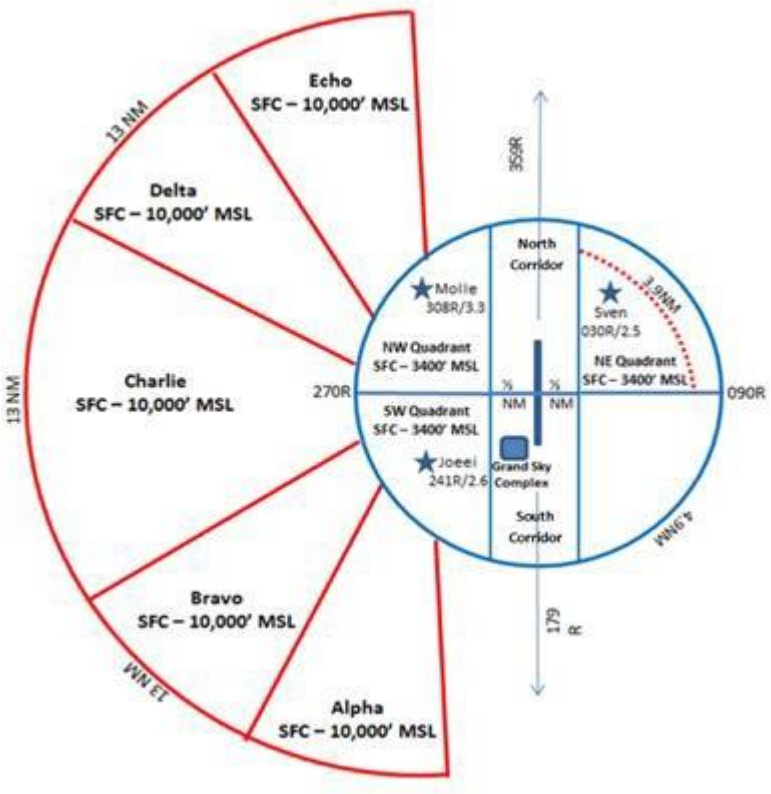


Table A9.1. UAS VFR Airspace Configuration Definition.

Section Alpha: Approximately from RDR 195R to the RDR 224R. **Section Bravo**: Approximately from RDR 225R to the RDR 244R. **Section Charlie**: Approximately from RDR 245R to the RDR 294R. **Section Delta**: Approximately from RDR 295R to the RDR 319R. **Section Echo**: Approximately from RDR 320R to the RDR 345R.	**Northwest Quadrant**: ½ mile west of the runway/runway extended centerline (359R) to 270R out 4.9 miles. **Southwest Quadrant**: ½ mile west of the runway/runway extended centerline (179R) to 296R out 4.9 miles. **Northeast Quadrant**: ½ mile east of the runway/runway extended centerline (359R) to 090R out to 3.9 miles.	**North Corridor:** ½ mile east and west of runway/runway extended centerline, north of the midpoint of the runway (midpoint is directly abeam Taxiway A4) **South Corridor:** ½ mile east and west of runway/runway extended centerline, south of the midpoint of the runway (midpoint is directly abeam Taxiway A4) **Southeast Quadrant**: Not used for UAS operations.

Attachment 10

UAS VFR AIRSPACE LATITUDE/LONGITUDE

Figure A10.1. UAS VFR Airspace.

Table A10.1. UAS VFR Airspace Latitude/Longitude.

Alpha
N 47° 53' 41.36" W 097° 28' 16.13"
N 47° 54' 09.24" W 097° 29' 07.25" 0.7NM/309°
N 47° 54' 55.90" W 097° 30' 05.26" 1.0NM/320°
N 47° 55' 12.38" W 097° 30' 20.10" 0.3NM/329°
N 47° 47' 48.47" W 097° 36' 04.23" 8.3NM/208°
N 47° 47' 30.12" W 097° 35' 08.01" 0.7NM/116°
N 47° 46' 55.98" W 097° 32' 45.27" 1.7NM/110°
N 47° 46' 39.78" W 097° 30' 46.64" 1.4NM/101°
N 47° 46' 34.94" W 097° 29' 37.31" 0.8NM/96°
N 47° 46' 34.18" W 097° 27' 49.74" 1.2NM/91°
N 47° 53' 41.36" W 097° 28' 16.13" 7.1NM/358°
Bravo
N 47° 55' 12.38" W 097° 30' 20.10"
N 47° 55' 41.35" W 097° 30' 42.47" 0.5NM/333°
N 47° 56' 26.35" W 097° 31' 07.30" 0.8NM/340°
N 47° 51' 39.04" W 097° 42' 18.20" 8.9NM/238°
N 47° 51' 24.27" W 097° 42' 04.44" 0.3NM/148°
N 47° 49' 46.88" W 097° 40' 03.63" 2.1NM/140°

N 47° 48' 25.95" W 097° 37' 37.47" 2.1NM/129°
N 47° 47' 48.47" W 097° 36' 04.23" 1.2NM/121°
N 47° 55' 12.38" W 097° 30' 20.10" 8.3NM/28°
Charlie
N 47° 56' 26.35" W 097° 31' 07.30"
N 47° 57' 05.45" W 097° 31' 17.47" 0.7NM/350°
N 47° 57' 34.57" W 097° 31' 22.04" 0.5NM/354°
N 47° 58' 24.31" W 097° 31' 16.68" 0.8NM/4°
N 47° 58' 30.96" W 097° 31' 15.17" 0.1NM/9°
N 48° 02' 37.96" W 097° 43' 02.17" 8.9NM/298°
N 48° 02' 00.78" W 097° 43' 29.04" 0.7NM/206°
N 48° 00' 23.96" W 097° 44' 20.07" 1.7NM/199°
N 47° 59' 04.24" W 097° 44' 43.29" 1.4NM/191°
N 47° 58' 19.29" W 097° 44' 50.90" 0.8NM/186°
N 47° 57' 55.31" W 097° 44' 52.23" 0.4NM/182°
N 47° 57' 25.95" W 097° 44' 53.13" 0.5NM/181°
N 47° 57' 08.26" W 097° 44' 52.00" 0.3NM/178°
N 47° 56' 45.19" W 097° 44' 49.31" 0.4NM/176°
N 47° 55' 59.93" W 097° 44' 42.59" 0.8NM/174°
N 47° 54' 40.52" W 097° 44' 18.19" 1.4NM/168°
N 47° 53' 03.72" W 097° 43' 25.87" 1.7NM/160°
N 47° 51' 39.04" W 097° 42' 18.20" 1.6NM/152°
N 47° 56' 26.35" W 097° 31' 07.30" 8.9NM/57°
Delta
N 47° 58' 30.96" W 097° 31' 15.17"
N 47° 58' 58.89" W 097° 31' 04.94" 0.5NM/14°
N 47° 59' 40.16" W 097° 30' 44.15" 0.7NM/19°
N 47° 59' 47.36" W 097° 30' 37.42" 0.1NM/32°
N 48° 06' 49.83" W 097° 37' 18.20" 8.3NM/328°
N 48° 06' 39.54" W 097° 37' 41.77" 0.3NM/237°
N 48° 05' 18.91" W 097° 40' 06.70" 2.1NM/230°
N 48° 03' 40.28" W 097° 42' 07.06" 2.1NM/219°
N 48° 02' 37.96" W 097° 43' 02.17" 1.2NM/211°
N 47° 58' 30.96" W 097° 31' 15.17" 8.9NM/117°
Echo
N 47° 59' 47.36" W 097° 30' 37.42"
N 48° 00' 24.15" W 097° 30' 07.50" 0.7NM/29°
N 48° 01' 04.21" W 097° 29' 17.66" 0.9NM/40°
N 48° 01' 25.06" W 097° 28' 45.04" 0.5NM/46°
N 48° 08' 32.21" W 097° 29' 11.69" 7.1NM/358°
N 48° 08' 26.31" W 097° 30' 47.02" 1.1NM/265°
N 48° 08' 10.44" W 097° 32' 45.59" 1.3NM/259°
N 48° 07' 35.43" W 097° 35' 11.30" 1.7NM/250°
N 48° 06' 49.83" W 097° 37' 18.20" 1.6NM/242°

N 47° 59' 47.36" W 097° 30' 37.42" 8.3NM/148°
Northwest Quadrant
N 47° 57' 28.19" W 097° 31' 20.02"
N 47° 57' 39.71" W 097° 24' 47.60" 4.4NM/87°
N 48° 02' 32.06" W 097° 25' 06.20" 4.9NM/358°
N 48° 02' 26.12" W 097° 25' 50.88" 0.5NM/259°
N 48° 02' 09.75" W 097° 26' 59.83" 0.8NM/251°
N 48° 01' 40.02" W 097° 28' 16.92" 1.0NM/240°
N 48° 01' 04.21" W 097° 29' 17.66" 0.9NM/229°
N 48° 00' 24.15" W 097° 30' 07.50" 0.9NM/220°
N 47° 59' 40.16" W 097° 30' 44.15" 0.8NM/209°
N 47° 58' 58.89" W 097° 31' 04.94" 0.7NM/199°
N 47° 58' 24.31" W 097° 31' 16.68" 0.6NM/193°
N 47° 57' 34.57" W 097° 31' 22.04" 0.8NM/184°
N 47° 57' 28.19" W 097° 31' 20.02" 0.1NM/168°
Northeast Quadrant
N 47° 57' 42.28" W 097° 23' 18.40"
N 47° 57' 53.34" W 097° 16' 45.92" 4.4NM/88°
N 47° 58' 21.72" W 097° 16' 49.47" 0.5NM/355°
N 47° 58' 55.08" W 097° 16' 59.41" 0.6NM/349°
N 47° 59' 39.98" W 097° 17' 22.95" 0.8NM/341°
N 48° 00' 26.70" W 097° 18' 01.90" 0.9NM/331°
N 48° 01' 11.59" W 097° 18' 58.11" 1.0NM/320°
N 48° 01' 45.30" W 097° 19' 59.86" 0.9NM/309°
N 48° 02' 09.01" W 097° 21' 03.31" 0.8NM/299°
N 48° 02' 24.22" W 097° 22' 07.70" 0.8NM/289°
N 48° 02' 32.14" W 097° 23' 00.31" 0.6NM/283°
N 48° 02' 34.62" W 097° 23' 37.15" 0.4NM/276°
N 47° 57' 42.28" W 097° 23' 18.40" 4.9NM/178°
Southwest Quadrant
N 47° 52' 50.08" W 097° 25' 03.46"
N 47° 52' 47.36" W 097° 24' 29.06" 0.4NM/97°
N 47° 57' 39.71" W 097° 24' 47.60" 4.9NM/358°
N 47° 57' 28.19" W 097° 31' 20.02" 4.4NM/268°
N 47° 57' 05.45" W 097° 31' 17.47" 0.4NM/176°
N 47° 56' 25.43" W 097° 31' 05.64" 0.7NM/169°
N 47° 55' 41.35" W 097° 30' 42.47" 0.8NM/161°
N 47° 54' 55.90" W 097° 30' 05.26" 0.9NM/151°
N 47° 54' 09.24" W 097° 29' 07.25" 1.0NM/140°
N 47° 53' 36.53" W 097° 28' 07.49" 0.9NM/129°
N 47° 53' 22.60" W 097° 27' 30.38" 0.5NM/119°
N 47° 53' 13.51" W 097° 27' 04.13" 0.3NM/117°
N 47° 52' 56.97" W 097° 25' 55.30" 0.8NM/110°
N 47° 52' 50.08" W 097° 25' 03.46" 0.6NM/101°

Southeast Quadrant
N 47° 52' 56.97" W 097° 22' 11.87"
N 47° 53' 11.94" W 097° 21' 06.62" 0.8NM/71°
N 47° 53' 37.17" W 097° 19' 58.97" 0.9NM/61°
N 47° 54' 00.19" W 097° 19' 17.32" 0.6NM/51°
N 47° 54' 15.94" W 097° 18' 49.25" 0.4NM/50°
N 47° 54' 55.34" W 097° 18' 01.22" 0.8NM/39°
N 47° 55' 40.80" W 097° 17' 24.02" 0.9NM/29°
N 47° 56' 20.40" W 097° 17' 03.16" 0.7NM/19°
N 47° 56' 59.22" W 097° 16' 50.44" 0.7NM/12°
N 47° 57' 21.66" W 097° 16' 46.80" 0.4NM/6°
N 47° 57' 50.78" W 097° 16' 45.87" 0.5NM/1°
N 47° 57' 53.34" W 097° 16' 45.92" 0.0NM/359°
N 47° 57' 42.28" W 097° 23' 18.40" 4.4NM/268°
N 47° 52' 49.93" W 097° 22' 59.70" 4.9NM/178°
N 47° 52' 56.97" W 097° 22' 11.87" 0.5NM/78°

Attachment 11

RAWS RESTORAL PRIORITIES

A11.1. Priority 1.

A11.1.1. GPN-30 secondary- Monopulse Secondary Surveillance Radar

A11.1.2. GPN-30 Primary- Primary Surveillance Radar

A11.1.3. AN/FRN-45C- Red River TACAN

A11.1.4. Selex 2100- ILS, Localizer

A11.1.5. FMQ-19- Automatic Meteorological Surface Observation System

A11.1.6. AN/FSQ-204- STARS

A11.1.7. RAPCON Control Console- 2 Terminal Control Workstation (TCW) positions down, includes Enhanced Terminal Voice Switch (ETVS)

A11.1.8. Control Tower Console- 3 control positions down, includes ETVS

A11.1.9. Selex 2100- ILS, Glideslope

A11.1.10. AN/GRC-171- RAPCON UHF Multi-channel Radio

A11.1.11. AN/GRC-171- Tower UHF Multi-channel Radio

A11.1.12. AN/GRC-211- RAPCON VHF Multi-channel Radio

A11.1.13. AN/GRC-211- Tower VHF Multi-channel Radio

A11.1.14. DALR- Digital Audio Legal Recorder

A11.1.15. PCAS- Crash Alert

A11.1.16. Primary Transmitter/ Receivers see **Table A11.1**

A11.1.17. Flight Data System Computer

A11.1.18. AN/FRN-45C- TACAN Remote Status Indicator

A11.1.19. AN/GRN-029- ILS Remote Status Indicator

Table A11.1. Primary Transmitter/ Receivers.

a.	318.1	Grand Forks Approach/Departure
b.	118.1	Grand Forks Approach/Departure
c.	349.0	Red River Tower
d.	124.9	Red River Tower
e.	243.0	ATC Emergency
f.	121.5	ATC Emergency
g.	121.1	Grand Forks Arrival
h.	294.7	Grand Forks Approach/VFR
i.	132.3	Grand Forks Approach/VFR
j.	275.8	Red River Ground Control
k.	371.85	Red River Arrival
l.	126.6	Red River Arrival
m.	346.25	RAPCON Discrete
n.	322.35	RAPCON Discrete
o.	360.7	Red River Clearance Delivery
p.	119.15	Red River Ground Control/Clearance Delivery
q.	343.5	Grand Forks PMSV (METRO)
r.	372.2	GFAFB Pilot to Dispatch

A11.2. Priority 2.

A11.2.1. ETVS- RAPCON Control Console (1 TCW)

A11.2.2. ETVS- Tower Control Console (1 or 2 control positions down)

A11.2.3. **(273.45)** - Airport Terminal Information Service

A11.2.4. Backup ATC Transmitters/Receivers see **Table A11.2**

Table A11.2. Backup ATC Transmitters/Receivers.

a.	318.1	Grand Forks Approach Control
b.	118.1	Grand Forks Approach Control
c.	349.0	Red River Tower
d.	124.9	Red River Tower
e.	132.3	Grand Forks Approach Control

Attachment 12

EQUIPMENT CONDITION CODES

A12.1. RED. An equipment system that is inoperative and is unable to support the mission requirements.

A12.2. AMBER. An equipment system that has deteriorated so that total equipment operability has diminished but can still meet mission requirements.

A12.3. GREEN. An equipment system condition that has little or no noticeable impact on overall operation. It can meet any or all mission requirements.

Table A12.1. Maintenance Response Time Criteria.

PRIORITY	CONDITION CODE	RESPONSE TIME*
1	RED	IMMEDIATE (within 1 hour)
1	AMBER	WITHIN 24 HOURS
1	GREEN	NEXT SCHEDULED DISPATCH
2	RED	WITHIN 24 HOURS
2	AMBER	WITHIN 48 HOURS
2	GREEN	NEXT SCHEDULED DISPATCH
Note: * Response time is defined as the amount of time in which a technician can be on site to work an outage.		

Attachment 13

GENERATOR TEST MFR

Figure A13.1. Generator Test MFR Template.

DATE

MEMORANDUM FOR 319 OSS/OSAM
319 OSS/OSAR
319 OSS/OSAT

FROM: 319 CES/CEOFP

SUBJECT: Generator Testing for 20XX

1. Proposed testing for the generator at building **817** is scheduled for **0900** on the following dates for the rest of 20XX.

XX Jan XX	XX July XX
XX Feb XX	XX Aug XX
XX Mar XX	XX Sep XX
XX Apr XX	XX Oct XX
XX May XX	XX Nov XX
XX Jun XX	XX Dec XX

2. This test will be conducted IAW ETL 13-4 and AFI 32-1063, par. 7.1, which states the generator will be tested in a manner to duplicate a nonscheduled power outage. Testing in this manner will cause a momentary power outage to the facility of approximately five to ten seconds.

3. If there are any conflicts with these dates, please contact SSgt Timme at 747-3737. If a power outage happens between scheduled tests and it is documented on an AFCESA 487 that will count as the load test for that month. Power Production will contact you in the event of a cancellation of a test as soon as possible.

4. The Power Production shop will coordinate with RAPCON Chief Controller (747-3345) 72 hours in advance of a power outage and the RAPCON Watch Supervisor will be notified (747-6110) 15 minutes prior to the generator test for final approval.

5. This letter supersedes all previous letters of the same subject.

JOHN A. DOE, TSgt, USAF
NCOIC, Electrical Power Production

Attachment 14

KRDR TFR DIAGRAM