



Chapter 8

RQ-4 OPERATIONS

8.1. CERTIFICATE OF AUTHORIZATION. Pilots will comply with each COA and LOA in effect between Beale and other Air Traffic Control (ATC) facilities. Currently, United States Air Force Air Combat Command maintains a COA with the Federal Aviation Administration (FAA) for RQ-4 Global Hawk Unmanned Aircraft Operations. Additionally 9 OSS/OSA (Airfield Operations) maintains a LOA specific to RQ-4 operations with Northern California TRACON (NCT). The 9 OG/NCT, *RQ-4 Coordination and Control Procedures* LOA contains specific routing instructions incorporated in RQ-4 mission plans.

8.2. AIRSPACE SCHEDULING. Normally China, Maxwell and Whitmore MOA/ATCAA are used for local RQ-4 flights. Coordinate airspace reservations with 9 OSS/OSOH. The China MOA/ATCC is the primary area for RQ-4 climbs, descents or holding for ATC sequencing. The Maxwell MOA/ATCAA is the secondary area. All references to the China and Maxwell 1, 2, and 3, and Whitmore 1, 2, and 3 MOAs in this section pertain to the lateral confines only, altitude requirements will be as directed by ATC.

8.3. RQ-4 GROUND OPERATIONS.

8.3.1. **Engine Start.** The RQ-4 mission initiates with maintenance towing the aircraft to a launch spot (mission start point). Limitations in the aircraft design preclude starting and taxiing from any location other than the surveyed launch spots. Engine start commences usually one hour before takeoff. The pilot, RQ-4 Mobile (call sign ~~Hawkeye~~), and the crew performing the engine start will monitor ground frequency during engine start operations.

8.3.2. **ATC Release.** Due to additional coordination between ATC, NCT, and ARTCC, RQ-4 departures may experience delays depending on air traffic and ATC workload. To control flow and expedite ATC release coordination, departures should be ready for takeoff upon reaching the runway hold line. Pilots shall advise ATC as early as possible if they cannot accept an immediate IFR departure.

8.3.3. **Designated Start Areas.** There are two designated RQ-4 start points; Global Hawk South (GH-S) on the Hawk Ramp and Global Hawk Hammerhead (GH-HH) on the north hammerhead adjacent Taxiway Bravo.

8.4. RQ-4 DEPARTURES.

8.4.1. **Takeoff.** Hawkeye will shadow the RQ-4 during takeoff to monitor for excess side-drift or aircraft problems. If a takeoff abort is required, Hawkeye or the LRE pilot will report over tower frequency ~~Abort, Abort, Abort~~. The aircraft will rapidly decelerate to a stop and remain on the runway until a maintenance team arrives to tow the aircraft. There is no ability for the RQ-4 to taxi clear of the runway following a takeoff abort. It is possible for aircraft programming to reject a pilot-initiated abort and continue a takeoff, or execute an autonomous (non-commanded) abort if specific departure roll parameters are not met. CAUTION: Pilots and ATC will be aware that aircraft altitude, performance limitations, or steering point guidance may result in the RQ-4 executing an immediate return and landing

opposite direction on the active runway. ATC shall ensure the runway remains clear until a departing RQ-4 reaches 7,000' MSL.

8.4.2. Departure. For normal departures, the RQ-4 proceeds to the China, Maxwell, or Whitmore MOA/ATCAA via the Global Hawk RPA departure ground track (see Northern California TRACON/Beale AFB 9th Operations Group Letter of Agreement). RQ-4 operators will ensure the aircraft remains within radar coverage via confirmed Remote Alpha-Numeric Color Display (R-ACD) radar observation while operating below Class A airspace during climb out. RQ-4 launches may be suspended when the R-ACD is non-operational. NCT will be notified of any R-ACD outages.

8.5. RQ-4 ARRIVALS.

8.5.1. Arrival. When applicable, the LRE will be manned at least 90 minutes prior to all scheduled RQ-4 arrivals. The 4.5° approach flown by the RQ-4 is preprogrammed and does not conform with standard instrument approaches. In general, the RQ-4 proceeds from China or Maxwell MOA/ATCAAs at or above FL200, holding and or descending within the MOAs lateral confines as directed by air traffic control. Return routing follows a pre-programmed flight plan, terminating at the Initial Approach Point (IAP) of the Global Hawk Approach (see 9 OG/NCT, *RQ-4 Coordination and Control Procedures LOA*). Pilots will ensure the aircraft remains within Class A airspace until under confirmed R-ACD (or FAA-approved equivalent) radar observation for the descent phase. Notify NCT of any R-ACD outage and comply with instructions. Once inside the 7 mile final, ATC shall ensure the runway is clear for landing/low approach.

8.5.2. Landing. The RQ-4 is programmed to land approximately 1,500' past the runway threshold. Winds, fuel imbalances, or other factors may affect the exact touchdown point. Hawkeye will monitor landing progress and may, prior to touchdown, call for an aircraft "go-around" over tower frequency. Once the aircraft is below 200' AGL, a go-around is no longer possible.

Note: Some RQ-4 emergencies or abnormal conditions will require aircraft shut down on the active runway. Once the aircraft has come to a complete stop, maintenance crews will perform post-flight procedures and tow the aircraft off the runway.

8.5.3. Go-Around. The RQ-4 go-around is a climb to 7,000' MSL toward the departure end of the runway. In the event of an emergency requiring an immediate landing and time permitting, the pilot will advise ATC of the intended landing runway. Pilots and ATC will be aware that aircraft altitude, performance limitations, or steering point guidance may result in landing opposite direction on the active runway.

8.6. RQ-4 DIVERT PROCEDURES. Edwards AFB, CA. is the primary divert base for RQ-4. Emergency engine-out divert locations are Fallon NAS, NV and Tonopah Test Range, NV. For Fallon NAS, Fallon Approach Control will be the controlling agency for descent from Class A airspace to landing. For Tonopah Test Range Base, Nellis Approach will be the controlling agency for descent from Class A airspace to landing. Pilots will ensure Edwards AFB, Fallon NAS, and Tonopah Test Range are notified of their respective vulnerability periods as appropriate, for local RQ-4 flight operations.

8.7. PILOT/ATC Communications. Primary communications between the RQ-4 pilot and ATC will be via sector-discrete radio frequencies, relayed through RQ-4 system equipment via

ground stations or aircraft. Secondary communications will be via Land Mobile Radio (LMR). In the event of radio failure, the pilot will notify ATC via landline to initiate communications via LMR.

8.8. RQ-4 MOBILE (HAWKEYE) OPERATIONS.

8.8.1. **Responsibility.** Hawkeye is responsible to visually clear for the pilot-in-control during all ground operations from engine start through aircraft liftoff, and landing until the aircraft is off the runway and the engine is shut down. The Hawkeye is responsible for all vehicle operations on the runway during launch, and recovery operations. This includes accompanying maintenance crews as necessary.

8.8.2. **Communications.** RQ-4 aircraft and Hawkeye normally operate on Ground Control and Tower frequencies. Hawkeye shall not perform ATC functions and will limit use of ATC frequencies to those transmissions necessary for safe RQ-4 operations.

8.8.2.1. Hawkeye will perform a radio check with tower prior to operating on the runway. Hawkeye will report "off the runway" to tower once all accompanying vehicles and equipment are off the runway.

8.8.2.2. Hawkeye may change from ATC frequency in the interest of flight following or safety, as long as contact is maintained with the SOF.

8.8.2.3. If equipped, maintenance crews shall monitor ATC frequency to maintain situational awareness. Communicate with ATC only if necessary to ensure safety. Hawkeye shall be the primary focal point for Tower/Maintenance coordination.

8.8.2.4. Prior to conducting RQ-4 towing operations on Taxiways B, C, D, E and F, tow crews will obtain ATC approval using Ramp Net, and will monitor Ramp Net until exiting those taxiways.

8.8.3. **Departures.** Hawkeyes automatically authorized onto the runway when their assigned aircraft is cleared onto the runway. Hawkeye and assigned aircraft are a departure package once on the runway, and are solely responsible for safely executing the departure procedures on the runway, including the separation of vehicle and aircraft during the procedures. Accordingly, the Hawkeye is authorized to maneuver as needed to accomplish all departure checks for the aircraft, until all vehicles and aircraft are off the runway.

8.8.4. **Arrivals.** Hawkeye is automatically cleared onto the runway behind the RQ-4 when their aircraft crosses the landing threshold.

8.8.4.1. Maintenance vehicles may enter the runway after receiving ATC permission, but must remain in trail behind both the RQ-4 and Hawkeye during landing. Hawkeye may relay runway clearance to maintenance crews upon receiving permission from ATC.

8.8.4.2. Maintenance crews will normally enter the runway from the taxiway nearest to where the aircraft stops.

8.8.5. **Staging Areas and Run-In.** When Runway 15 is active, Hawkeye shall use Taxiway B for staging and run-ins to the runway. When Runway 33 is active, Hawkeye shall use Taxiway E for staging and run-ins to the runway.

8.9. RQ-4 STEREO/DEPARTURE/ARRIVAL ROUTES

8.9.1. AM Ops maintains the following coded routes for 9 RWassigned RQ-4 aircrews departing IFR.

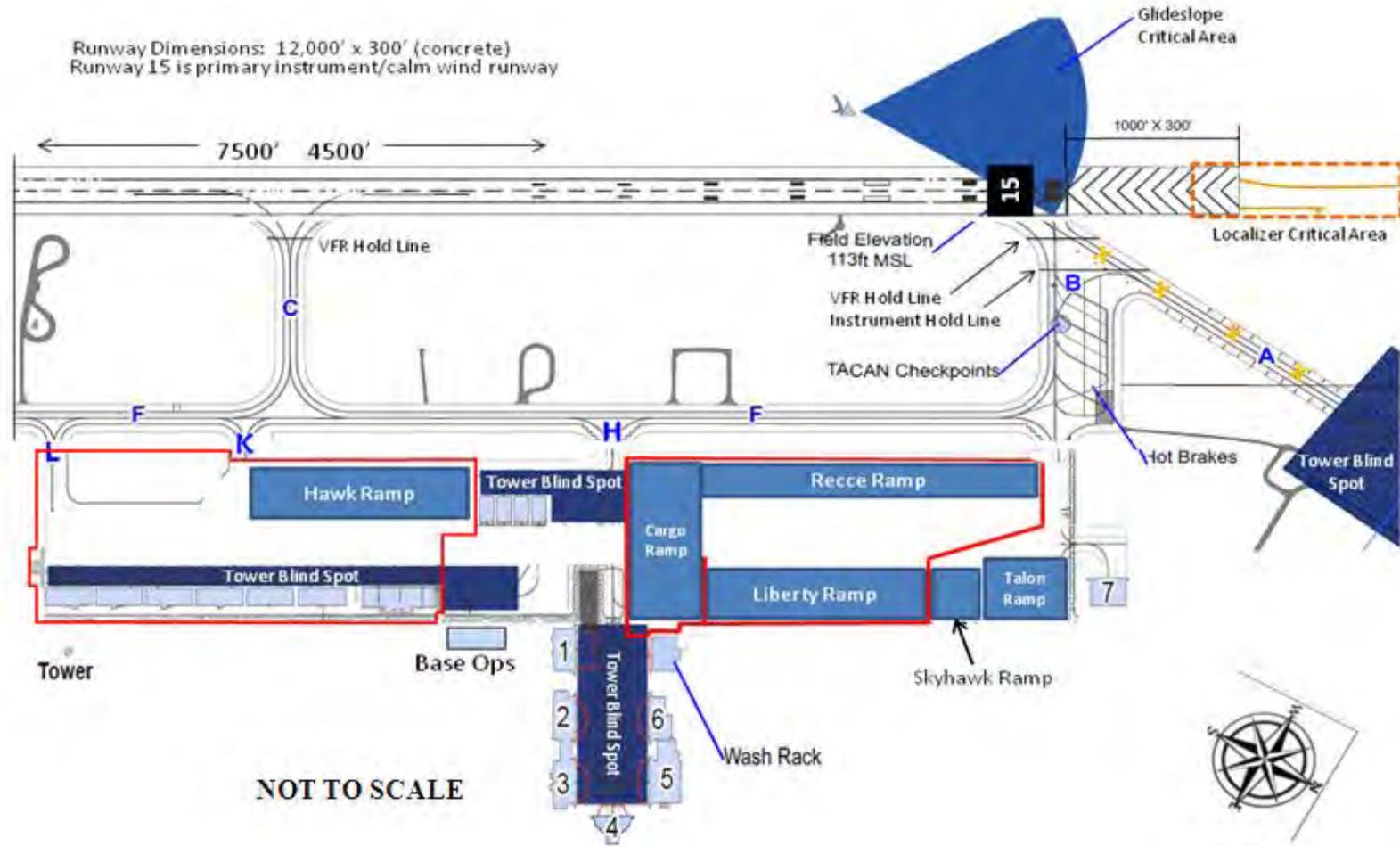
8.9.1.1. RUNWAY 15 PATTERN - Proceed direct BAB143004 BAB126005 BAB114005 BAB043004 D0+40 BAB345008 BAB335008 BAB327008 BAB. Requested altitude 7,000' MSL.

8.9.1.2. RUNWAY 33 PATTERN - Proceed direct BAB327007 BAB345008 BAB043004 D0+40 BAB127008 BAB135008 BAB144008 BAB. Requested altitude 7,000' MSL.

8.9.1.3. RUNWAY 15 MOA – Proceed direct BAB BAB143004 BAB126005 BAB114005 BAB043004 BAB327010 BAB346026 RBL063041 D0+30 BAB346026 BAB327010 BAB359007 BAB023005 BAB330002 BAB144008 BAB086008 BAB066004 BAB016002 BAB296003 BAB286008 BAB327009 BAB. Requested altitude FL450B600.

8.9.1.4. RUNWAY 33 MOA – Proceed direct BAB327007 BAB345008 BAB043004 BAB327010 BAB346026 RBL063041 D0+30 BAB346026 BAB327010 BAB359007 BAB023005 BAB330002 BAB327009 BAB286008 BAB296003 BAB016002 BAB066004 BAB086008 BAB138008 BAB144007 BAB143006 BAB. Requested altitude FL450B600.

8.9.2. See [Attachments 23](#) and [24](#) for RQ-4 arrival route depictions and missed approach procedures. Additional information is located in the Northern California TRACON/Beale AFB 9th Operations Group RQ-4 Procedures Letter of Agreement.



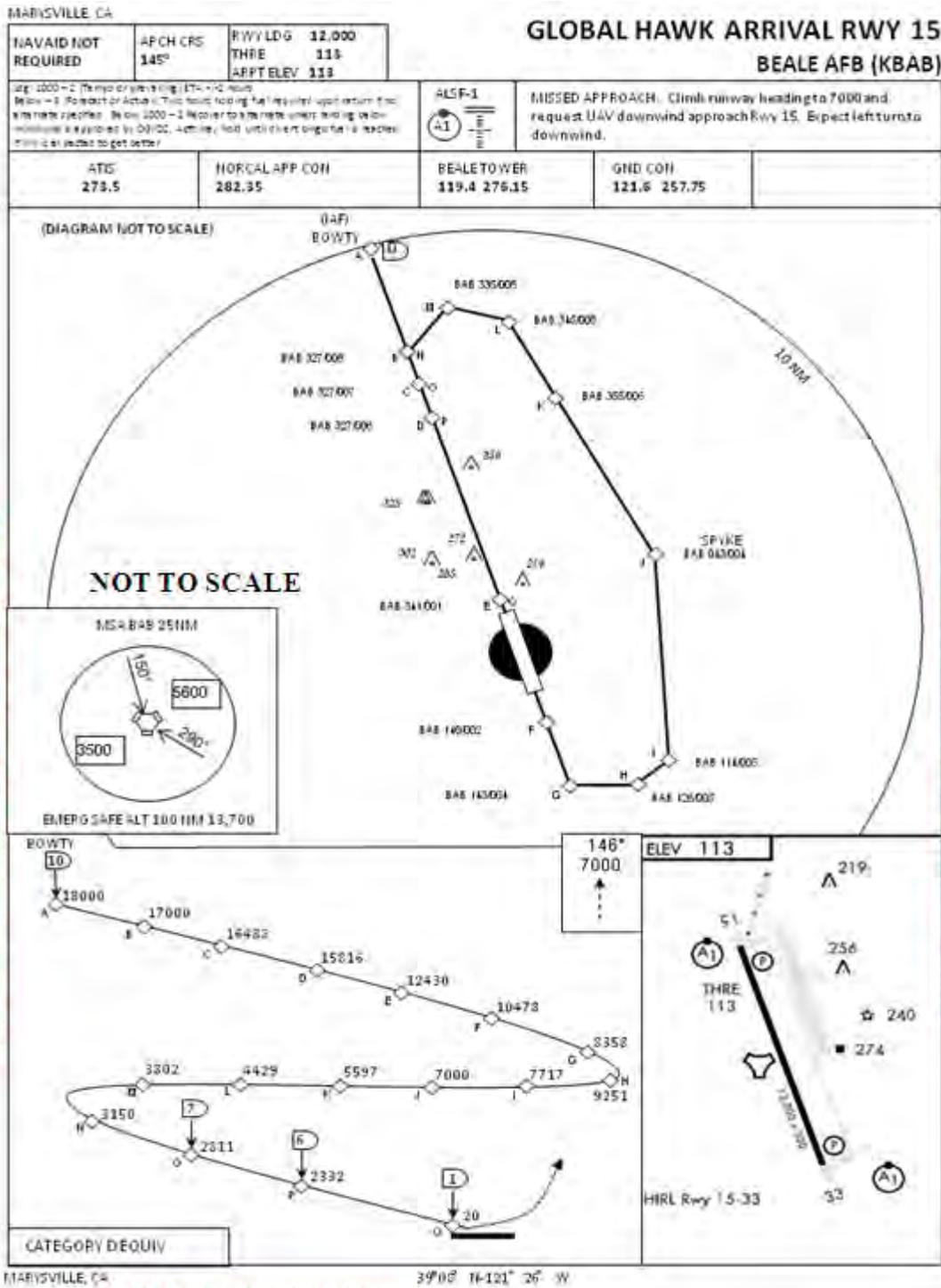
Attachment 20

RQ-4 TERMINATION POINT



Attachment 23

GLOBAL HAWK ARRIVAL RUNWAY 15



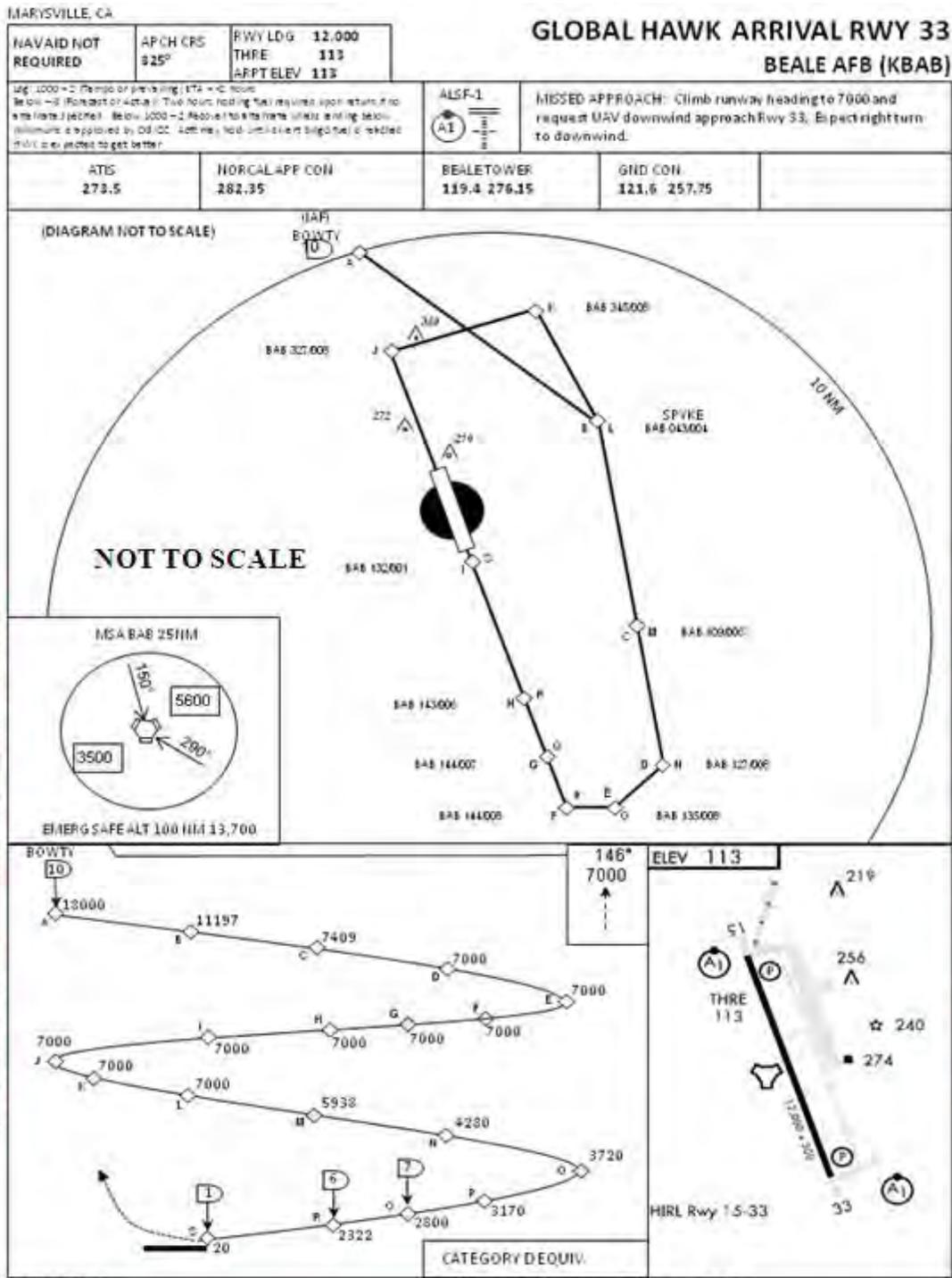
FOR AIRCREW COORDINATION ONLY - NOT A PUBLISHED PROCEDURE

FOR AIRCREW COORDINATION ONLY - NOT A PUBLISHED PROCEDURE

FOR AIRCREW COORDINATION ONLY
NOT A PUBLISHED PROCEDURE

Attachment 24

GLOBAL HAWK ARRIVAL RUNWAY 33



FOR AIRCREW COORDINATION ONLY - NOT A PUBLISHED PROCEDURE

FOR AIRCREW COORDINATION ONLY - NOT A PUBLISHED PROCEDURE

MARYSVILLE, CA

FOR AIRCREW COORDINATION ONLY
NOT A PUBLISHED PROCEDURE

39°03' 16-121° 26'

BEALE AFB (KBAB)

GLOBAL HAWK ARRIVAL RWY 33