



S3 Position Overview

May 2026

Position Overview

Sofia Approach (APP) is responsible for managing all IFR and VFR traffic within the Sofia Terminal Maneuvering Area (TMA). The controller ensures safe and efficient sequencing of arriving and departing aircraft, provides radar vectoring, and establishes aircraft on final approach.

The Sofia TMA extends above the Sofia Control Zone (CTR), which reaches up to 8500 ft AMSL, and typically up to FL245. Within this airspace, Approach provides separation between IFR aircraft and, when applicable, between IFR and VFR traffic.

Approach is a radar unit and plays a central role in traffic flow management. The Approach controller ensures continuous arrival sequencing, safe departure integration into en-route traffic and an efficient use of airspace and runway capacity.

If Tower or Delivery are offline, Approach provides top-down service, including IFR clearances, start-up approval, and runway operations, in accordance with BGvACC procedures (without re-performing those roles in full detail).

Responsibilities and airspace

The Sofia TMA consists of multiple sectors with varying vertical limits, which must be respected at all times when issuing descent or vectoring instructions. While the upper limit of the TMA is typically FL245, the lower limit is not uniform and varies depending on location, with controlled airspace beginning at different altitudes above the terrain surrounding Sofia. Below the TMA, uncontrolled (Class G) airspace exists in certain areas, while the CTR

extends from the surface up to 8500 ft AMSL and for VFR traffic is controlled by Sofia Tower (LBSF_TWR).

Aircraft must not be descended below the lower limit of controlled airspace. Due to the terrain surrounding Sofia, Minimum Vectoring Altitudes (MVAs) vary significantly across the TMA and must always be respected. When providing radar vectors, the controller must ensure that aircraft remain above the applicable MVA. These altitudes are defined on the radar charts.

The transition altitude within the Sofia TMA is 10500 ft, with a transition level typically set at FL120 (this applies for the whole LBSR sector). Controllers must ensure that the correct QNH is issued when transferring aircraft from flight levels to altitudes. Approach, as a radar position, is permitted to issue instructions that are not available to Tower. These include radar vectors, direct routings, speed control, and unrestricted climb or descent clearances within controlled airspace.

Attention must be given to the lateral boundaries of the TMA, especially when vectoring aircraft close to sector limits. Aircraft must not be vectored outside controlled airspace unless prior coordination with the adjacent sector has been completed. (For reference to charts, visit: <https://bgvacc.org/pilots/charts>)

Separation

Separation must be ensured at all times and must be applied in a way that guarantees both immediate and continuous safety. The controller must not issue instructions that would lead to a loss of separation if no further action is taken.

Within the TMA, separation is achieved either vertically, by maintaining **at least 1000 ft** between aircraft, or laterally, by maintaining a **minimum radar separation of 3 NM**. These minima apply in all phases of flight unless increased separation is required due to traffic complexity or wake turbulence.

When building an arrival sequence, increased spacing is required. As a general rule, **at least 6 NM** should be established between successive arrivals to allow for a departure between them. If no departure is expected and coordination with Tower has been completed, spacing may be reduced to 5 NM when safe but no less. This spacing must be achieved before aircraft are established on final and should not rely on last-moment corrections.

Wake turbulence separation must be applied based on the category of the leading and following aircraft. The required minima are:

MEDIUM follows HEAVY - 5 NM

LIGHT follows HEAVY - 6 NM

LIGHT follows MEDIUM - 5 NM

HEAVY follows HEAVY - 4 NM

Separation should be achieved using the most efficient method available. It can be done using speed control, vertical separation may be used where appropriate, particularly when managing crossing traffic or resolving conflicts early, and with radar vectoring. The use of direct routings is encouraged when there are few aircraft within the TMA and may be issued to avoid traffic congestion and possible conflicts in cases when the STARs have intersecting waypoints.

The controller must continuously monitor developing situations and anticipate conflicts before they occur. Early action is essential, especially in situations involving departures climbing into arrival paths or aircraft with significantly different performance.

It is important to note that aircraft below 10 000ft have a restriction of max. 250kt IAS

Radar control and traffic handling

Upon establishing radar contact, the controller assumes responsibility for the aircraft and may issue instructions necessary to ensure safe separation and efficient sequencing. These instructions may include headings, altitude assignments, speed control, and direct routings within the limits of the airspace.

All aircraft must be identified before such instructions are given. Identification is achieved when the aircraft is observed on radar with the correct squawk code and Mode C enabled. Once identified, the controller shall confirm this to the pilot using standard phraseology.

ATC: LZB451, Sofia Approach, identified

After identification, the controller shall immediately assess the aircraft in relation to other traffic and determine whether any action is required. Instructions should be issued early and in a way that avoids unnecessary corrections later.

Departing and arriving traffic

For aircraft entering the sector, initial instructions must include any necessary descent, routing, or sequencing information. These should be issued early to allow the pilot sufficient time to comply and to avoid last-moment corrections.

ATC: RYR8351, Sofia Approach, identified, cleared GOL4H arrival, expect ILS-Z 27, descend FL120

Arriving aircraft must be organized into a stable sequence before reaching the final stages of the approach. The controller should determine the landing order early and maintain it with minimal adjustments.

Departing aircraft must be integrated into the traffic flow without affecting the established arrival sequence. If no conflict exists, they may continue as cleared. If necessary, adjustments should be made as early as possible.

ATC: LZB451, Sofia Approach, identified, climb FL230

If there are any restrictions along the SID but traffic permits the aircraft to climb above them, the controller may allow the pilot to disregard the restrictions

ATC: LZB451, Sofia Approach, identified, climb unrestricted FL230

If a conflict with inbound traffic is anticipated, the controller may delay the climb or assign a heading.

ATC: LZB451, stop climb FL120

or

ATC: LZB451, turn right heading 180

Speed restrictions

Speed control should be used as a secondary measure for adjusting spacing between aircraft. Where speed control alone is not sufficient, altitude assignments or radar vectors may be used. These methods may also be combined when required.

ATC: LZB971, speed 220 knots or greater.

ATC: LZB973, speed 220 knots or less.

ATC: LZB8851, speed 220 knots.

Headings

When issuing headings, the controller must ensure that aircraft remain within controlled airspace and above the applicable MVAs. Excessive or late vectoring should be avoided, especially close to final approach, as this may lead to unstable situations.

ATC: LZB971, turn left heading 270.

ATC: LZB972, fly heading 320.

The controller must ensure the correct direction of turn when issuing heading instructions. If the intention is for the aircraft to take the shortest turn and the direction is not specified, the instruction “fly heading” may be used.

Direct routings

Direct routings may be issued to aircraft when this improves traffic flow or assists in maintaining separation. Directs must remain within the controller's area of responsibility unless coordination with the next sector has been completed.

ATC: LZB451, proceed direct GODEK

Holdings

Holding may be used to regulate traffic flow when the demand exceeds the available capacity of the aerodrome or the TMA. The decision to place aircraft in holding should be made early, before the situation becomes difficult to manage close to the final approach.

Whenever possible, aircraft should be instructed to hold at published holding fixes. The controller must ensure that the correct holding pattern, inbound track, and altitude are assigned, and that aircraft within the hold remain vertically separated.

ATC: RYR8351, hold over BENG0 as published, maintain FL140.

Aircraft in holding must be monitored continuously. The controller should plan the release sequence in advance and ensure that sufficient spacing exists between aircraft leaving the hold to integrate them into the arrival flow without further major corrections.

If multiple aircraft are placed in holding, vertical separation shall be applied between them unless sufficient lateral spacing can be ensured. The controller must avoid excessive stacking and should balance delays between aircraft where possible.

Upon release from holding, aircraft should be issued clear and timely instructions to rejoin the sequence.

ATC: RYR8351, leave hold, descend FL120, proceed direct NISVA

Descent instructions and limitations

Descent instructions must be issued in a timely manner to ensure that aircraft remain in a suitable vertical profile for sequencing and approach. The controller must continuously monitor the altitude of all aircraft and plan descents early in order to avoid situations where aircraft are too high for their position.

Above the transition level, descent shall be issued in flight levels. Below the transition level, descent shall be issued in altitude, together with the current QNH if they are cleared to an altitude below the TL for the first time.

ATC: LZB451, descend altitude 9000 ft, QNH 1023

Aircraft should not be cleared for an altitude that sits in the transition layer (between 10500ft and FL120).

The controller must ensure that aircraft are not descended below the applicable Minimum Vectoring Altitude (MVA) when under radar control. These altitudes vary within the TMA and must be respected at all times unless the aircraft is established on a published procedure or cleared for an approach.

Aircraft should be descended in a way that allows a stable interception of the final approach path. Late or insufficient descent instructions may result in excessive speed, unstable approaches, or the need for unnecessary vectoring.

If an aircraft is not descending sufficiently to meet the required profile, the controller may instruct the pilot to increase the rate of descent.

ATC: LZB451, expedite descent

The controller must ensure that all descent instructions remain compatible with surrounding traffic and do not compromise separation at any stage of flight.

Coordination with Tower and ACC

Effective coordination with both Tower and ACC is essential to ensure a continuous and conflict-free traffic flow.

Tower must obtain departure release from Approach before issuing line-up clearance. The Approach controller shall only approve the release when the traffic situation allows the departure to be safely integrated without affecting the arrival sequence.

ATC (TWR): Tower to Approach, LZB972, GOL3T

ATC (APP): Cleared

or

ATC (APP): Standby

or

ATC (APP): Cleared, after departure fly runway heading

The Approach controller must continuously monitor the spacing between arriving aircraft and determine when departures can be accommodated. The two positions should constantly coordinate so that, when necessary, arriving traffic is slowed down to provide a window for departing aircraft to take-off.

Coordination with ACC is required whenever traffic is approaching the lateral or vertical limits of the TMA. Aircraft shall not be cleared above the upper limit of the TMA or routed outside its lateral boundaries without prior coordination.

When possible, coordination should be performed in advance to allow for a smooth transfer of traffic and to avoid last-moment restrictions.

ATC (APP): Request climb FL280 for LZB451

ATC (ACC): Approved

Direct routings that extend beyond the TMA must also be coordinated unless the next sector is offline.

The Approach controller must ensure that all aircraft are transferred to ACC in a timely manner, typically before reaching the boundary of the airspace. Transfers should be completed early enough to allow the receiving controller to assume control without requiring immediate action.

ATC: LZB451, contact Sofia Control 131.225

All coordination must be proactive. Late coordination may result in unnecessary restrictions, increased workload, or loss of efficiency in the overall traffic flow.

Final approach sequencing

The Approach controller is responsible for establishing and maintaining a stable and continuous sequence of aircraft on final approach.

Aircraft should be positioned so that they intercept the final approach path at a suitable angle, **not exceeding 30°**, and at an appropriate altitude to capture the glideslope or vertical profile of the procedure. Aircraft must not be cleared for approach unless they are correctly established and no further major corrections are required.

ATC: LZB451, turn left heading 300, descend 6000 ft, cleared ILS-Z RWY 27, report established

Spacing between aircraft must be established before they are established on final. As previously mentioned, at least 6 NM should be maintained to allow a departure between arrivals. If no departure is expected and coordination with Tower has been completed, spacing may be reduced to 5 NM when safe.

Speed control is the primary tool for maintaining spacing on final and should be applied early and consistently across the sequence.

ATC: LZB451, maintain 180 knots until 6 DME

ATC: RYR8351, reduce speed 160 knots until 4 DME

All speed instructions issued after approach clearance must include a restriction such as “until” to ensure they remain valid.

The controller must continuously monitor the sequence and anticipate any reduction in spacing. If spacing becomes insufficient, corrective action must be taken early, such as reducing speed, applying delay vectors. Late corrections close to the runway should be avoided.

In cases where the sequence cannot be maintained safely, the controller must be prepared to instruct a go-around.

Visual approaches may be approved when requested by the pilot and when traffic conditions permit. The pilot must report the runway in sight before clearance is issued.

ATC: LZB451, report runway in sight

ATC: LZB451, cleared visual approach RWY 27