Greensboro Air Traffic Control Tower
Standard Operating Procedures

GSO 7110.65C

November 23, 2021

Table of Contents

CHAPTER 1. INTRODUCTION

SECTION 1. INTRODUCTION

1-1-1. Purpose
This Order transmits itself to reflect current procedures in use at the Greensboro Air Traffic Control Tower (GSO ATCT) on the VATSIM network. This order is designed to supplement VATUSA and ZTL directives.

1-1-2. Audience
All operational personnel controlling GSO ATCT.

1-1-3. Distribution
This Order is available in the ZTL Files Library located at https://www.ztlartcc.org/controllers/files under SOPs.

1-1-4. Cancellation
The GSO section of the Minor Fields Quick Reference Handbook is cancelled.

1-1-5. Effective Date
This Order is effective as of November 23, 2021.

SECTION 2. POSITIONS AND FREQUENCIES

1-2-1. Operational Frequencies

Position	Frequency
ATIS	128.55
Clearance Delivery (CD)	121.75
Ground Control (GC)	121.9
Local Control (LC)	119.1
West Radar (WR)	124.35
South Radar (SR)	126.6
East Radar (ER)	120.9
Final Radar (FR)	125.6

1-2-2. Position Combining/Decombining

Position	Combines To/Decombines From
South Radar (SR)	West Radar (WR)
East Radar (ER)	West Radar (WR)
Final Radar (FR)	West Radar (WR) or East Radar (ER)
Local Control (LC)	West Radar (WR)
Ground Control (GC)	Local Control (LC)
Clearance Delivery (CD)	Ground Control (GC)

SECTION 3. AIRSPACE

1-3-1. Intrafacility Airspace Jurisdiction

a. GSO TRACON is delegated that airpace from the surface up to and including 12,000 feet. Sectorization depends on the Runway-In-Use and number of sectors open.

b. **West/South/East Radar Jurisdiction.** See Figures 1-3-1 through 1-3-12.
NOTE- *When Final Radar is not open, Final Radar airspace is delegated to West Radar.*

c. ***NOTE-*** *See Appendix E or appropriate LOAs for detailed interfacility airspace.*

Figure 1-3-1. West/South Radar Airspace (2 Way, Runway 23L/R In Use)

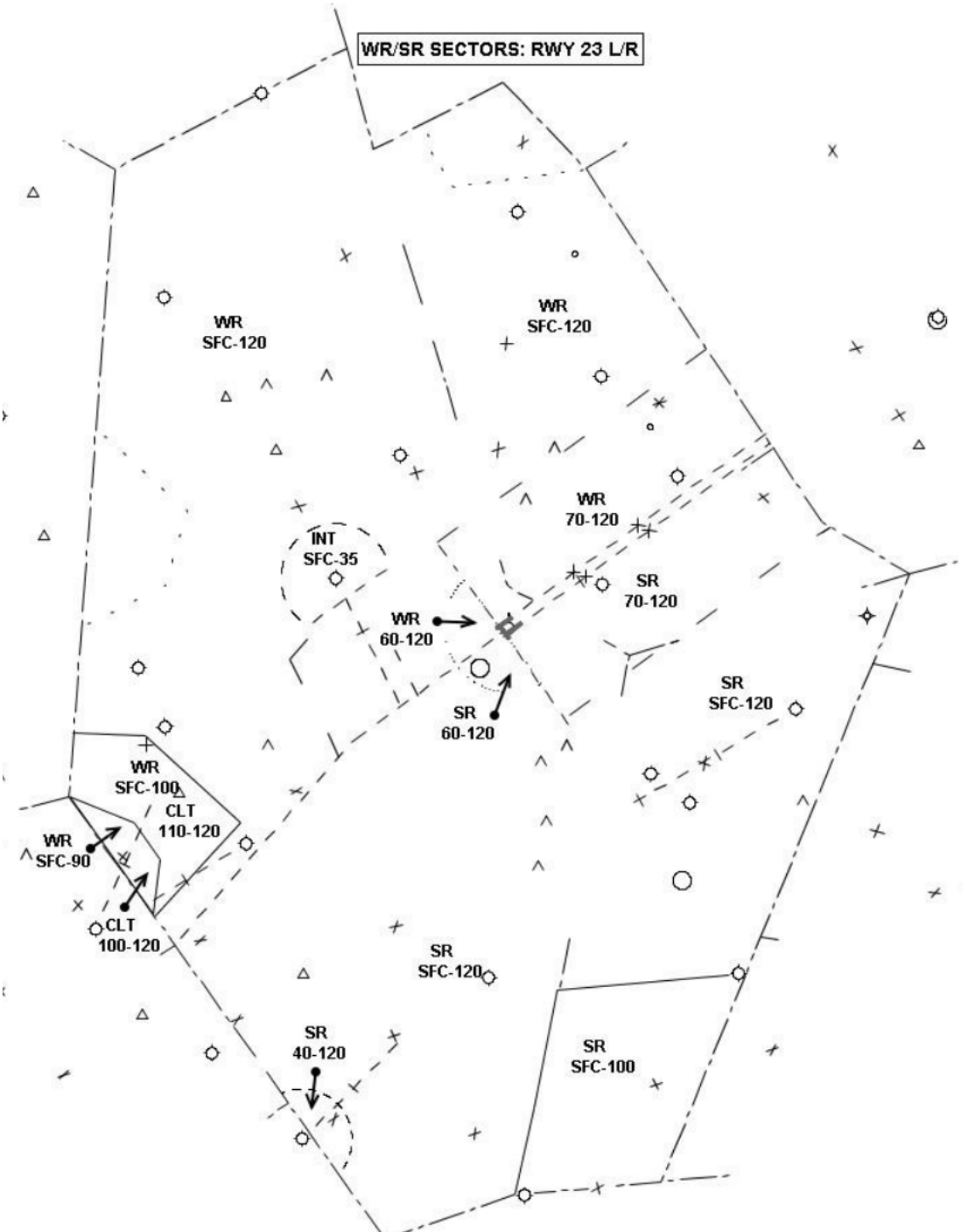


Figure 1-3-2. West/South/East Radar Airspace (3 Way, Runway 23L/R In Use)

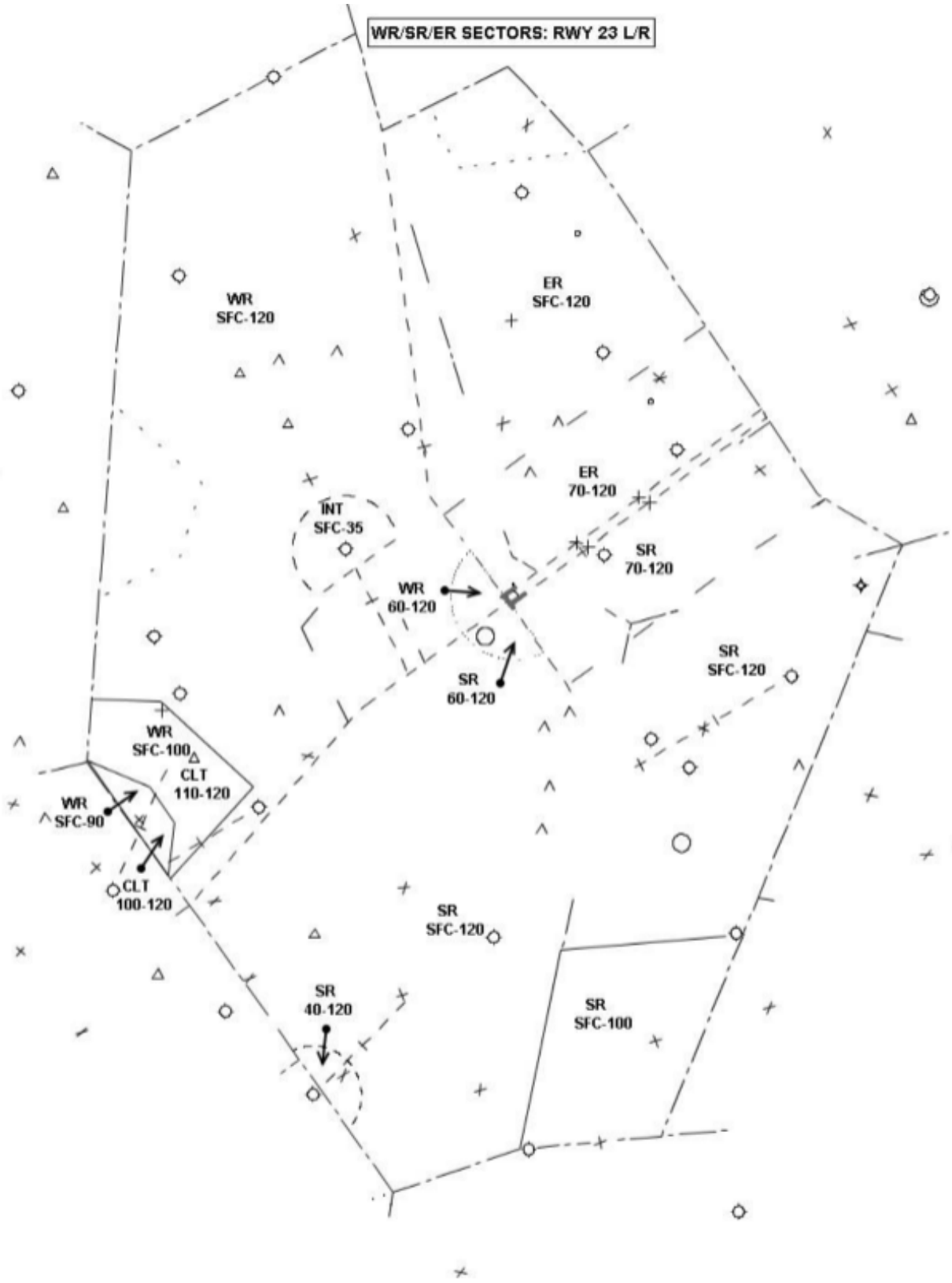


Figure 1-3-3. West/South Radar Airspace (2 Way, Runway 5L/R In Use)

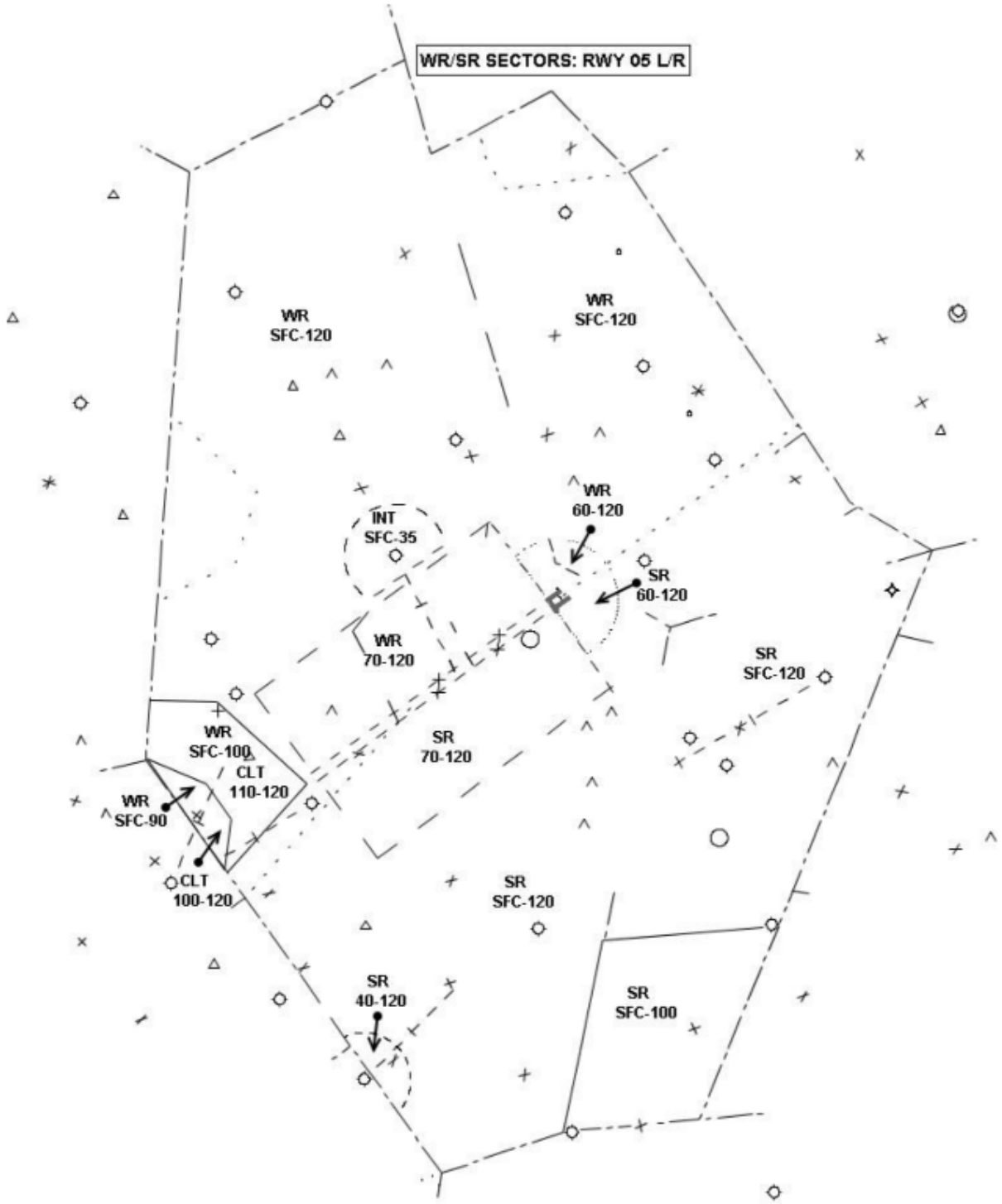


Figure 1-3-4. West/South/East Radar Airspace (3 Way, Runway 5L/R In Use)

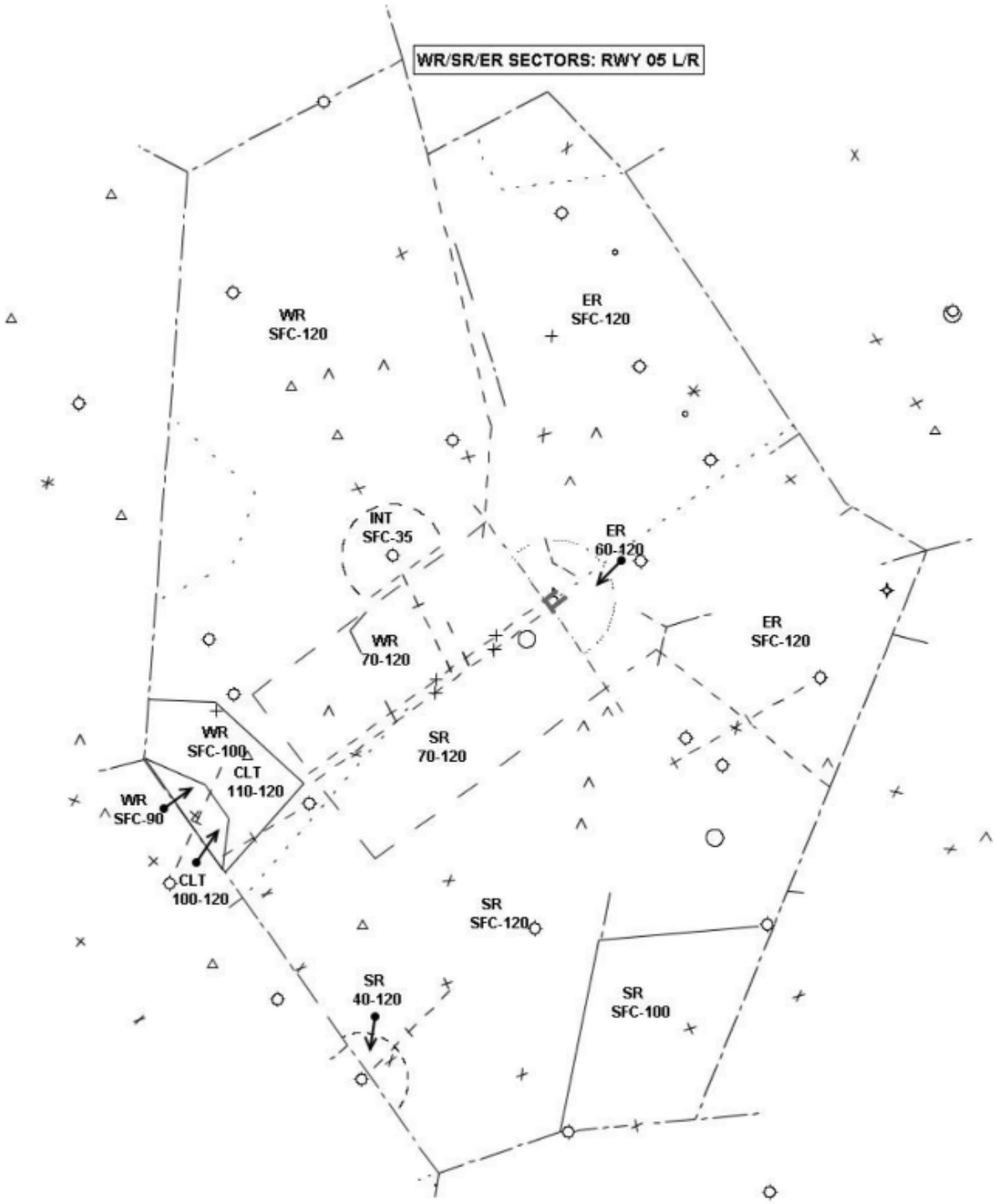


Figure 1-3-5. West/South Radar Airspace (2 Way, Runway 14 In Use)

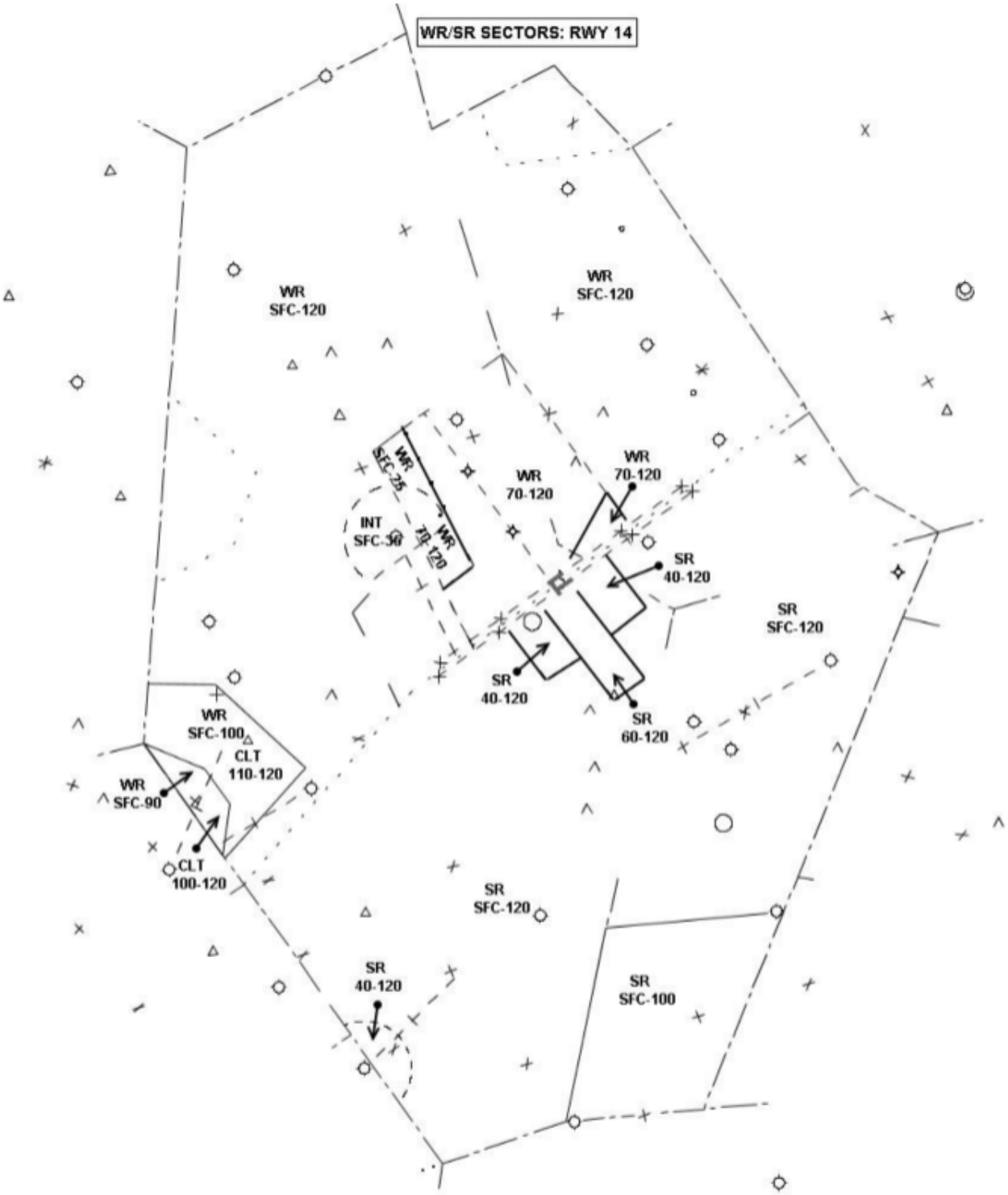


Figure 1-3-6. West/South/East Radar Airspace (3 Way, Runway 14 In Use)

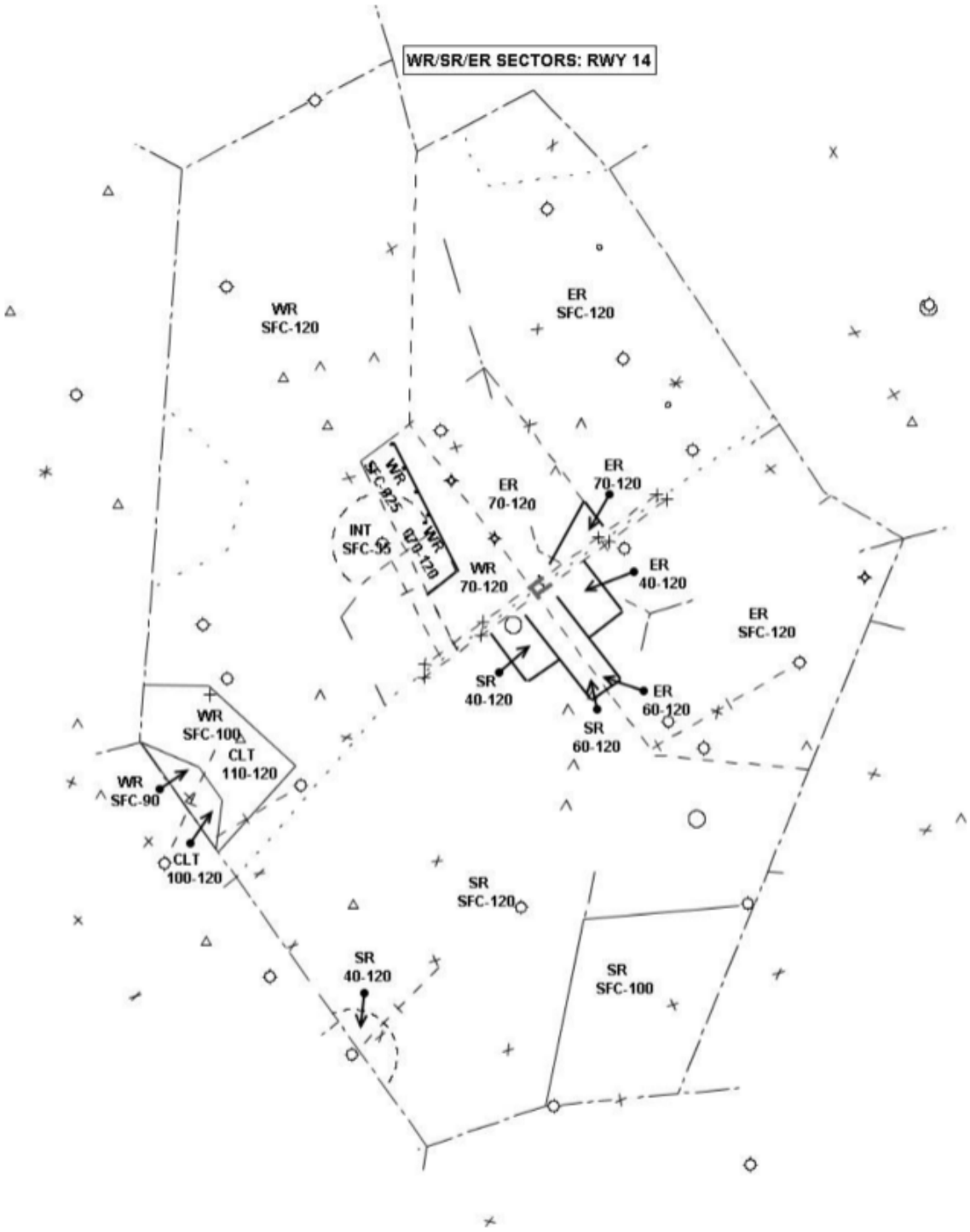


Figure 1-3-7. West/South Radar Airspace (2 Way, Runway 32 In Use)

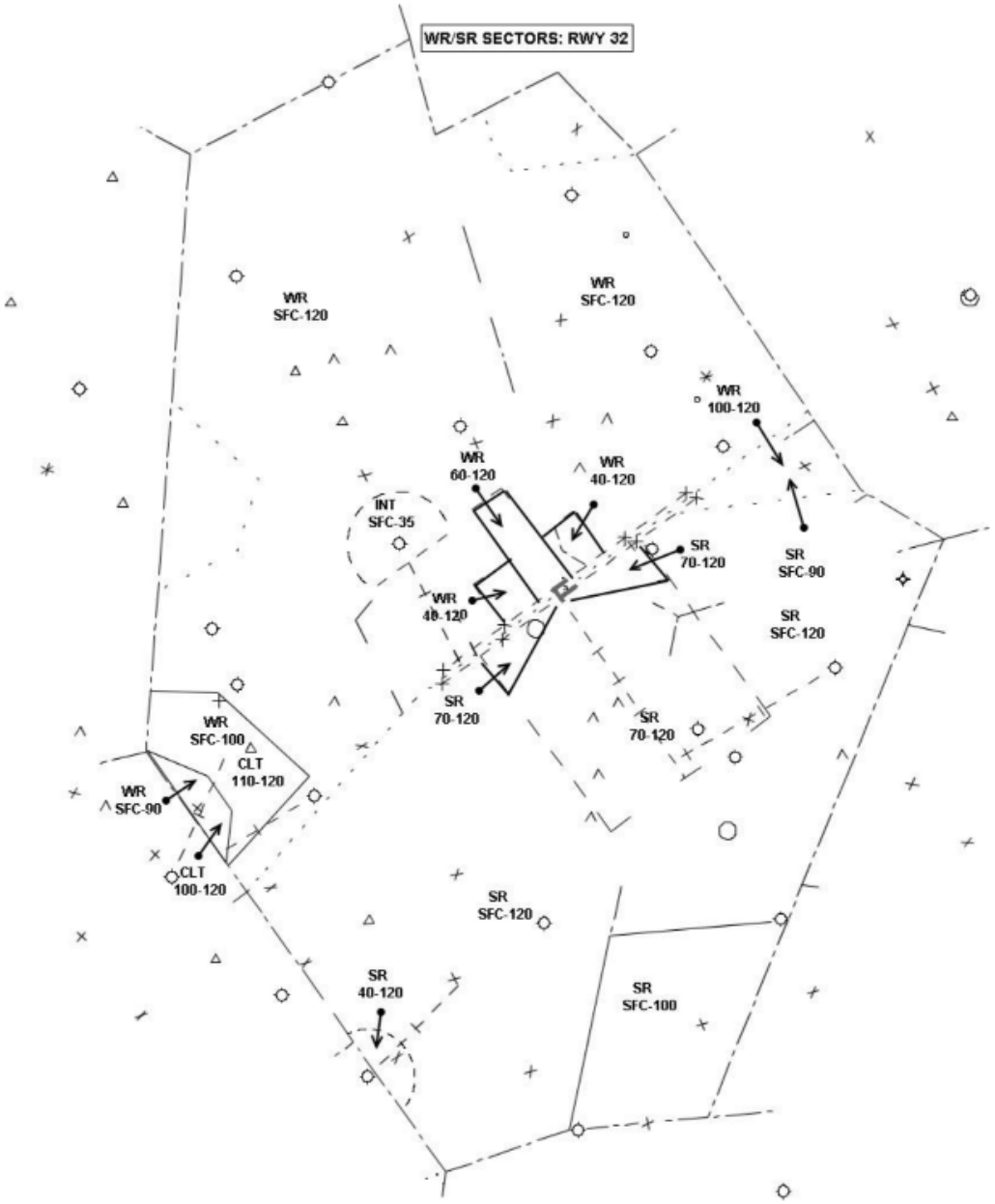
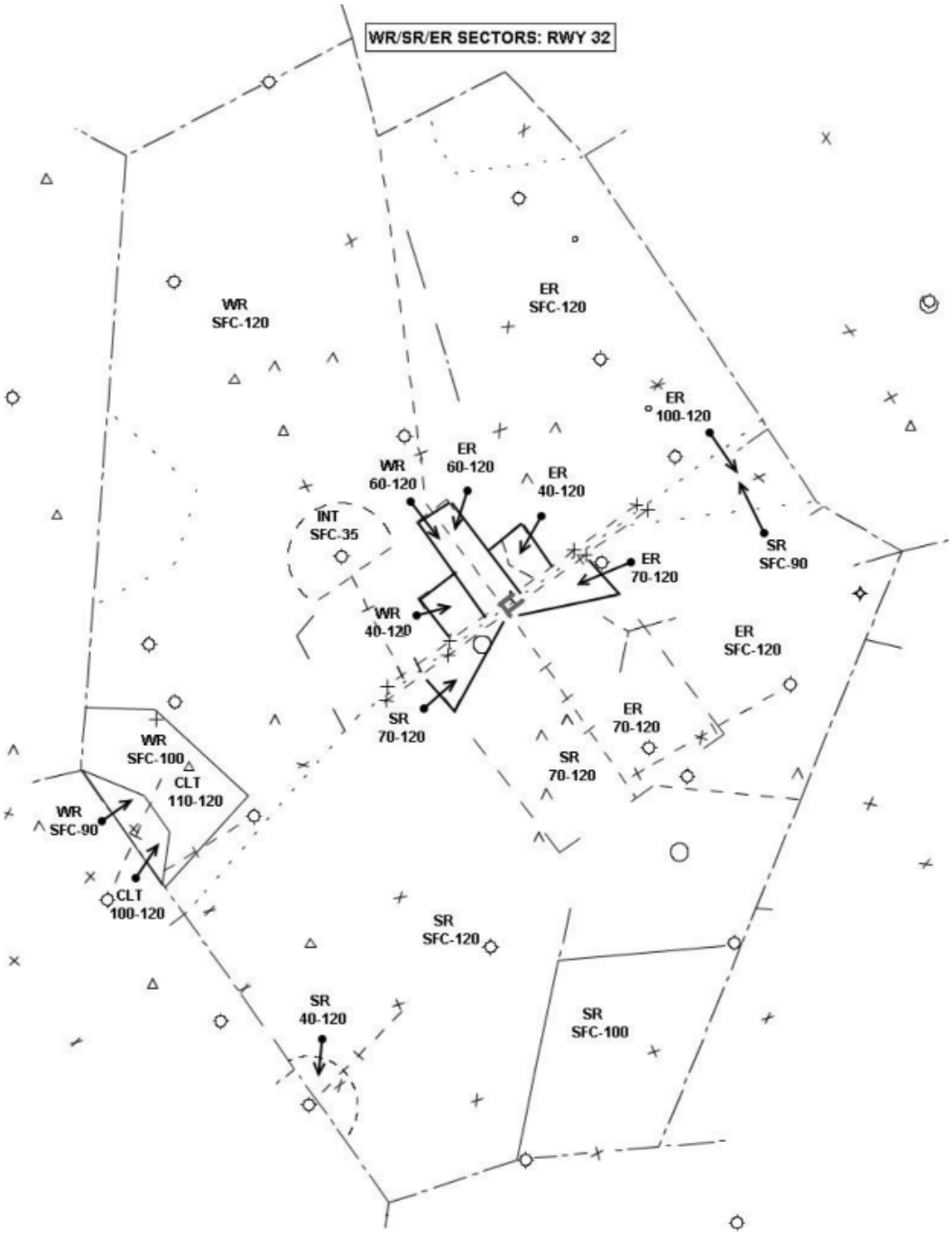


Figure 1-3-8. West/South/East Radar Airspace (3 Way, Runway 32 In Use)



d. **Final Radar Jurisdiction.** See Figures 1-3-9 through 1-3-12.
NOTE- *When Final Radar is not open, Final Radar airspace is typically delegated to West Radar.*

Figure 1-3-9. Final Radar Airspace (Runway 23L/R In Use)

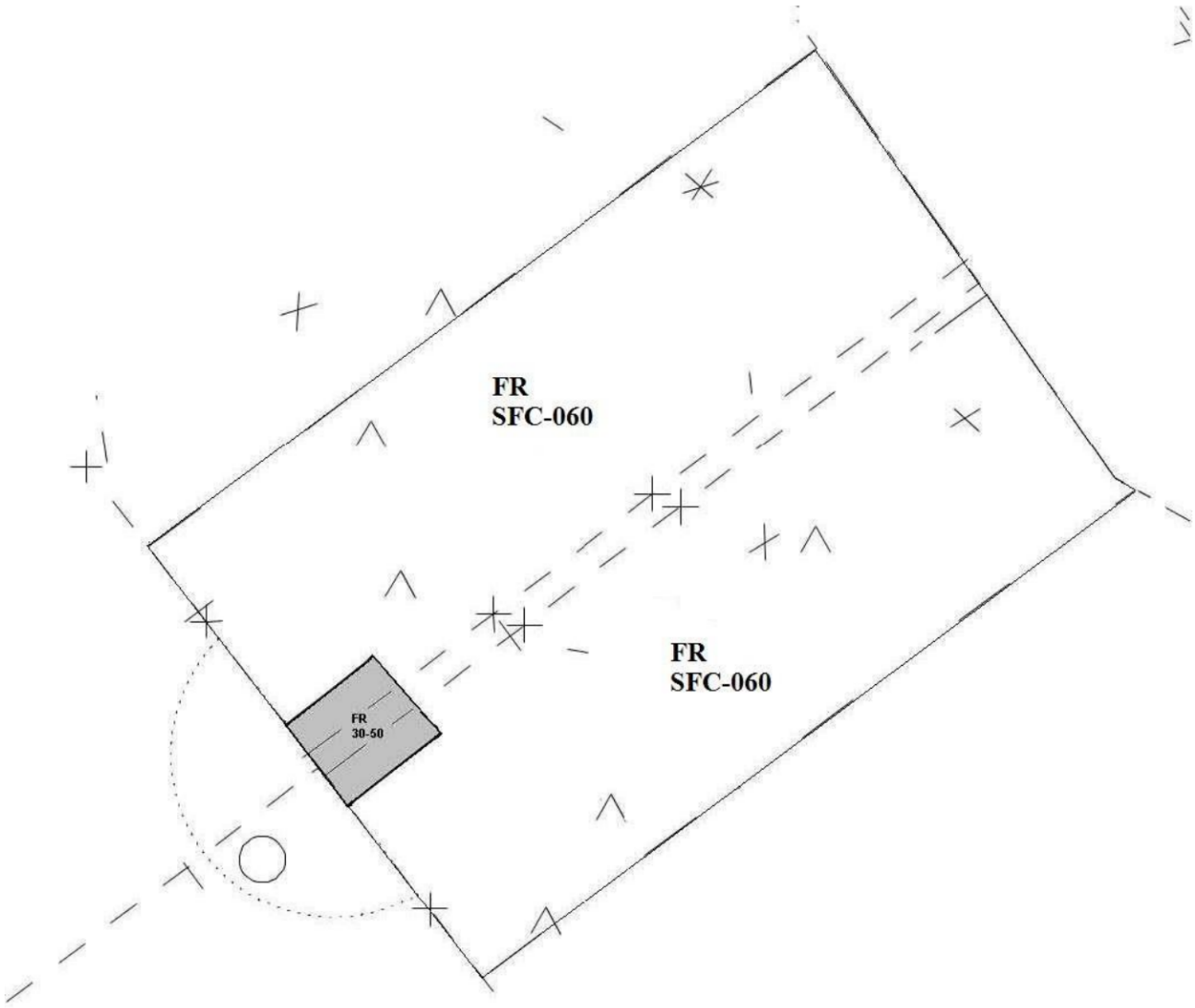


Figure 1-3-10. Final Radar Airspace (Runway 5L/R In Use)

*****_INT FINAL: SFC-2500 assigned to FR unless otherwise coordinated._

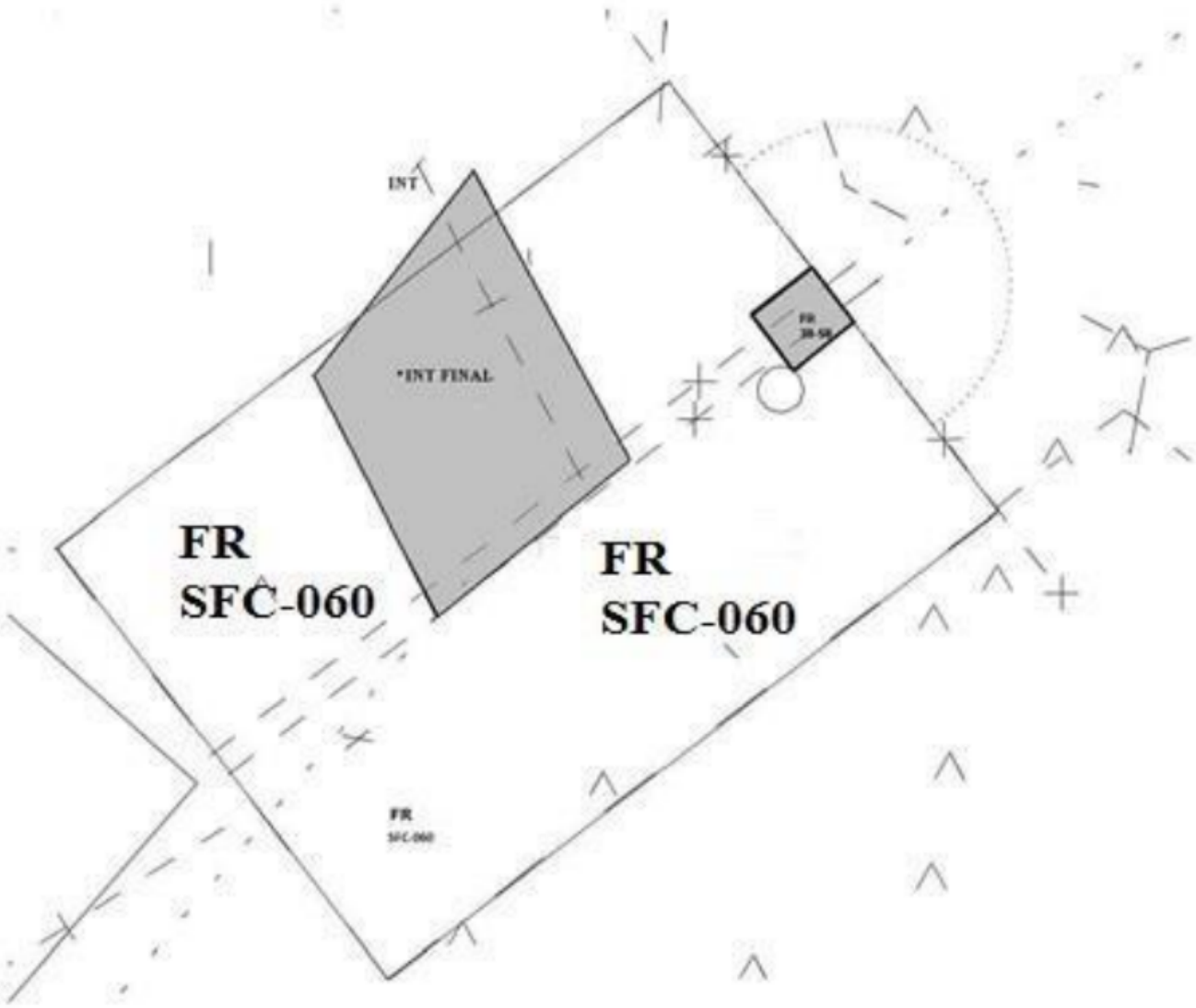


Figure 1-3-11. Final Radar Airspace (Runway 14 In Use)

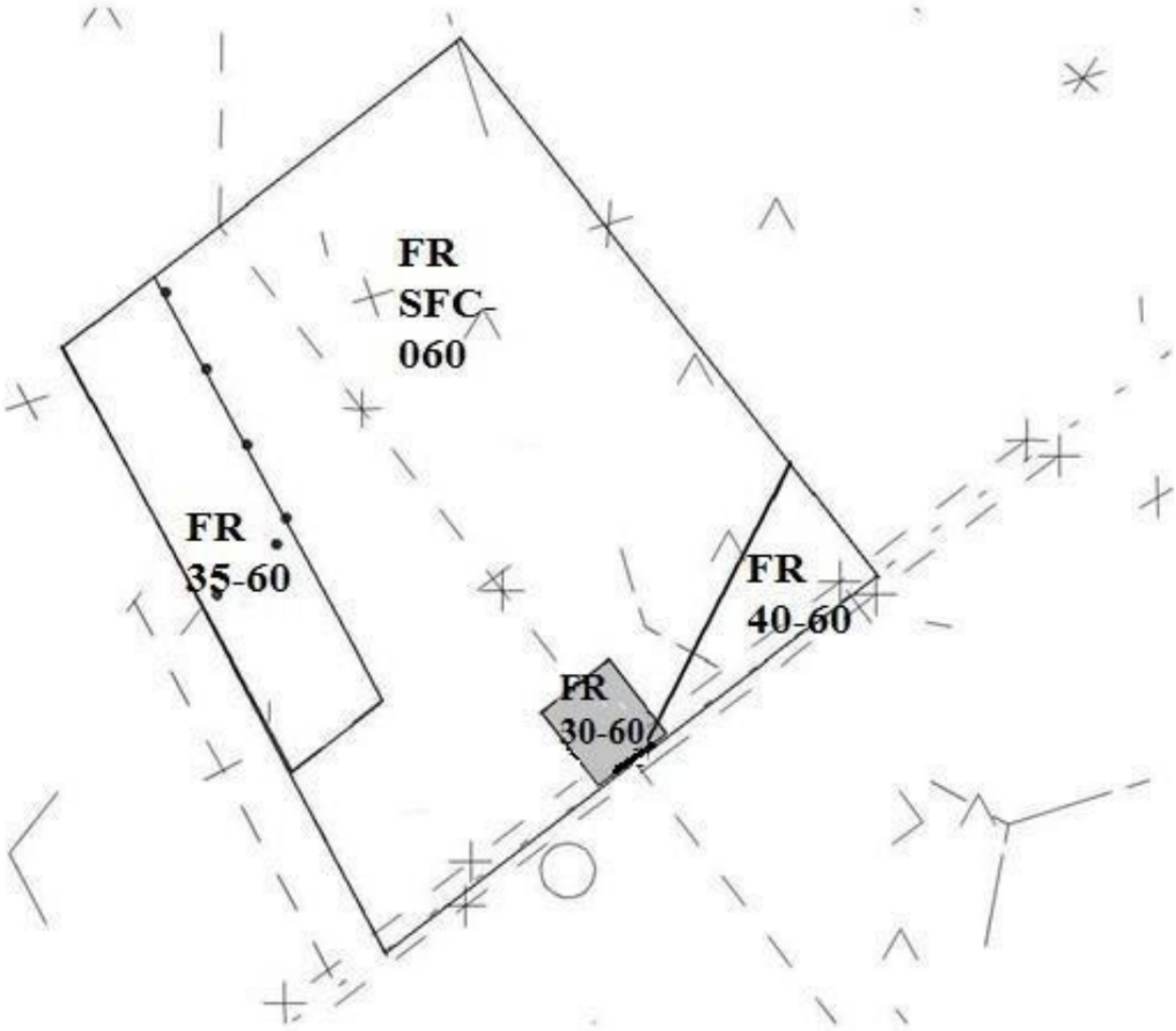
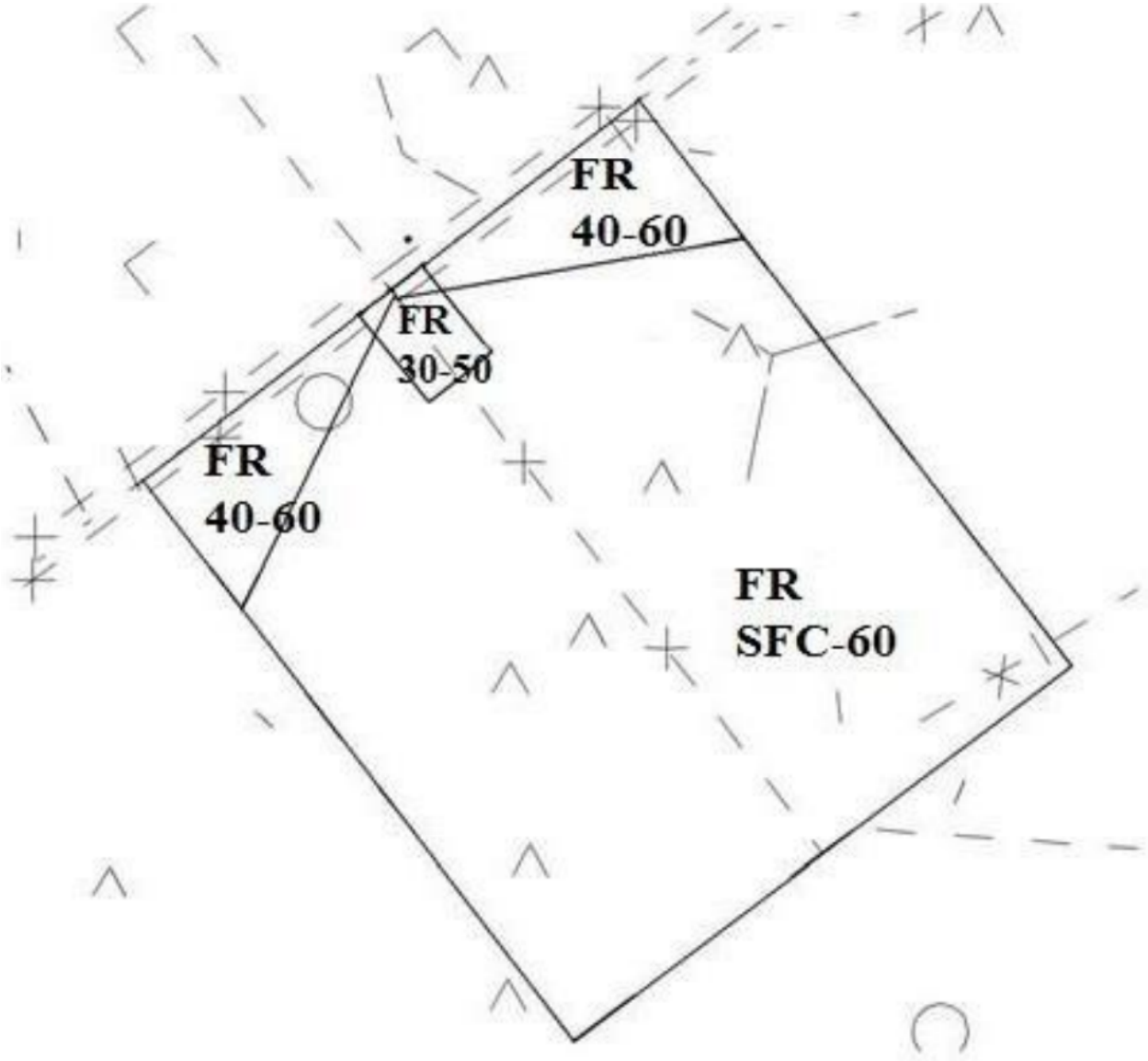


Figure 1-3-12. Final Radar Airspace (Runway 32 In Use)



1-3-2. Local Control Airspace Jurisdiction

The LC area of jurisdiction is depicted in Figure 1-3-13 through 1-3-16.

Figure 1-3-13. Local Control Airspace (Runway 23L/R In Use)

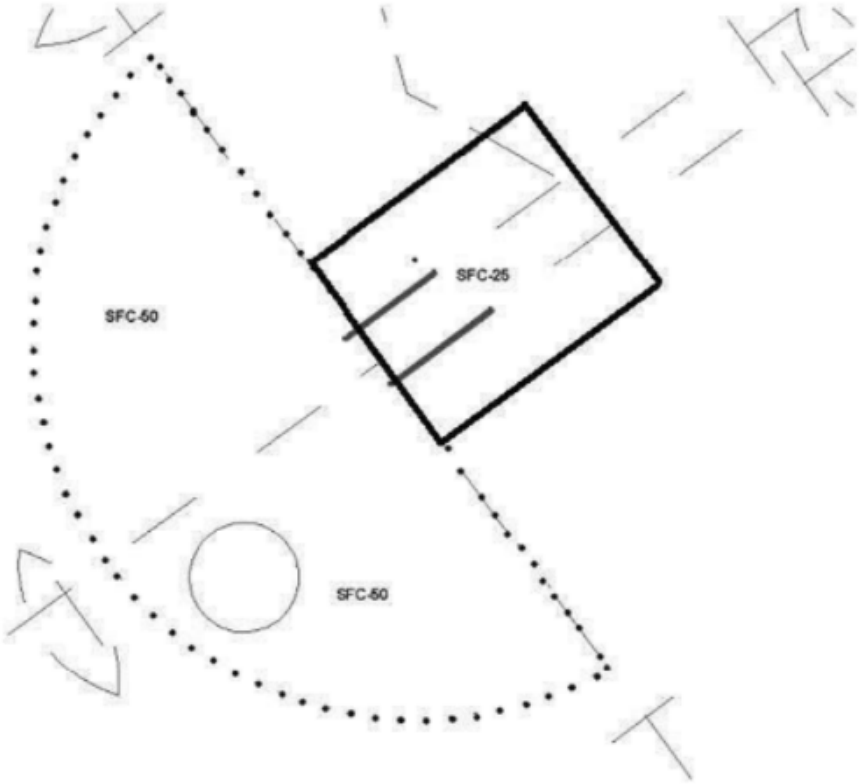


Figure 1-3-14. Local Control Airspace (Runway 5L/R In Use)

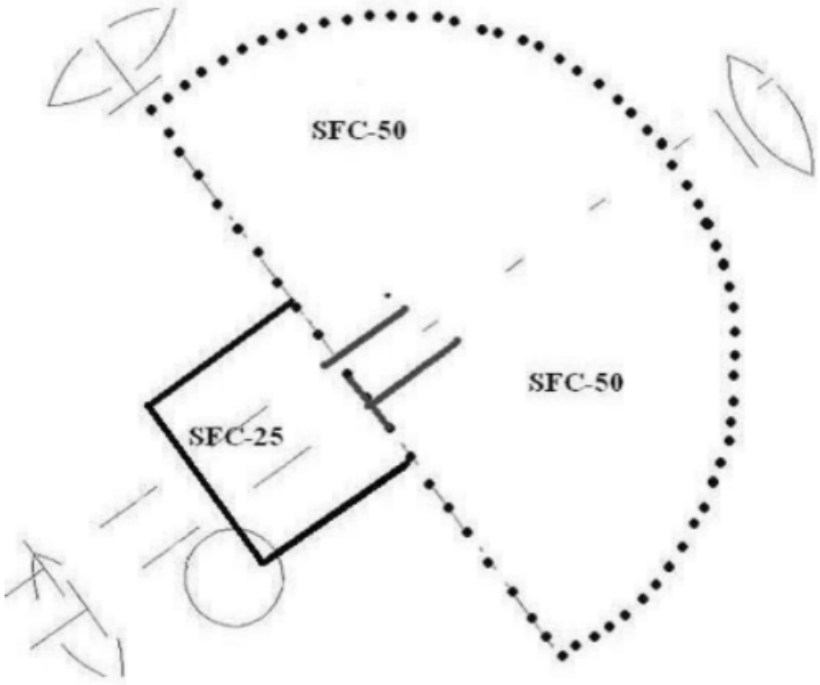


Figure 1-3-15. Local Control Airspace (Runway 14 In Use)

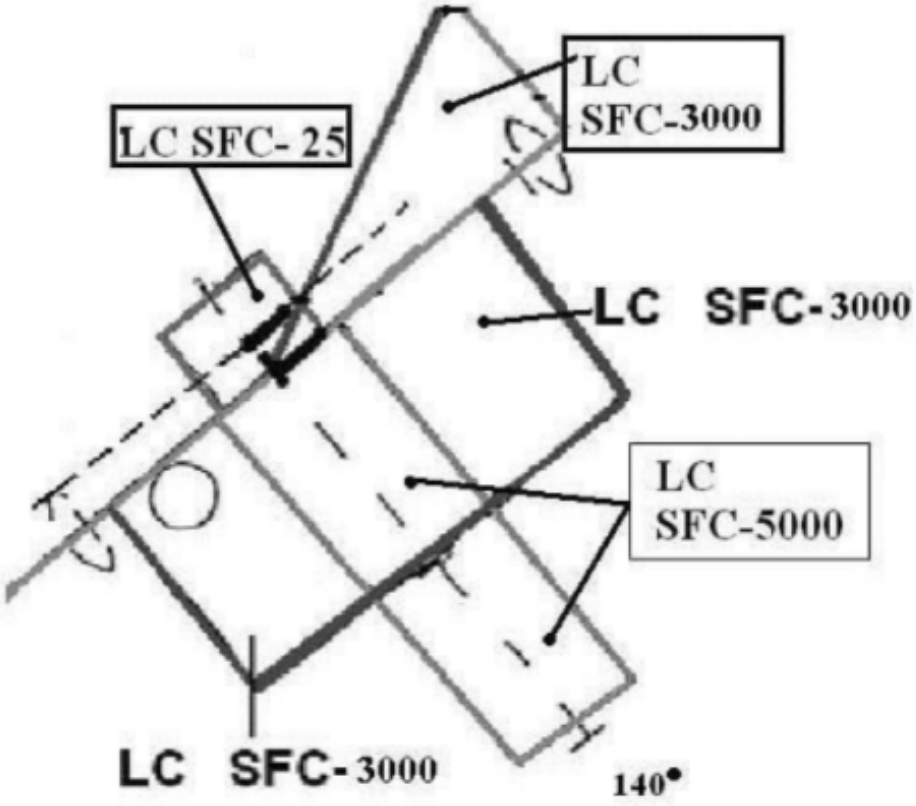
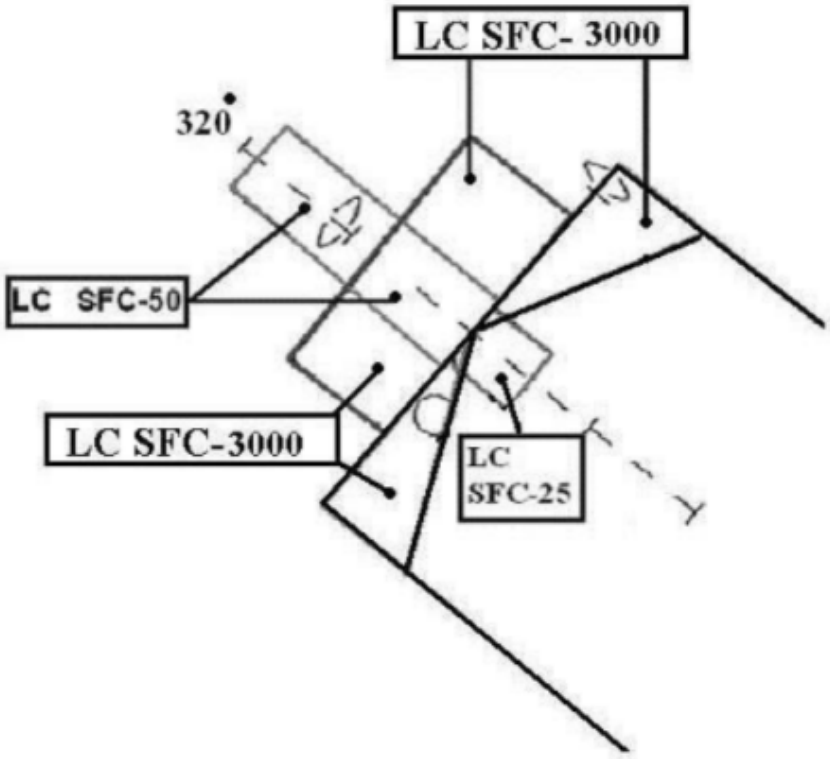


Figure 1-3-16. Local Control Airspace (Runway 32 In Use)

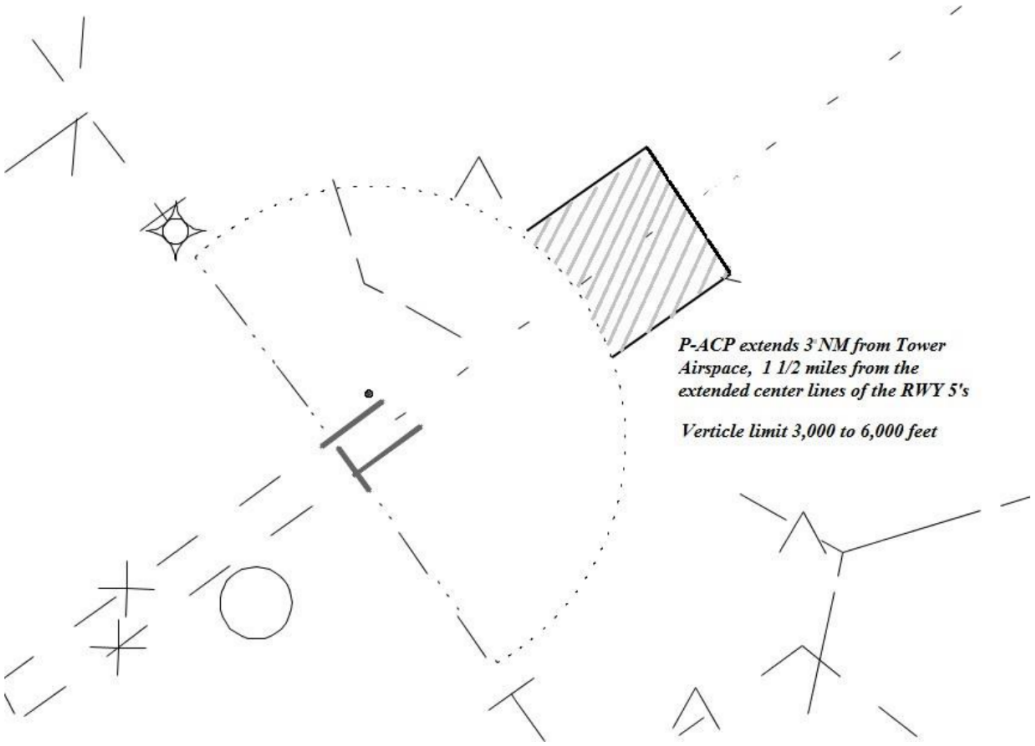


1-3-3. Prearranged Coordination Procedures (P-ACP) for Runway 5L/R Departures

a. P-ACP describes the process by which one controller must allow an aircraft to penetrate another's airspace in a manner which assures standard separation without individual coordination for each aircraft. P-ACP requires the following items:
   i. LC, WR, and SR must display the full data block information of all aircraft in the Prearranged Coordination Area depicted in figure 1-3-17.
   ii. LC, WR, and SR must not penetrate the P-ACP area simultaneously.
   iii. Each controller must determine whether the lead aircraft requires wake turbulence separation behind it.

b. Positions authorized to utilize P-ACP and position responsibilities.
   i. WR must apply P-ACP within the depicted boundaries of SR airspace as depicted in Figure 1-6-1, unless it is determined P-ACP is not practicable. WR must maintain approved separation between aircraft under their control and all traffic in P-ACP airspace. All aircraft that penetrate the P-ACP area that are not a RWY 5 departure must be pointed out to the affected controller.
   ii. SR must apply P-ACP within the depicted boundaries of WR airspace as depicted in Figure 1-6-1, unless it is determined P-ACP is not practicable. SR must maintain approved separation between aircraft under their control and all traffic in P-ACP airspace. All aircraft that penetrate the P-ACP area that are not a RWY 5 departure must be pointed out to the affected controller.
   iii. When P-ACP is being utilized LC coordination for WR departures entering SR airspace and for SR departures entering WR airspace (“Prearranged Coordination Departures”) is considered to have been effected.

Figure 1-3-17. Prearranged Coordination Area for RWY 5L/R Departures

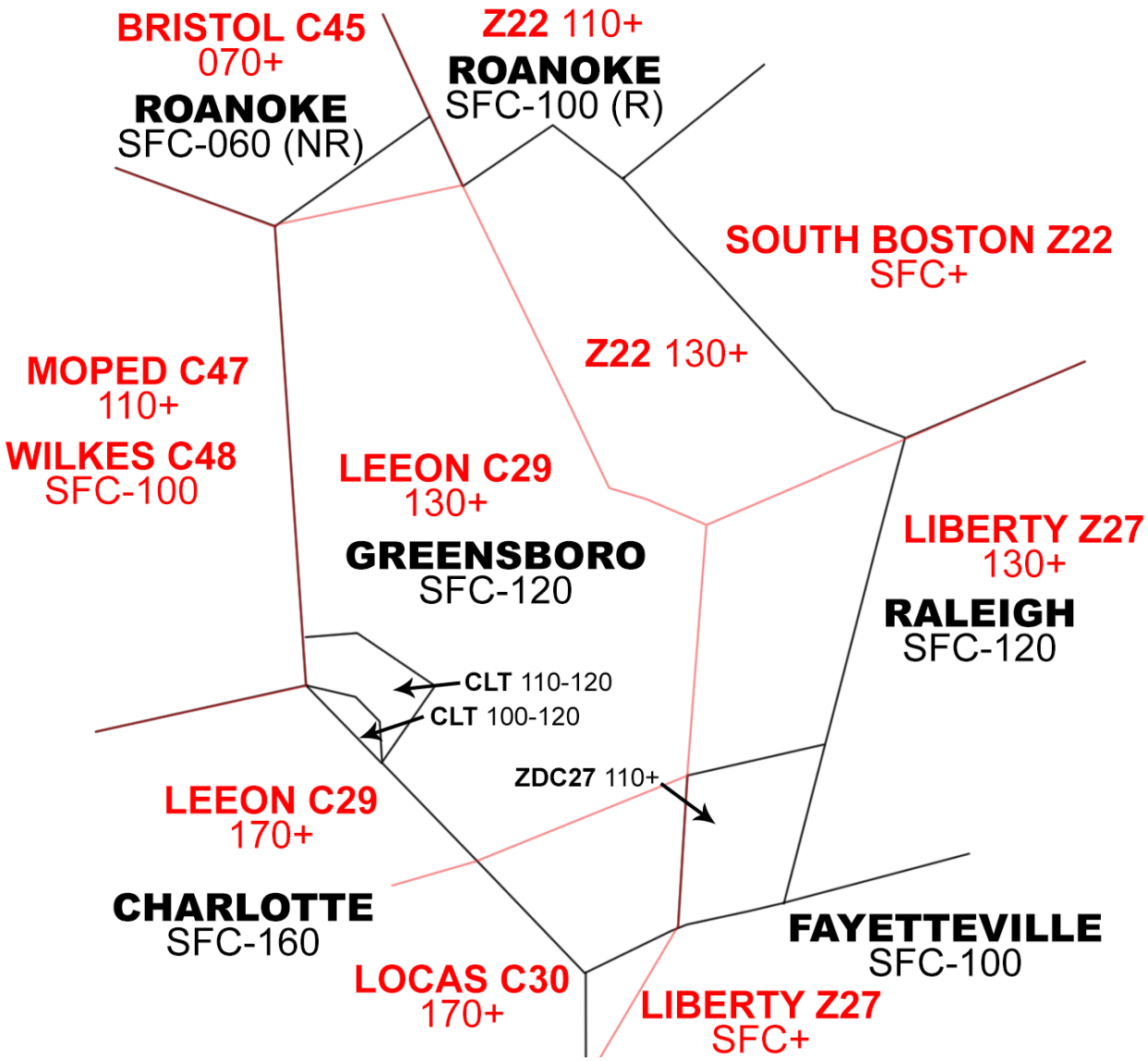


c. **Cancelling P-ACP**. In the event P-ACP is not practicable, the impacted position must notify LC/WR/SR as applicable. LC/WR/SR must cease P-ACP operations and the following actions must take place:

i. WR and SR must remain in the confines of their own airspace and verbally coordinate prior to penetrating another controller's airspace.

ii. LC must verbally coordinate with the WR and SR controllers prior to clearing an aircraft for takeoff on RWY 5L or RWY 5R on a heading that will or may penetrate both WR and SR airspace, and/or does not provide at least 1.5NM separation constant or increasing between WR and SR airspace boundaries prior to the aircraft exiting LC airspace.

1-3-4. Adjacent Facility Airspace Jurisdiction



SECTION 4. DUTY FAMILIARIZATION AND TRANSFER OF POSITION RESPONSIBILITY

1-4-1. Introduction

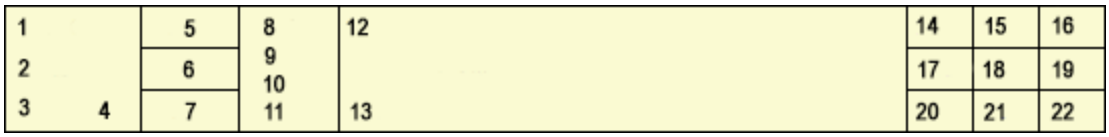
Essential operational information is contained in the Facility Directives and Announcements Forum.

1-4-2. Position Relief Briefing

Conduct a position relief briefing and transfer of position responsibility in accordance with FAAO 7110.65 using the appropriate position relief checklist.

SECTION 5. FLIGHT PROGRESS STRIPS

1-5-1. Flight Progress Strip



1-5-2. Clearance Delivery Strip Marking

Clearance Delivery shall be responsible for receiving the initial flight strip for departing aircraft and pass to the appropriate control position.

Block	Information Recorded
11	"FF" if a VFR departure is requesting Flight Following
12	Filed or amended route in accordance with preferred routings, LOAs, or coordinated TMU or SWAP routings
13	Clearance routing type when routing has been amended. ++FRC++ - Full Route Clearance ++FRC XXXXX++ - Full Route Clearance to a particular routing waypoint. Substitute XXXXX with the appropriate fix. ++EDCT YYYYz++ - EDCT Time when issued by ZTL
14	Letter of reported ATIS
17	"X" to indicate a correct clearance read back
20	Departure control position ID (SR or WR)
21	"HOLD" when a departure release is required

1-5-3. Ground Control Strip Marking

Block	Information Recorded
14	Letter of reported ATIS
18	The Taxiway designator for intersection departures

1-5-4. Local Control Strip Marking

Block	Information Recorded
21	Assigned departure heading when nonstandard. Followed by "NC" (No Turn) if required
22	Departure time. Minutes only
16	“*” When a departure release has been obtained for aircraft with a EDCT time in box 13

SECTION 6. GENERAL OPERATING PROCEDURES

1-6-1. Traffic Management

a. Comply with Traffic Management initiatives coordinated with ZTL or CIC. Specific traffic management initiatives will be provided by the TMC. Do not change routes or proposal times for aircraft participating in Traffic Management programs without prior coordination with the CIC/TMU.

b. IAW ZTL/GSO LOA, all turbojet aircraft arriving Charlotte Douglas International (KCLT) require a release from ZTL TMU.

1-6-2. Automatic Releases

a. TRACON provides automatic releases to Local Control ***except:***

   i. When the departure will enter final radar airspace.

   ii. When 14/32 is a runway-in-use and a jet requests to depart from another runway.

   iii. When an opposite direction departure is involved.

1-6-3. Designated Runway(s)-in-Use

a. The designated runway(s)-in-use must be designated by the Tower and coordinated with the TRACON as the “RUNWAY-IN-USE”.

b. During non-midshift hours, use the runway(s) most nearly aligned with the wind when 5 knots or more or the "calm wind" runway when less than 5 knots unless:

   i. Use of another runway will be operationally advantageous.

   ii. Requested by the pilot.

   NOTE: *Runway 23L/R is the 'calm wind' runway during non-midshift hours. For midshift hours, see subpara c.*

c. During mid shift hours, the following runway use plan is required:

   i. Between the hours of 2230–0130(L) the designated runway-in-use must be RWY 5R unless the following conditions exist:

      1. Wet runways. Determination of wet runway by pilot report, direct observation, METAR observation and/or contaminant NOTAM.
      2. Tailwind component, including wind gusts, exceeds the values in Table 1-6-1 for a dry runway.
      3. Weather impacting the initial takeoff path or final approach path.
      4. Wind shear reported by pilot or LLWAS that would necessitate operation on another runway.
      5. Ceiling conditions requiring use of ILS CAT III approach.
      6. Requested by the pilot.
      7. When an operational advantage can be gained.

8. RWY 5R not available. In this case, RWY 5L becomes the preferred runway-in-use unless conditions above exist.

ii. Between the hours of 0130–0600(L) the designated runway-in-use must be RWY 23L unless the conditions in paragraph c(i) exist. If RWY 23L is not available then RWY 23R becomes the preferred runway-in-use, also subject to the conditions in para c(i).

d. When a runway change is required, the following procedure shall be followed:

i. The Tower must coordinate the following with the TRACON:

1. Cancellation of automatic releases.
2. Last departure.
3. Last arrival.
4. Type approach in use.
5. Coordinate resumption of automatic releases.

ii. Ground Control must ensure all aircraft are informed of the new Runway-In-Use and taxi all aircraft to the new runway unless verbally coordinated with LC.

Table 1-6-1. Maximum Surface Tailwind Components (5KT, Dry RWY Only)

LANDING RUNWAY 5		DEPARTING RUNWAY 23	
WIND DIRECTION	**WIND VELOCITY**	**WIND DIRECTION**	**WIND VELOCITY**
310	20	330	20
300	14	340	14
290	10	350	10
280	7	360	7
275	7	005	7
270	6	010	6
200-260	5	020-080	5
190	6	090	6
285	7	095	7
280	7	100	7
170	10	110	10
160	14	120	14
150	20	130	20

1-6-4. Jurisdiction Over Runway 14/32

a. When Runway 14/32 is not the advertised runway in use, Local Control can relinquish control of RWY 14/32 to Ground Control via the following procedures:
    i. All potential conflicts/traffic situations must be resolved prior to transferring control of RWY 14/32.
    ii. Local Control must approve that RWY 14/32 is Ground Control's control.
b. If an aircraft is taxied to RWY 14/32, and Ground Control has control of RWY 14/32, Ground Control must give the control of RWY 14/32 back to Local Control.
c. When an aircraft is inbound to land RWY 14/32, when Ground Control has control of RWY 14/32, Local Control must request the return of control of RWY 14/32.
d. During position relief briefings for Local Control and Ground Control, the status/control of RWY 14/32 must be included in the briefing.

1-6-5. Consolidated Wake Turbulence (CWT/RECAT)

GSO is authorized the use of procedures and separation minima contained in FAA Order JO 7110.126, Consolidated Wake Turbulence Separation Standards.

CHAPTER 2. CLEARANCE DELIVERY

SECTION 1. GENERAL

2-1-1. Position

Position	Frequency
ATIS	128.55
Clearance Delivery (CD)	**121.75**
	119.95 (Backup)

2-1-2. Combining/Decombining Positions

CD combines to and de-combines from GC.

SECTION 2. POSITION OPERATING PROCEDURES

2-2-1. Responsibilities

a. CD must:
   i. Issue clearances.
   ii. Mark flight progress strips IAW Chapter 1 Section 5.
   iii. Forward flight progress strips to the GC position after the clearance has been issued.
   iv. Operate the D-ATIS.
   v. Verbally notify LC and GC of new ATIS code.
   vi. Obtain departure releases for all aircraft associated with Traffic Management programs. When traffic management restrictions apply for CLT, ensure release request is initiated with ZTL as soon as possible after the aircraft receives clearance. **NOTE–** All turbojets landing KCLT require a release.
   vii. Ensure all clearances issued comply with applicable letters of agreement.
   viii. Coordinate with the appropriate radar position for prior approval of all practice instrument approaches.
   ix. Forward pertinent weather information to each tower position.

2-2-2. Clearances and Instructions

a. **Initial altitudes.** Issue the following initial altitudes.
   i. When 23L/R, 5L/R, and/or 14/32 are the runway(s)-in-use:
      1. IFR/JET: 5,000
      2. VFR/JET: At or below 4,500
      3. IFR/OTHER: 3,000

4. VFR/OTHER: At or below 3,000

ii. When an aircraft is departing 14/32 and 14/32 is NOT designated as a runway-in-use:

1. IFR: 3,000
2. VFR: At or below 3,000

b. **Expected altitude.** Instruct aircraft to expect their requested altitude 10 minutes after departure.

c. Departure routing. Clear departures via the following.

i. Destined ZTL airspace: via the TRIAD9 or TRSHA1 SID.

ii. Destined ZDC airspace: via the QUAKR7 SID or radar vectors to join GSO058 radial then as filed.

iii. Destined CLT airspace not landing KCLT: via as filed, expect 6,000ft or lower.

iv. All others: via as filed.

d. Charlotte Douglas International (KCLT) arrivals.

i. Turbojets landing KCLT shall be cleared via radar vectors CHSLY CHSLY4 STAR and told to expect 13,000ft. All turbojet aircraft landing KCLT shall be held for departure until a release is issued by ZTL TMU.

ii. Turboprops landing KCLT shall be cleared via radar vectors MAJIC MAJIC4 STAR and told to expect 12,000ft or lower.

iii. Props landing KCLT shall be cleared via radar vectors V409 LOCAS CLT direct and told to expect 6,000ft or lower.

CHAPTER 3. GROUND CONTROL

SECTION 1. GENERAL

3-1-1. Position

Position	Frequency
Ground Control (GC)	121.9

3-1-2. Combining/Decombining Positions

GC combines to and de-combines from LC.

SECTION 2. POSITION OPERATING PROCEDURES

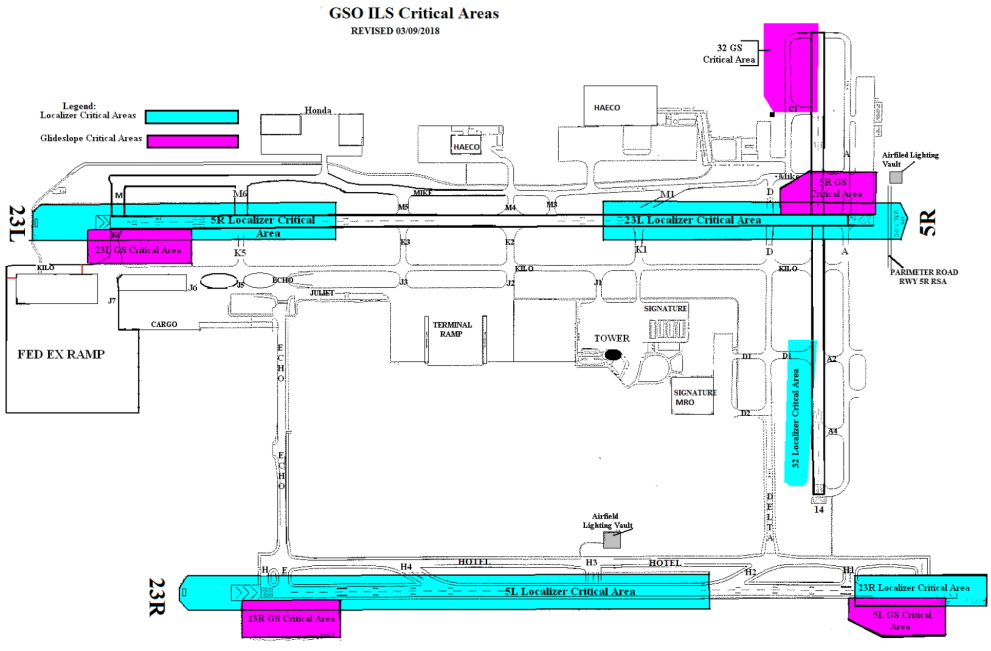
3-2-1. Area of Jurisdiction

a. The Ground Control area of jurisdiction is all movement areas except the runways. When RWY 14/32 is not in use it may be relinquished to GC as provided in paragraph 1-6-4.

3-2-2. Responsibilities

a. Issue all necessary altitude and frequency changes when a runway other than the Runway(s)-in-Use is assigned.
b. Verbally advise LC of all intersection departure requests.
c. Strip marking must be IAW Chapter 1 Section 5.
d. Forward flight progress strips to the LC position.
e. Ensure departure aircraft have received the current ATIS information.
f. Ensure aircraft/vehicles operating on GC frequency remain outside ILS critical areas as depicted in Figure 3-2-1 and IAW the current FAA 7110.65.

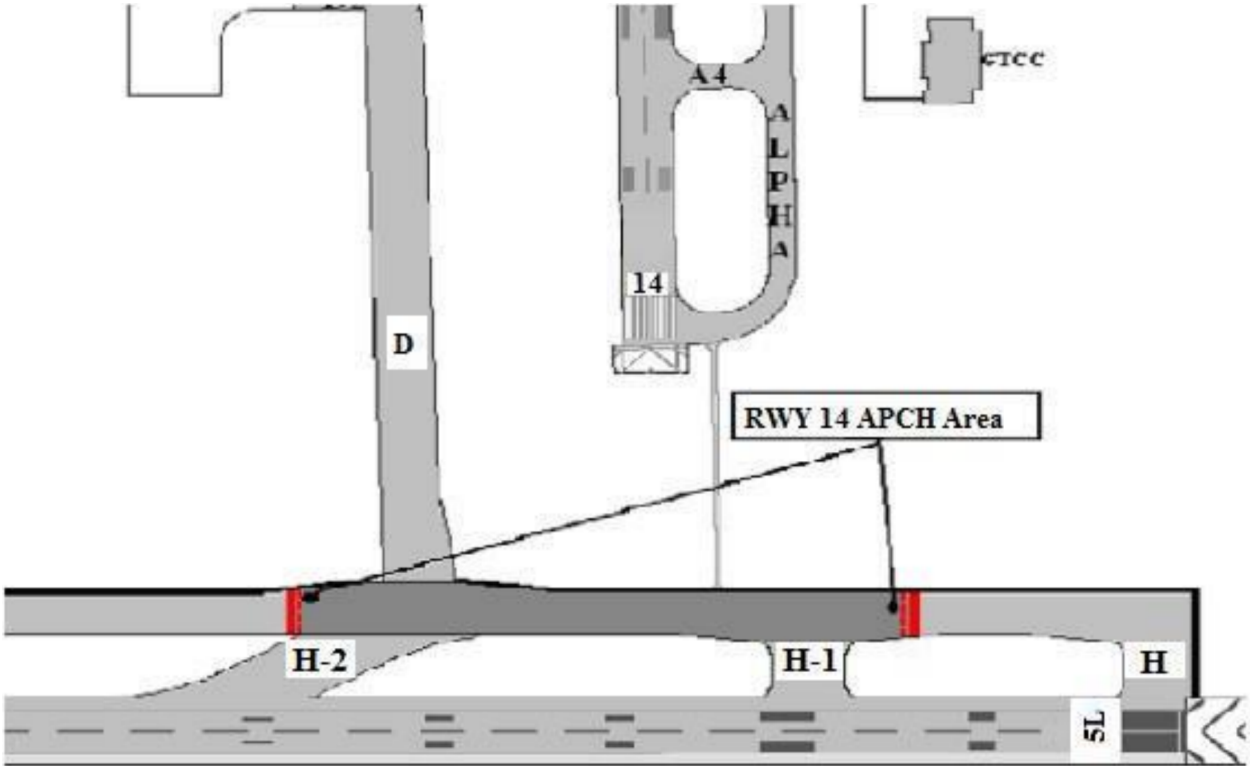
Figure 3-2-1. ILS Critical Areas



g. Do not authorize aircraft or vehicles to enter the Runway 23L Approach Area (Figure 4-1) when a RWY 5R departure is imminent. A Go-Around or Low Approach does not apply in this case.

h. Do not authorize aircraft or approach area vehicles to operate in the Runway 14 Approach Area (Figure 3-2) when a Runway 14 arrival is flying over taxiway H.

Figure 3-2-2. Runway 14 Approach Area



i. Accomplish individual verbal coordination with LC prior to and after crossing all runways. Coordination must include the point at which the runway is to be crossed. Specific instructions such as, "Cross Runway 23L at Mike 5," or "Hold Short" are required.

j. Verbally report all completed runway crossings to LC. Example: “Runway 23L crossing complete"

k. When conditional phrases are used between controllers, the condition must not exceed one aircraft/vehicle, etc. Phraseology used must state the condition prior to the crossing clearance.

3-2-3. Preferred Taxi Routes

a. **Runway 14 Active.** Use route Taxiway K to Taxiway A for departures from the terminal and Piedmont ramps. Use Taxiway M initially for arrivals to the terminal and FBO ramps.

b. **Runway 32 Active.** Use Taxiway M for departures from the terminal and FBO ramps. Use Taxiway K for arrivals.
c. **Runway 5R Active.** Utilize Taxiway J7 as much as practical when instructing aircraft/vehicles to proceed to/from the FedEx ramp.
d. Runway 23L approach area can be protected by:
    i. Holding short of K6 inbound to the FedEx ramp.
    ii. Taxiing via J7 to enter/exit the FedEx ramp.
    iii. Holding short of Taxiway K when exiting the FedEx ramp at the northeast corner.

3-2-4. Potential Problem Areas

a. Aircraft exiting Runway 5L/23R will enter Taxiway H in order to exit the runway completely. GC may have to hold taxiing aircraft to allow sufficient space for the exiting aircraft.
b. Taxiway K northeast of Taxiway K6 is closed except for cargo aircraft and vehicles.
c. Taxiing aircraft may encounter jet blast between HAECO hangar 1 and Taxiway M.

CHAPTER 4. LOCAL CONTROL

SECTION 1. GENERAL

4-1-1. Position

Position	Frequency
Local Control (LC)	119.1

4-1-2. Combining/Decombining Positions

LC combines to and de-combines from WR.

SECTION 2. POSITION OPERATING PROCEDURES

4-2-1. Area of Jurisdiction

a. Local Control airspace is depicted in paragraph 1-3-2 and depends on the Runway-In-Use.

4-2-2. Responsibilities

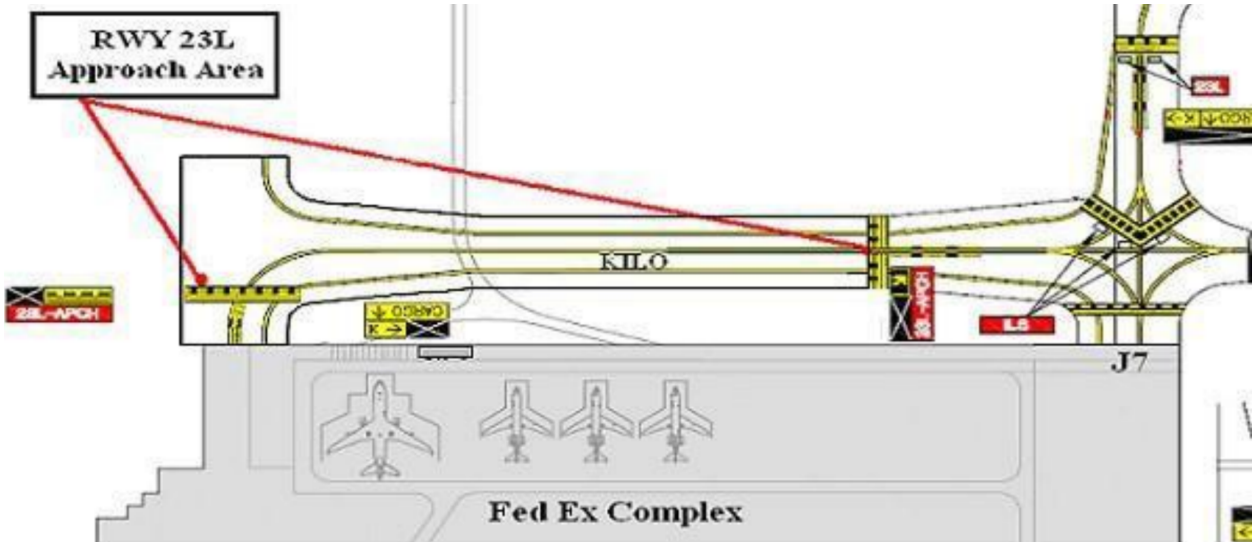
a. Establish landing sequence.

b. Provide visual separation between all arrivals within 5 miles of the airport. Ensure visual separation is applied prior to loss of radar separation during converging approaches. If visual separation cannot be used, LC must notify the appropriate radar controller in a timely manner. NOTE: Although it is the responsibility of FR to ensure separation of arrivals, this does not relieve LC of the responsibility of assisting FR by maintaining standard separation between successive arrivals released to LC frequency.

c. Verbally coordinate with the receiving radar controller prior to transfer of communication when using visual separation or pilot applied visual separation with successive departures.

d. Not issue takeoff clearance to an aircraft on Runway 5R when advised by ground control there is an aircraft or vehicle in the Runway 23L Approach Area (Figure 4-2-1).

Figure 4-2-1. Runway 23L Approach Area



e. Comply with prearranged coordination procedures in paragraph 1-3-3.
f. Obtain a departure release from the appropriate radar controller when an automatic release is not authorized (para 1-6-2).
g. Ensure appropriate coordination is accomplished for all helicopter arrivals and/or departures to/from taxiways or non-movement areas.
h. Advise GC of all arrivals to RWY 14. This notification serves to provide GC the opportunity to protect the RWY 14 approach area.
i. Strip marking must be IAW Chapter 1 Section 5.

4-2-2. Line Up And Wait (LUAW) Operations

a. LUAW operations are authorized between sunrise and sunset only.
b. LUAW is not authorized when the ceiling is less than 800 feet.
c. LUAW is not authorized when the visibility is less than 2 miles.
d. Withhold landing clearance: Do not clear an aircraft to land, touch-and-go, stop- and-go, option, or unrestricted low approach to the same runway that has an aircraft holding in position until the aircraft in position starts take off roll.
Example: *"RUNWAY FIVE RIGHT, CONTINUE, TRAFFIC HOLDING IN POSITION."*
e. Withhold LUAW clearance: Do not clear an aircraft to LUAW if an aircraft has been cleared to land, touch-and-go, stop-and-go, option, or unrestricted low approach to the same runway.
f. During LUAW, inform aircraft of the closest traffic inbound to the same runway.
g. When issuing or amending a clearance to an aircraft holding on the runway, the instruction “hold in position” must be issued to prevent the possibility of the aircraft inadvertently beginning take-off roll.
h. Do not authorize aircraft to simultaneously LUAW on the same runway.
i. Do not authorize small aircraft to LUAW on the same runway behind a departing heavy jet aircraft to apply wake turbulence intervals.
j. GC must ensure that LC receives the correct departure taxi sequence and must verbally advise LC when taxiing aircraft for an intersection departure. This verbal notification is in addition to strip marking requirements.
k. When aircraft are authorized to LUAW on runways that intersect, traffic must be exchanged between that aircraft and the aircraft that is authorized to LUAW, depart, and/or arrive to the intersecting runway.
l. When authorizing an aircraft to LUAW at an intersection, state the runway intersection.
Example: *"RUNWAY FIVE RIGHT AT DELTA, LINE UP AND WAIT."*
m. When two or more aircraft call the tower ready for departure, one or more at the full length, one or more at the intersection, state the runway location of the aircraft at the full length of the runway when authorizing that aircraft to LUAW.

4-2-3. Departure Headings

a. The following procedures specify headings and altitudes to be issued by LC to departing aircraft. Standard headings apply to a runway when it is the Runway-In-Use. Simultaneous departures are not authorized unless departures diverge immediately after departure.

i. RUNWAYS 23L/R.

23L/23R	West Radar	South Radar
JETS	270	190
PROPS/HELOS	290	170

ii. RUNWAYS 5L/R.

5R	West Radar	South Radar
IFR JETS	050	QUAKR#: 050 OTHER: 070
VFR JETS	050	050 / 070
ALL PROPS/HELOS	340	090

5L	West Radar	South Radar
JETS	050	050
PROPS/HELOS	340	090

iii. **RUNWAY 14/32.** The following headings must be issued when Runway 14/32 is the Runway-In-Use:

1. **Jets-** Runway Heading
2. **Props/Helicopters-** Heading appropriate for departure sector

iv. **RUNWAY 14/32 (NOT IN USE).** The following heading must be issued when Runway 14/32 is not the Runway-In-Use:

1. **All types-** Heading appropriate for departure sector

v. **PROP/HELO HEADINGS OTHER THAN STANDARD.** When departing a parallel Runway-In-Use, prop/helicopter headings other than standard may be issued for separation or to expedite departures under the following conditions:

1. Headings must be entered into the flight progress strip or verbally coordinated.

2. Headings must ensure entry into the correct departure sector.

4-2-4. Control Transfer of Departures

a. **JETS-** Unless 'No Control' for turns is coordinated verbally or via the flight strip, LC releases control to the receiving radar controller for climb, then, leaving 3000, turns toward the assigned route.

b. **PROPS/HELO-** Unless 'No Control' for turns (NC) is coordinated verbally or via the flight strip, LC releases control to the receiving radar controller for climb *and turns away from jet headings.*

4-2-5. Requirements for Parallel Runway Operations

a. All aircraft must be informed that arrivals to both parallel runways are in use. This information may be provided through the ATIS.

b. If the pilot does not have the current ATIS, LC must ensure that the pilot is informed appropriately that both parallels are in use.

c. LC must retain departing aircraft on their frequency until the aircraft begins the turn and course divergence with other departures has been established. Course divergence must occur within LC defined airspace unless appropriate coordination has been accomplished.

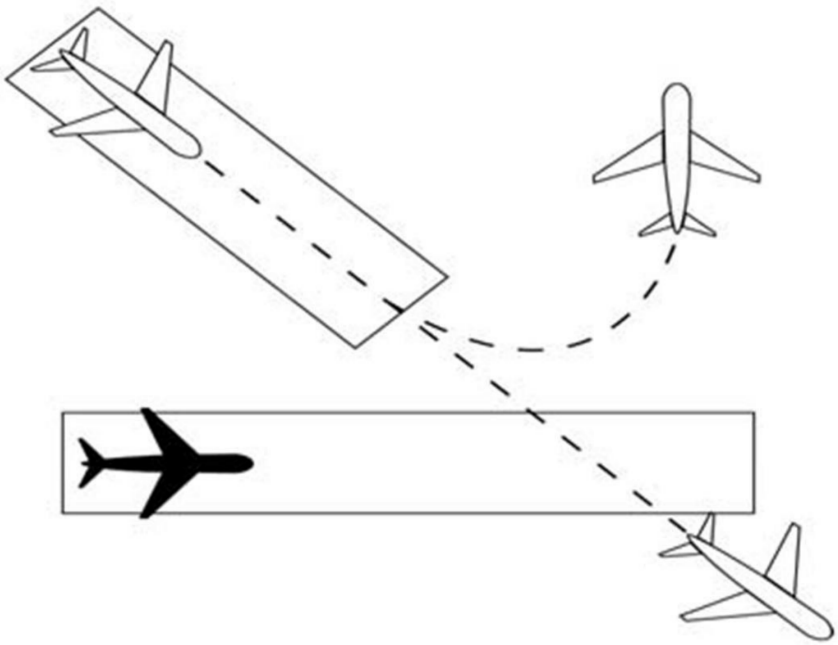
d. Alternate headings may be issued to ensure that aircraft track the appropriate divergent tracks when wind is a factor. When alternate headings are used, appropriate coordination must be accomplished with all affected operational positions.

4-2-6. Managing Nonintersecting Converging Runway Operations

a. Separate departing aircraft from an aircraft using a nonintersecting runway when the flight paths intersect by ensuring that the departure does not begin takeoff roll until one of the following exists:

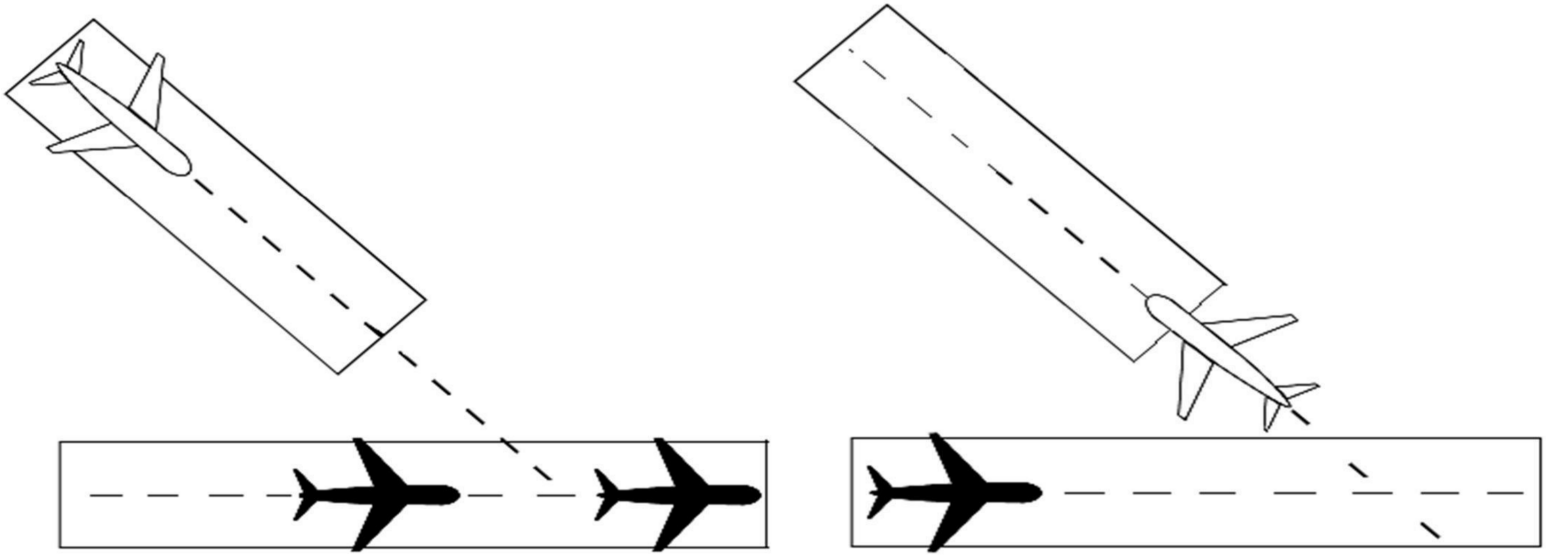
i. The preceding aircraft has departed and crossed the departure runway, or is turning to avert any conflict (see figure 4-2-1).

Figure 4-2-1. Departing After Intersecting Departure



ii. A preceding arriving aircraft has completed the landing roll and will hold short of the projected intersection, passed the projected intersection, or has crossed over the departure runway (see figure 4-2-2).

Figure 4-2-2. Departing After Intersecting Arrival



4-2-7. Missed Approaches

a. In the event of a missed approached:
   i. LC must not issue a heading prior to the aircraft reaching a 4 mile final without prior coordination with FR.
   ii. LC must be responsible for the separation of the missed approach aircraft and a previous departure.
   iii. Unless the situation does not provide appropriate separation or other coordination has been accomplished, LC must issue an initial altitude of 3,000 and the following headings:
      1. RWY14/32: 30 degrees left or right
      2. RWY 5L or 23R: Heading 320
      3. RWY5R or 23L: Heading 140

4-2-8. Miscellaneous

a. During parallel runway operations, any jet aircraft and/or any type of military aircraft requesting to stay in the VFR tower pattern should be assigned Runway 23L/05R, 14/32 as much as possible based on safety, traffic and workload conditions.
b. When Runway 32 is the Runway-in-Use, aircraft requesting at or above 10,000 and J14 or GSO058 radial must be given a heading into the sector that covers J14 depending on Runway-In-Use.

4-2-9. Potential Problem Areas

a. LC must utilize the 'No Control' marking on the flight strip or verbally coordinate if departure separation is dependent on the assigned headings.
b. Aircraft on the pipeline patrol east of Runway 23L/5R may encounter jet blast from aircraft on the HAECO maintenance ramp.
c. Aircraft exiting Runway 5L/23R will enter Taxiway H in order to exit the runway completely.
d. Due to the Runway 23L Approach Area (Figure 4-2-1), aircraft cannot depart from the surface on Runway 5R if any aircraft/vehicle is located in the Runway 23L Approach Area. *This Approach Area is not affected by a Go Around or Low Approach.*

CHAPTER 5. TRACON

SECTION 1. GENERAL

5-1-1. Positions

Position	Frequency
West Radar (WR)	**124.35**
South Radar (SR)	126.6
East Radar (ER)	120.9
Final Radar (FR)	125.6

5-1-2. Combining/Decombining Positions

a. In a single sector operation, all positions combine to WR.
b. WR and SR are used in a two sector operation.
c. SR, WR, and ER are used in a three sector operation
d. FR may be used in any configuration. When FR is not staffed, FR airspace combines to WR. EXCEPTION: On a three sector (WR/SR/ER) RWY 23L/R operation, FR combines to ER.

5-1-3. Area of Jurisdiction

a. The TRACON airspace depends on the Runway-In-Use and the sectors open. The possible configurations are depicted in paragraph 1-3-1.

SECTION 2. POSITION OPERATING PROCEDURES

5-2-1. Responsibilties

a. Provide standard separation and radar service in their area of jurisdiction/
b. Unless an operational need exists, all jet aircraft will not be turned from the standard headings until reaching five (5) miles or leaving 3000 feet.
NOTE- *Do not turn aircraft that are verbally coordinated as "No Turn" or marked with "NC" in the flight strip until they leave Local Control airspace.*
c. Any 'Prearranged Coordination' departure given to WR must be turned toward WR airspace as soon as practical after leaving 3000 feet. These turns will only be toward the Departure Gate/Fix. If unable to turn toward the Departure Gate/Fix, initiate a handoff/point out to the appropriate sector.

d. Any jet and/or any type of military aircraft requesting more than one practice approach must be assigned runways 23L/5R or 14/32 as appropriate unless safety dictates otherwise.
e. Verbally coordinate with the receiving controller prior to transfer of communication when using pilot applied visual separation.
f. Comply with all traffic management restrictions.

5-2-2. GSO Arrival Procedures

a. Arrival Runway Assignment. It is the responsibility of the controller first working the arrival to indicate the initial runway assignment in the scratchpad. It is the FR controller's responsibility to ensure all required designators are placed in the appropriate scratchpad and correctly reflect the aircraft's runway assignment prior to issuing a frequency change to the tower.

NOTE: *When the parallel runways are the Runway(s)-in-Use, the initial runway assignment will be based on a real-time decision by the first controller working the arrival. Factors to consider will be based on runway closures, traffic volume, traffic flow, weather, turbulence, FR request, etc.*

b. Jet Pattern Request. As much as practical, during parallel runway operations, jet aircraft requesting to stay in the VFR tower pattern must be assigned runway 23L/5R as appropriate.

c. Final Feed. All IFR aircraft landing at GSO airport must be descending to or level at 7,000, or level at 6,000, 5,000, or 4,000.

d. Departure Side Arrivals. All IFR jet aircraft arriving from the departure side of the airport must be vectored to a downwind heading for FR unless otherwise requested by FR (or WR if working FR).

e. Approach Sequence. Final Radar has approach sequencing authority on all runways.

f. INT Arrivals in Runway 5L/5R Operation. When Runway(s) 5L/5R are in use, Final Radar has sequencing authority for all arrivals to INT Runway 33.

a. **Control Transfer to Final Radar.** The position responsible for arrivals to GSO, normally Final Radar (FR) or the position FR is combined to, has control for turns and descent toward the traffic pattern in the previous controller's airspace.

5-2-3. Transfer of Communications to Local Control

a. Transfer radio communications to the Tower for aircraft executing instrument approaches after the aircraft is established on the final approach course and between 12 and 6 miles from the runway threshold.
b. Aircraft on downwind may be transferred to Tower after receiving a visual approach clearance, but no later than 6 flying miles from the arrival runway threshold.

5-2-4. Simultaneous Dependent Approaches

a. Simultaneous dependent ILS approaches to GSO airport are authorized IAW FAA 7110.65 5-9-6.

NOTE 1: *Do not conduct simultaneous independent ILS approaches.*

NOTE 2: *IAW FAA 7110.65, the applicable stagger for GSO is 1.5NM. Ensure aircraft have standard separation (1,000ft, 3nm, or visual separation) until both are established on final.*

b. Do not authorize simultaneous dependent ILS approaches when the glideslope is out of service.

c. Do not authorize simultaneous dependent RNAV (GPS) approaches.

5-2-5. Simultaneous Visual Approaches

a. Simultaneous visual approaches may be conducted IAW FAA 7110.65 7-4-4.

APPENDIX A. RUNWAY INTERSECTION DISTANCES

INTERSECTION	DISTANCE REMAINING (FEET)
RWY 23L	
M6/K5	8300
M5/K3	6000
M4/K2	4600
M3	3900
K1	2900
D	1200
RWY 23R	
E	8650
H4	6500
H3	4500
H2	2800
H1	1000
RWY 5L	
H1	7950
H2	6200
H3	4500
H4	2500
RWY 5R	
RWY 14/32	9200
D	8800
M1/K1	7100
M3	5900
M4/K2	5400
M5/K3	3900
M6/K5	1700
RWY 14	
A4	5500
D1/A2	4500
K	3200
RWY 32	
C1	5400
M	4400
RWY 5R	3450
K	3100

APPENDIX B-1. FLIGHT DATA AND CLEARANCE DELIVERY POSITION RELIEF CHECKLIST

1) Status Information Areas: Applicable IDS and PIREP page, etc.
2) Equipment Status: Radios (proper frequencies (de)selected), Visibility Range and Center, ATIS, RADAR(s), etc.
3) Staffing: Adjacent and inter-facility staffing.
4) Airport Conditions/Status: Airspace configuration, Runway(s) in use, Runway and taxiway closures, etc.
5) Airport Activities: Gate hold procedures, Braking action reports, etc.
6) Weather: Trends, Windshear, ATIS, PIREPs, SIGMETs, AIRMETs, etc.
7) Flow Control: Special programs, Reportable ATL delays, etc.
8) Special Activities: Events, Evaluations, Emergency, etc.
9) Special Instructions: Coordination, CIC instructions, etc.
10) Training in Progress.
11) Traffic information:
    a) Aircraft standing by for clearance or TMU release, etc.
    b) Coordination agreements with other positions.
    c) Ground Stop or Ground Delay Program information.

NOTE- There must be at least a 4 minute overlap during each position relief briefing as follows: A minimum of 2 minutes prior to receiving the briefing and a minimum of 2 minutes at the end of the briefing. The relieving specialist and the specialist being relieved are responsible for the completeness and accuracy of the position relief briefing.

APPENDIX B-2. GROUND AND LOCAL CONTROL POSITION RELIEF CHECKLIST

1) Status Information Areas: Applicable IDS and PIREP page, etc.
2) Equipment Status: Radios (proper frequencies (de)selected), Visibility Range and Center, ATIS, RADAR(s), etc.
3) Staffing: Adjacent and inter-facility staffing.
4) Airport Conditions/Status: Airspace configuration, Runway(s) in use, Runway and taxiway closures, etc.
5) Airport Activities: Gate hold procedures, Braking Action reports, etc.
6) Weather: Trends, Windshear, ATIS, PIREP, SIGMETs, AIRMETs, etc.
7) Flow Control: Special programs, Reportable ATL delays, etc.
8) Special Activities: Events, Evaluations, Emergency, etc.
9) Special Instructions: Coordination, CIC instructions, etc.
10) Training in Progress.
11) Verbally State Runway Status: Unavailable, closed or occupied. Control status of runway 14/32.
12) Traffic Information:
    a) Status of each aircraft and/or vehicle.
    b) Point-outs.
    c) Primary targets. Non-radar operations. VFR advisory aircraft.
    d) Aircraft affected by TMU initiatives.
    e) Coordination agreements with other positions.
    f) Aircraft holding or standing by for service.

NOTE- There must be at least a 4 minute overlap during each position relief briefing as follows: A minimum of 2 minutes prior to receiving the briefing and a minimum of 2 minutes at the end of the briefing. The relieving specialist and the specialist being relieved are responsible for the completeness and accuracy of the position relief briefing.

APPENDIX C. SCRATCH PAD PROCEDURES

Radar sectors shall mark aircraft inbound to GSO in accordance with the following.

Entry	Definition
[##]	Approach Advertised in ATIS to the runway entry [##].
I[##]	ILS Approach to runway [##]
L[##]	LOC Approach to runway [##]
G[##]	RNAV or RNAV Y approach to runway [##]
Z[##]	RNAV Z approach to runway [##]
V[##]	Visual approach to runway [##] with preceding traffic in sight
N[##]	Visual approach to runway [##] with preceding traffic NOT in sight
SDF	SDF approach
T[##]	TACAN Approach to runway [##]
OHL or OHR	Overhead Maneuver Left runway or Overhead Maneuver Right runway
PTN	Aircraft requesting pattern work
OPT	Aircraft is requesting the Option
JFA	Just Flying Around

APPENDIX D-1. GSO/ZTL LETTER OF AGREEMENT

Refer to GSO under ZTL - Minor ATCT Letter of Agreement.

APPENDIX D-2. GSO/ZDC LETTER OF AGREEMENT

Refer to GSO under ZTL - ZDC Letter of Agreement.

APPENDIX D-3. GSO/CLT LETTER OF AGREEMENT

1. **RESPONSIBILITIES.** Transfer of control between facilities must be accomplished at the Transfer of Control Point (TCP), **except** as noted, unless otherwise coordinated. The TCP is defined as the common airspace boundary between the facilities. The minimum radar separation between successive aircraft at the same altitude must be 5 miles, constant or increasing.
2. **PROCEDURES.**
   a. **Arrivals to Charlotte Terminal Area.** All arrivals to Charlotte/Douglas International Airport are released to Charlotte TRACON for turns direct Charlotte when within ten miles of the TCP.
      i. Turboprop aircraft that normally operate at speeds of **200 knots or greater** must be cleared via the MAJIC Arrival Transition Area at the following altitudes:
         1. North Operation: 9,000 feet prior to 1.5NM from the perimeter of box "H" on Attachment 1.
         2. South Operation: 6,000 feet.
      ii. Prop aircraft that normally operate at speeds **less than 200 knots** must be at or below 6,000 feet and cleared via V409 LOCAS CLT.
      iii. Arrivals to other airports as indicated in paragraph d, with the exception of those airports specified in (a) and (b) below, must be cleared as filed at or below 6,000 feet.
         1. **Landing RUQ and VUJ**: cleared as filed at 4,000 feet (regardless of type and speed of aircraft).
         2. **Landing JQF:** cleared via the NASCR Standard Terminal Arrival Route (regardless of type of aircraft) at an altitude of 4,000 or 6,000. These aircraft must be released to Charlotte ATC Tower for descent and turns not to exceed 30 degrees when within ten miles of the TCP.
      iv. VUJ and RUQ operations.
         1. **Departures.** Turbojet aircraft departing Runway 04R at the Stanly County Airport (VUJ) or turbojet aircraft departing Mid-Carolina Regional Airport (RUQ) on a northeasterly heading that are filed via fixes in Greensboro Terminal Area Airspace requesting 13,000 feet or higher must be amended by Charlotte TRACON to indicate a requested altitude of 9,000 feet. The aircraft's actual final

requested altitude must be indicated in the "remarks" section of the flight progress strip.

2. **Arrivals.** Greensboro must control all arrivals from the east to the Stanly County Airport and the Mid-Carolina Regional Airport. Greensboro must also control all arrivals to these two airports that are executing an instrument approach in which the final approach course extends into Greensboro delegated airspace, unless otherwise coordinated. When receiving a handoff from Charlotte TRACON for an aircraft landing at either of these two airports, constitute CLT taking a point-out for that aircraft. Greensboro must instruct all arrivals to cancel their IFR flight plan with Charlotte TRACON.

b. **Overflights through Charlotte Terminal Area.**

i. **CLT North Operation:** RNAV over flight traffic through the Charlotte terminal area with a filed routing north or west of Charlotte terminal area must be given any routing on or north of T-206, at 6,000 feet. Non-RNAV aircraft must be routed SUDSY SPA flight plan route.

ii. **CLT South Operation**: RNAV overflight traffic with a filed routing south and west of Charlotte must be cleared via any routing on or south of T-202 at or below 8,000 feet, then flight plan route. Non RNAV aircraft must be routed GANTS HUSTN flight plan route (GSO will assign heading 210 after GANTS).

iii. All over flight traffic (with the exception of 1 and 2 above) must be transitioned into Charlotte delegated airspace via GANTS V103 CTF (RNAV may be routed GANTS CTF) flight plan route. Traffic must be assigned AOB 8,000 feet when CLT is in a south operation or 4,000 feet when CLT is in a north operation.

c. **Arrivals/Overflights to Greensboro Terminal Area.**

i. Entering GSO West Radar airspace.

1. CLT North Operation: Aircraft must be at or below 7,000 feet and cleared as filed. All aircraft will be released to Greensboro for turns up to 30 degrees left or right of course when within 10 miles of the TCP.
2. CLT South Operation: Aircraft must be at or below 5,000 feet and cleared as filed. All aircraft will be released to Greensboro for turns up to 30 degrees left or right of course when within 10 miles of the TCP. Aircraft requesting 7,000 feet or higher must be routed through Greensboro South Radar airspace.

ii. Entering GSO South Radar airspace.

1. Aircraft must be routed over GANTS as filed or on a heading or course to enter GSO South Radar airspace no further north than 050 degrees. *NOTE: Aircraft routed over ROUSH or PONTO cannot depart these fixes with an on course heading further north than 050.*

2. Greensboro airport (KGSO) arrivals must be at or below 9,000 feet. All aircraft will be released to Greensboro for turns up to 30 degrees left or right of course when within 10 miles of the TCP.
3. Overflights or arrivals to airports other than KGSO in the GSO Terminal Area will be released to Greensboro for turns up to 30 degrees left or right of course when within 10 miles of the TCP.

iii. **EXX, HBI, and 8A7 arrivals.** Greensboro will have control for descent of aircraft landing EXX, HBI, and 8A7, that are at or below 8,000 feet. NOTE: Coordination with Concorde Satellite sector must be accomplished by Greensboro prior to descent below 9,000 feet.

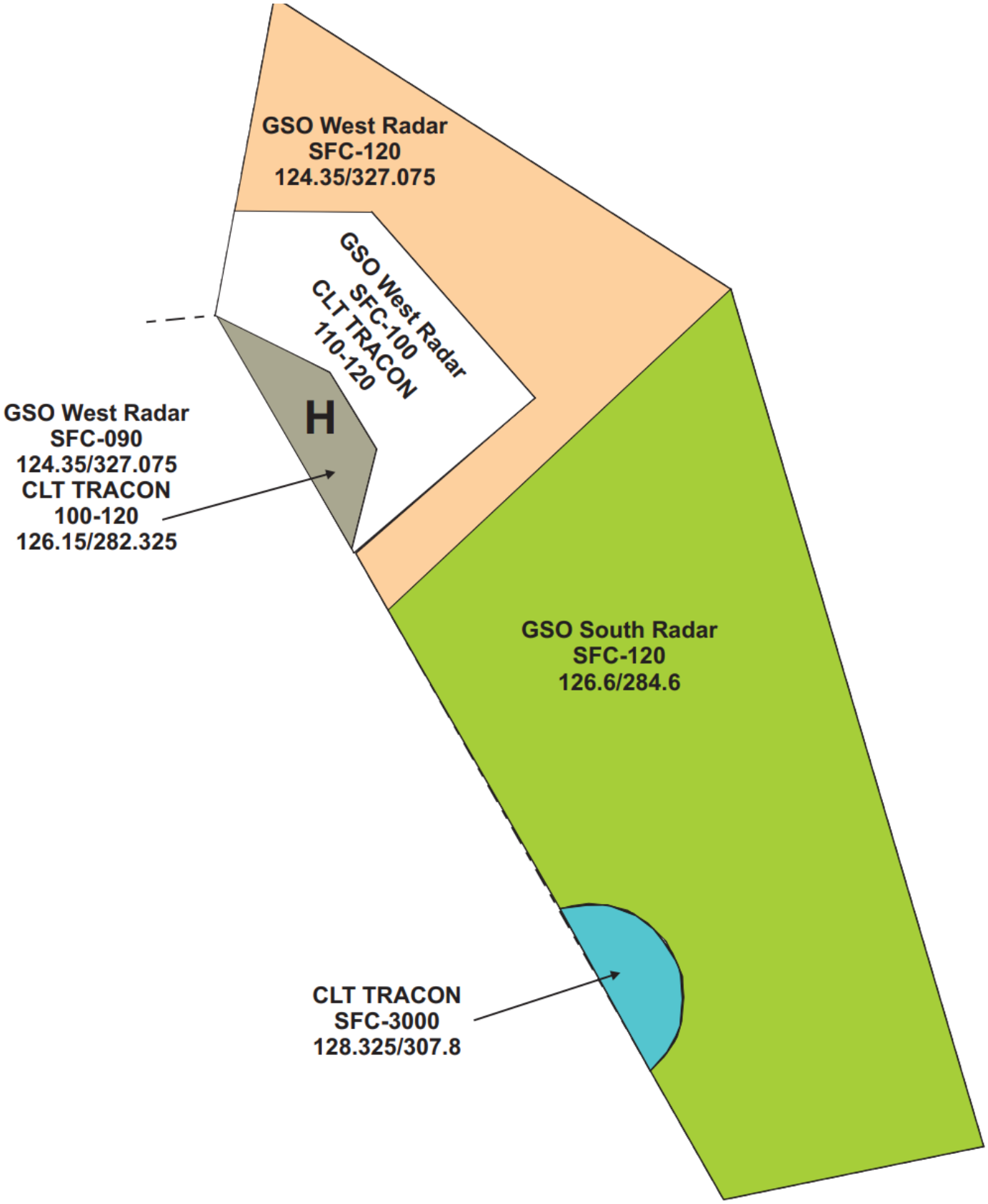
d. Miscellaneous: Charlotte must advise Greensboro of the current operation (North or South).

e. CHARLOTTE SATELLITE AIRPORTS. NC21, AFP, NC05, DCM, JQF, AKH, NC25, 4NC8, N52, 14A, LKR, IPJ, 6NC1, 28A, EQY, PYG, NC19, UZA, RUQ, EHO, NC35, VUJ, 8A6

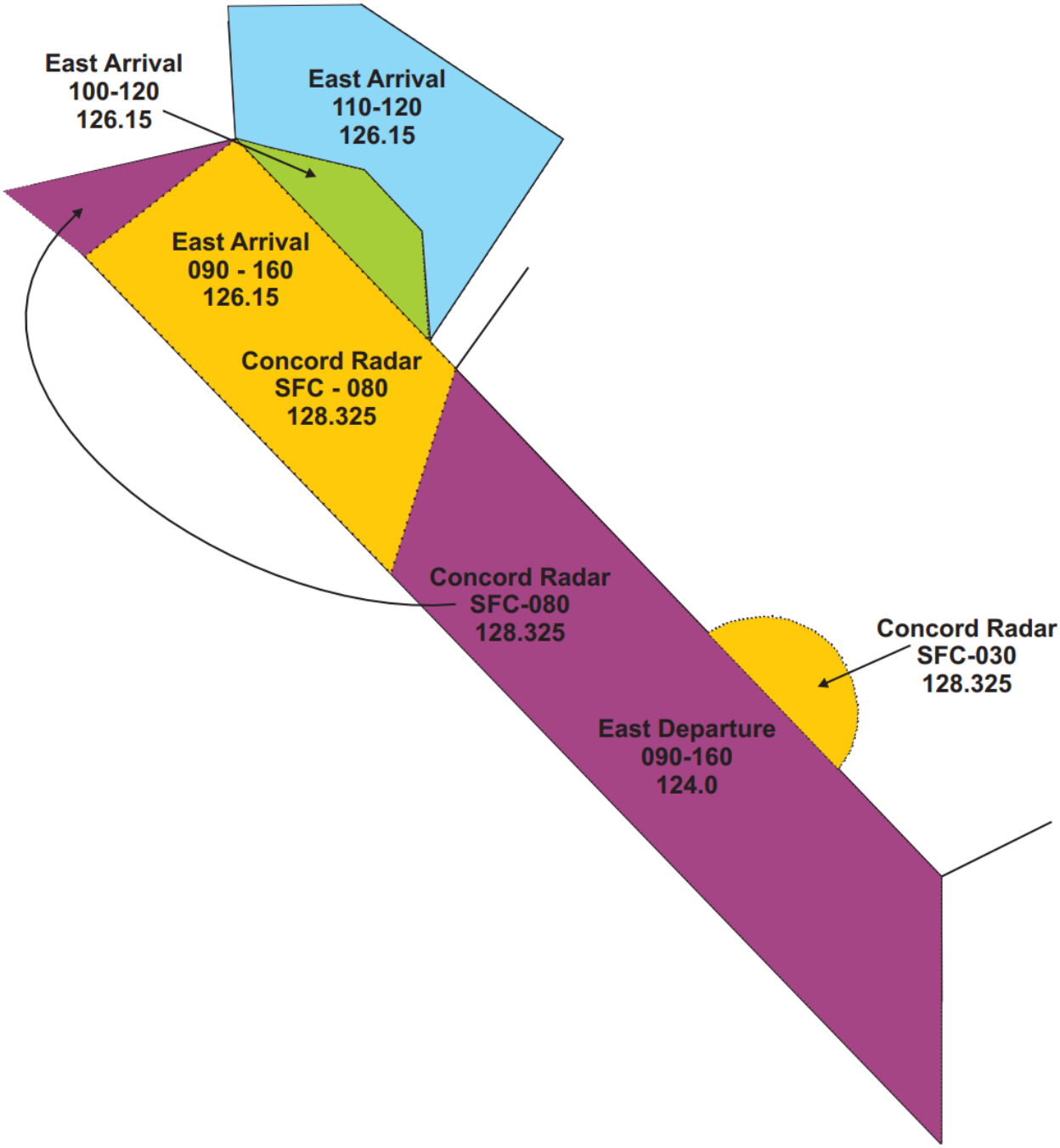
f. GREENSBORO SATELLITE AIRPORTS. W88, HBI, BUY, 2A5, NC03, EXX, MTV, MWK, 43A, SIF, SCR, 3A4, 5NC2, 8A7, N63, 6A5, INT

g. ATTACHMENTS.

i. Attachment 1 - GSO Delegated Airspace:



ii. Attachment 2 - CLT Delegated Airspace (North Operation)



iii. Attachment 3 - CLT Delegated Airspace (South Operation)