ORDER
CLT 7110.65H
CHANGE 1

Charlotte ATCT (CLT)

Tower and Approach Control

Standard Operating Procedures

21 October 2023

Table of Contents

Chapter 1. Introduction
Section 1. Introduction

1-1-1. PURPOSE

This Order establishes standard operating procedures for use by persons providing air traffic control services at the Charlotte-Douglas (CLT) Airport Traffic Control Tower (ATCT) on the VATSIM network. This Order is designed to supplement VATUSA and ZTL directives.

1-1-2. AUDIENCE

This order applies to all vZTL Air Traffic Control Specialists and vZTL Visiting Air Traffic Control Specialists manning the Charlotte (CLT) Airport Traffic Control Tower (ATCT) and Terminal Radar Approach Control (TRACON positions).

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

This Order cancels CLT ATCT 7110.65G dated 1 January 2021.

1-1-5. EFFECTIVE DATE

This Order is effective as of 23 May 2023. Change 1 is effective as of 21 October 2023.

Chapter 2. General

Section 1. Equipment Overview

2-1-1. POSITIONS/FREQUENCIES/STARS ID

Tower Cab

Position (STARS ID)	Frequency
Arrival ATIS	121.15
Departure ATIS	132.1
Clearance Delivery	127.15
Ground Control East	121.9
Ground Control West	121.8
Local Control East (K)	118.1
Local Control Center (T)	126.4
Local Control West (O)	133.35
Tower CIC	N/A

TRACON

Position (STARS ID)	Frequency
Departure Radar West (W)	120.5
Departure Radar East (E)	124.0
Satellite Radar North (N)	134.75
Satellite Radar South (S)	120.05
Satellite Radar Concorde (Q)	128.32
Arrival Radar East (H)	126.15
Arrival Radar Northwest (U)	125.35
Arrival Radar Southwest (D)	135.6
Final Radar East (A)	127.7
Final Radar Center (M)	119.0
Final Radar West (F)	132.7
Traffic Management (TC)	199.997
TRACON CIC	N/A

Section 2. Scratchpads

Entry	Definition
L	Instrument approach, 18L or 36L*
C	Instrument approach, 18C or 36C*
R	Instrument approach, 18R or 36R*
VL	Visual approach, 18L or 36L, instructed to follow preceding traffic
VC	Visual approach, 18C or 36C, instructed to follow preceding traffic
VR	Visual approach, 18R or 36R, instructed to follow preceding traffic
NL	Visual approach, 18L or 36L, preceding traffic not in sight
NC	Visual approach, 18C or 36C, preceding traffic not in sight
NR	Visual approach, 18R or 36R, preceding traffic not in sight
OVH	Overhead maneuver

**When assigned an instrument approach not advertised on the ATIS, prefix the scratchpad with an "I" for ILS, "L" for LOC, "R" for RNAV (GPS), or "Z" for RNAV (RNP).*

EXAMPLE - "IL" for ILS to 18L or 36L; "ZC" for RNAV (RNP) to 18C or 36C

Section 3. General

2-3-1. TRANSFER OF CONTROL BETWEEN CONTROL POSITIONS

a. **General.** After completion of a radar handoff and once communications have been transferred, all aircraft are released for turns, climb or descent (on course, to the traffic pattern, or approach course), as well as speed control, in the transferring controller's airspace. Exceptions are:

   i. Final radar must not descend any aircraft into that satellite airspace that underlies the final radar airspace without individual coordination.

   ii. Final Radar Center must not descend an aircraft assigned by the arrival controller to the center runway below 8,000 feet without coordination with the appropriate arrival controller(s).

b. **Arrival Radar to Final Radar.** Transfer of control from the arrival radar positions to the final radar positions must include an assumed point-out on traffic re-entering the arrival radar controller's airspace. This applies only to traffic proceeding inbound toward the airport after exiting the final airspace located at the back of the final airspace corridor.

c. Local Control to Departure or Satellite.

   i. **Turbojets:** 2 miles from the departure end of the runway, for climb and/or turns toward the assigned Departure Transition Area or destination airport. The Departure/Satellite controller must protect for the initial turbojet and propeller aircraft departure courses.

   ii. **Propeller aircraft:** once established on the Tower assigned heading, for climbs and/or turns toward the assigned Departure Transition Area or destination airport. The Departure/Satellite controller must protect for the initial turbojet and propeller aircraft departure courses.

d. Final Radar to Local Control for arrivals on final.

   i. **Transfer of control.** Local Control has control for arrivals on final at the final approach fix.

   ii. **Transfer of communications.** Final Radar will transfer communications to Local at the final approach fix for instrument approaches or between five and ten miles from the airport for VFR operations/visual approaches.

e. **Coordination for visual separation.** The transferring controller must advise the receiving controller if two transferred aircraft have each other in sight and are maintaining visual separation. This requirement must also apply to local control, who must advise departure control or satellite control if this situation exists. The VL/VC/VR scratchpads are exempt and suffice as coordination for visual separation existing between aircraft.

2-3-2. USE OF QUICK-LOOK FOR DATA TRANSFER BETWEEN TRACON AND TOWER

a. In accordance with 2-3-1d, coordination between the Final Radar and the Local Control positions concerning arrival aircraft must be considered to have been effected using Quick Look and appropriate scratchpad (2-2).

b. The Local Control positions must Quick Look the position(s) working traffic on final. If an aircraft must be retained by Final Radar until after the TCP specified in 2-3-1d, Final Radar must coordinate with Local Control.

2-3-3. AIRSPACE JURISDICTION

Airspace jurisdiction is 500 feet below the depicted base cardinal altitude. (This is for use with VFR aircraft.)

2-3-4. CONSOLIDATED WAKE TURBULENCE (CWT)

CLT is authorized to use the Consolidated Wake Turbulence (CWT) recategorization (recat) separation standards listed in Appendix I and the 7110.126, in lieu of standard wake turbulence minima in the 7110.65.

2-3-5. AUTOMATED POINT OUT PROCEDURES

a. The STARS automated point-out function may be used in accordance with the following:

i. The primary scratchpad must indicate the aircraft's next fix or SID/STAR.

ii. Aircraft descending/climbing must indicate their assigned altitude in the data block via the +### function. Use thousands of feet; e.g. assigned altitude of 3,000 would be +030.

***NOTE**- (SPLAT)(POSITION ID)(SLEW) initiates an automated point out. (SLEW) accepts it.*

Section 4. Runway Information

2-4-1. RUNWAY UTILIZATION

a. The Tower CIC must determine the departure/landing direction. Departure/landing direction must determine the "active runways".

b. The Tower CIC must approve or disapprove of opposite direction operations (ODOs). Once the CIC approves an ODO, automatic releases are canceled until the ODO has been completed.

c. Standard runway configuration:

    a. North Operation: three runways – arrive 36L, arrive and depart 36C and 36R.

    b. South Operation: three runways – arrive 18R, arrive and depart 18C and 18L.

d. South Operation is the preferred calm wind configuration.

e. Runway 05/23 is not used for departure or arrivals.

2-4-2. RUNWAY CHANGES

a. The Tower CIC has the primary responsibility for determining when a runway change is required.

b. Once a determination has been made to change runways, the Tower CIC must:

    i. Coordinate with the TRACON CIC. The Tower/TRACON CICs will determine the last arrival and last departure to the runways, as appropriate.

    ii. Advise the TRACON CIC when the last arrival has landed and when the last departure is airborne.

c. The TRACON and Tower CICs must advise all intra-facility sectors of the runway change. The TRACON CIC will coordinate with all neighboring facilities of the runway change.

d. The controllers at the affected positions must exchange airspace and traffic information to any other controllers affected due to the airspace change with the direction of landing.

Section 5. Opposite Direction Operations

2-5-1. GENERAL

a. Opposite Direction Operations (ODO) at CLT are NOT authorized to the same or parallel runways except to aircraft receiving operational priority or when an aircraft has an operational necessity.

b. The ODO procedures apply to:

   i. ALL runway configurations.

   ii. ALL aircraft operating IFR or VFR.

c. Consider an aircraft on an opposite direction approach that will circle to land to a runway in use to be an ODO until they commence circling. ***EXAMPLE-*** *In a south operation, ILS 36R circle to land 18L.*

2-5-2. RESPONSIBILITIES

a. The following responsibilities are of the Tower CIC for departures or of the TRACON CIC for arrivals:

   i. Initiating all required verbal coordination to accomplish an ODO. Initial coordination must include callsign, aircraft type, and arrival or departure runway.

   ii. Ensuring compliance with ODO cut-off points between aircraft conducting ODOs. The cut-off point is a 10 mile final. ***NOTE-*** *If the conditions described in this section are not met, action must be taken to protect the integrity of the cut-off points.*

b. All coordination must include the word "OPPOSITE DIRECTION."

c. Traffic advisories must be exchanged with both aircraft involved.

> ***EXAMPLE-*** *"Opposite direction traffic, one eight mile final, Boeing 737."*
> ***EXAMPLE-*** *"Opposite direction traffic departing runway 18R, Cherokee."*

d. ***Same Runway ODO***

   i. Same runway ODO conducted inside the cut-off point are prohibited except in an emergency.

   ii. A same runway opposite direction departure must be airborne and turned to avoid conflict and appropriate separation established before an arrival reaches the cut-off. Use of visual separation is NOT authorized.

   iii. A same runway opposite direction arrival must not reach the cut-off point before the preceding arrival has crossed the runway threshold.

e. ***Parallel Runway ODO***

   i. An ODO conducted from parallel runways must be issued a turn away from the opposing traffic when inside the cutoff point (10 mile final) to the other runway. Use of visual separation IS authorized once a turn away from opposing traffic is issued.

Chapter 3. Tower Cab

Section 1. Equipment

3-1-1. TOWER CAB POSITIONS AND FREQUENCIES

Position (STARS ID)	Frequency
Arrival ATIS	121.15
Departure ATIS	132.1
Flight Data	
Clearance Delivery	127.15
Ground Control East	121.9
Ground Control West	121.8
Local Control East (K)	118.1
Local Control Center (T)	126.4
Local Control West (O)	133.35
Tower CIC	

3-1-2. POSITION COMBINATION/DE-COMBINATION

a. The tower cab is combined to Local Control East.

b. **Tower CIC.** The Tower CIC, if not standalone, may be combined to any position as appropriate.

c. **Local Control.** Local Control West/Center combine to/de-combine from Local Control East.

d. Ground Control.

i. Ground Control West combines to/de-combines from Ground Control East.

ii. Ground Control East combines to/de-combines from Local Control East.

e. **Clearance Delivery/Flight Data.** Flight Data combines to Clearance Delivery. Clearance Delivery combines to Ground Control East.

Section 2. Flight Data/Clearance Delivery

3-2-1. RESPONSIBILITIES

a. Flight Data.

i. Responsible for maintaining the arrival and departure ATIS. Runways in use shall be selected by the Tower CIC. Type of approach in use shall be selected by the TRACON CIC. Flight Data shall ensure all Tower positions are aware of the current ATIS code.

ii. Shall enter flight plans and amendments as appropriate. Coordinate with Clearance Delivery as appropriate for clearances to be issued.

iii. Ensure aircraft are routed to be in compliance with Traffic Management Initiatives. Amend flight plan remarks to ensure that other controllers are aware of assigned Expect Departure Clearance Times, as required.

b. Clearance Delivery.

i. Issue IFR departure clearances either verbally, via Pre Departure Clearance (PDC), or via Controller Pilot Data Link Communications (CPDLC).

ii. Issue VFR departure instructions.

iii. Forward all VFR/IFR flight strips to the appropriate control positions once clearances are issued.

3-2-2. IFR DEPARTURES

a. Turbojets must be assigned 8,000ft, or requested altitude if lower, and the appropriate SID as follows:

i. Requesting 11,000ft or above: appropriate RNAV SID or the KERMIT THREE (KER3).

ii. Requesting 10,000ft or below (tower en route): CHARLOTTE THREE (CLT3).

b. All turboprops/props must be assigned 4,000ft, or requested altitude if lower, and the KNIGHTS TWO (KNI2) SID.

c. Assign IFR departures advising "NO SID" the following specific information plus the appropriate clearance items.

i. Turboprop/prop: tower assigned heading and an initial altitude of 4,000.

ii. Turbojet: noise abatement heading an initial altitude of 8,000, accelerate speed to 250 knots, and if unable advise ATC. Upon reaching 10,000, accelerate to 280 knots, and if unable advise ATC.

3-2-3. VFR DEPARTURES

a. Prepare a flight progress strip to include the destination if known (initial heading otherwise) and requested altitude.

b. Issue a clearance out of the Class B airspace, appropriate departure frequency, beacon code, and an initial altitude as follows:

i. Turboprop/prop:

1. Requesting 4,000 or above: "Maintain VFR at 4,000"

2. Requesting below 4,000: "Maintain VFR at or below 4,000" with requested altitude in the flight strip

ii. Turbojet:

1. Requesting 8,000 or above: "Maintain VFR at 8,000"

2. Requesting below 8,000: "Maintain VFR at or below 8,000" with requested altitude in the flight strip

3-2-4. PROCEDURES FOR ISSUING CLEARANCES VIA PDC AND CPDLC

a. PDCs may not be used to issue amended clearances. A pilot cannot respond to a PDC. Use TDLS to send PDCs: https://tdls.virtualnas.net/.

b. Pilots will return a response of W (WILCO) or U (UNABLE) to CPDLC. Do not forward a CPDLC-cleared aircraft's flight strip to Ground Control until a 'W' reply is received.

i. `.CLTCPDLC [departure STARS ID] [expected runway] [route code]` - issues Coded Departure Route.
Example: `.CLTCPDLC W 18C CLTATLRP`

ii. `.CLTCPDLCRR [depature STARS ID] [expected runway] [route code]` - issues Coded Departure Route as a reroute.
Example: `.CLTCPDLCRR W 18C CLTATLRP`

iii. `.CLTCPDLCAM [departure STARS ID] [expected runway]` - issues current route as a CPDLC reroute (used for non-CDR).
Example: `.CLTCPDLCAM W 36R`

c. If incorrect information is sent via CPDLC, use the following phraseology: *"(Callsign) DISREGARD C-P-D-L-C MESSAGE"* and issue a corrected clearance.

***NOTE** - CPDLC is not available for propeller aircraft.*

3-2-5. AIRCRAFT APREQ (CALL FOR RELEASE/CFR)

Upon being advised by the Traffic Management Unit (TMU) to APREQ departures to a certain destination, complete the following items for aircraft destined to the aforementioned location:

a. Issue the clearance and advise the aircraft to contact clearance delivery upon engine start.

b. When the aircraft advises ready for engine start, call Atlanta Center Traffic Management and advise them of an assumed departure ("wheels up") time.

c. Atlanta Center Traffic Management will advise of departure release time and, if necessary, route amendments.

d. After coordination has been completed, advise the aircraft of the release time and indicate it in the remarks on the strip.

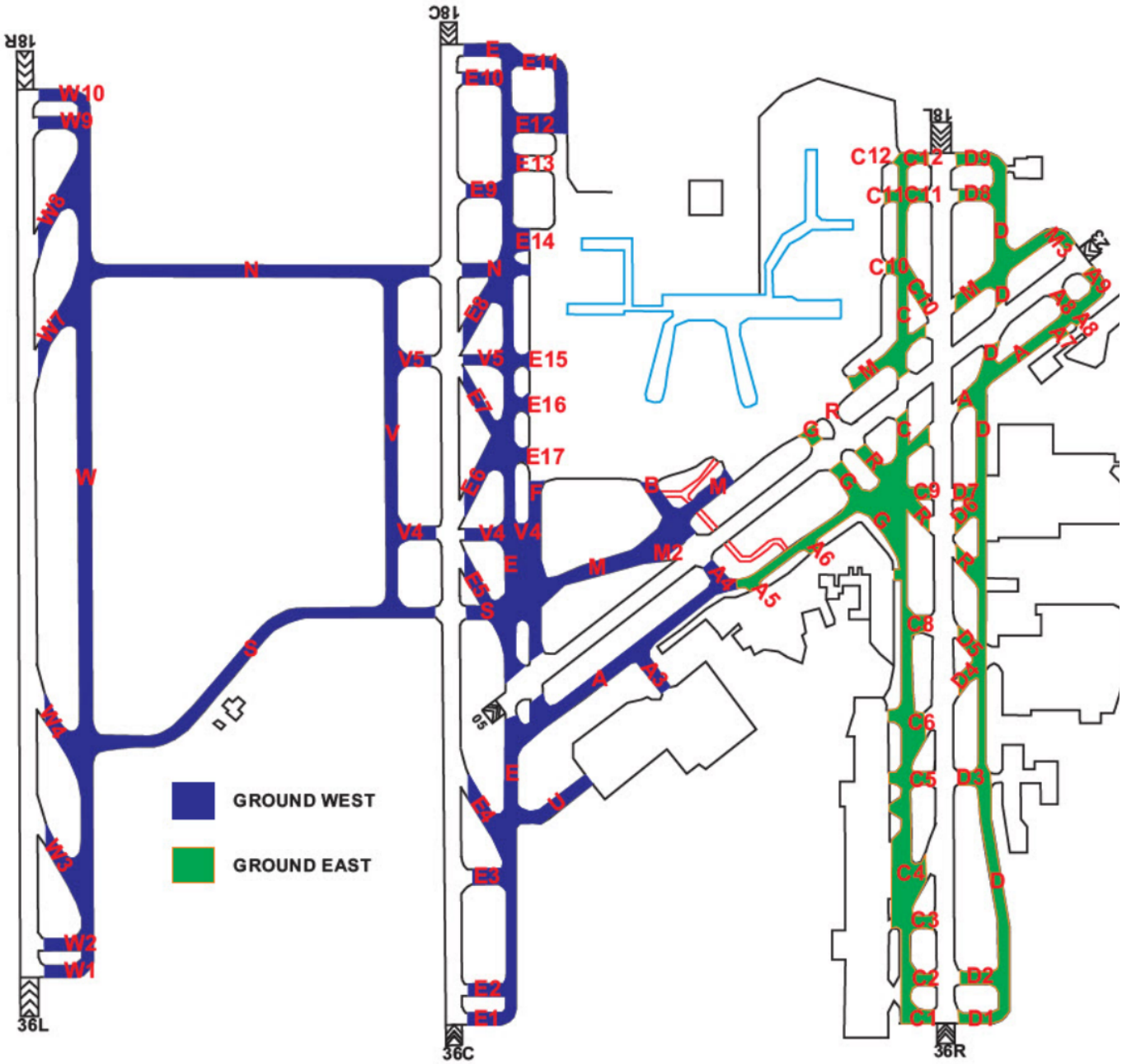
Section 4. Ground Control

3-3-1. AREA OF JURISDICTION

a. Ground Control area of jurisdiction is as depicted in Figure 3-4-1.

b. When requested, Ground Control West releases all taxiways west of 36C/18C to Local Control West.

Figure 3-4-1. Ground Control West/East Area of Jurisdiction



3-3-2. CLEARANCE AMENDMENTS TO TAXIING AIRCRAFT

Upon being advised by Clearance Delivery or Traffic Management Coordinator that an aircraft requires an amendment to their clearance, position the aircraft in a manner to maximize taxiway usage for non-affected aircraft, and advise the pilot to return to the Clearance Delivery frequency.

3-3-3. SEQUENCING AND RUNWAY USE PLAN

a. To assist Atlanta Center, to the extent practical sequence departing aircraft by alternating their SIDs, unless operationally disadvantageous.

b. When departure demand dictates, assign runways in accordance with the Runway Use Plan described in Appendix E to maximize departure flow, unless operationally disadvantageous. During a push, Ground Control will advise the Tower CIC of aircraft not taxied according to the Runway Use Plan. The request shall include callsign, DTA/SID, and runway. Example: *"American 123, BOBZY, runway 18L."*

3-3-4. OTHER RESPONSIBILITIES

a. Ensure that departures are in receipt of the current departure ATIS code.

b. Ensure that all aircraft taxiing on the ramps, taxiways, and runways are operating with their transponder squawking altitude and assigned beacon code.

c. Obtain approval from the appropriate Local Control position prior to taxiing a departure to a location other than the approach end of the runway for departure. This request shall include the call sign of the aircraft and the specific intersection requested. By-pass taxiways are exempt, which are any taxiways 500ft or less from the approach end of the runway. Mark all flight strips with the assigned intersection other than the approach end.

d. Ensure that sufficient ramp area is available for an aircraft to taxi clear of Runway 5/23 prior to issuing a clearance to cross that runway.

e. When a runway crossing has been initiated or directed by the Tower CIC, Ground Controller must advise the CIC when the crossing operation is complete. Otherwise, advise the appropriate Local Control position who initiated or approved the crossing.

3-3-5. KNOWN SCENERY DISCREPANCIES

Due to the rapid expansion of the Charlotte-Douglas International Airport, there may be users that are utilizing outdated sceneries. Controllers should be advised of scenery discrepancies, as listed in Appendix A.

Section 4. Local Control

3-4-1. AREA OF JURISDICTION

a. Local Control East must be responsible for arrivals and departures on Runway 18L/36R.

b. Local Control Center must be responsible for arrivals and departures on Runway 18C/36C.

c. Local Control West must be responsible for arrivals and departures on Runway 18R/36. On request, the taxiways between 18R/36L and 18C/36C may be released to Local Control West from Ground Control.

d. Local Control is designated the airspace within 7DME of the CLT VOR from surface to 4,000ft. See Figure 3-5-1 and 3-5-2.

Figure 3-5-1.
North Operation - Local Control Airspace

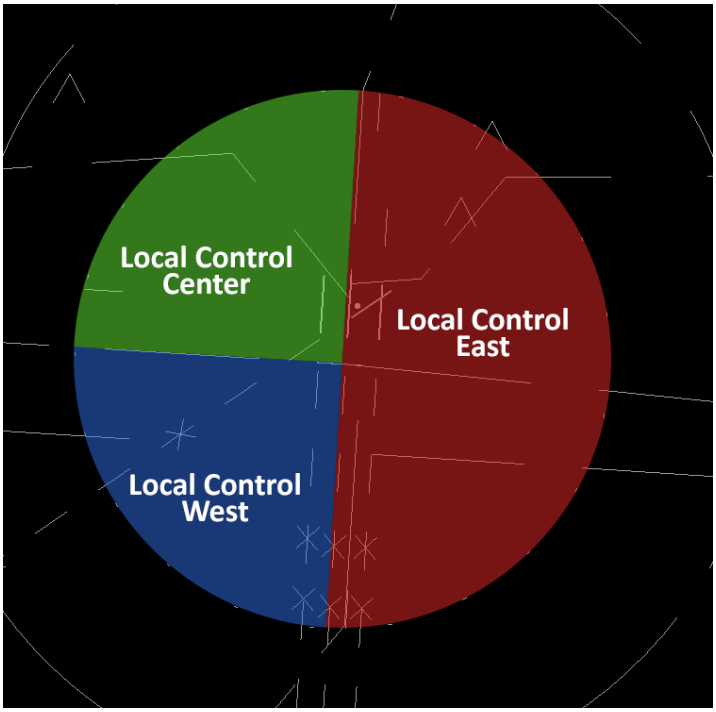
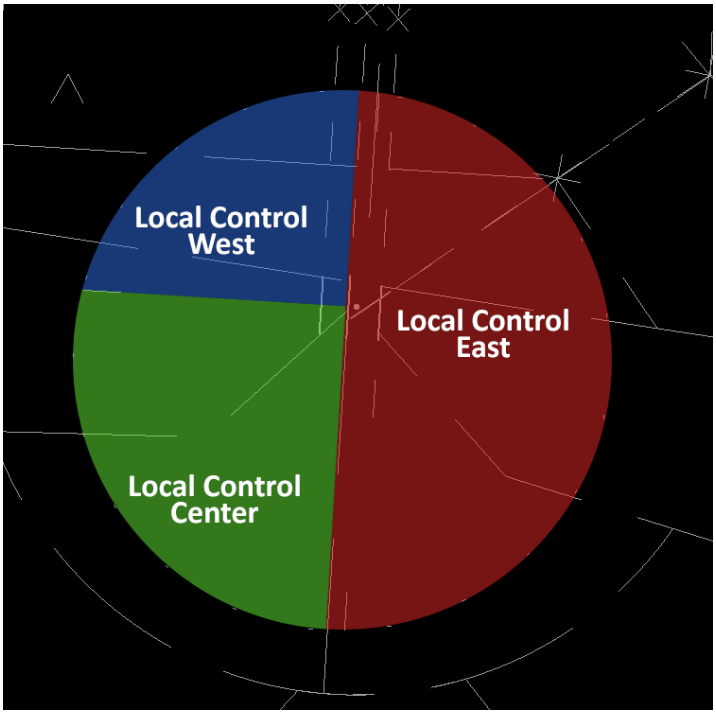


Figure 3-5-2.
South Operation - Local Control Airspace



3-5-2. CROSSING COORDINATION WITH GROUND CONTROL

a. If conditional phrases are used when approving a clearance to cross an active runway, the condition shall be stated first. Only one condition may be issued when authorizing a runway crossing.

b. An example of an appropriate clearance to cross an active runway is: "Behind AAL123, cross Runway 23 at taxiway golf twice and taxiway alpha-four twice."

3-5-3. COORDINATION BETWEEN LOCAL CONTROL POSITIONS

a. Local Control East and Local Control Center must advise Local Control West of all westbound prop departures. Local Control East/Center must retain westbound prop departures on their respective frequencies until these aircraft are clear of all potential conflicts for runway 36L/18R. During periods when there is an increased likelihood of go-arounds from runways 36L/18R, Local Control East/Center must delay the westbound turn of westbound prop aircraft to reduce the potential for conflict with possible go-around traffic from runway 36L/18R.

b. On a north operation, Local Control Center must information Local Control East that there is a FLYYN or CEGAL departure by stating "NORTH PROP." Local Control East must acknowledge with a "NORTH PROP" reply. ***NOTE-*** *36C north props will be assigned heading 360, which will not always provide divergence with 36R departures.*

c. All aircraft departing a runway not consistent with the current Runway Use Plan must be coordinated between the appropriate Local Control and Departure Control positions.

3-5-4. COORDINATION BETWEEN LOCAL CONTROL AND DEPARTURE/SATELLITE

a. Aircraft departing the active runway are automatically released with the appropriate Departure/Satellite controller, with the following exceptions that require individual coordination:

   i. Runway 36L/18R departures.

   ii. SVFR departures (helicopters).

   iii. Opposite direction departures.

b. All aircraft departing a runway not consistent with the current Runway Use Plan must be coordinated between the appropriate Local Control and Departure Control positions.

c. Forwarding of the flight strip to Departure/Satellite constitutes a rolling call. If track is not observed to have been acquired within 3 miles of the departure end of the runway, coordinate with the appropriate departure controller.

3-5-5. TURBOJET NOISE ABATEMENT TRACKS

The Charlotte Airport has designated specific tracks to be flown by departing turbojets at all times. Aircraft must fly headings that ensure the following tracks until 2 miles from the departure end of the runway.

NOTE: *The 18L/C noise tracks are the same, but simultaneous departures are authorized. See paragraph 3-5-7.*

Departure Runway	Noise Track
18L/C	Runway Heading
18R	200°
36R	025°
36C	330°
36L	315°

3-5-6. PREDEFINED DEPARTURE HEADINGS

a. Predefined RNAV jet departure headings:

South Operation		
Departure Procedure	**Runway**	**Predefined Heading**
BOBZY, ESTRR, JOJJO, KRITR, WEAZL	18L/C/R	240° after noise track
BEAVY, ICONS, KWEEN	18L	Noise track
	18C	200° after noise track
	18R	Noise track
BARMY, KILNS, LILLS	18L/C/R	140° after noise track
North Operation		
Departure Procedure	**Runway**	**Predefined Heading**
BOBZY, ESTRR	36R	290° after noise track
	36C	Noise track
	36L	Noise track
JOJJO	36R	310° after noise track
	36L/C	Noise track
KRITR, WEAZL	36C/R	360° after noise track
	36L	Noise track
BEAVY, ICONS, KWEEN	36C/R	Noise track
	36L	Noise track
BARMY, KILNS, LILLS	36R	Noise track
	36L/C	070° after noise track

b. Predefined non-RNAV jet departure headings:

South Operation		
Departure Procedure	**Runway**	**Predefined Heading**
GANTS, RUNIE, MERIL, LILLS	18L/C/R	140° after noise track
HARAY, DEBIE, PITTY, JOTTA, NALEY, NEANO	18L/C/R	240° after noise track
ANDYS, TREAL, HAMLN, BUCKL	18L	Noise track
	18C	200° after noise track
	18R	Noise track
North Operation		
Departure Procedure	**Runway**	**Predefined Heading**
HARAY, DEBIE, PITTY, NEANO	36R	290° after noise track
	36C	Noise track
	36L	315° after noise track
ANDYS, TREAL, HAMLN, BUCKL	36L/C/R	Noise track
JOTTA, NALEY	36C/R	360° after noise track
	36L	070° after noise track
GANTS, MERIL, LILLS, RUNIE	36R	Noise track
	36C	360° after noise track
	36L	070° after noise track

c. Predefined turboprop and prop departure headings:

Departure Direction	Runway	Predefined Heading
West (and all to CAE filed AOB 8,000)	ALL	270°
East	ALL	100°
FLYNN, CEGAL	36C/R	360°

3-5-7. SIMULTANEOUS TURBOJET DEPARTURES ON RUNWAY 18L AND 18C

Due to the required noise abatement tracks on 18L and 18C being the same (runway heading track), normal IFR separation cannot be ensured. CLT is authorized to use Waiver 98-T-60 to run simultaneous departures off of runway 18L/18C under the following procedures.

i. All turbojet departures shall be advised of simultaneous departures. This requirement will be met through use of the ATIS.

ii. Local Control East/Center shall ensure that separation is not less than runway centerline, with no overlapping or touching of radar targets.

iii. Alternate headings will be issued to ensure that aircraft track the runway centerline and fly course divergent tracks. When such headings are in use, appropriate coordination must be effected between Local Control positions.

3-5-3. GO AROUND PROCEDURES

Local Control must establish and provide appropriate separation with other aircraft in the event of a go around or missed approach. Issue climb-out instructions to an aircraft on approach if the pilot executes a missed approach or go-around. If climb out does not ensure required separation, issue alternate instructions and coordinate with the appropriate radar sector.

NOTE 1 *– Usual instructions for a turbojet go around would be a climb to 4,000ft and, once clear of potential conflicts, assign a heading toward downwind. Then, coordinate with the appropriate Final Radar controller prior to issuing a frequency change.*

NOTE 2 *– Do not issue control instructions outside the TCP without approval from Final Radar.*

3-5-4. LINE UP AND WAIT (LUAW)

LUAW operations are authorized on all runways, pursuant to FAA JO 7110.65, 3-9-4 Line Up And Wait (LUAW), except when the ceiling is less than 800 feet or visibility is less than 2 miles.

3-5-5. ASDE-X

Charlotte-Douglas International Airport is equipped with ASDE-X. Controllers are authorized to issue a landing clearance while an aircraft is holding in LUAW position in accordance with FAA JO 7110.65, 3-9-4, Line Up and Wait (LUAW).

Chapter 4. TRACON

Section 1. Positions

4-1-1. TRACON POSITIONS AND FREQUENCIES

Position (STARS ID)	Frequency
Departure Radar West (W)	120.5
Departure Radar East (E)	124.0
Satellite Radar North (N)	134.75
Satellite Radar South (S)	120.05
Satellite Radar Concorde (Q)	128.32
Arrival Radar East (H)	126.15
Arrival Radar Northwest (U)	125.35
Arrival Radar Southwest (D)	135.6
Final Radar East (A)	127.7
Final Radar Center (M)	119.0
Final Radar West (F)	132.7
Traffic Management (TC)	199.997
TRACON CIC	

4-1-2. COMBINING THE TRACON

a. The TRACON CIC, if not standalone, may be assigned to any position.
b. The TRACON combines to Departure Radar West (W).

Section 2. Departure/Satellite Radar

4-2-1. DEPARTURE/SATELLITE RADAR AIRSPACE

Figure 4-2-1. North Operation - Departure Radar Airspace

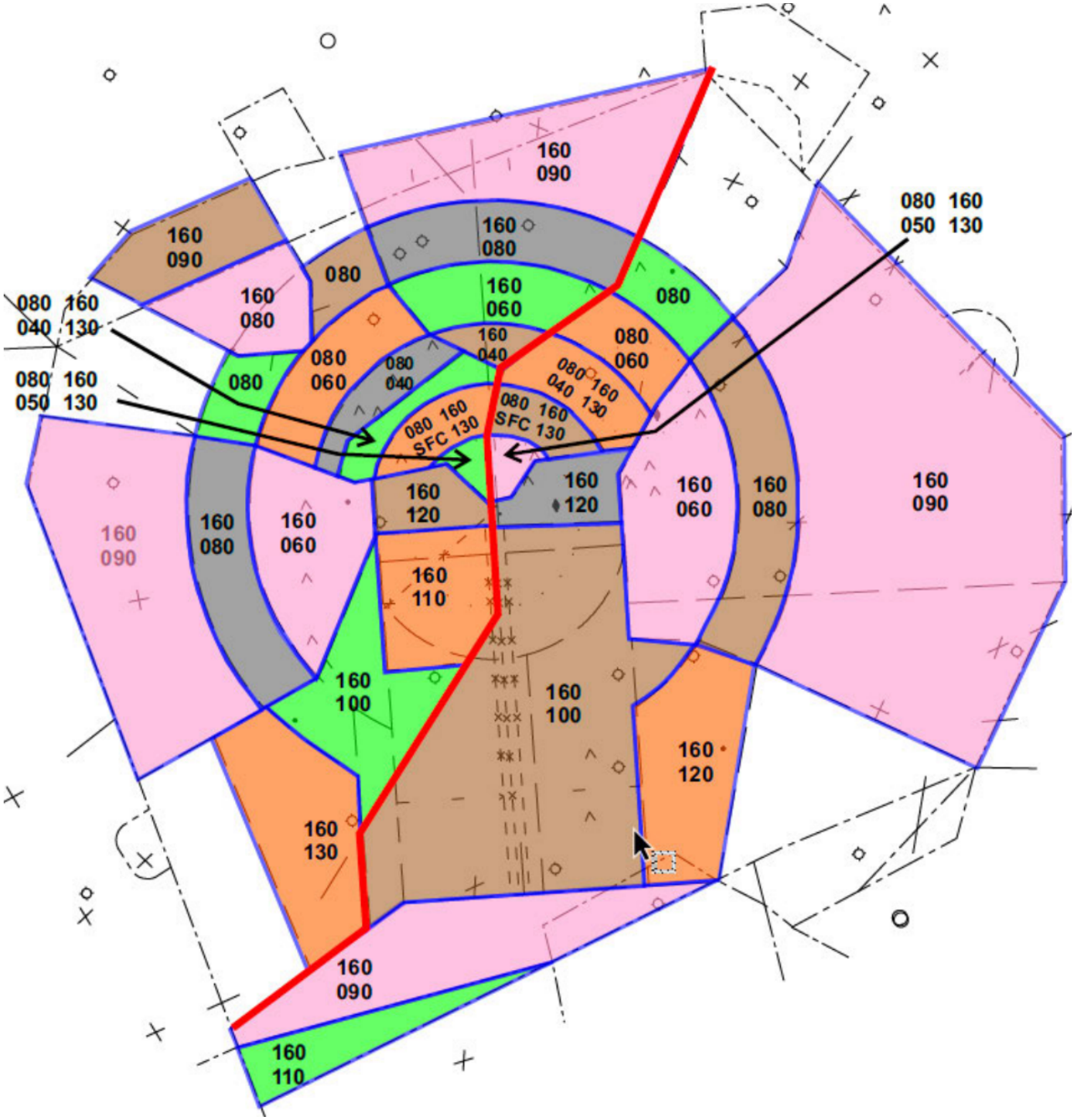


Figure 4-2-2. North Operation - Satellite Radar Airspace

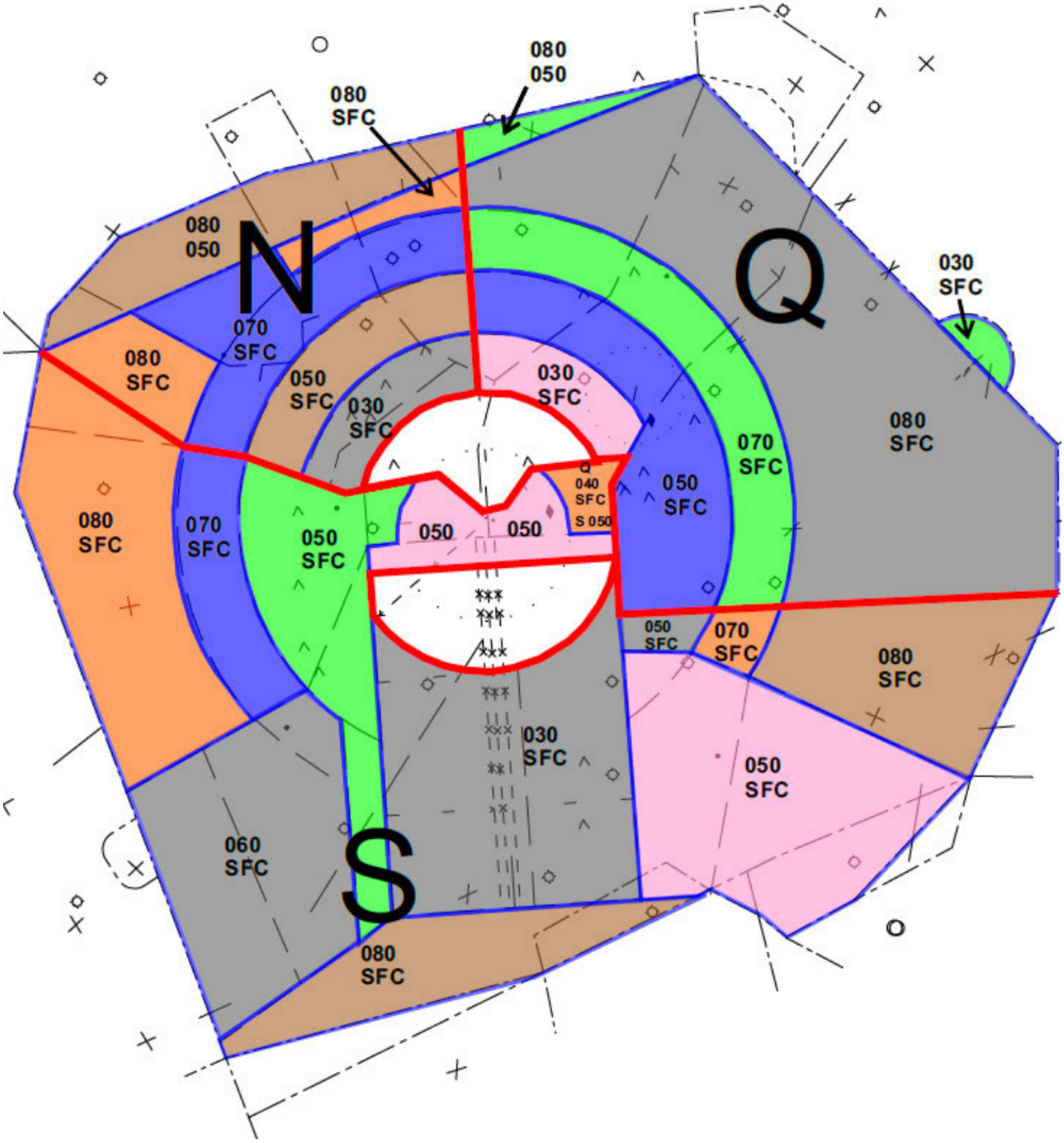


Figure 4-2-3. South Operation - Departure Radar Airspace

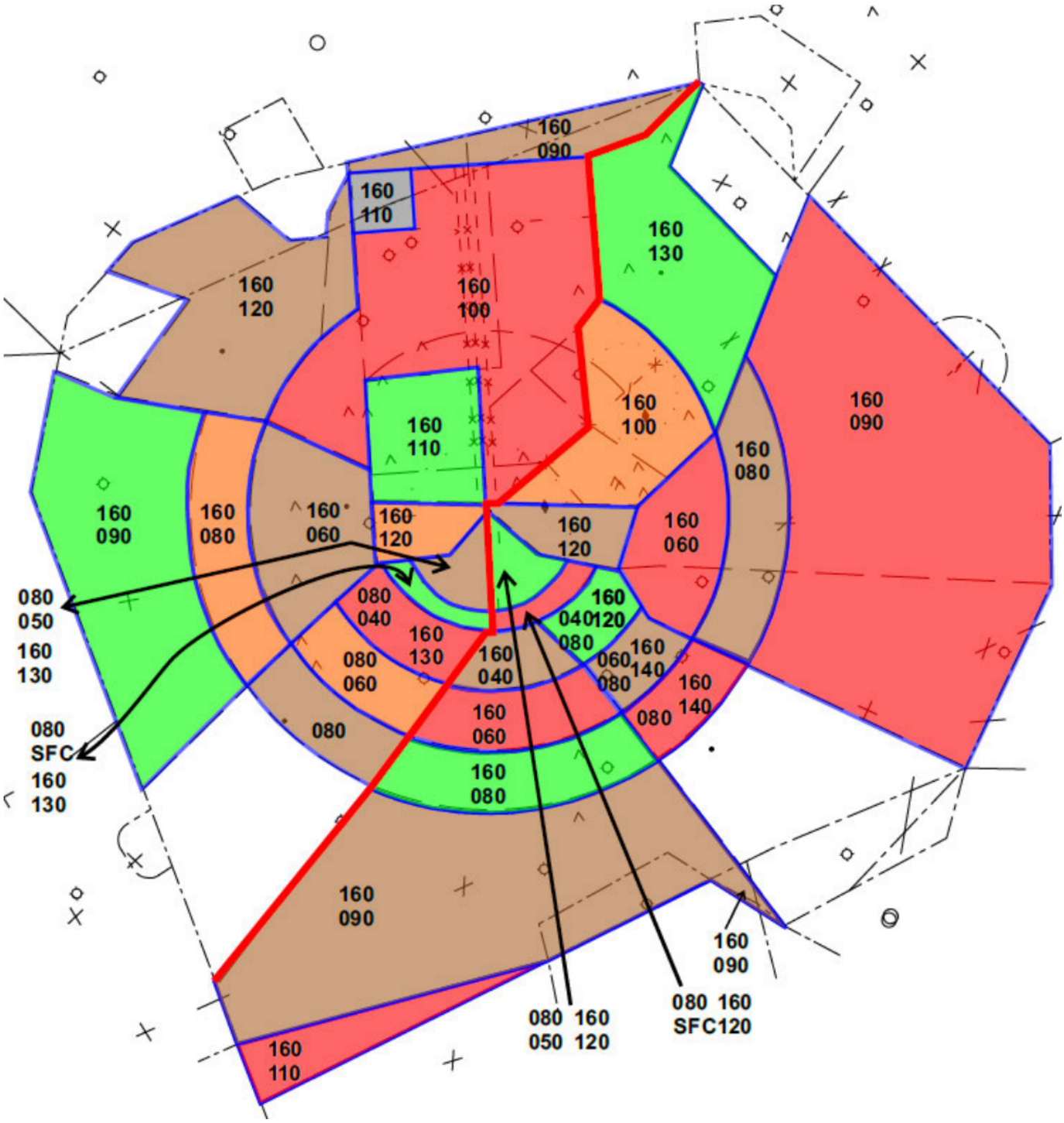
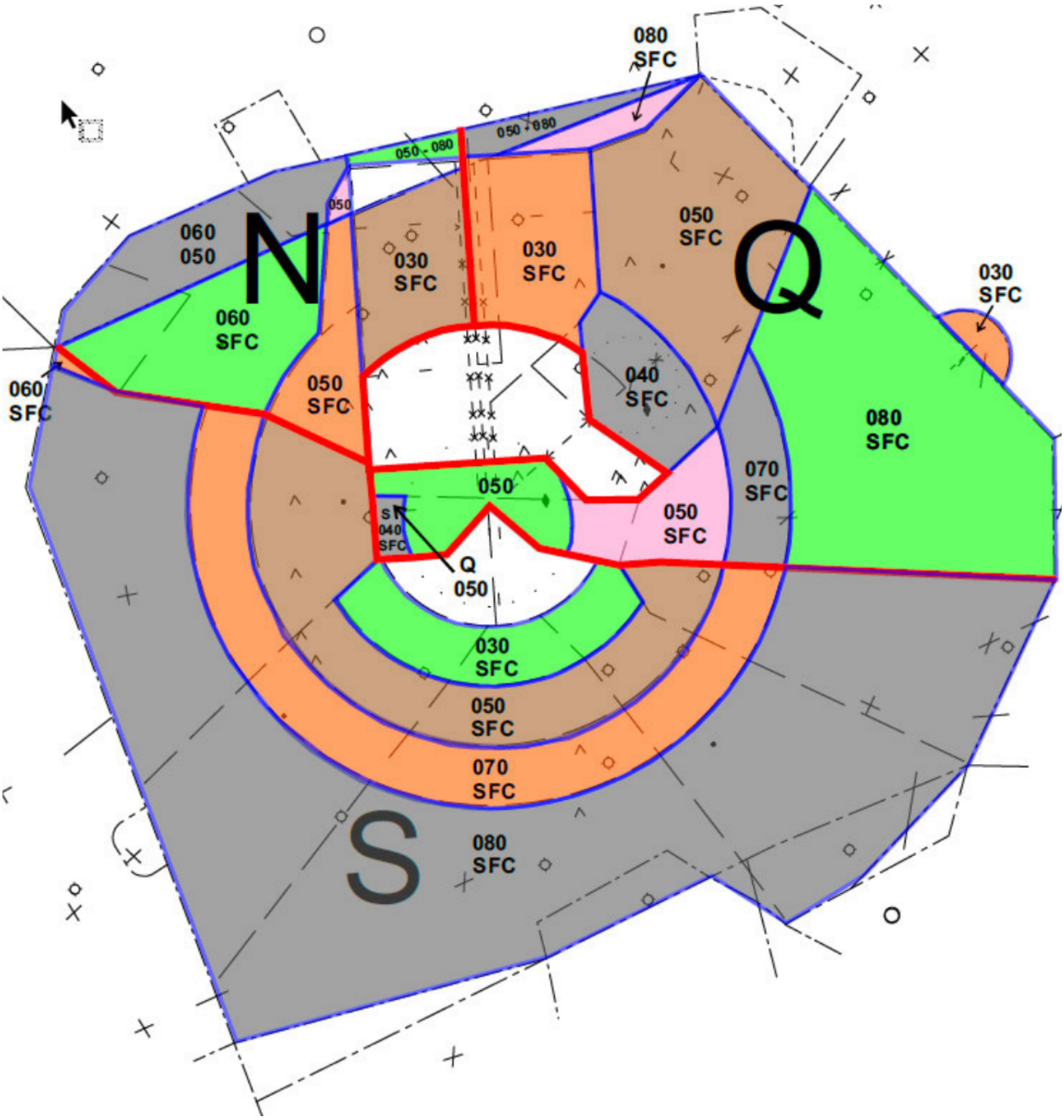


Figure 4-2-4. South Operation - Satellite Radar Airspace



4-2-2. POSITION COMBINATION/DE-COMBINATION

a. Departure Radar East (E) combines to/decombines from Departure Radar West (W).

b. Satellite Radar North (N) combines to/decombines from Satellite Radar South (S).

c. Satellite Radar Concord (Q) combines to/decombines from Satellite Radar North (N).

d. Satellite Radar combines to Departure Radar. N and S may be combined to W and/or E.

4-2-3. DEPARTURE RADAR WEST/EAST RESPONSIBILITIES

a. Provide standard separation and radar service to all aircraft within Departure Radar's delegated airspace as depicted in 4-2-1.

b. Departure Radar West is responsible for west and north departure transition areas (DTAs). Departure Radar East is responsible for south and east DTAs. If the tower assigns the South, Departure Radar West may be responsible for south DTA; see 4-2-6 SOUTH TRANSFER AREA.

c. Departure Radar must be cognizant of appropriate letters of agreement (LOAs) between CLT and surrounding facilities for both departure and overflight traffic. Atlanta Center (ZTL) overlies the airspace and surrounds it to the north and west. Other surrounding facilities include Jacksonville Center (ZJX), Washington Center (ZDC), and various approach controls.

4-2-4. SATELLITE RADAR RESPONSIBILITIES

a. Provide standard separation and radar service to all aircraft within Satellite Radar's delegated airspace as depicted in 4-2-1.

b. When simultaneous ILS or RNAV approaches are in use, vector IFR satellite arrivals landing at CLT at 5,000 feet from the west and from the east.

c. Vector VFR satellite arrivals landing at CLT at an appropriate VFR altitude.

d. The following procedures apply for the satellite airspace corridor over CLT:

   i. Satellite Radar Concord must assign VFR aircraft through the corridor east to west at 4,500, unless otherwise coordinated.

   ii. Satellite Radar South must assign all aircraft through the corridor west to east at 5,000, unless otherwise coordinated. ***NOTE:*** *Concord owns the corridor airspace. South should initiate a hand off in time for Concord to plan for opposite direction IFR traffic.*

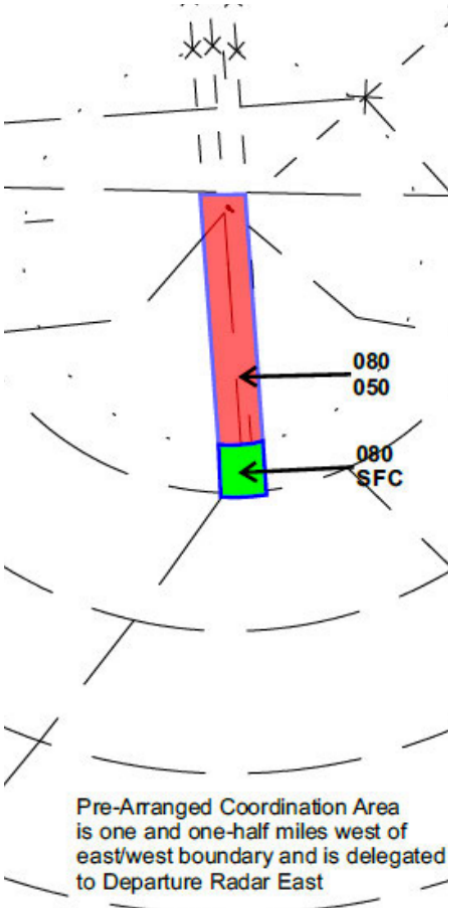
e. Prior to intrafacility handoff, place the destination or next fix in the scratchpad.

f. It shall be the responsibility of the first controller to establish communication with a satellite airport IFR arrival to advise that arrival of the approach information (ATIS code, weather information, type of approach to expect, etc) referenced in FAAO 7110.65 paragraph 4-7-10 (Approach Information).

4-2-5. DEPARTURE RADAR EAST/WEST PRE-ARRANGED COORDINATION AREA

a. Departure Radar East is authorized to control runway 18C departures inside of Departure Radar West airspace within the Pre-Arranged Coordination Area depicted in Figure 4-2-5. This is for runway 18C departures assigned east or south departure transition areas (DTAs).

Figure 4-2-5. Departure Radar East/West Pre-Arranged Coordination Area for Runway 18C Departures



4-2-6. SOUTH TRANSFER AREA

The South Transfer Area is established when the Tower CIC assigns the south DTAs (ICONS/BEAVY/KWEEN SIDs) to runway 18C/36C. The South Transfer Area changes the boundary between Departure Radar West/East and is depicted below (Figure 4-2-6 and 4-2-7). This configuration places 18C/36C southbound departures in Departure Radar West airspace.

Figure 4-2-6. South Operation - South Transfer Area

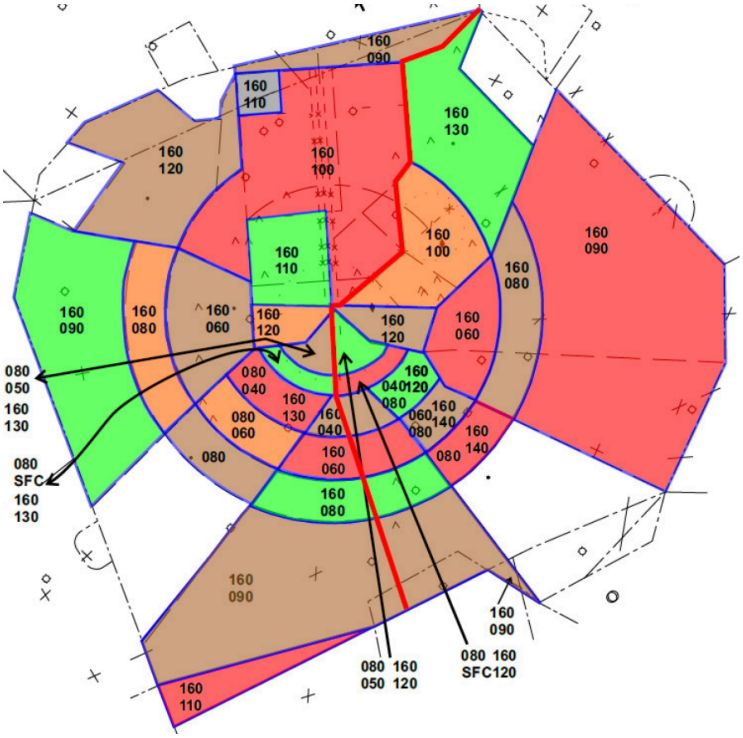
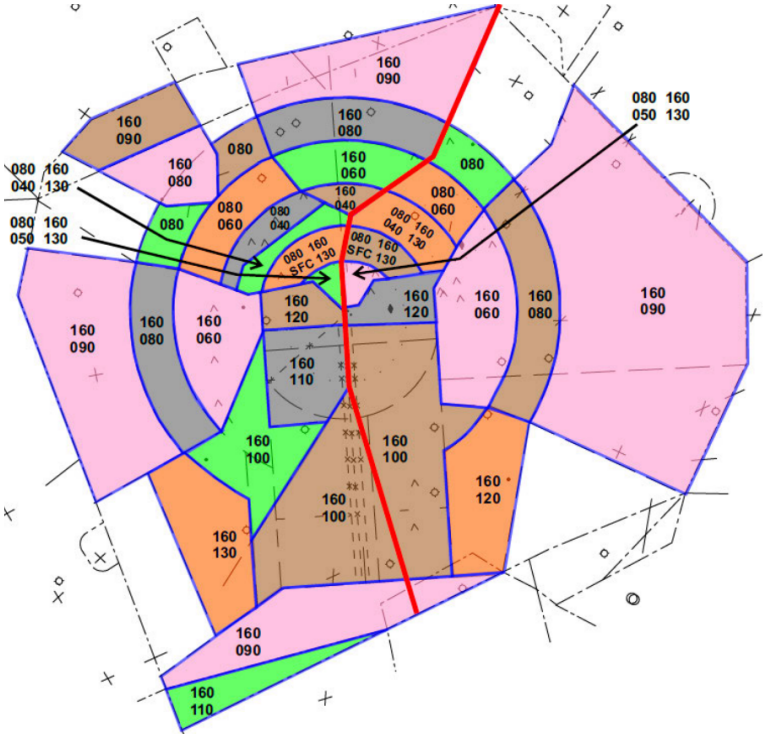


Figure 4-2-7. North Operation - South Transfer Area



4-2-7. DEPARTURE RADAR/ARRIVAL RADAR PRE-ARRANGED COORDINATION AREAS

a. See: 4-5-2. DEPARTURE RADAR AND ARRIVAL RADAR.

Section 3. Arrival Radar

4-3-1. AIRSPACE

Figure 4-3-1. North Operation - Arrival Radar Northwest/Southwest/East Airspace

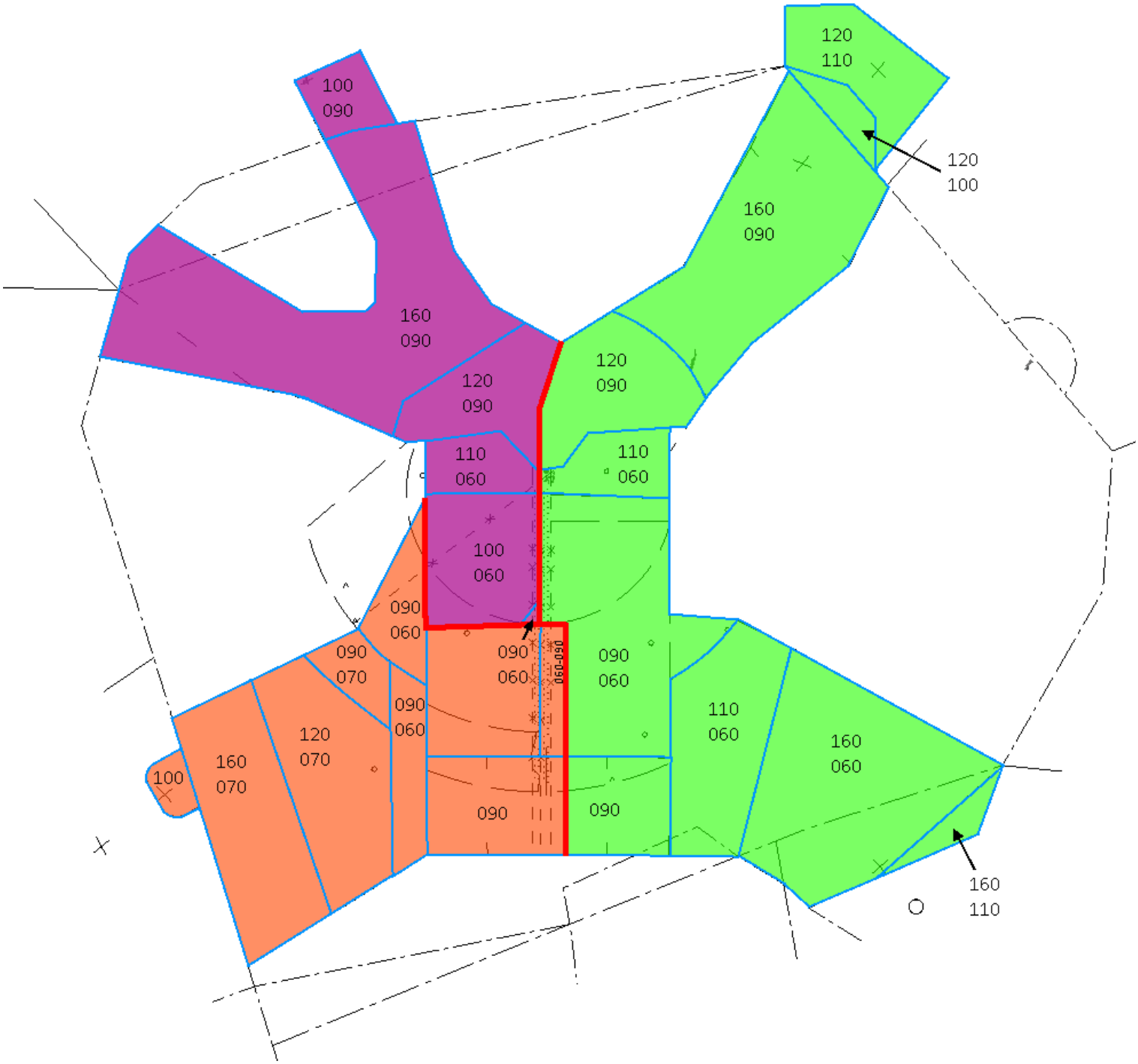
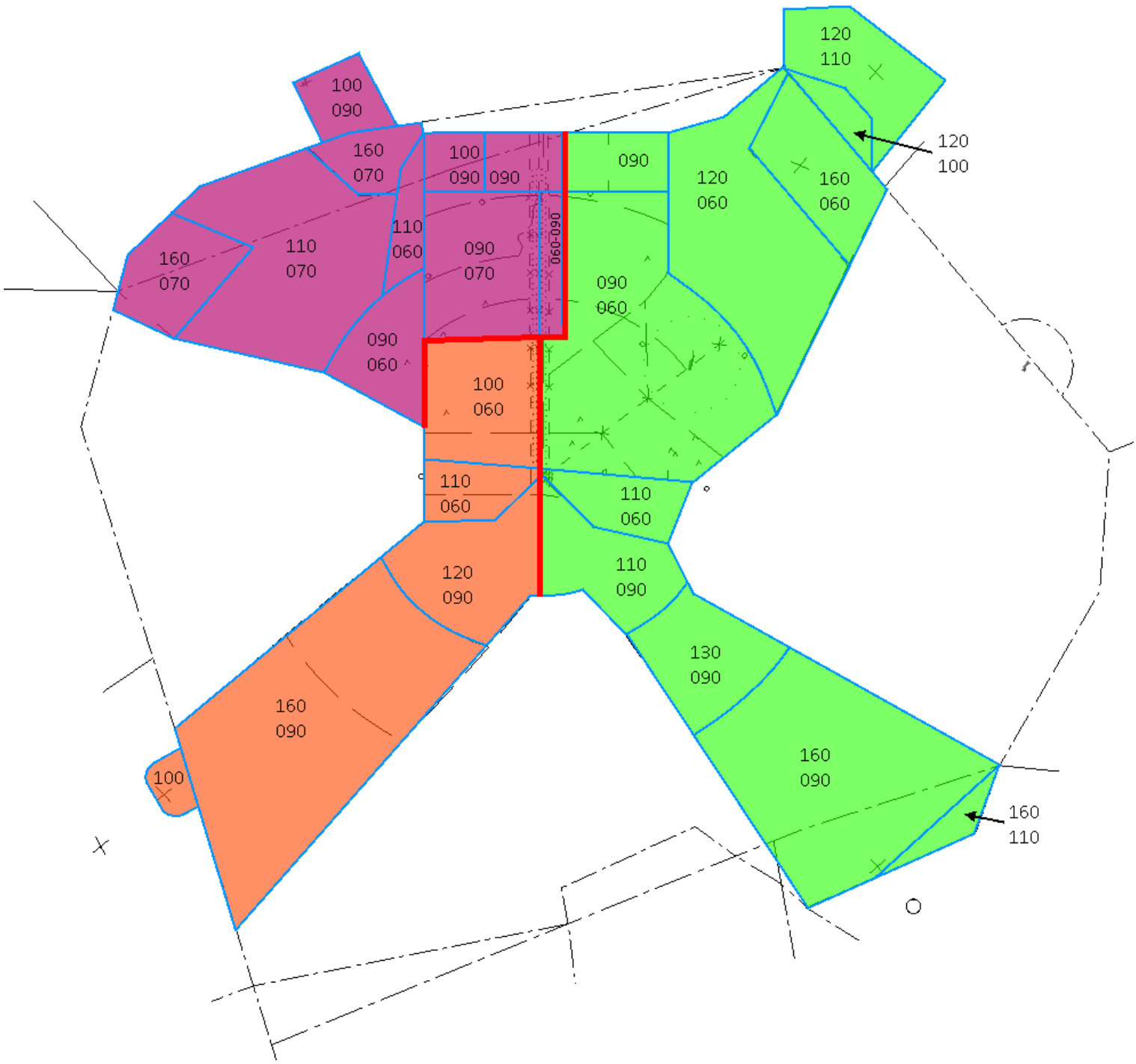


Figure 4-3-1. South Operation - Arrival Radar Northwest/Southwest/East Airspace



4-3-2. POSITION COMBINATION/DE-COMBINATION

a. Arrival Radar Northwest (U) shall combine to/de-combine from Arrival Radar East (H).

b. Arrival Radar Southwest (D) shall combine to/de-combine from Arrival Radar Northwest (U).

4-3-3. ARRIVAL RADAR EAST/NORTHWEST/SOUTHWEST RESPONSIBILITIES

a. Provide separation and radar service to all aircraft in Arrival Radar's delegated airspace as depicted in 4-3-1.

b. As soon as practical after receiving a handoff, place an L, C, or R in the scratchpad to reflect the assigned runway. When an aircraft is expecting an approach NOT advertised on the ATIS, use the appropriate scratchpad noted in Chapter 2, Section 2.

c. Ensure aircraft have the current arrival ATIS code.

4-3-4. ARRIVAL RADAR FLOWS

a. Manage arrival routes, speeds, and altitudes so that the traffic enters the Final Radar controller's airspace at the appropriate point and speed (usually not greater than 210kts on downwind) to establish an orderly and efficient traffic flow. Unless otherwise coordinated, assign altitudes as follows:

i. Duals - 18R/18L or 18C/18L or 36L/36C or 36L/36R

1. West runway
    a. Base leg from west 7,000
    b. Base leg from east 8,000
    c. Downwinds 6,000
2. East runway
    a. Base leg from west 7,000
    b. Base leg from east 6,000
    c. Downwinds 6,000

ii. Duals - 18R/18C or 36L/36C

1. West runway
    a. Base leg from west 7,000
    b. Base leg from east 6,000
    c. Downwinds 6,000
2. East runway
    a. Base leg from west 9,000
    b. Base leg from east 8,000
    c. West downwind 9,000
    d. East downwind 8,000

iii. Trips - 18R/18C/18L or 36L/36C/36R

1. West runway
    a. Base leg from west 7,000
    b. West downwind 6,000
2. Middle runway
    a. Base leg from west 9,000 into "M" final box
    b. Base leg from east 8,000 into "M" final box
    c. West downwind
    d. East downwind
3. East runway
    a. Base leg from east 6,000
    b. East downwind 6,000

4-3-5. ARRIVAL/FINAL RADAR AND ARRIVAL/DEPARTURE RADAR PRE-ARRANGED COORDINATION AREAS

See: Section 5. Pre-Arranged Coordination.

Section 4. Final Radar

4-4-1. AIRSPACE

Figure 4-4-1. North Operation - Final Radar West/Center/East Airspace

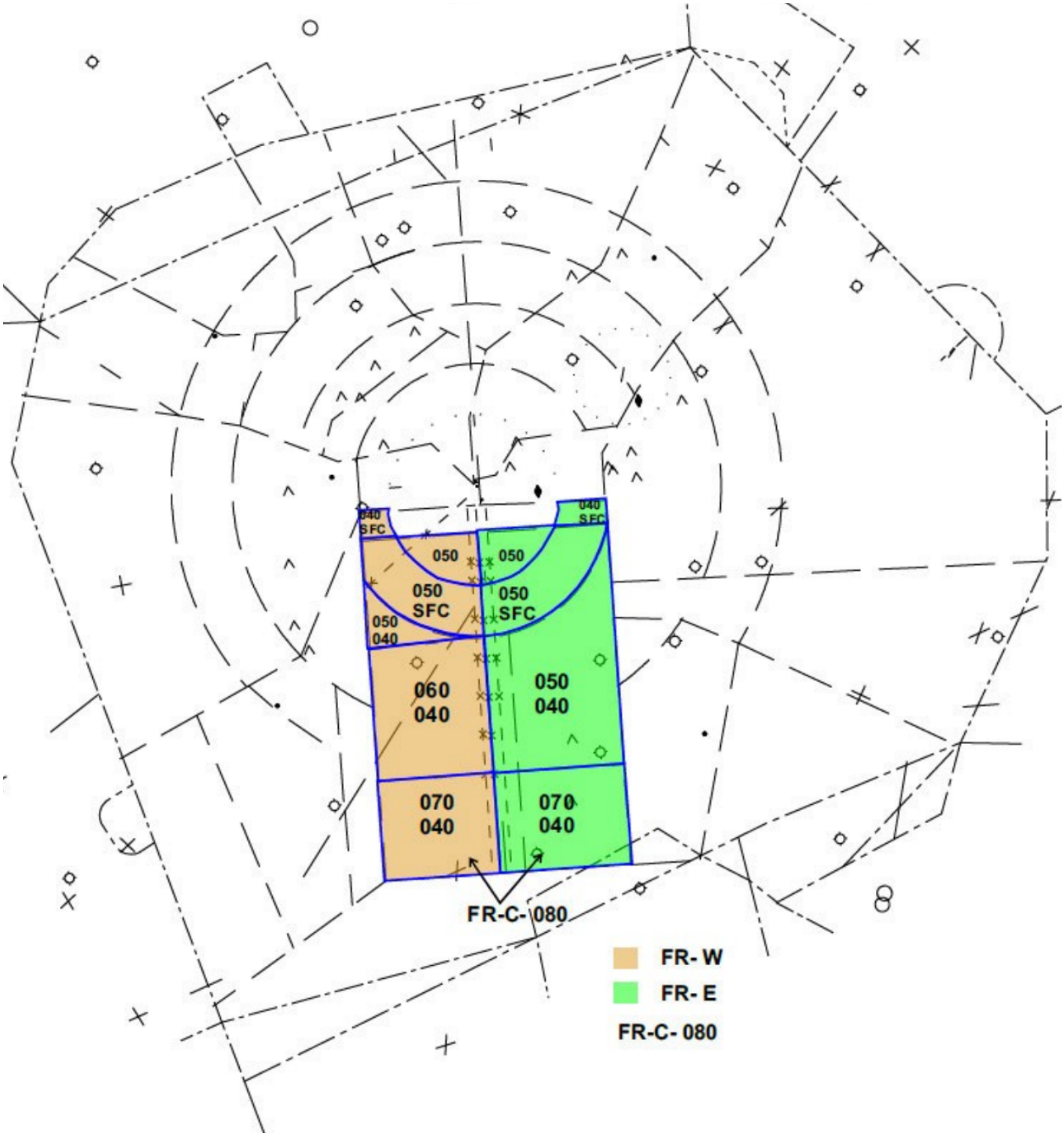
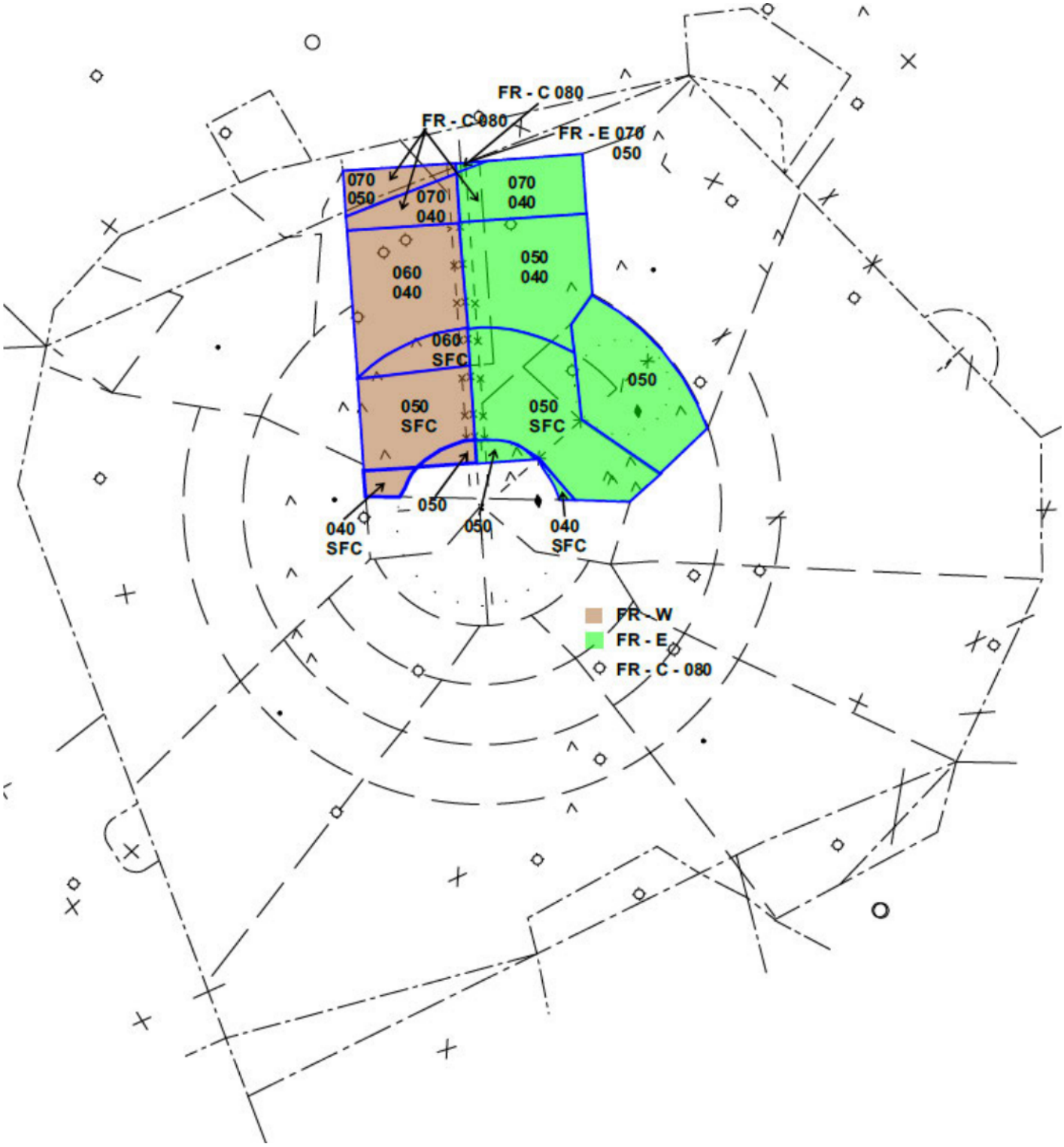


Figure 4-4-2. South Operation - Final Radar West/Center/East Airspace



4-4-2. POSITION COMBINATION/DE-COMBINATION

Final Radar West (F) and Final Radar Center (M) shall combine to/de-combine from Final Radar East (A).

4-4-3. FINAL RADAR WEST/CENTER/EAST RESPONSIBILITIES

a. Provide standard separation and radar service to all aircraft within Final Radar's delegated airspace depicted in 4-4-1. Local Control assumes separation responsibility at the TCP described in 2-3-1d.

b. In accordance with Chapter 2, Section 2, ensure all aircraft have the correct scratchpad.

c. Final Radar controllers must ensure that traffic on opposing base legs to the same or parallel runways are vertically separated until such time as the required lateral/longitudinal separation clearly exists.

> ***NOTE:*** *The intent of this requirement is to eliminate the practice whereby a final controller will attempt to turn in front of, behind, or between two arrivals without having vertical separation. Once required is established, the use of vertical separation may be discontinued.*

d. All traffic must be vectored to intercept the final approach course of the runway at an angle of 30 degrees or less, except during triple ILS/RNAV approaches. During triple ILS/RNAV approaches, traffic must be vectored to intercept at 20 degrees or less.

e. In triple operations, aircraft assigned runway 18C/36C must exit the "M" box established on the localizer at or above 8,000.

f. Final Radar positions are authorized to utilize the Mode C readout of traffic worked by the adjacent Final Radar position for vertical separation purposes.

g. All Final Radar positions must quick look all other Final Radar and Local Control positions.

4-4-4. FINAL RADAR ALTITUDE ASSIGNMENTS

a. During visual approaches, altitude assignments by Final Radar must normally be:
   i. **Duals - 36L/36R or 36C/36R or 18R/18L or 18C/18L**
      1. A at or below 4,000
      2. M/F 5,000 or above
   ii. **Duals - 36L/36C or 18R/18C**
      1. F at or below 5,000
      2. M 7,000 or above
   iii. **Trips - 36L/36C/36R or 18R/18C/18L**
      1. A 4,000
      2. M 8,000
      3. F 5,000 or 6,000

b. During simultaneous ILS/RNAV approaches, Final Radar positions shall ensure aircraft are established on the final approach course at the following capture points and altitudes except when using 1,000ft, 3NM, or visual separation.
   i. Duals - North Operation
      1. 36L/36R LONIA @ 5,000 / HEKAM @ 4,000
      2. 36C/36R DENNE @ 5,000 / HEKAM @ 4,000
      3. 36L/36C NUXXY @ 4,000 / KRISL @ 7,000
   ii. Duals - South Operation
      1. 18L/18R CAVVI @ 4,000 / WOVEN @ 5,000
      2. 18L/18C CAVVI @ 4,000 / TOMME @ 5,000
      3. 18C/18R LERDY @ 7,000 / NELLA @ 4,000
   iii. Trips - North Operation
      1. 36R HEKAM @ 4,000
      2. 36C SOLM @ 8,000
      3. 36L WELET @ 5,000 or the caret @ 6,000
   iv. Trips - South Operation
      1. 18L CAVVI @ 4,000
      2. 18C JEDKO @ 8,000
      3. 18R RUDKY @ 5,000 or the caret @ 6,000

4-4-5. REDUCED SEPARATION ON FINAL

Reduced longitudinal separation (2.5 miles inside of a 10-mile final) is authorized between aircraft established on the final approach course in accordance with FAA Order 7110.65 for runways 18R/36L, 18C/36C, and 18L/36R.

4-4-6. BEST OPERATING PRACTICES AND PROBLEM AREAS

a. It is recommended that the final radar west controller keep runway 36C/18C traffic at an altitude higher than the adjacent outboard final radar controllers. The purpose of this is to assist the outboard final radar controllers in obtaining visual approach clearances.

b. Final controllers should work the aircraft that have been assigned landing runways that are within their area of jurisdiction (e.g. F works all 36L/18R traffic, M all 36C/18C, A all 36R/18L).

c. Controllers must be aware of potential conflictions whenever non-standard altitude assignments are employed. In all cases where non-standard altitudes are used, coordination must be complete and timely.

4-4-7. FINAL RADAR/ARRIVAL RADAR PRE-ARRANGED COORDINATION AREA

See: 4-5-3. FINAL RADAR AND ARRIVAL RADAR.

Section 5. Pre-Arranged Coordination

4-5-1. DEPARTURE RADAR WEST AND DEPARTURE RADAR EAST

See 4-2-5. DEPARTURE RADAR EAST/WEST PRE-ARRANGED COORDINATION AREA.

4-5-2. DEPARTURE RADAR AND ARRIVAL RADAR

a. A pre-arranged coordination area is established for traffic departing from within the Charlotte terminal area. Pre-arranged coordination may be applied within the airspace depicted in Figure 4-5-3 and 4-5-4. The following procedures apply:

   i. Departure Radar East may only use the procedure to penetrate Arrival Radar East airspace.

   ii. Departure Radar West may only use the procedure to penetrate Arrival Radar Northwest/Southwest airspace.

   iii. Departure Radar must provide radar separation, including appropriate wake turbulence separation, from all Arrival Radar traffic when utilizing this prearranged coordination area.

   Arrival Radar must advise Departure Radar of any point-outs or untagged/untracked targets.

b. The Mode C readout of an aircraft under another controller's jurisdiction may be used for separation purposes while aircraft are within the pre-arranged coordination area.

Figure 4-5-3. North Operation - Departure/Arrival Radar Pre-Arranged Coordination Area

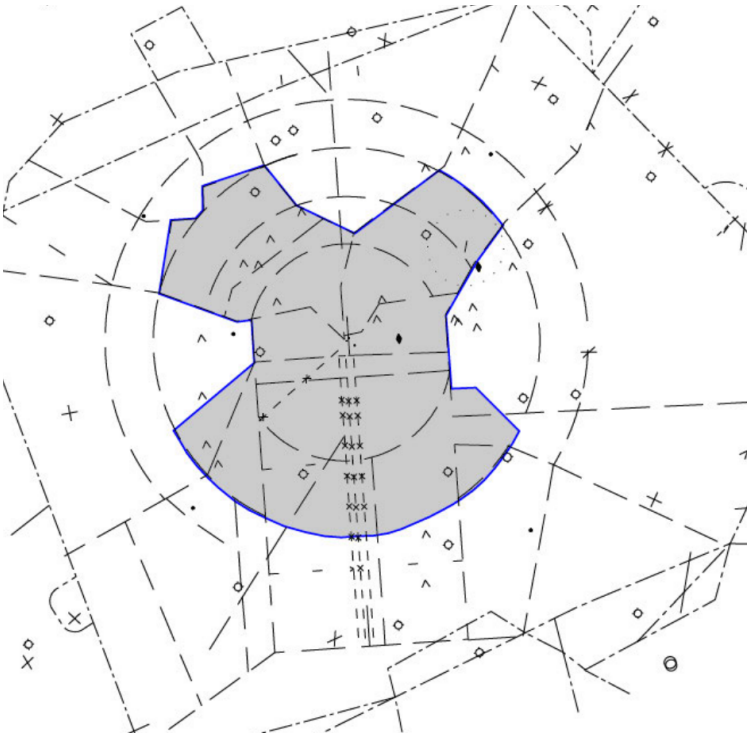
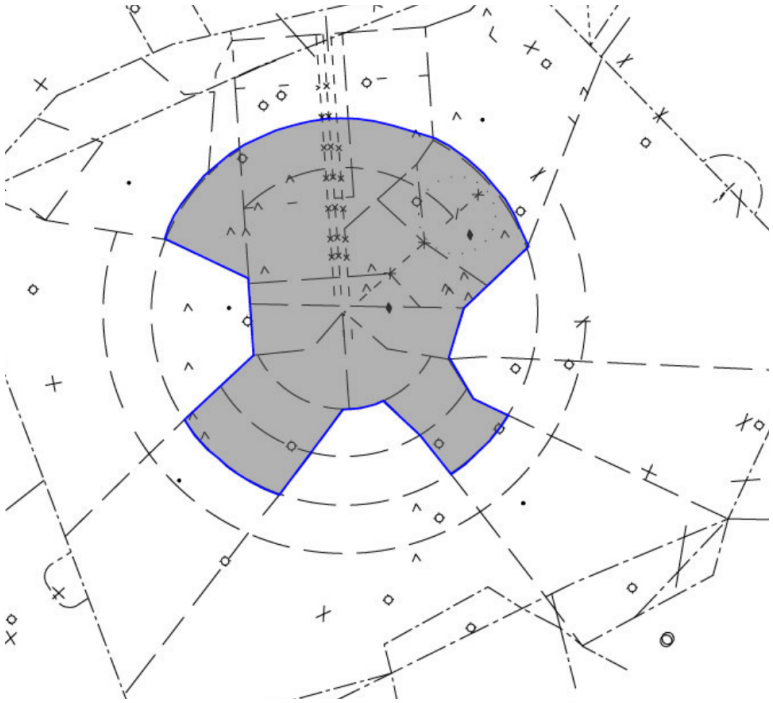


Figure 4-5-4. South Operation - Departure/Arrival Radar Pre-Arranged Coordination Area



4-5-3. FINAL RADAR AND ARRIVAL RADAR

a. A pre-arranged coordination area is established for traffic landing at KCLT. Pre-arranged coordination may be applied within the airspace depicted in Figure 4-5-3 and 4-5-4. The following procedures apply:

i. Arrival Radar East may only penetrate Final Radar Center airspace without individual coordination utilizing the east final pre-arranged coordination area.

ii. Arrival Radar Northwest/Southwest may only penetrate Final Radar Center airspace without individual coordination utilizing the west final pre-arranged coordination area.

iii. Arrival Radar must provide radar separation, including appropriate wake turbulence separation, from all Final Radar Center traffic when utilizing this prearranged coordination area.

iv. Final Radar Center must advise Arrival Radar of any point-outs or untagged/untracked targets.

b. The Mode C readout of an aircraft under another controller's jurisdiction may be used for separation purposes while aircraft are within the pre-arranged coordination area.

Figure 4-5-3. North Operation - Final/Arrival Radar Pre-Arranged Coordination Area

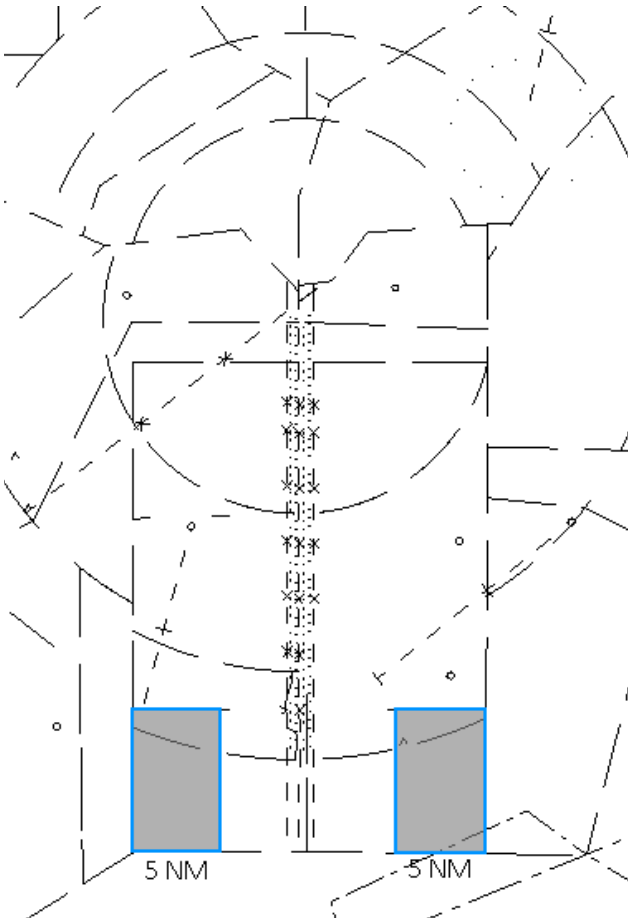
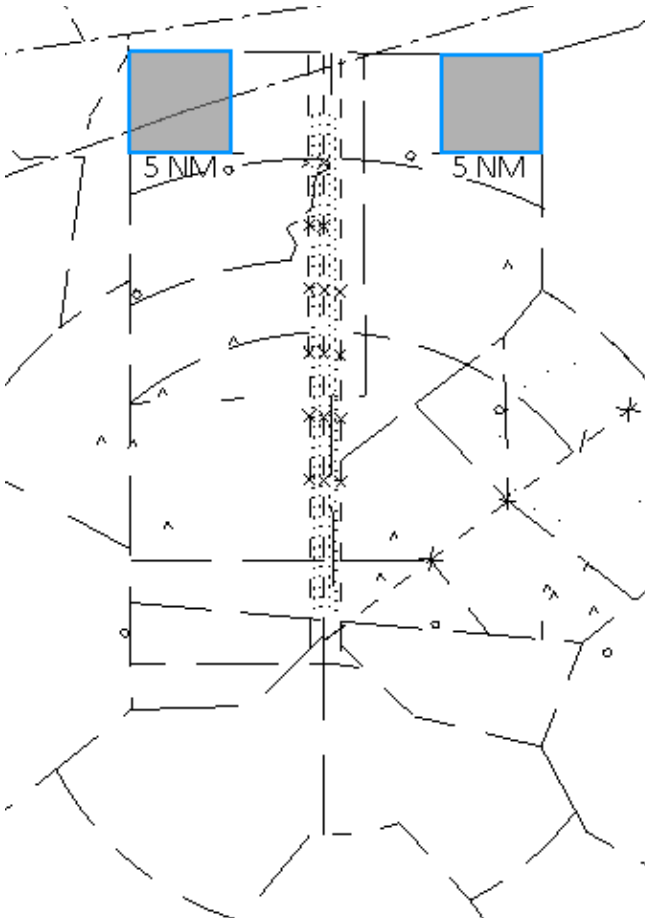
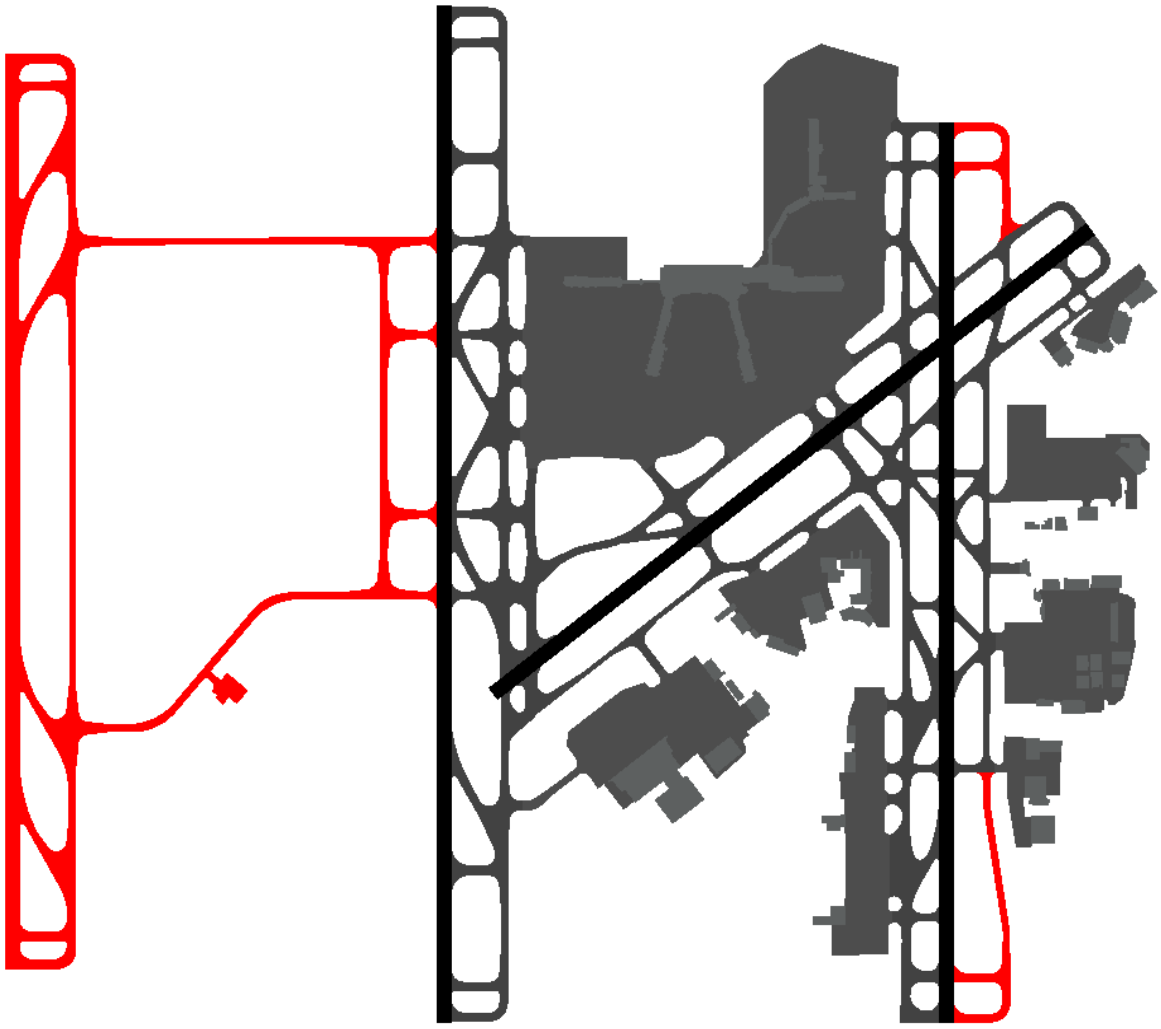


Figure 4-5-4. South Operation - Final/Arrival Radar Pre-Arranged Coordination Area



Appendices

Appendix A. Discrepancies Between Sceneries



Known discrepancies on old sceneries:

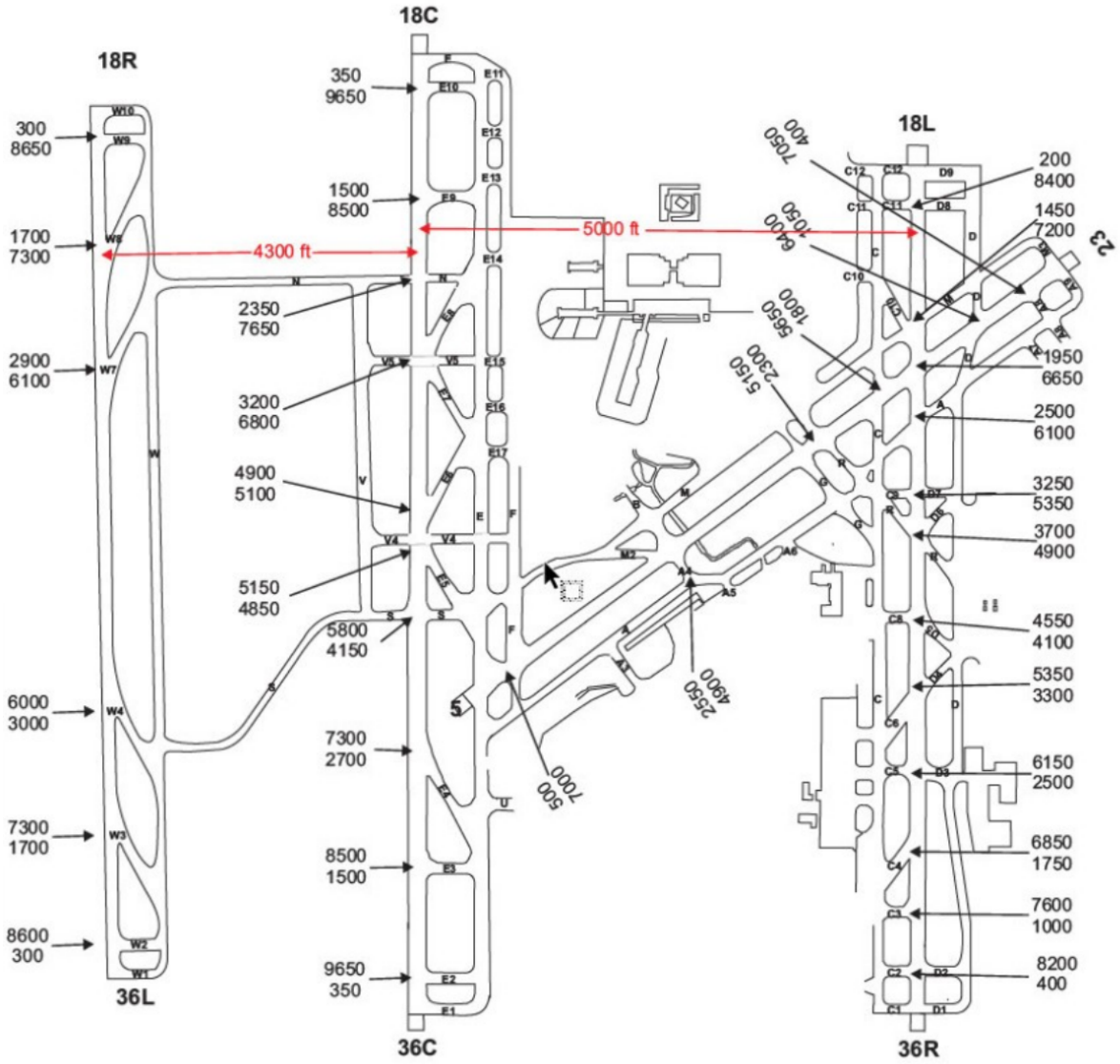
a. Runway 36L/18R is non-existent. It is suggested that controllers advise pilots of the discrepancy, and inform them that their 36L/18R is now runway 36C/18C.

b. The following areas do not exist:

   i. Taxiway D south of D3, taxiway D north of M, all taxiways west of runway 36C/18C, and the ramp north of E14.

c. Old ramp entrance names: E17 was E14, E16 was E13, E15 was E12, and E14 was E11.

Appendix B. Available Takeoff Distances



Appendix C. Controller Relief Briefing Checklist

C-1. FLIGHT DATA/CLEARANCE DELIVERY AND GROUND CONTROL RELIEF BRIEFING CHECKLIST

1) Status Information Areas: Applicable IDS and PIREP page, etc.
2) Equipment Status: AFV, ATIS, etc.
3) Staffing: Departure/Satellite Radar split, tower cab staffing (including Tower CIC).
4) Airport Conditions: Airspace configuration, runways in use, runway/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: Call for release (CFR/APREQs), etc.
8) Special Activities: Events, etc.
9) Special Instructions: Coordination, CIC instructions, etc.
10) Training in Progress.
11) Traffic Information.
    a) *Ground Control.* Aircraft on the movement area/cleared onto the movement area.
    b) *Clearance Delivery.* PDC/CPDLC eligible flight plans which have not yet been sent a PDC or CPDLC.
    c) Aircraft standing by.
    d) Coordination agreements with other positions.

NOTE: *There must be at least a 4 minute overlap during each position relief briefing: a minimum of 2 minutes prior to receiving the briefing and a minimum of 2 minutes at the end of the briefing. At the beginning of the 2 minutes prior to the briefing, the relieving controller must be monitoring the frequency. Upon completion of the briefing, the controller relieved must monitor the frequency for 2 minutes.*

C-2. GROUND AND LOCAL CONTROL RELIEF BRIEFING CHECKLIST

1) Status Information Areas: Applicable IDS and PIREP page, etc.
2) Equipment Status: AFV, ATIS, etc.
3) Staffing: Departure/Satellite Radar split, Final Radar split, tower cab staffing (including Tower CIC).
4) Airport Conditions: Airspace configuration, Runway(s) in use, runway/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 CLT delays, etc.
8) Special Activities: Events, Evaluations, Emergency, etc.
9) Special Instructions: Coordination, CIC instructions, LUAW, LAHSO, etc.
10) Training in Progress.
11) Verbally State Runway Status: Unavailable, closed, or occupied.
12) Traffic Information:
    a) Status of each aircraft.
    b) Point-outs.
    c) Aircraft affected by Traffic Management Initiatives.
    d) Coordination agreements with other positions.
    e) Aircraft holding or standing by for service.

NOTE: *There must be at least a 4 minute overlap during each position relief briefing: a minimum of 2 minutes prior to receiving the briefing and a minimum of 2 minutes at the end of the briefing. At the beginning of the 2 minutes prior to the briefing, the relieving controller must be monitoring the frequency. Upon completion of the briefing, the controller relieved must monitor the frequency for 2 minutes.*

Appendix D. Departure Flight Strip Marking

PDT4487	5313	KCLT KTYS	KCLT BOBZY4 BOBZY BRAYN	10	11	12
CRJ7/L	P0000		REWET VXV KTYS	13	14	15
714	160		○"PIEDMONT"	16	17	18

1 Aircraft ID	**5** Beacon code	**8** Destination	**9** Route
3 Aircraft type/suffix	**6** Proposed departure time		
4 CID (auto)	**7** Expected altitude		**9A** Remarks*

10 Reported ATIS	**11** Optional	**12** CFR time**
13 Clearance*	**14** Intersection	**15** Runway
16 Departure ID	**17** Optional	**18** Optional

* Remarks as follows:

++FRC++ - Full Route Clearance

++FRC/XXX++ - Full Route Clearance issued up to a particular fix (XXX).

++CDR CLTLXXXYY++ - A coded departure route has been utilized. XXX indicates the arrival field IATA, YY indicates the departure fix.

++EDCT XXXXz++ - EDCT time when issued by ZTL. Aircraft must depart within 5 minutes before/after the EDCT.

** Call For Release (CFR) release time issued by ZTL. Aircraft must depart within 2 minutes before/1 minute after the time.

*** Check mark (SHIFT + /) for verbal readback. "X" for PDC sent. "CPD" for CPDLC "W" (WILCO) received.

Appendix E. Runway Use Plan

a. When departure demand is high, Ground Control should make all efforts to assign the following runways for the corresponding departures. Coordinate with the Tower CIC for aircraft not assigned departures.
b. The Tower CIC may amend the runway use plan according to departure demand. The Tower CIC must ensure the tower cab and TRACON CIC are aware of an amended runway use plan.

E-1. RNAV TURBOJET DEPARTURES

NOTE *– See appendices E-3 and E-4 for a visual representation.*

Departure Procedure	Runway
BEAVY, ICONS, KWEEN, BARMY, KILNS, LILLS	18L/36R
BOBZY, ESTRR, JOJJO, KRITR, WEAZL	18C/36C

E-2. NON-RNAV TURBOJET DEPARTURES

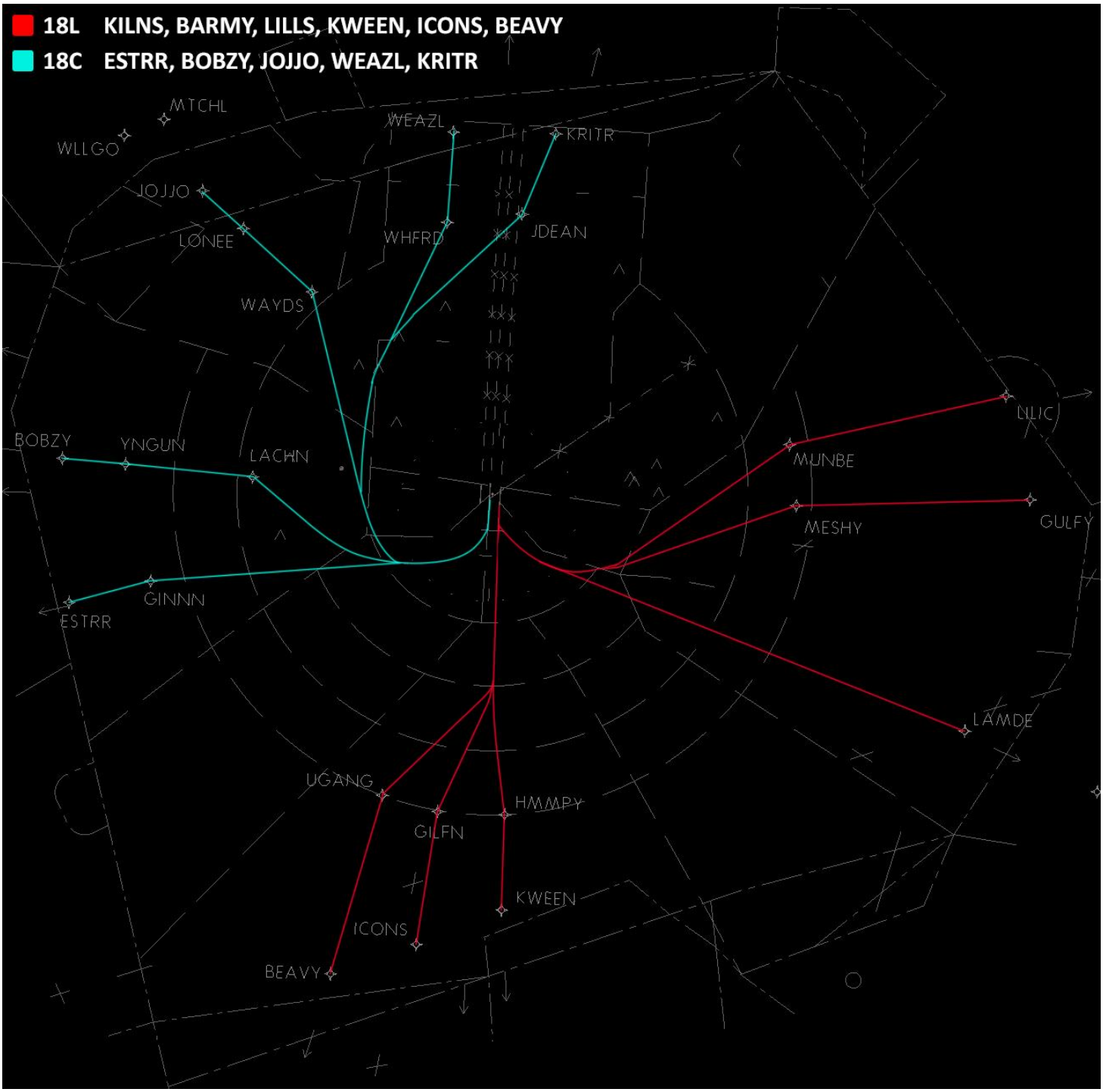
For the KERMIT and CHARLOTTE departures, assign north and west departures runway 36C/18C and south and east departures runway 18L/36R.

	KERMIT	CHARLOTTE
North/West	JOTTA, NALEY, NEANO, DEBIE	PITTY, HARAY
South/East	ANDYS, TREAL, HAMLN, LILLS, MERIL	GANTS, LILLS, RUNIE, BUCKL

E-3. RNAV SID FLOWS (SOUTH OPERATION)

NOTE 1 *– Represents standard runway use plan.*

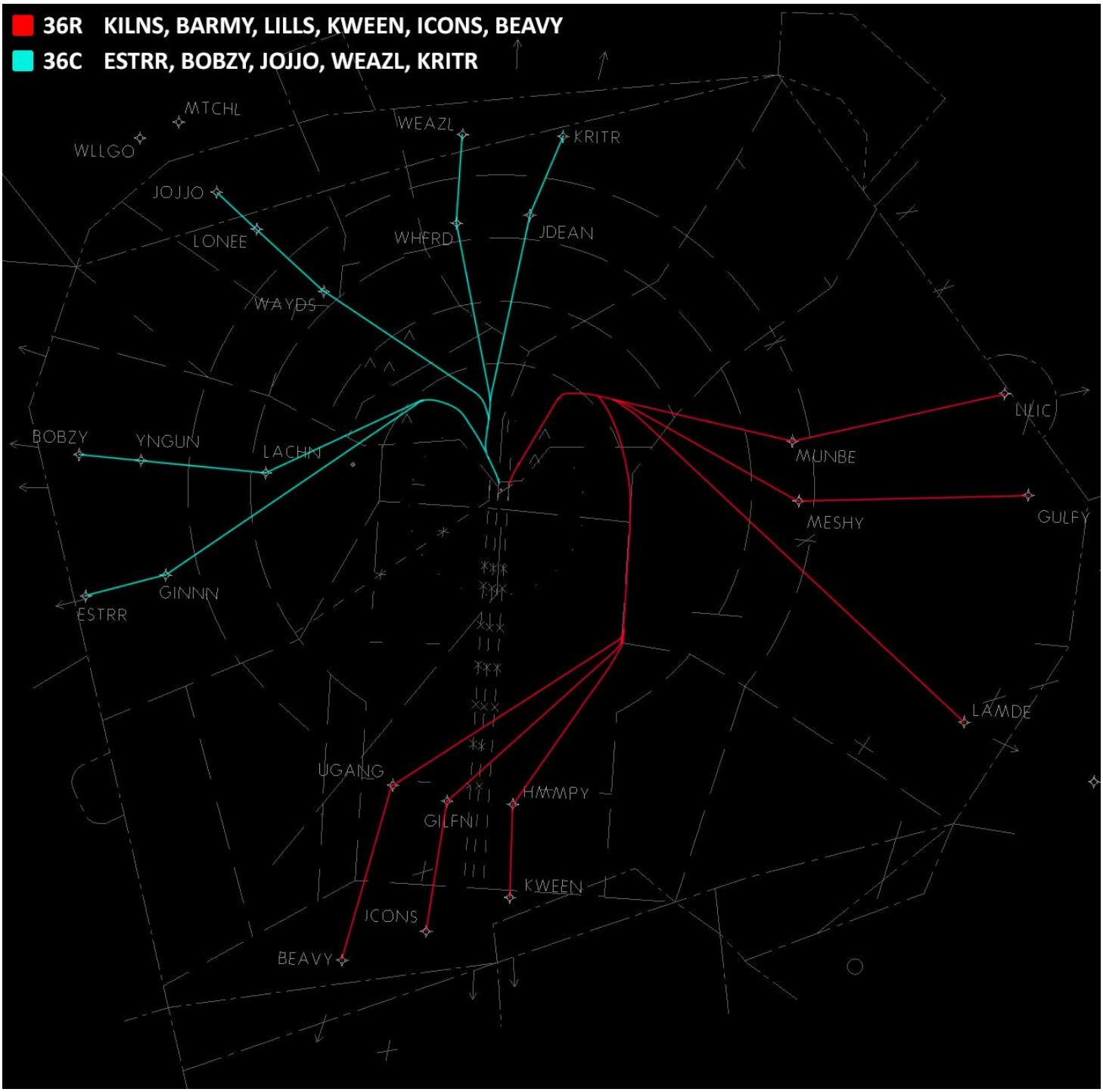
NOTE 2 *– As the SIDs are vectors and aircraft may join a given SID at various waypoints, these lines are only a general representation of the paths aircraft will take.*



E-4. RNAV SID FLOWS (NORTH OPERATION)

NOTE 1 *– Represents standard runway use plan.*

NOTE 2 *– As the SIDs are vectors and aircraft may join a given SID at various waypoints, these lines are only a general representation of the paths aircraft will take.*



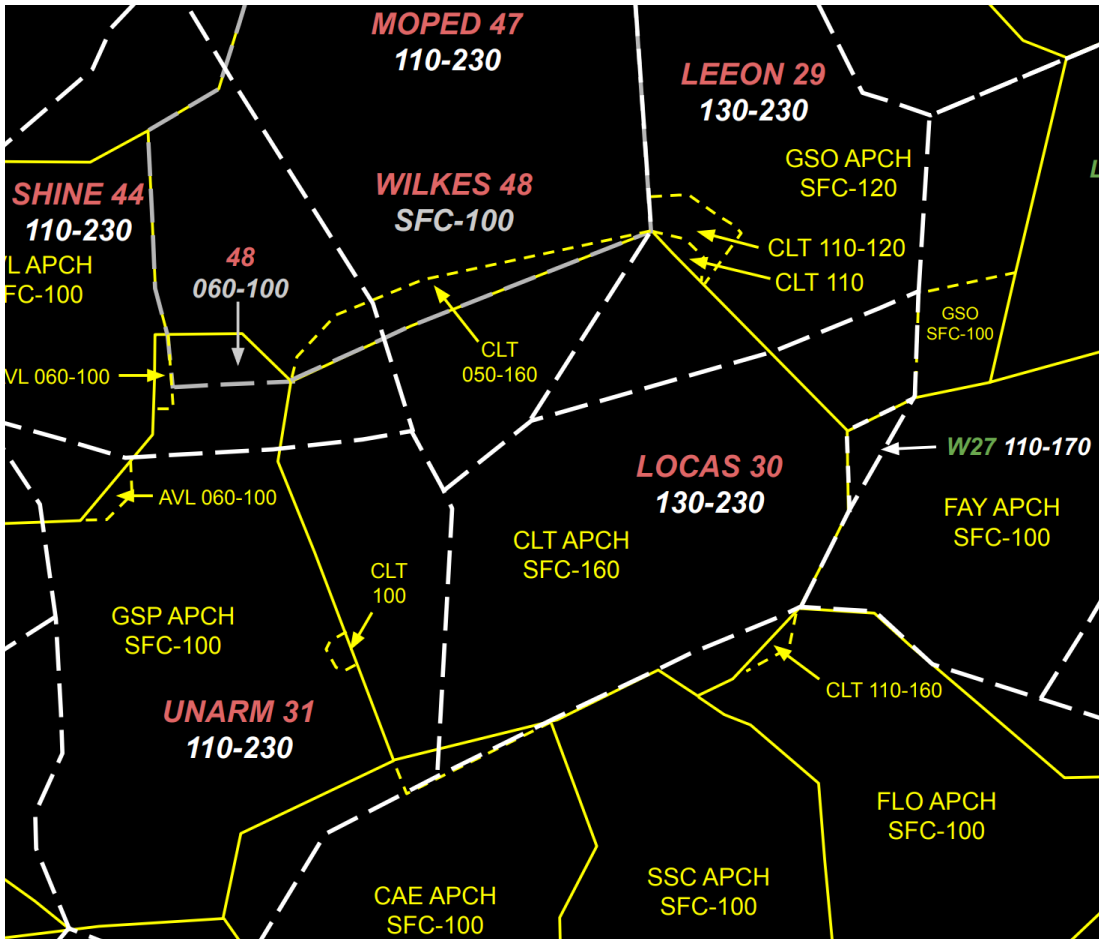
Appendix F. STARS Video Maps

Controllers can access all maps through “CTRL + F2 + [Map Number]”.

Number	Name	Description
1	AIRSPCE	Airspace External Boundaries
2	MVA	Minimum Vectoring Altitude
3	STARS N	RNAV STARS North
4	STARS S	RNAV STARS South
5	RNV DEP	RNAV Departure Fixes
6	TWR AIR	Local Control Airspace
7	CLASS B	Class B Airspace
8	RWYS	Charlotte Runways
9	CLT N	Arrival Radar, Departure Radar, Satellite Radar, North Ops
10	CLT S	Arrival Radar, Departure Radar, Satellite Radar, South Ops
11	DR N	Departure Radar, North Operations
12	DR S	Departure Radar, South Operations
13	AR N	Arrival Radar, North Operations
14	AR S	Arrival Radar, South Operations
15	ARN FAC	Arrival Radar, North Final Approach Courses
16	ARS FAC	Arrival Radar, South Final Approach Courses
17	N FAC	North Final Approach Courses
18	S FAC	South Final Approach Courses
19	FR N/S	Final Radar, North AND South Simultaneous Approaches
20	CLT RNV	CLT RNAV Approaches
21	NTZ	No-Transgression Zone
22	SAT N	Satellite Radar North
23	SAT S	Satellite Radar South
24	NOISE	Noise Track – Turn window
25	WILKES	ZTL Wilkes Sector
26	CTR SEC	Center Sectors
27	EXT BND	External Boundary with Adjacent Shelves
28	APT/OBS	Airports and Obstructions Map
29	COUNTY	Counties
30	EOVM	Emergency Obstructions Video Map
31	NAVAIDS	Navigation Aids
32	NUCLEAR	Nuclear
33	QRM 40	QRM 40 DME Ring (5 miles outside if using QRM Radar)
34	SAT GPS	Satellite GPS
35	SAT ILS	Satellite ILS
36	SAT OTH	Satellite – Non GPS/ILS approaches
37	T ROUTES	T-Routes
38	AIRWAYS	Low Altitude Airways
39	TRIPS-N	Establishment Points – Triple Approaches North Operations
40	TRIPS-S	Establishment Points – Triple Approaches South Operations
41	STADIUM	Stadiums

42	STARS	Non-RNAV STARS
43	BANKRN	BANKR STAR, North Operations
44	BANKRS	BANKR STAR, South Operations
45	CHSLYN	CHSLY STAR, North Operations
46	CHSLYS	CHSLY STAR, South Operations
47	FILPZN	FILPZ STAR, North Operations
48	FILPZS	FILPZ STAR, South Operations
49	JONZEN	JONZE STAR, North Operations
50	JONZES	JONZE STAR, South Operations
51	MLLETN	MLLET STAR, North Operations
52	MLLETS	MLLET STAR, South Operations
53	PARQRN	PARQR STAR, North Operations
54	PARQRS	PARQR STAR, South Operations
55	STOCRN	STOCR STAR, North Operations
56	STOCRS	STOCR STAR, South Operations
57	N RNAV	Satellite Radar, North RNAV Approaches
58	S RNAV	Satellite Radar, South RNAV Approaches
59	14A GPS	14A GPS
60	35A GPS	35A GPS
61	AFP	AFP GPS
62	AKH	AKH GPS
63	DCM	DCM GPS
64	EHO	EHO GPS
65	EQY	EQY GPS
66	EXX	EXX GPS
67	HKY	HKY GPS
68	IPJ	IPJ GPS
69	JQF	JQF GPS
70	LKR	LKR GPS
71	N52	N52 GPS
72	PYG	PYG GPS
73	RUQ	RUQ GPS
74	SVH	SVH GPS
75	UZA	UZA GPS
76	VUJ	VUJ GPS
77	KCLT ASDE	Charlotte ASDE-X
78	1CLT ASDE	.asdex 1CLT will allow for an additional ASDE-X display.
79	2CLT ASDE	.asdex 2CLT will allow for an additional ASDE-X display.
80	3CLT ASDE	.asdex 3CLT will allow for an additional ASDE-X display.
81	4CLT ASDE	.asdex 4CLT will allow for an additional ASDE-X display.
82	5CLT ASDE	.asdex 5CLT will allow for an additional ASDE-X display.
83	6CLT ASDE	.asdex 6CLT will allow for an additional ASDE-X display.
84	7CLT ASDE	.asdex 7CLT will allow for an additional ASDE-X display.
To access the ASDE-X as described in the description for maps 83-89, controllers must download an adapted airports.xml.		

Appendix G. Interfacility Airspace



Appendix H. Letters of Agreement

a. Atlanta Center (ZTL) Letter of Agreement
b. Greensboro Approach (GSO) Letter of Agreement
c. Jacksonville Center (ZJX) Letter of Agreement
d. Washington Center (ZDC) Letter of Agreement
e. Fayetteville Approach (FAY) Letter of Agreement
f. Greer Approach (GSP) Letter of Agreement

Appendix I. Consolidated Wake Turbulence (CWT) Separation

CLT is authorized to use the recategorized Consolidated Wake Turbulence (CWT) separation standards outlined in FAAO 7110.126B in lieu of the minima in the 7110.65. CWT utilization is recommended, but not mandatory.

The command `.recat (identifier)` can be used to determine an aircraft's CWT category. The command `.recat (category)b(category)` will return the appropriate separation for a category behind another category. Example: `.recat FbB` will return the separation for a category F behind a category B.

I-1. AIRCRAFT WAKE CATEGORIES

Aircraft are categorized as Category A through Category I as defined in the current FAAO 7360.1. This table covers the most commonly seen types.

A Super	B Upper Heavy	C Lower Heavy	D Non-Pairwise Heavy		E B757	F Upper Large		G Lower Large		H Upper Small	I Lower Small
A388	A332	A306	A124	DC85	B752	A318	C130	AT43	E170	ASTR	BE10
	A333	A30B	A339	DC86	B753	A319	C30J	AT72	E45X	B190	BE20
	A343	A310	A342	DC87		A320	CVLT	CL60	E75L	BE40	BE58
	A345	B762	A3ST	E3CF		A321	DC93	CRJ1	E75S	B350	BE99
	A346	B763	A400	E3TF		B712	DC95	CRJ2	F16	C560	C208
	A359	B764	A50	E6		B721	DH8D	CRJ7	F18H	C56X	C210
	B742	C17	AN22	E767		B722	E190	CRJ9	F18S	C680	C25A
	B744	DC10	B1	IL62		B732	GL5T	CRJX	F900	C750	C25B
	B748	K35R	B2	IL76		B733	GLEX	DC91	FA7X	CL30	C402
	B772	MD11	B52	IL86		B734	GLF5	DH8A	GLF2	E120	C441
	B773		B703	IL96		B735	GLF6	DH8B	GLF3	F2TH	C525
	B77L		B741	K35E		B736	MD82	DH8C	GLF4	FA50	C550
	B77W		B743	KE3		B737	MD83	E135	SB20	GALX	P180
	B788		B84D	L101		B738	MD87	E145	SF34	H25B	PAY2
	B789		B74R	MYA4		B739	MD88			LJ31	PA31
	C5		B74S	R135			MD90			LJ35	PC12
	C5M		B78X	T144						LJ45	SR22
			BLCF	T160						LJ55	SW3
			BSCA	TU95						LJ60	
			C135	VMT						SH36	
			C141							SW4	

I-2. WORDS AND PHRASES

a. The word *Super* must be used as part of the identification in all communications with or about Category A aircraft.

b. The word *Heavy* must be used as part of the identification in all communications with or about Category B, C, or D aircraft.

I-3. FULL LENGTH DEPARTURES

NOTE: *Radar minima in miles may be used in lieu of time-based minima for full length departures and intersection departures separated by 500ft or less.*

In Front	**Behind**	**Time**
● Same runway or parallels separated by less than 2,500ft ● Parallels separated by 2,500ft or more when projected flight paths will cross		
A	B/C/D/E/F/G/H/I	3 minutes
B/D	B/C/D/E/F/G/H/I	2 minutes
C	E/F/G/H/I	
● Same runway or parallels separated by less than 700ft or any if flight paths will cross		
E	I	2 minutes
● Runway with displaced landing threshold if flight paths will cross when departure follows arrival or arrival follows departure		
A	B/C/D/E/F/G/H/I	3 minutes
B/D	B/C/D/E/F/G/H/I	2 minutes
C	E/F/G/H/I	
E	I	

I-4. INTERSECTION DEPARTURES

In Front	Behind	Time
● Same runway		
H/F/G	I	3 minutes* *May be waived by the pilot.
● Same runway or parallels separated by less than 700ft ● Parallels separated by 700ft or more if flight paths will cross and the thresholds are offset by 500ft or more		
E	I	3 minutes
● Same runway or parallels separated by less than 2,500ft ● Parallels separated by less than 2,500ft with thresholds offset by 500ft or more counts as an intersection departure for this section		
A	B/C/D/E/F/G/H/I	4 minutes
B/D	B/C/D/E/F/G/H/I	3 minutes
C	E/F/G/H/I	

I-5. RADAR SEPARATION MINIMA

Separate aircraft by the minima specified by the table and in accordance with the following:

a. When operating within 2,500ft and less than 1,000ft below the flight path of the leading aircraft over the surface of the earth of a Category A, B, C, or D aircraft.

b. When operating within 2,500ft and less than 500ft below the flight path of the leading aircraft over the surface of the earth of a Category E aircraft.

c. When departing parallel runways separated by less than 2,500ft, the 2,500ft requirement in subparagraph b is not required when a Category I aircraft departs the parallel runway behind a Category E aircraft. Issue a wake turbulence cautionary advisory and instructions that will establish lateral separation in accordance with subpara 2. Do not issue instructions that will allow the Category I aircraft to pass behind the Category E aircraft.

	Follower								
	A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**
A		**5**	**6**		**7**			**8**	
B		**3**	**4**		**5**				**5(6)**
C					**3.5**			**5**	
D		**3**	**4**		**5**			**5(6)**	
E									**4**
F									**(4)**
G									
H									
I									

NOTE: *The leading (in front) aircraft is listed on the left. All values are in nautical miles.*

NOTE: *The values in parentheses are only applicable for two aircraft on approach and such separation must exist by the time the aircraft in front is over the landing threshold.*

Appendix J. Waiver 98-T-60: Successive or Simultaneous Departures Authorization

AFFECTED DIRECTIVE(S): 7110.65, subparagraph 5-8-3b, Successive or Simultaneous Departures.

OPERATION(S) AUTHORIZED: This waiver authorizes CLT ATCT personnel to apply course divergence to successive or simultaneous departures from Runways 18L and 18C no later than 4 miles from the departure end of the parallel runways instead of immediately after departure.

SPECIAL PROVISIONS, CONDITIONS, AND LIMITATIONS:

a. The identity of each aircraft involved must be maintained.

b. There must be notification, prior to departure, to all concerned aircraft that simultaneous departures are departing from the other parallel runway. This information may be provided through the ATIS.

c. At a minimum, initial runway centerline separation must be maintained with no overlapping or touching of primary targets.

d. CLT ATCT personnel must initiate turns not later than 4 miles from the departure of the runway so as to achieve the minimum course divergence (15 degrees).

e. This waiver is issued on the basis that the procedure continues to provide an equivalent level of safety and ensure the safe and efficient control of aircraft.