Denver ARTCC

ORDER 7110.1G

Effective Date:
December 1, 2023

SUBJ: DEN ATCT Standard Operating Procedures

This document establishes the Denver Airport Traffic Control Tower (DEN ATCT) Standard Operating Procedures within the Denver ARTCC on VATSIM (vZDV). Controllers are required to be familiar with the provisions of this document and to exercise their best judgment if they encounter situations not covered by it. The provisions and procedures described herein are supplemental to vZDV Facility Policy and FAA Order JO 7110.65.

The information contained herein is to be used for flight simulation purposes only on the VATSIM network. It is not intended, nor should it be used for, real-world navigation. The Virtual Denver ARTCC is not affiliated with the FAA, the actual Denver ARTCC, or any governing aviation body.

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Record of Changes

Version	Description	Effective Date	Issued By
7110.11A	Initial Release	05/15/2020	HL
7110.11B	Minor Overhaul	07/16/2020	RP
7110.11C	Minor Changes	12/28/2020	MD
7110.11D	Ramp/Metering Change	02/13/2021	HL
7110.11E	Update IFR Departure SIDs + Flow Headings	06/13/2021	HL
7110.11F	Removal of Denver Metering and Frequency Update	11/20/2022	XD
7110.1G	Full Rewrite	12/01/2023	HL

Not for real world use.

Table of Contents

Chapter 1. General Control

Section 1. Introduction

1-1-1. Purpose
This document establishes the Denver Airport Traffic Control Tower (DEN ATCT) Standard Operating Procedures within the Denver ARTCC on VATSIM (vZDV).

1-1-2. Audience
All vZDV controllers and visitors contained within the vZDV and VATUSA roster.

1-1-3. Distribution
This document is authorized for unrestricted use and release and is available in the Resources Section of the vZDV Website.

1-1-4. Cancellation
This document cancels DEN SOP, effective November 20, 2022.

Section 2. Operational Positions

Table 1-2-1. DEN ATCT Operational Positions Table

Position	VATSIM Callsign	Frequency
Clearance Delivery East (CDE)	DEN_E_DEL	125.375
Clearance Delivery West (CDW)	**DEN_W_DEL**	**118.750**
South Ramp (RAS)	DEN_AS_RMP	131.975
South-Central Ramp (RBS)	**DEN_BS_RMP**	**130.600**
North-Central Ramp (RBN)	DEN_BN_RMP	130.950
North Ramp (RCN)	DEN_CN_RMP	119.475
Ground Control 1 (GC1)	**DEN_1_GND**	**121.850**
Ground Control 2 (GC2)	DEN_2_GND	120.150
Ground Control 3 (GC3)	DEN_3_GND	121.350
Ground Control 4 (GC4)	DEN_4_GND	127.500
Local Control 1 (LC1)	DEN_1_TWR	132.350
Local Control 2 (LC2)	**DEN_2_TWR**	**124.300**
Local Control 3 (LC3)	DEN_3_TWR	128.750
Local Control 4 (LC4)	DEN_4_TWR	135.300

Bold designates a primary position.

Section 3. Duty Familiarization and Transfer of Position Responsibility

1-3-1. Duty Familiarization

Prior to requesting a position relief briefing, controllers must accomplish the following items:

a. Log-in to position and activate session.
b. Log-in to vStrips.
c. If applicable, log-in to vTDLS.
d. Review current METAR.
e. Review all Traffic Management Programs.
f. Review pertinent overlying controller information.

1-3-2. Transfer of Position Responsibility

a. All position relief briefings must be conducted in accordance with FAA Order 7110.65 Appendix A. All controllers must follow the position-specific checklists located in each chapter pertaining to their operational position.
b. Controllers must activate the session of the position they are assuming prior to the start of the position relief briefing.
c. When traffic conditions warrant, the controller being relieved must monitor and observe the position for a minimum of 2 minutes after the conclusion of the briefing.

Section 4. Flight Progress Strips (FPS) Marking

1-4-1. General

a. All operational positions must utilize FPSs at all times.
b. IFR FPSs must be printed using the Flight Strip Printer.
c. VFR FPSs must be handwritten.
d. Times on FPSs may be abbreviated to the two digit time in minutes when the time indicated in the FPS is in the same hour as the current time.

1-4-2. FPS Contractions

Contractions may be entered into FPS boxes in accordance with Table 1-4-1.

Table 1-4-1. FPS Contractions

Contraction	Location/Meaning
A	Alpha Deice Pad
B	Bravo Deice Pad
C	Charlie Deice Pad
WA	Whiskey Alpha Deice Pad
CR	Cargo Ramp/Sierra Charlie Deice Pad
GA	General Aviation Ramp
FH	Frontier Hangar
SH	Southwest Hangar
UH	United Hangar
NC	RNAV Non-Compliant
SP	RNAV Speed Restricted
GS	Ground Stop
EDCT	Expect Departure Clearance Time
CFR	Call for Release
D(#)	Denver DP issued
LCL	Local Flight

1-4-3. Flight Progress Strips

Figures 1-4-1 and 1-4-2 identify box locations on various types of FPSs.

Figure 1-4-1. IFR FPS

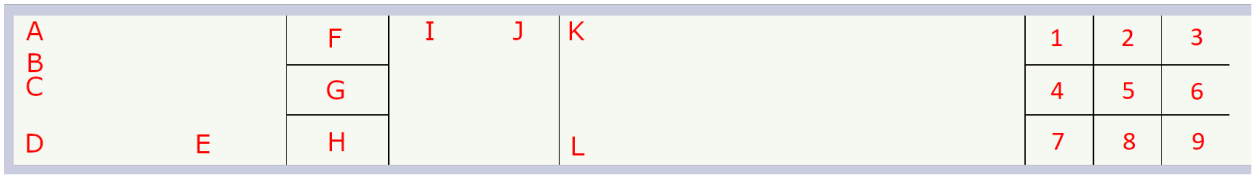
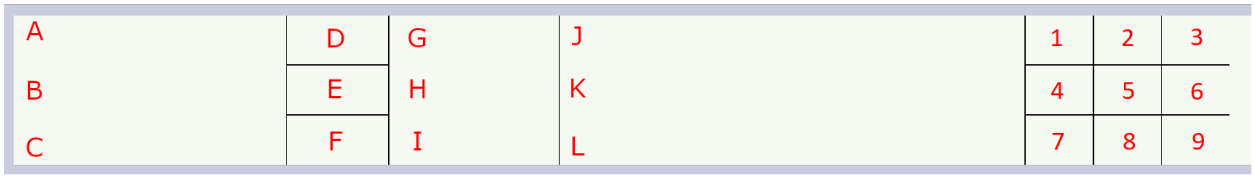


Figure 1-4-2. VFR FPS



1-4-4. IFR Strips

Enter data into the FPS boxes for IFR departures in accordance with Figure 1-4-1 as follows:

a. Box 1: Clearance contraction. Write “PDC” if the aircraft has successfully been issued a departure clearance through vTDLS or “X” if the aircraft has been verbally issued a clearance with a correct readback.
b. Box 2: Assigned runway. Utilize an asterisk (*) to the right of the runway number if the runway is not a designated departure runway.
c. Box 3: ATIS. Write the letter of the ATIS information that has been reported by the pilot.
d. Box 4: Aircraft location. Write the location of the aircraft. Aircraft location from the terminal ramp does not need to be recorded unless GC1/2 and/or GC3/4 are decombined. In this case, write the taxiway that the aircraft will exit the ramp from.
e. Box 5: Runway intersection. If other than full length, write the intersection of the runway the aircraft will depart from.
f. Box 6: RNAV contraction. Write “NC” when an aircraft on an RNAV DP advises they are unable to meet altitude restrictions on the procedure. Write “SP” when an aircraft on an RNAV DP advises they anticipate speed limitations during climbout.
g. Box 7: TMI contraction. Write “GS” when the aircraft’s arrival airport is placed under a ground stop. Write “EDCT” when the aircraft has been assigned an EDCT. Write “CFR” when the aircraft requires a departure release.
h. Box 8: Release time. Write the time at which the aircraft is released if an EDCT has been assigned or a departure release has been issued.
i. Box 9: Local contraction. Write “D(#)” when the Denver DP has been issued. Write “LCL” if the aircraft will not contact any Denver TRACON position after departure.

1-4-5. VFR Strips

Write information into the FPS boxes for VFR departures in accordance with Figure 1-4-2 as follows:

a. Box A: Callsign.

b. Box B: Aircraft type. Equipment suffix is not required.
c. Box D: Beacon code.
d. Box F: Requested altitude in hundreds of feet, if given.
e. Box G: Arrival airport, if given.
f. Box J: Direction of flight or type of departure.
g. Write information in boxes 1-9 in accordance with paragraph 1-4-4.

Section 5. Runway Configurations

1-5-1. General

a. The most common runway configurations are listed below in paragraphs 1-5-3 through 1-5-14.

b. Runway configurations must be selected by the CIC. If the CIC position is not staffed, this duty is passed to the highest of the following operational positions:
   (1) The least (current or anticipated) busy Local Control
   (2) The least busy Ground Control

c. When selecting a runway configuration, the following factors must be considered:
   (1) Wind direction (magnetic heading)
   (2) Wind speed (the gust factor takes precedence over the wind speed)
   (3) Current and anticipated traffic volume
   (4) Runway status

d. If operationally advantageous, runways may be added or subtracted from the configurations listed in paragraphs 1-5-3 through 1-5-14 at the discretion of the CIC so long as proper coordination is accomplished before opening or closing that runway.

1-5-2. Runway Configuration Change Procedures

When changing runway configurations, the CIC (or other appointed position) must use the Runway Configuration Change Checklist (below) and ensure the following:

a. All operational positions acknowledge the new runway configuration.

b. All appropriate positions are informed of:
   (1) Callsign of the last departure in the old configuration.
   (2) Callsign of the last arrival in the old configuration.
   (3) New type of approaches in progress.
   (4) Automatic departure release status.
   (5) Ramp configuration status.

Runway Configuration Change Checklist
Coordinate with appropriate D01 CIC
Coordinate and release LC airspace to D01
Verbally advise all positions of impending changes
Make appropriate ASDE-X configuration changes
Ensure ATIS broadcast(s) is correct
Coordinate and assume LC airspace

NOTE-

Items listed in the checklist in italics must only be completed if D01 is online.

1-5-3. North Calm

a. Typically used when wind is 260° clockwise to 079° and less than or equal to 10 knots
b. Landing Runways: 34R, 35L, and 35R
c. Departing Runways: 8, 25, and 34L
    (1) General aviation or cargo aircraft may depart on Runway 35L, traffic permitting

1-5-4. South Calm

a. Typically used when wind is 080° clockwise to 259° and less than or equal to 10 knots
b. When visual approaches are in use:
    (1) Landing Runways: 16L, 16R, and 17R
    (2) Departing Runways: 8, 25, and 17L
c. When instrument approaches are in use:
    (1) Landing Runways: 16R, 17L, and 17R
    (2) Departing Runways: 8, 25, and 16L
d. General aviation or cargo aircraft may depart on Runway 17R, traffic permitting

1-5-5. North and East

a. Typically used when wind is 350° clockwise to 079° and between 11-25 knots
b. The following landing configurations may be used:
    (1) Landing Runways: 34R, 35L, and 35R
    (2) Landing Runways: 7, 35L, and 35R
c. Departing Runways: 8 and 34L
    (1) Runway 34R may be used for departures when Runway 7 is in use for arrivals
    (2) General aviation or cargo aircraft may depart on Runway 35L, traffic permitting

1-5-6. North and West

a. Typically used when wind is 260° clockwise to 349° and between 11-25 knots
b. When visual approaches are in use:
    (1) Landing Runways: 26, 34R, 35L, and 35R
    (2) Departing Runways: 25 and 34L
c. When instrument approaches are in use, the following landing configurations may be used:
    (1) Landing Runways: 34R, 35L, and 35R
    (2) Landing Runways: 26, 34R, and 35L
    (3) Landing Runways: 26, 34R, and 35R
    (4) Landing Runways: 26, 35L, and 35R
d. When instrument approaches are in use, the following departure configurations may be used:
    (1) Departing Runways: 25 and 34L
    (2) Departing Runways: 25, 34L, and 34R. Runway 34R must not be in use for arrivals.
e. General aviation or cargo aircraft may depart on Runway 35L, traffic permitting.

1-5-7. South and East

a. Typically used when wind is 080° clockwise to 169° and between 11-25 knots
b. When visual approaches are in use:
    (1) Landing Runways: 7, 16L, 16R, and 17R
    (2) Departing Runways: 8 and 17L
c. When instrument approaches are in use:
    (1) Landing Runways: 7, 16R, and 17R
    (2) Departing Runways: 8 and 16L
d. General aviation or cargo aircraft may depart on Runway 17R, traffic permitting

1-5-8. South and West

a. Typically used when wind is 170° clockwise to 259° and between 11-25 knots
b. When visual approaches are in use:
    (1) Landing Runways: 16L, 16R, and 26
    (2) Departing Runways: 17L, 17R, and 25
c. When instrument approaches are in use, the following landing configurations may be used:
    (1) Landing Runways: 16R, 17L, and 17R
    (2) Landing Runways: 16L and 26
    (3) Landing Runways: 16R and 26
d. When instrument approaches are in use, the following departure configurations may be used:
    (1) Departing Runways: 17L and 25. Runway 17L must not be in use for arrivals.
    (2) Departing Runways: 16L and 25. Runway 16L must not be in use for arrivals.
    (3) General aviation or cargo aircraft may depart on Runway 17R, workload permitting

1-5-9. North All

a. Typically used when wind is 300° clockwise to 039° and greater than 25 knots
b. The following landing configurations may be used:
    (1) Landing Runways: 35L and 35R
    (2) Landing Runways: 34R, 35L, and 35R
c. Departing Runways: 34L and 34R
    (1) General aviation or cargo aircraft may depart on Runway 35L, traffic permitting

1-5-10. South All

a. Typically used when wind is 120° clockwise to 219° and greater than 25 knots
b. When visual approaches are in use, the following configurations may be used:
    (1) Landing Runways: 16L, 16R, and 17R. Departing Runway: 17L
    (2) Landing Runways: 16L and 16R. Departing Runways: 17L and 17R
c. When instrument approaches are in use, the following configurations may be used:
    (1) Landing Runways: 16R and 17R. Departing Runways: 16L and 17L
    (2) Landing Runways: 16R and 17L. Departing Runways: 16L and 17R
    (3) Landing Runways: 16R, 17L, and 17R. Departing Runway: 16L

1-5-11. East All

a. Typically used when wind is 040° clockwise to 119° and greater than 25 knots
b. Landing Runways: 7 and 8
c. Departing Runway: 8

1-5-12. West All

a. Typically used when wind is 220° clockwise to 299° and greater than 25 knots
b. Landing Runways: 25 and 26
c. Departing Runway: 25

1-5-13. Honey Badger (Arrival Priority)

a. Typically used when excessive arrival demand exists and wind is less than or equal to 10 knots
b. Must only be used when visual approaches are in use
c. Landing Runways: 16L, 16R, 35L, and 35R
d. Departing Runways: 8 and 25

1-5-14. Honey Badger (Departure Priority)

a. Typically used when excessive departure demand exists and wind is less than or equal to 10 knots
b. Landing Runways: 7 and 26
c. Departing Runways: 17L, 17R, 34L, and 34R

Section 6. Runway Protection Zones (RPZs)

1-6-1. Runway 16L Glideslope Critical Area

The RWY 16L Glideslope Critical Area is located west of the approach end of Runway 16L on Taxiway WE. When the official weather observation is a ceiling of less than 800 feet or visibility less than 2 miles, aircraft must hold west of the Glideslope Critical Area hold bar when an arriving aircraft is inside the ILS Outer Marker (OM) or the fix LEETS.

1-6-2. Runway 17R/35L RPZ

a. The Runway 17R/35L RPZ is located north of Runway 17R/35L on Taxiway ED and has dimensions of 400 feet either side of the Runway 17R centerline with a tail height restriction of 20.55 feet above Taxiway ED.
b. An aircraft shall be considered clear of the Runway 17R/35L RPZ if they are located:
    (1) West of the hold line on Taxiway ED, just east of TWY M.
    (2) East of Allium Street on Taxiway ED.

    NOTE-
    There are no signs or pavement markings to signify aircraft are immediately east of Allium Street when on Taxiway ED. A good operating practice is to hold aircraft east of the Runway 17R Approach sign at Geographic Position Marker (GPM) 37 when taxiing west on Taxiway ED.

    EXAMPLE-
    "Hold short of runway one-seven right approach."

c. Aircraft whose tail height exceeds 20.55 feet must remain clear of the Runway 17R/35L RPZ during the following scenarios:
    (1) An aircraft on final for Runway 17R is between a ½ nm final and over top of Taxiway ED.
    (2) An aircraft departing Runway 35L is between the beginning of their takeoff roll and over top of Taxiway ED or has turned from the runway path.
        (a) LC must coordinate with GC prior to clearing an aircraft for takeoff on Runway 35L.

1-6-3. Runway 16L/34R RPZ

a. The Runway 16L/34R RPZ is located south of Runway 16L/34R on Taxiway WB and has dimensions of 400 feet either side of the Runway 34R centerline with a tail height restriction of 18.55 feet above Taxiway WB.
b. An aircraft shall be considered clear of the Runway 16L/34R RPZ if they are located:
    (1) West of the hold line on Taxiway WB, located at GPM 10.
    (2) East of the western edge of Taxiway F.
c. Aircraft whose tail height exceeds 18.55 feet must remain clear of the Runway 16L/34R RPZ during the following scenarios:
    (1) During VFR conditions, an aircraft on final for Runway 34R is between a ½ nm final and over top of Taxiway WB.

(2) During IFR conditions, an aircraft on final for Runway 34R is between a 2nm final and over top of Taxiway WB.
(3) An aircraft departing Runway 16L is between the beginning of their takeoff roll and over top of Taxiway WB or has turned from the runway path.
(a) LC must coordinate with GC prior to clearing an aircraft for takeoff on RWY 16L.

1-6-4. Runway 16R/34L RPZ

a. The Runway 16R/34L RPZ is located south of the Runway 34L centerline.
b. An aircraft shall be considered clear of the Runway 16R/34L RPZ if they are:
(1) West of the hold line on Taxiway B, located west of Taxiway B4.
(2) East of the hold line on Taxiway B, located east of Taxiway B4.
(3) Northeast of the hold line on Taxiway B4.
(4) Clear of the Runway 34L final when on Runway 7/25.
c. Aircraft whose tail height exceeds 31 feet must not traverse the portion of Taxiway B under the Runway 34L final during the following scenarios:
(1) An aircraft on final for Runway 34L is between a 1nm final and over top of Taxiway B.
(2) An aircraft departing Runway 16R is between the beginning of their takeoff roll and over top of Taxiway B or has turned from the runway path.
d. Aircraft whose tail height exceeds 40.55 feet must not traverse the portion of Runway 7/25 under the Runway 34L final during the following scenarios:
(1) An aircraft on final for Runway 34L is between a 1nm final and over top of Runway 7/25.
(2) An aircraft departing Runway 16R is between the beginning of their takeoff roll and over top of Runway 7/25 or has turned from the runway path.

Section 7. Low Visibility Operations

1-7-1. General

a. Unless otherwise determined in accordance with paragraph 1-7-2, low visibility operations must be in effect when any controlling RVR decreases to any RVR target value (see below) or a target value appears imminent.
    (1) Low visibility operations begin when any controlling RVR decreases to less than 1,200 or a value of less than 1,200 appears imminent.
    (2) More restrictive procedures are initiated when a controlling RVR decreases to less than 600.
b. The ASDE-X must be used when low visibility operations are in progress.
c. The ramp configuration must be limited to throughput from east to west only.

1-7-2. Determination

When any controlling RVR decreases to an RVR target value or an RVR target value appears imminent, the CIC (or other appointed position) should consider the extent of the RVR obscuration before commencing any low visibility operational configuration changes (i.e. is it an isolated patch of ground fog or part of a larger weather system/trend).

1-7-3. Configuration Change Procedures

When commencing low visibility operations, the CIC (or other appointed position) must ensure the following:

a. All operational positions acknowledge the configuration changes.
b. All appropriate positions are informed of any changes to the ramp configuration.
c. The phrase “LOW VISIBILITY OPERATIONS IN EFFECT” is included on the ATIS broadcast(s).
d. The ASDE-X is properly configured.
e. All non-low visibility taxi routes and runways are clear of traffic.

NOTE-

Operations for aircraft on final to or waiting to depart from a non-low visibility runway may continue, but not indefinitely. Cease operations to that runway as soon as practical.

1-7-4. Runway Usage

a. Refer to Table 1-7-1 for authorized runway usage during low visibility operations.
b. When any controlling RVR is less than 500, no more than two runways may be used for arrivals at a time.

Table 1-7-1. Low Visibility Operations Runway Usage

Runway	RVR <1200	RVR <500
34L	M	D/A
34R	M	D/A
35L	M	D/A
35R	A	A
8	D	Unusable
25	D	Unusable
A = Arrival only D = Departure only M = Mixed operations D/A = Departure or arrivals (not both)		

1-7-5. Taxiway Usage

Figure 1-7-1. East Complex RVR 500-1200

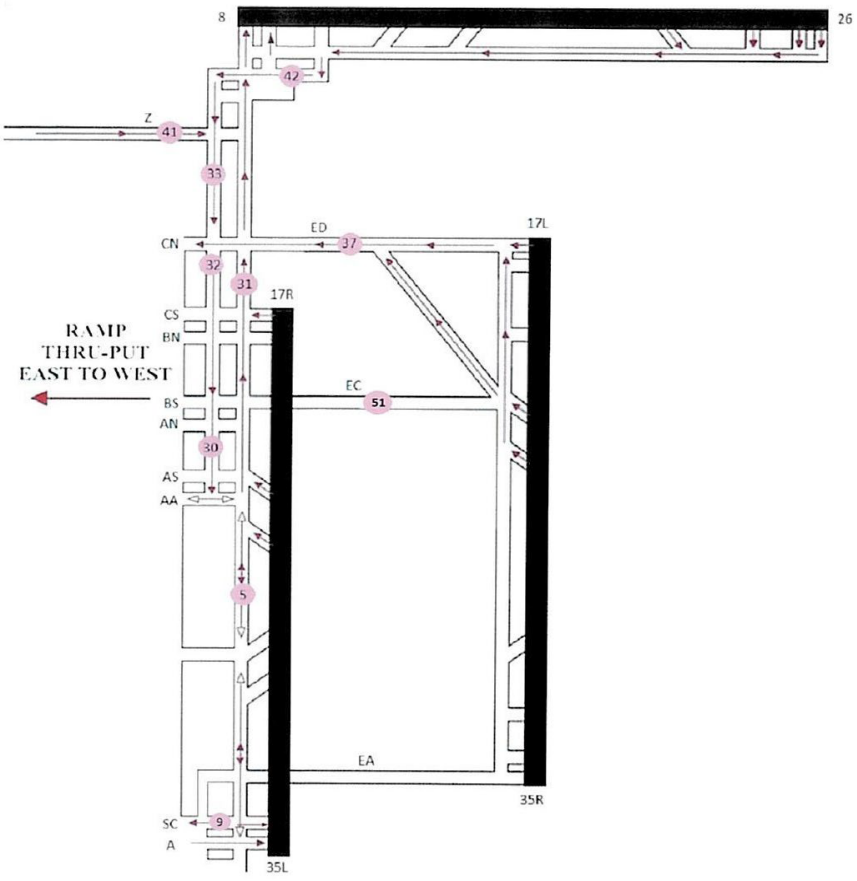


Figure 1-7-2. East Complex RVR <500

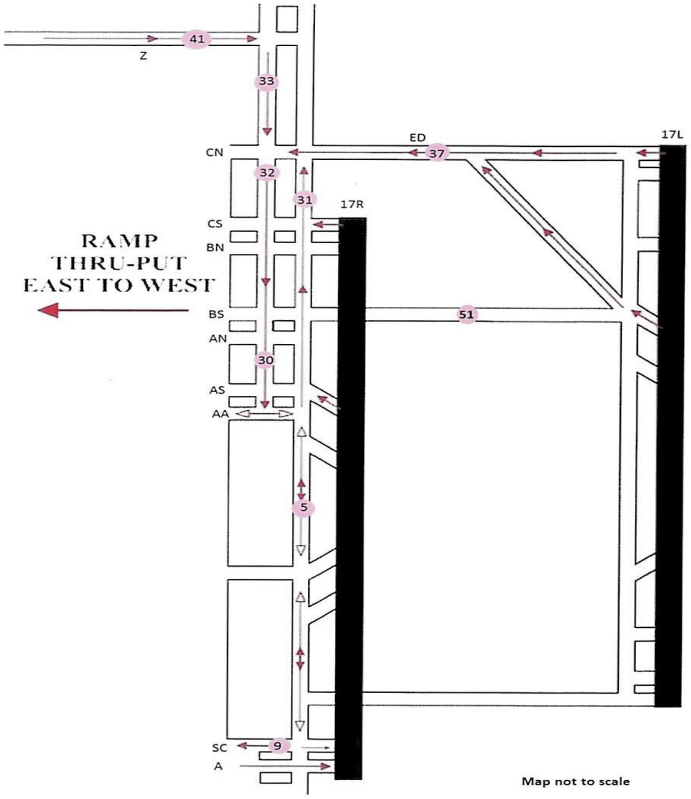


Figure 1-7-3. West Complex RVR 500-1200

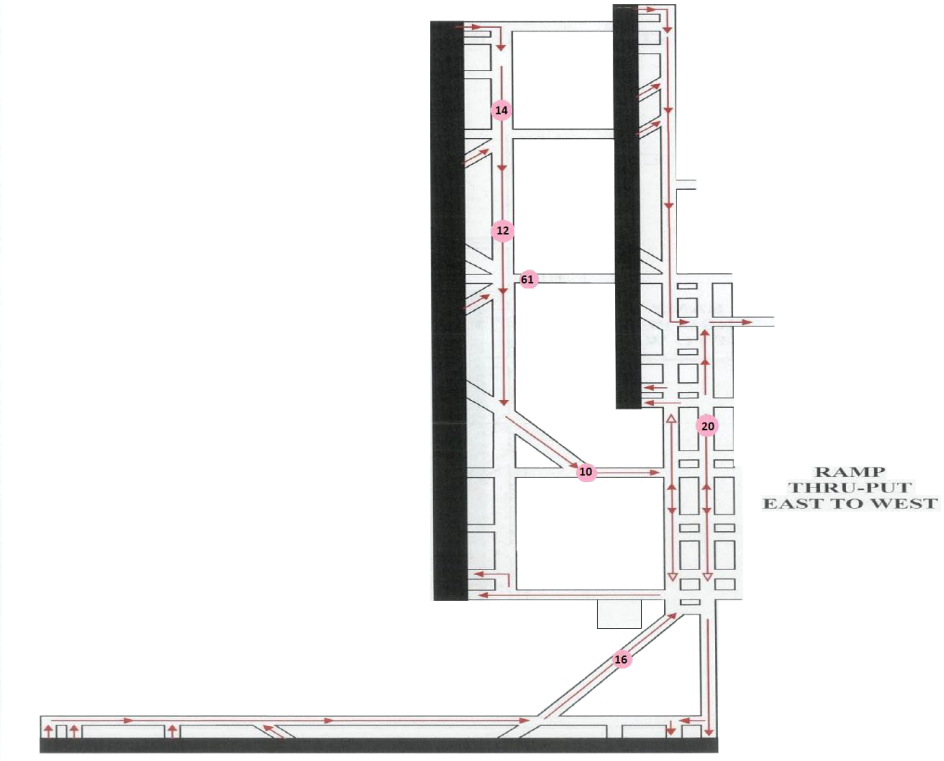
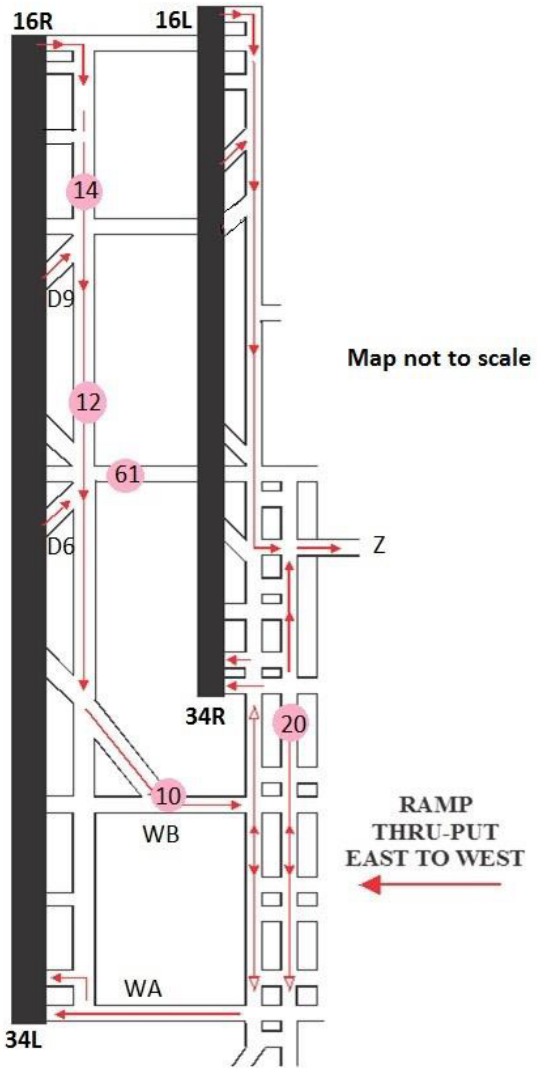


Figure 1-7-4. West Complex RVR <500



Chapter 2. Clearance Delivery (CD)

Section 1. General

2-1-1. Position Relief Checklist

Position relief briefings must occur in accordance with Section 1-3 of this document. Utilize the following checklist for position relief briefings of Clearance Delivery positions:

CD Position Relief Briefing Checklist
Position Information (which positions are being assumed)
ATIS Letter(s) / Runway Configuration
Appropriate Departure Frequencies
Current TMIs / Special Activities / Coordination Agreements
Traffic Impacted by TMIs
Special Requests or Instructions
Other Traffic Status

2-1-2. IFR Departure Routing

a. All aircraft that will leave the Denver Terminal Radar Approach Control (TRACON) must be issued an appropriate SID in accordance with the following:
   (1) Equipment capable turbojets must be assigned an RNAV departure procedure.
   (2) All other turbojets and non-turbojet aircraft must be assigned an appropriate hybrid departure.

b. All aircraft that will not leave the Denver TRACON must be assigned the latest rendition of the DEN# departure.

c. Unless otherwise coordinated, all routes must be in compliance with posted traffic management initiatives (TMIs), letters of agreement (LOAs), and published preferred routes.

NOTE-
Published TMIs, LOAs, and preferred routes shall take precedence over paragraphs 2-1-2.a. and 2-1-2.b. of this document.

2-1-3. IFR Departure Altitudes

a. Aircraft assigned an RNAV departure must be instructed to “Climb via SID.”
   (1) Assign 10,000 feet to all aircraft on North Corridor RNAV SIDs departing RY16L, RY16R, RY17L, or RY17R and all aircraft on South Corridor RNAV SIDs departing RY34L, RY34R, RY35L, or RY35R.

b. Assign the following altitudes to all other aircraft:
    (1) 9,000 feet to aircraft landing within Denver TRACON airspace.
    (2) 9,000 feet to all non-turbojet aircraft.
    (3) 10,000 feet to turbojet aircraft not on an RNAV departure.
    (4) 10,000 feet to all Non-Compliance RNAV aircraft.

NOTE-
Non-Compliance (NC) RNAV aircraft are defined in the DEN-D01 LOA. Controllers must not assume an aircraft is NC and only treat an aircraft as NC when advised by the pilot.

2-1-4. Use of Pre-Departure Clearances (PDCs)

a. Unless an operational necessity exists, a route amendment is required, or the aircraft is impacted by a posted TMI (except as outlined in paragraph 2-1-6), all PDC capable aircraft must be sent a PDC via vTDLS in lieu of a voice clearance.
b. Fill out the boxes in vTDLS as follows:
    (1) “Expect” box: Always select “10 MIN AFT DEP” unless the aircraft’s initial climb instruction is equal to their requested/assigned altitude. In this instance, leave the selection in this box blank.
    (2) “SID” and “Transition” boxes: Ensure both boxes match the assigned SID and transition.
    (3) “Climb out” box: Must always be left blank.
    (4) “Climb via” box: Select “CLIMB VIA SID” or other appropriate selection when the aircraft’s initial climb instructions are to “Climb via SID,” otherwise leave blank.
    (5) “Maintain” box: Select the initial altitude assignment in accordance with paragraph 2-1-3. If a selection has been made in the “Climb via” box, leave blank.
    (6) “Contact info” box: Make a selection that conforms to current staffing. This box may be left blank at CD’s discretion.
    (7) “Departure frequency” box: Select the appropriate departure frequency for the aircraft’s assigned DP. Temporary non-standard departure frequencies can be added in the vTDLS Facility Menu.
    (8) “Local info” box: Make a selection in accordance with paragraph 2-1-5. This box must not be left blank.

2-1-5. Departure Runway Assignments

When a PDC is issued, whether by PDC or verbally, aircraft must be given a departure runway to expect in accordance with Tables 6-21 in Appendix 2.

NOTE-
Expected departure runways are assigned in accordance with departure corridors or departure gates. A current list of departure procedures corresponding to departure corridors and gates may be found in Tables 1-5 of Appendix 2.

2-1-6. Compliance with TMIs

a. Aircraft affected by posted TMIs must be advised of any delays verbally.
b. Aircraft affected by posted TMIs must have pertinent TMI information placed in their FPS in accordance with paragraph 1-4-4.
c. Aircraft affected by posted TMIs must not be issued a PDC.

NOTE-
Aircraft affected by an ESP or CFR program that are not expected to be assigned an EDCT are exempt from this clause.

2-1-7. FPS Handling/Marking

a. Mark boxes 1-9 on all IFR FPSs in accordance with paragraph 1-4-4.
b. Prepare all VFR FPSs in accordance with paragraph 1-4-5 and paragraph 2-2-3.
c. Forward all FPSs to the appropriate ramp control or ground control depending on the aircraft's location.

Section 2. Clearance Delivery East (CDE)

2-2-1. Position Responsibilities

a. Monitor the CDE frequency (125.375 MHz).
b. Issue departure clearances to IFR aircraft requiring a reroute, complying with posted traffic management initiatives (TMIs), letters of agreement (LOAs), and published preferred routes.
    (1) Aircraft requiring a reroute may be defined to include, but are not limited to, the following scenarios:
        (a) Posted TMIs along the route of flight.
        (b) Severe Weather Avoidance Plan (SWAP) routes or Coded Departure Routes (CDRs) are in effect.
        (c) Aircraft will be in violation of any procedure in LOAs.
        (d) Aircraft's route/requested altitude differs from published preferred routes.
c. Issue departure clearances to VFR aircraft.
d. Assume other clearance delivery or other cab responsibilities, as assigned.

2-2-2. Reroute Procedures

When a reroute is required, CDE will receive a FPS of the aircraft requiring a reroute from CDW, then proceed in the following order:

a. Amend the flight plan as necessary in the flight plan window, complying with section 2-1.
b. Print the amended FPS, ensuring the revision number is correct, and delete the original FPS forwarded from CDW.
c. Verbally issue the departure clearance to the aircraft.
d. Mark the amended FPS in accordance with paragraph 1-4-4.

2-2-3. VFR Clearances

a. Generate a flight plan and fill out a VFR FPS for aircraft requesting a VFR departure containing, at a minimum, the following information:
    (1) Aircraft type
    (2) Destination or direction of flight
        (a) Place the aircraft's direction of flight in the "Route" section of the flight plan between two forward slashes. The direction of flight should be the cardinal direction.
        (b) If flight following is requested, place "FF" before the direction of flight.
    (3) Requested altitude
    (4) Discrete beacon code
b. Issue the following to aircraft requesting a VFR departure verbally after generating a VFR flight plan:
    (1) Clearance out of Denver Class Bravo airspace
    (2) An altitude restriction of 8,500 feet or below
    (3) Appropriate departure frequency

(4) Discrete beacon code

NOTE-
Aircraft requesting to remain in the local traffic pattern are not required to be issued items 1-3 of the above.

EXAMPLE-
“Cleared out of Denver Class Bravo airspace. Maintain VFR at or below eight thousand five hundred. Departure frequency one two six point one. Squawk one four zero one.”

Section 3. Clearance Delivery West (CDW)

2-3-1. Position Responsibilities

a. Monitor the CDW frequency (118.750 MHz).
b. Issue departure clearances to IFR aircraft not requiring a reroute in accordance with section 2-1, complying with posted traffic management initiatives (TMIs), letters of agreement (LOAs), and published preferred routes.
c. Assume other clearance delivery or other cab responsibilities, as assigned.
d. Assume CDE responsibilities when combined.

2-3-2. FPS Handling

a. When a FPS is received through the Departure Printer, CDW must initially move all strips to their bay.
b. When CDE is active and an aircraft requires a reroute, forward the aircraft's FPS to CDE and dump the aircraft from vTDLS.

Chapter 3. Ramp Control (RC)

Section 1. General

3-1-1. Position Relief Checklist

Position relief briefings must occur in accordance with Section 1-3 of this document. Utilize the following checklist for position relief briefings of Ramp Control positions:

RC Position Relief Briefing Checklist
Position Information (which positions are being assumed)
ATIS Letter(s) / Runway Configuration / Ramp Configuration
Taxilane / Taxiway Status
Other Relevant Active Positions
Current TMIs / Special Activities / Coordination Agreements
Traffic Impacted by TMIs
Traffic Standing By for service
Other Active Traffic

3-1-2. Ramp Opening Prerequisites

Prior to any RC position being opened, GC and CD must both be online.

3-1-3. Pushback Clearances

Except as described in paragraph 3-3-4 and Appendix 3D, straight pushback clearances to the gate number box marking should be issued.

a. Aircraft exceeding the taxilane size requirements (see Appendix 3E) are exempt from this clause and may be pushed to the appropriate taxiway.

3-1-4. Ramp Flow

Unless otherwise coordinated, traffic on the concourse ramps operates as follows:

a. RVR below 1200 or deicing operations in progress: Arrivals must enter the ramp on the east side and departures must exit the ramp on the west side.
b. RVR at or above 1200: Traffic operates in a clockwise direction with the exception of Taxiway CN which is omnidirectional.

3-1-5. Traffic Flow

a. RC must ensure all aircraft yield to aircraft entering the ramp.
b. GC is authorized to issue taxi instructions to arrival aircraft that allows them to continue their taxi into the ramp and clear the movement area.

3-1-6. Deicing Operations

a. Aircraft requesting to deice from the concourse ramp should be taxiied to a deicing pad that correlates to their concourse.
b. Aircraft deicing at Deice Pad A, B, or C must be instructed to monitor the appropriate GC upon entering the deicing pad.

3-1-7. Compliance with TMIs

a. Aircraft affected by newly posted TMIs must be advised of any delays verbally.
b. If the aircraft's arrival airport is ground stopped, do not issue a pushback clearance.
    (1) If a ground stop is issued after the aircraft begins pushback, the aircraft must either return to their gate or be taxiied out of the traffic flow.
c. Unless otherwise coordinated, do not allow an aircraft to begin pushback until the aircraft is within 30 minutes of their assigned EDCT.
d. Aircraft affected by posted TMIs must have pertinent TMI information placed in their FPS in accordance with paragraph 1-4-4.
e. If a newly posted TMI requires a new departure clearance to be issued, RC must instruct the aircraft to contact the appropriate CD.

3-1-8. FPS Marking

a. Mark box 4 and, if applicable, boxes 6-8 of the aircraft's IFR FPS in accordance with section 1-4.
b. Keep boxes 7 and 8 of an aircraft's IFR FPS up-to-date to the maximum extent possible.

3-1-9. FPS Handling

a. Coordinate with CD prior to removing a FPS from any CD strip bay.
b. Departure FPSs must be pushed to the appropriate GC's flight strip bay and sequenced so as to reflect their actual sequence on the taxiway.
c. Box 4 must be filled in correctly prior to the FPS being pushed to GC.
d. If applicable, boxes 6-8 must be correctly marked prior to being pushed to GC.

Section 2. North Ramp (RCN)

3-2-1. Position Responsibilities

a. Monitor the RCN frequency (119.475 MHz).
b. Issue pushback clearances to aircraft within the RCN area of jurisdiction.
c. Issue initial taxi instructions to the proper ramp spot(s) to aircraft within the RCN area of jurisdiction.
d. Mark FPSs in accordance with section 1-4 and section 3-1.
e. Assume other ramp control or other cab responsibilities, as assigned.

3-2-2. Area of Jurisdiction

RCN has jurisdiction of the concourse area on the northern half of Concourse C. This is defined to include:

a. Odd-numbered C gates.
b. The Purple Taxilane north of Concourse C.
c. Taxiway CN between spot 7E and 7W.
d. Deice Pad DS West (West RON Pad).
e. RON Pad DS East (East RON Pad).
f. Taxiways H, J, and K between Taxiway CS and Taxiway CN.

3-2-3. Deicing Operations

a. Deice Pad DS West (West RON Pad) must not be used for deicing unless an operational necessity exists.
b. Unless otherwise coordinated, all aircraft requesting to deice must be taxiied to Deice Pad C. Deice Pad J may be used for overflow traffic.

Section 3. South Ramp (RAS)

3-3-1. Position Responsibilities

a. Monitor the RAS frequency (131.975 MHz).
b. Issue pushback clearances to aircraft within the RAS area of jurisdiction.
c. Issue initial taxi instructions to the proper ramp spot(s) to aircraft within the RAS area of jurisdiction.
d. Mark FPSs in accordance with section 1-4 and section 3-1.
e. Assume other ramp control or other cab responsibilities, as assigned.

3-3-2. Area of Jurisdiction

RAS has jurisdiction of the concourse area on the southern half of Concourse A and the non-movement area around the cargo ramp. This is defined to include:

a. Even-numbered A gates.
b. Taxiway AA between spot 1E and 1W.
c. Taxiway AS between spot 2E and 2W.
d. Taxiways H and K between Taxiway AA and Taxiway AS.
e. All stands within the cargo ramp.
f. Taxiway SC between the cargo ramp and spot 2S.
g. Taxiway A between the cargo ramp and spot 3S.
h. Taxiways A2 and SA.
i. Deice Pad SC.

3-3-3. Concourse A Overhead Walkway

Any aircraft with a tail height of greater than 42 feet and/or a wingspan of greater than 118 feet is prohibited from operating under the Concourse A overhead walkway.

NOTE-
Certain airlines have company procedures that restrict aircraft from transitioning under the walkway.

3-3-4. Pushback Clearances

a. Directional pushbacks must be issued to aircraft parked within the RAS area of jurisdiction.
b. To the maximum extent possible, aircraft must not be issued a pushback clearance that would place any portion of the aircraft underneath the Concourse A overhead walkway.

3-3-5. Deicing Operations

a. It is preferred that aircraft requesting to deice from the cargo ramp be taxiied to Deice Pad SC. If the aircraft requests a different location or an operational necessity exists, aircraft may be taxiied to Spot 3S and told to expect Deice Pad WA, unless otherwise coordinated with GC.
b. Aircraft deicing at Deice Pad SC must be instructed to contact the appropriate GC upon completion of deicing.

Section 4. North-Central Ramp (RBN)

3-4-1. Position Responsibilities

a. Monitor the RBN frequency (130.950 MHz).
b. Issue pushback clearances to aircraft within the RBN area of jurisdiction.
c. Issue initial taxi instructions to the proper ramp spot(s) to aircraft within the RBN area of jurisdiction.
d. Mark FPSs in accordance with section 1-4 and section 3-1.
e. Assume RCN responsibilities when combined.
f. Assume other ramp control or other cab responsibilities, as assigned.

3-4-2. Area of Jurisdiction

RBN has jurisdiction of the concourse area on the northern half of Concourse B and the southern half of Concourse C. This is defined to include:

a. Odd-numbered B gates, excluding B95.
b. Even-numbered C gates.
c. The Green Taxilane north of Concourse B.
d. The Purple Taxilane south of Concourse C.
e. Taxiway BN between spot 5E and 5W.
f. Taxiway CS between spot 6E and 6W.
g. Taxiways H and K between Taxiway BN and Taxiway CS.

Section 5. South-Central Ramp (RBS)

3-5-1. Position Responsibilities

a. Monitor the RBS frequency (130.600 MHz).
b. Issue pushback clearances to aircraft within the RBS area of jurisdiction.
c. Issue initial taxi instructions to the proper ramp spot(s) to aircraft within the RBS area of jurisdiction.
d. Mark FPSs in accordance with section 1-4 and section 3-1.
e. Assume RAS and RBN responsibilities when combined.
f. Assume other ramp control or other cab responsibilities, as assigned.

3-5-2. Area of Jurisdiction

RBS has jurisdiction of the concourse area on the northern half of Concourse A and the southern half of Concourse B. This is defined to include:

a. Odd-numbered A gates.
b. Even-numbered B gates and B95.
c. The Purple Taxilane north of Concourse A.
d. The Green Taxilane south of Concourse B.
e. Taxiway AN between spot 3E and 3W.
f. Taxiway BS between spot 4E and 4W.
g. Taxiways H and K between Taxiway BN and Taxiway CS.

Chapter 4. Ground Control (GC)

Section 1. General

4-1-1. Position Relief Checklist

Position relief briefings must occur in accordance with Section 1-3 of this document. Utilize the following checklist for position relief briefings of Ground Control positions:

GC Position Relief Briefing Checklist
Position Information (which positions are being assumed)
ATIS Letter(s) / Runway Configuration / Ramp Configuration
Runway / Taxiway Status / Taxilane Status
Appropriate Departure Frequencies
Other Relevant Active Positions
Current TMIs / Special Activities / Coordination Agreements
Traffic Impacted by TMIs
Traffic Standing By for Service
Other Active Traffic

NOTE-

Items above that are listed in italics must only be briefed when GC is combined with CD. Items above that are underlined must only be briefed when GC is combined with RC.

4-1-2. Traffic Flow

a. GC must ensure all aircraft yield to aircraft exiting a runway.
b. LC is authorized to issue taxi instructions to arrival aircraft that allows them to continue a taxi and clear the runway.
c. LC may issue a taxi clearance from an arrival runway to a taxiway under their jurisdiction.

4-1-3. Engine Run-Ups

Aircraft engine run-ups must be performed at the following locations:

a. The southeast corner of the E Deice Pad. Aircraft must point their nose to the northwest.
b. The Delta Deice Pad, adjacent to the approach area of Runway 35L in the vicinity of Taxiways A and L. Aircraft must point their nose to the east.

4-1-4. ATIS
Ensure all taxiing departures have the current ATIS.

NOTE-
When both Arrival and Departure ATIS connections are active, ensure all taxiing departures have the current Departure ATIS. The current Arrival ATIS does not satisfy the above.

4-1-5. Compliance with TMIs

a. Aircraft affected by posted TMIs during taxi must be advised of any delays verbally.
b. Aircraft affected by posted TMIs must have pertinent TMI information placed in their FPS in accordance with paragraph 1-4-4.
c. If a newly posted TMI requires a new departure clearance to be issued, GC may issue the amended clearance, workload permitting. Otherwise, taxi the aircraft out of the traffic flow and instruct them to contact the appropriate CD.
d. Every effort must be made to position any aircraft that has been assigned an EDCT to depart within plus or minus five (±5) minutes of their assigned EDCT.
    (1) If it becomes evident that the aircraft will be outside of this departure window, the aircraft must be taxiied out of the traffic flow and a new EDCT must be assigned.

        NOTE-
        If the aircraft was delayed for reasons beyond its control, the aircraft may proceed to the runway. GC must notify the appropriate LC in this instance.

4-1-6. FPS Marking

a. Mark boxes 2-9 of the aircraft's IFR FPS in accordance with section 1-4.
    (1) When the aircraft's assigned departure runway differs from the expected departure runway issued by CD, write the assigned runway in Box 2.
    (2) Ensure that the letter in Box 3 matches the letter of the current appropriate ATIS prior to issuing taxi instructions.
    (3) GC must keep Boxes 7 and 8 up-to-date to the maximum extent possible.
b. Mark VFR FPSs in accordance with section 1-4.

4-1-7. FPS Handling

a. Departure FPSs must be pushed to the appropriate LC's flight strip bay corresponding to the Runway of departure and sequenced so as to reflect their actual sequence on the taxiway.
b. Boxes 1-3 must be filled in correctly prior to the FPS being pushed to LC.
c. If applicable, boxes 5-8 must be correctly marked prior to being pushed to LC.

Section 2. Ground Control 1 (GC1) - East Metering

4-2-1. Position Responsibilities

a. Monitor the GC1 frequency (121.850 MHz).
b. Ensure all aircraft taxiing out of ramps to the East Complex (Ramp Spots 1E-7E, 3N-6N, and 1S-4S) have the current appropriate departure ATIS.
c. Determine/finalize the aircraft's departure runway assignment.
d. Mark FPSs in accordance with section 1-4 and section 4-1.
e. Assume other ground control responsibilities as coordinated with GC2, or as assigned.

NOTE-
When only one metering position can be opened, GC1 must combine to GC3 and utilize the GC3 frequency. The East Ground Control position must utilize the GC1 frequency.

4-2-2. Metering Procedures

When advised an aircraft is ready to taxi complete the following steps in order:

a. Ensure all aircraft are in compliance with paragraph 4-1-4. Mark Box 3 of the FPS accordingly.
b. Verify the aircraft's location using the ASDE-X and mark Box 4 of the FPS accordingly.
c. Advise the aircraft what runway to expect and mark Box 2 of the FPS accordingly.

NOTE-
Do not "rely" on the runway assignment placed in Box 2 by CD. An independent evaluation of the appropriate departure runway must be made for each aircraft considering the current runway configuration and the aircraft's assigned SID (or first waypoint if assigned the DEN#).

d. Instruct the aircraft to monitor the GC2 frequency and forward the FPS to GC2.

Section 3. Ground Control 2 (GC2) - East Ground Control

4-3-1. Position Responsibilities

a. Monitor the GC2 frequency (120.150 MHz).
b. Provide taxi instructions to aircraft on the movement area within the GC2 area of jurisdiction.
c. Assume GC1 and/or GC3/GC4 responsibilities when combined.

NOTE-
When GC1 and GC2 are combined, or when all GC positions are combined, the GC1 frequency (121.850 MHz) must be used.

4-3-2. Area of Jurisdiction

a. GC2 has jurisdiction of all East Complex taxiways, excluding the following taxiways (which have been delegated to LC2):
    (1) Taxiway EA east of Runway 17R/35L
    (2) Taxiway EC east of Runway 17R/35L
    (3) Taxiway P south of Taxiway P6
b. Unless otherwise coordinated, Taxiway Z east of Taxiway G is GC2's jurisdiction.

Section 4. Ground Control 3 (GC3) - West Metering

4-4-1. Position Responsibilities

a. Monitor the GC3 frequency (121.350 MHz).
b. Ensure all aircraft taxiing out of ramps to the West Complex (Ramp Spots 1W-7W, 1N, and 2N) have the current appropriate departure ATIS.
c. Determine/finalize the aircraft's departure runway assignment.
d. Mark FPSs in accordance with section 1-4 and section 4-1.
e. Assume GC1 responsibilities when combined.
f. Assume other ground control responsibilities as coordinated with GC4, or as assigned.

NOTE-
When only one metering position can be opened, GC1 must combine to GC3 and utilize the GC3 frequency. The East Ground Control position must utilize the GC1 frequency.

4-4-2. Metering Procedures

When advised an aircraft is ready to taxi complete the following steps in order:

a. Ensure all aircraft are in compliance with paragraph 4-1-4. Mark Box 3 of the FPS accordingly.
b. Verify the aircraft's location using the ASDE-X and mark Box 4 of the FPS accordingly.
c. Advise the aircraft what runway to expect and mark Box 2 of the FPS accordingly.

NOTE-
Do not "rely" on the runway assignment placed in Box 2 by CD. An independent evaluation of the appropriate departure runway must be made for each aircraft considering the current runway configuration and the aircraft's assigned SID (or first waypoint if assigned the DEN#).

d. Instruct the aircraft to monitor the appropriate GC frequency and forward the FPS to the appropriate GC position.

Section 5. Ground Control 4 (GC4) - West Ground Control

4-5-1. Position Responsibilities

a. Monitor the GC4 frequency (127.500 MHz).
b. Provide taxi instructions to aircraft on the movement area within the GC4 area of jurisdiction.
c. Assume GC3 responsibilities when combined.

NOTE-
When GC3 and GC4 are combined, the GC3 frequency (121.350 MHz) must be used.

4-5-2. Area of Jurisdiction

GC4 has jurisdiction of all West Complex taxiways, excluding the following taxiways (which have been delegated to LC4):

a. Taxiway WC west of Runway 16L/34R
b. Taxiway WD west of Runway 16L/34R
c. Taxiway WE west of Runway 16L/34R
d. Taxiway D north of Taxiway D5

Chapter 5. Local Control (LC)

Section 1. General

5-1-1. Position Relief Checklist

Position relief briefings must occur in accordance with Section 1-3 of this document. Utilize the following checklist for position relief briefings of Local Control positions:

LC Position Relief Briefing Checklist
Position Information (which positions are being assumed)
ATIS Letter(s) / Runway Configuration / *Ramp Configuration*
Runway / Taxiway Status / *Taxilane Status*
Appropriate Departure Frequencies
Other Relevant Active Positions
Current TMIs / Coordination Agreements / ODO Status
Traffic Impacted by TMIs
Other Active Traffic

NOTE-

Items above that are listed in italics must only be briefed when LC is combined with GC.

5-1-2. Coordination Procedures for Landing Aircraft Crossing Departure Paths

Certain configurations cause an arrival path to cross a departure path and/or arrivals to cross through another LC's airspace. In the following situations, certain LC positions/airspace/routes must be combined:

a. When the South and West runway configuration is active and Runway 25 is in use for landing aircraft:
    (1) LC2 and LC3 must be combined.
    (2) The "South and West Land 25" LC airspace must be utilized (see Appendix 1E).
b. When the South and East runway configuration is active in VMC conditions, Runway 8 is in use for departing aircraft, and Runway 17L is in use for landing aircraft:
    (1) LC2 must release control of Runway 17L/35R to LC1.
    (2) Runway 17L must not be used by departing aircraft to the maximum extent possible.
    (3) The "Triple Simultaneous ILS Approaches South" LC airspace must be utilized (see Appendix 1F).

c. When a North runway configuration is active in VMC conditions, Runway 25 is in use for departing aircraft, and Runway 34L is in use for landing aircraft:
    (1) LC4 must release control of Runway 16R/34L to LC3.
    (2) Runway 34L must not be used by departing aircraft to the maximum extent possible.
    (3) The “North VMC Landing 34L” LC airspace must be utilized (see Appendix 1B).
d. When the East All runway configuration is active and Runways 34L and/or 34R are in use for departing aircraft:
    (1) LC1 and LC4 must be combined.
    (2) The “East All” LC airspace must be utilized (see Appendix 1G).

5-1-3. Non-Intersecting Converging Runway Operations

a. The following configurations may be conducted as independent non-intersecting converging runway operations:
    (1) Arrive Runway 16R. Depart Runway 25.
    (2) Arrive Runway 35R. Depart Runway 8.
    (3) Arrive Runway 35L. Depart Runway 8.

NOTE-
The configurations above only apply to turbojet aircraft. All non-turbojet aircraft are to be handled as dependent operations as per FAA JO 7110.65 paragraphs 3-9-8 and 3-9-9.

b. The following configurations must be utilized as Intersecting/Non-Intersecting Converging Runway Operations as per FAA JO 7110.65 paragraphs 3-9-8 and 3-9-9.
    (1) Depart Runway 35L. Arrive/depart Runway 8/26.
    (2) Depart Runway 35R. Arrive/depart Runway 8/26.
    (3) Depart Runway 16R. Arrive/depart Runway 7/25.

NOTE-
The configurations specified in a. and b. above have Non-Intersecting Converging Runways that are less than 1 NM from the departure/arrival runway.

c. The following configurations must be utilized as Non-Intersecting Converging Runway Operations as per FAA JO 7110.65 paragraph 3-9-9.
    (1) Depart Runway 16L. Arrive/depart Runway 7/25.
    (2) Depart Runway 26. Arrive/depart Runway 16R/34L.
    (3) Depart Runway 26. Arrive/depart Runway 16L/34R.
    (4) Depart Runway 7. Arrive/depart Runway 16R/34L.
    (5) Depart Runway 7. Arrive/depart Runway 16L/34R.

NOTE-
The configurations specified in c. above have Non-Intersecting Converging Runways that are greater than 1 NM from the departure/arrival runway.

5-1-4. In-Trail Spacing Route Restrictions

Ensure all aircraft are appropriately separated off the departure end of the runway as follows:

a. Like type aircraft filed the same Non-RNAV transition or the same RNAV DP - 5 miles.
b. Jet behind a prop departing on a heading/course that is less than 15° divergent from the assigned heading of the prop:
    (1) All gates EXCEPT the West Gate - 7 miles.
    (2) West Gate only - 10 miles.
c. Prop departures on a 335° heading preceding a DDRTH departure - 7 miles.
d. Prop departures on a 190° heading preceding a SMMUR/SUDDZ departure - 7 miles.
e. When the Land East airspace is active, the following routes shall be considered one route:
    (1) DDRTH departure preceding a west gate jet departure heading 335°.
    (2) SMMUR departure preceding a west gate jet departure heading 190°.
    (3) SUDDZ departure preceding a west gate jet departure heading 190°.

5-1-5. Compliance with TMIs

a. Aircraft affected by posted TMIs while waiting to depart must be advised of any new delays verbally.
b. Aircraft affected by posted TMIs must have pertinent TMI information placed in their FPS in accordance with paragraph 1-4-4.
c. If a newly posted TMI requires a new departure clearance to be issued, LC may issue the amended clearance, workload permitting. Otherwise, taxi the aircraft out of the traffic flow and instruct them to contact the appropriate CD.
d. Aircraft with an assigned EDCT must depart within plus or minus five (±5) minutes of their assigned EDCT.
e. Do not authorize an aircraft to depart if the aircraft's destination airport is ground stopped.
f. Do not authorize an aircraft to depart without an appropriate departure release when "CFR" is placed in box 7 of the aircraft's FPS or a departure release is required.

5-1-6. Coordination Procedures for Departing Aircraft

When responsibility for a departure gate is split between multiple LC positions, release of Non-RNAV turbojet departures must be coordinated between positions.

5-1-7. Line Up and Wait (LUAW) Procedures

a. Only one aircraft at a time, per runway, may be authorized to LUAW.
b. When an aircraft has been authorized to LUAW, the FPS for that aircraft must be offset in the strip bay.
c. When an aircraft has been authorized to LUAW, the first aircraft in the landing sequence on the Tower frequency, regardless of distance from the runway, must be advised of the traffic on the runway.
    (1) When the reported ceiling is less than 800 feet or the reported visibility is less than 2 miles, landing clearance must be withheld until the aircraft in position begins takeoff roll.

d. LUAW is not authorized when traffic volume or complexity issues negatively impact the ability to use the procedures in a safe and efficient manner.

5-1-8. Vectors Below the MVA

a. IFR departures may be vectored below the MVA via use of the DEN Diverse Vector Area (see Table 5-1-1), provided the following criteria are met:
   (1) A SID or ODP has not been assigned.
   (2) The aircraft must be assigned an altitude at or above the MVA.
   (3) The aircraft must exit the confines of the DVA at or above the MVA.
   (4) The assignment of the initial heading within the DVA must be given prior to departure (either as part of the initial clearance or as part of the takeoff clearance).

Table 5-1-1. DEN Diverse Vector Area Headings

Airport	Runways	Available Headings	Distance from Airport
DEN	All	Any	25 NM

b. IFR arrivals executing a Go-Around/Missed Approach may be vectored below the MVA provided the following criteria are met:
   (1) LC assumes responsibility for the aircraft's terrain and obstruction clearance for the duration of the time that the aircraft is vectored below the MVA.
   (2) The aircraft can climb at the minimum climb gradient of 200 ft/NM.
   (3) LC follows the limits outlined in Table 5-1-2.

Table 5-1-2. Vectoring for Go-Arounds/Missed Approaches

Airport	Runways	Available Headings	Prominent Obstacle
DEN	All	Any	None

5-1-9. Departure Clearance

The phraseology used for any aircraft cleared RNAV off the ground must include the applicable RNAV SID's first FIX/WPT as part of the takeoff clearance.

EXAMPLE-

"RNAV to NUGGS, Runway 34R, cleared for takeoff."

5-1-10. Departure Frequency

Ensure aircraft have the appropriate departure frequency if the frequency in use is different than the frequency assigned or published on the assigned DP.

5-1-11. Landing Clearance
The use of a memory aid upon issuance of a landing clearance is mandatory. The preferred method for utilizing a landing clearance memory aid is by highlighting the aircraft's STARS Full Data Block (FDB).

5-1-12. Runway Exiting
LC is authorized to issue taxi instructions to arrival aircraft that allows them to continue a taxi and clear the runway.

5-1-13. Runway Crossings
It is general practice at DEN to not cross runways unless it is operationally advantageous to do so. In these instances, the expectation is to use good judgment and exercise extra care when deciding to cross runways.

5-1-14. FPS Marking
a. Mark boxes 5-8 of the aircraft's IFR FPS in accordance with section 1-4.
    (1) LC must keep Boxes 7 and 8 up-to-date to the maximum extent possible.
b. Mark VFR FPSs in accordance with section 1-4.

5-1-15. FPS Handling
a. Departure FPSs must be sequenced in the appropriate bay for the runway of departure and must reflect the order in which the aircraft will depart.
b. Departure FPSs may be deleted when all conflicts are resolved and the aircraft has been instructed to contact departure.

Section 2. Local Control 1 (LC1) - East Tower

5-2-1. Position Responsibilities

a. Monitor the LC1 frequency (132.350 MHz).
b. Provide control instructions to aircraft within the LC1 area of jurisdiction.
c. Mark FPSs in accordance with section 1-4 and paragraph 5-1-14.
d. Assume other local control or other cab responsibilities, as assigned.

5-2-2. Area of Jurisdiction

LC1 has jurisdiction of the following:

a. Airspace as depicted in Appendix 1.
b. Runway 8/26.
c. Runway 17L/35R during simultaneous ILS approaches or crossing path procedures (described in 5-1-2.b.).
d. The following taxiways during simultaneous ILS approaches or crossing path procedures (described in 5-1-2.b.).
    (1) Taxiway EA east of Runway 17R/35L
    (2) Taxiway EC east of Runway 17R/35L
    (3) Taxiway P south of Taxiway P6

NOTE-
Unless otherwise coordinated, the control of the taxiways listed above in d. and Runway 17L/35R must be conjoined.

Section 3. Local Control 2 (LC2) - South Tower

5-3-1. Position Responsibilities

a. Monitor the LC2 frequency (124.300 MHz).
b. Provide control instructions to aircraft within the LC2 area of jurisdiction.
c. Mark FPSs in accordance with section 1-4 and paragraph 5-1-14.
d. Assume LC1 and/or LC3/LC4 responsibilities when combined.
e. Assume other local control or other cab responsibilities, as assigned.

5-3-2. Area of Jurisdiction

LC2 has jurisdiction of the following:

a. Airspace as depicted in Appendix 1.
b. Runway 17R/35L.
c. Runway 17L/35R except during simultaneous ILS approaches or crossing path procedures (described in 5-1-2.b.).
d. The following taxiways except during simultaneous ILS approaches or crossing path procedures (described in 5-1-2.b.).
    (1) Taxiway EA east of Runway 17R/35L
    (2) Taxiway EC east of Runway 17R/35L
    (3) Taxiway P south of Taxiway P6

NOTE-
Unless otherwise coordinated, the control of the taxiways listed above in d. and Runway 17L/35R must be conjoined.

Section 4. Local Control 3 (LC3) - West Tower

5-4-1. Position Responsibilities

a. Monitor the LC3 frequency (128.750 MHz).
b. Provide control instructions to aircraft within the LC3 area of jurisdiction.
c. Mark FPSs in accordance with section 1-4 and paragraph 5-1-14.
d. Assume other local control or other cab responsibilities, as assigned.

5-4-2. Area of Jurisdiction

LC3 has jurisdiction of the following:

a. Airspace as depicted in Appendix 1.
b. Runway 7/25.
c. Runway 16R/34L during crossing path procedures (described in 5-1-2.c.).

Section 5. Local Control 4 (LC4) - North Tower

5-5-1. Position Responsibilities

a. Monitor the LC4 frequency (135.300 MHz).
b. Provide control instructions to aircraft within the LC4 area of jurisdiction.
c. Mark FPSs in accordance with section 1-4 and paragraph 5-1-14.
d. Assume LC1 and/or LC3 responsibilities when combined.
e. Assume other local control or other cab responsibilities, as assigned.

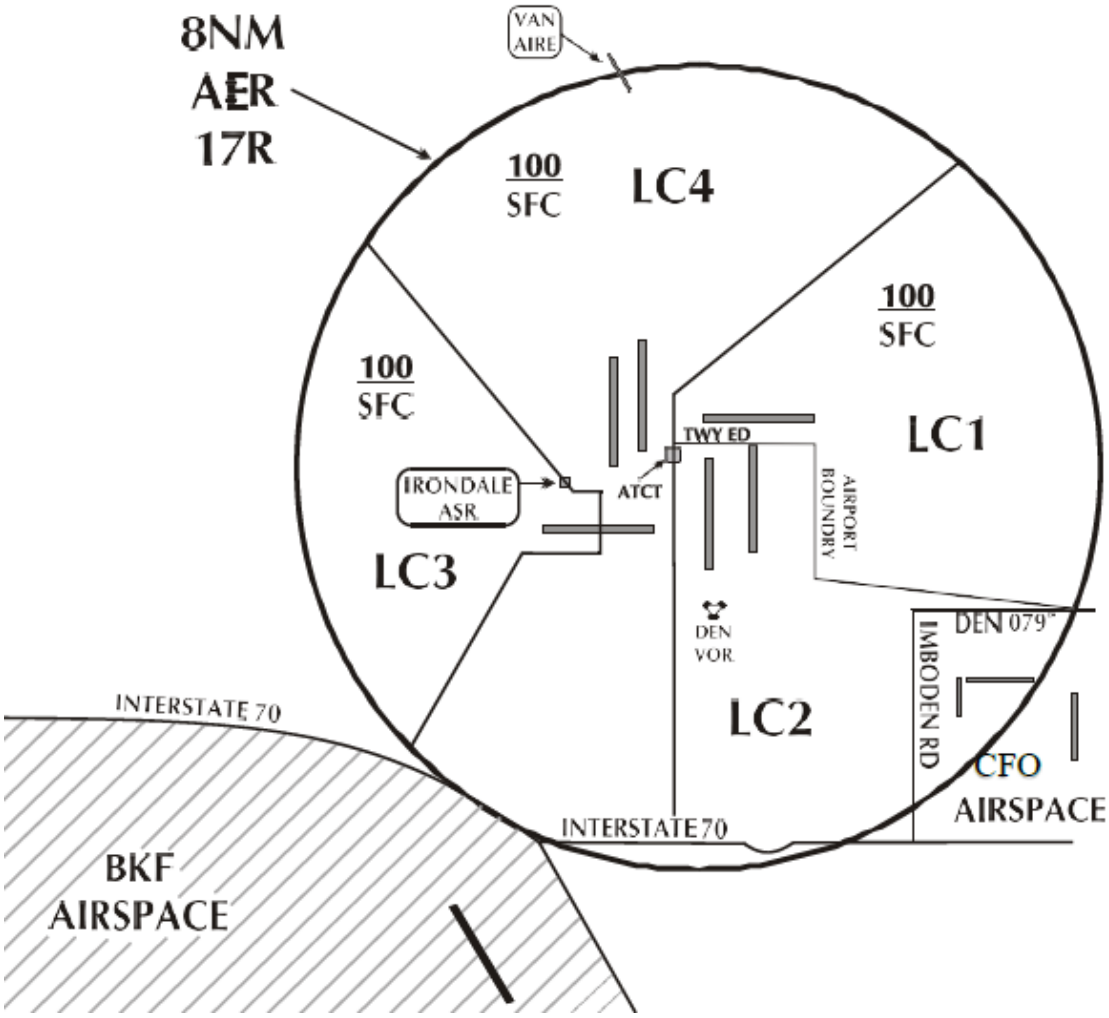
5-5-2. Area of Jurisdiction

LC4 has jurisdiction of the following:

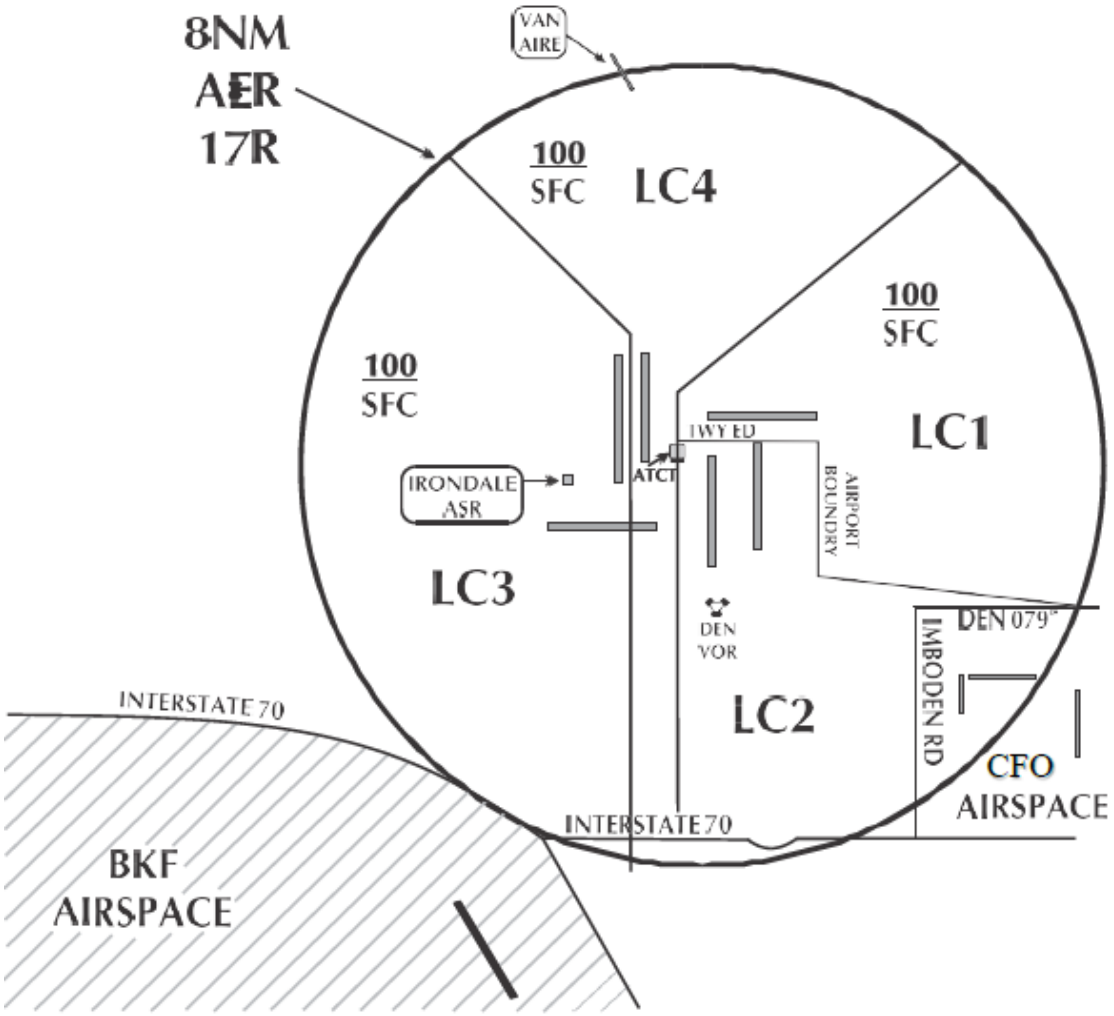
a. Airspace as depicted in Appendix 1.
b. Runway 16L/34R.
c. Runway 16R/34L except during crossing path procedures (described in 5-1-2.c.).
d. Unless otherwise coordinated, the following taxiways:
    (1) Taxiway WC west of Runway 16L/34R
    (2) Taxiway WD west of Runway 16L/34R
    (3) Taxiway WE west of Runway 16L/34R
    (4) Taxiway D north of Taxiway D5

Appendix 1. Local Control Airspace

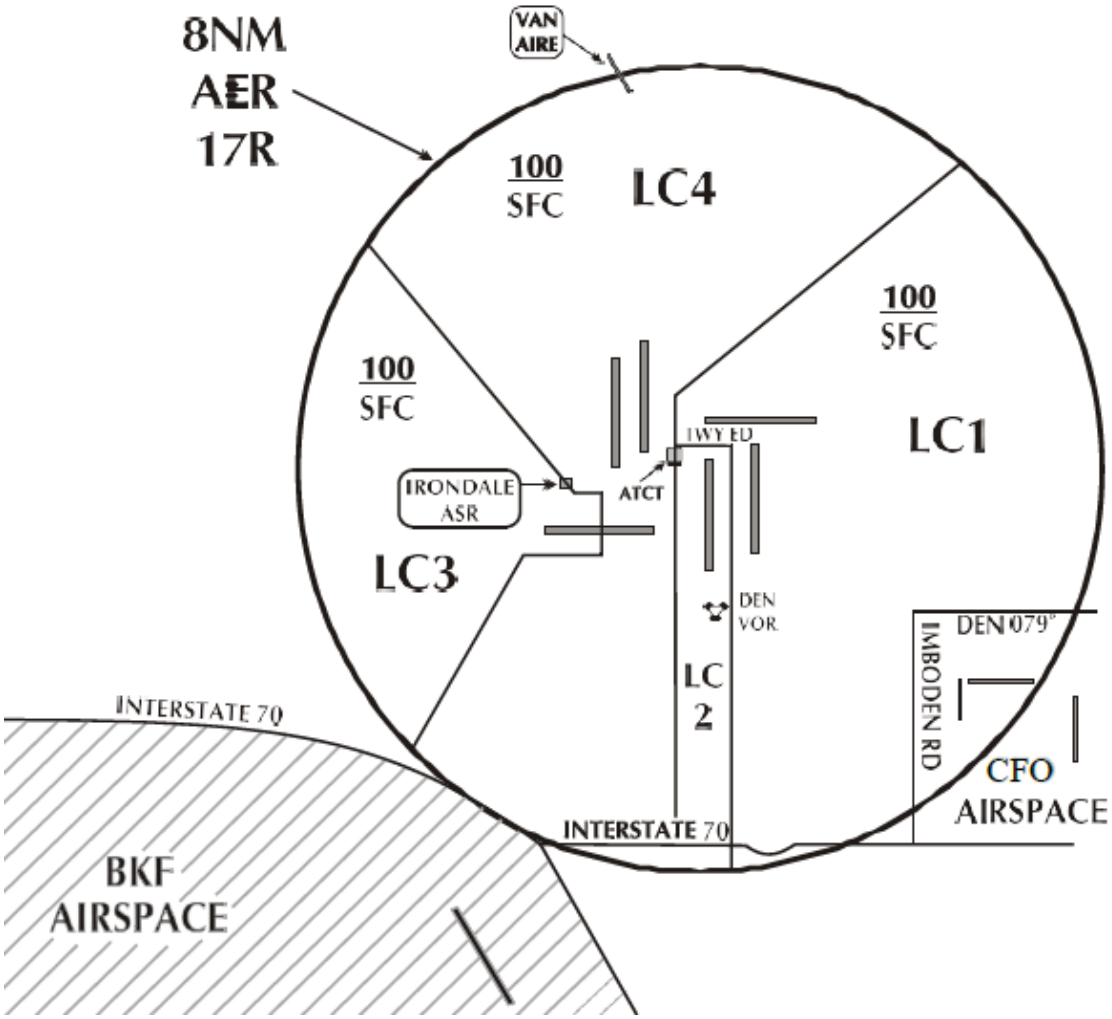
Appendix 1A. North Calm, North and East, North and West, North All



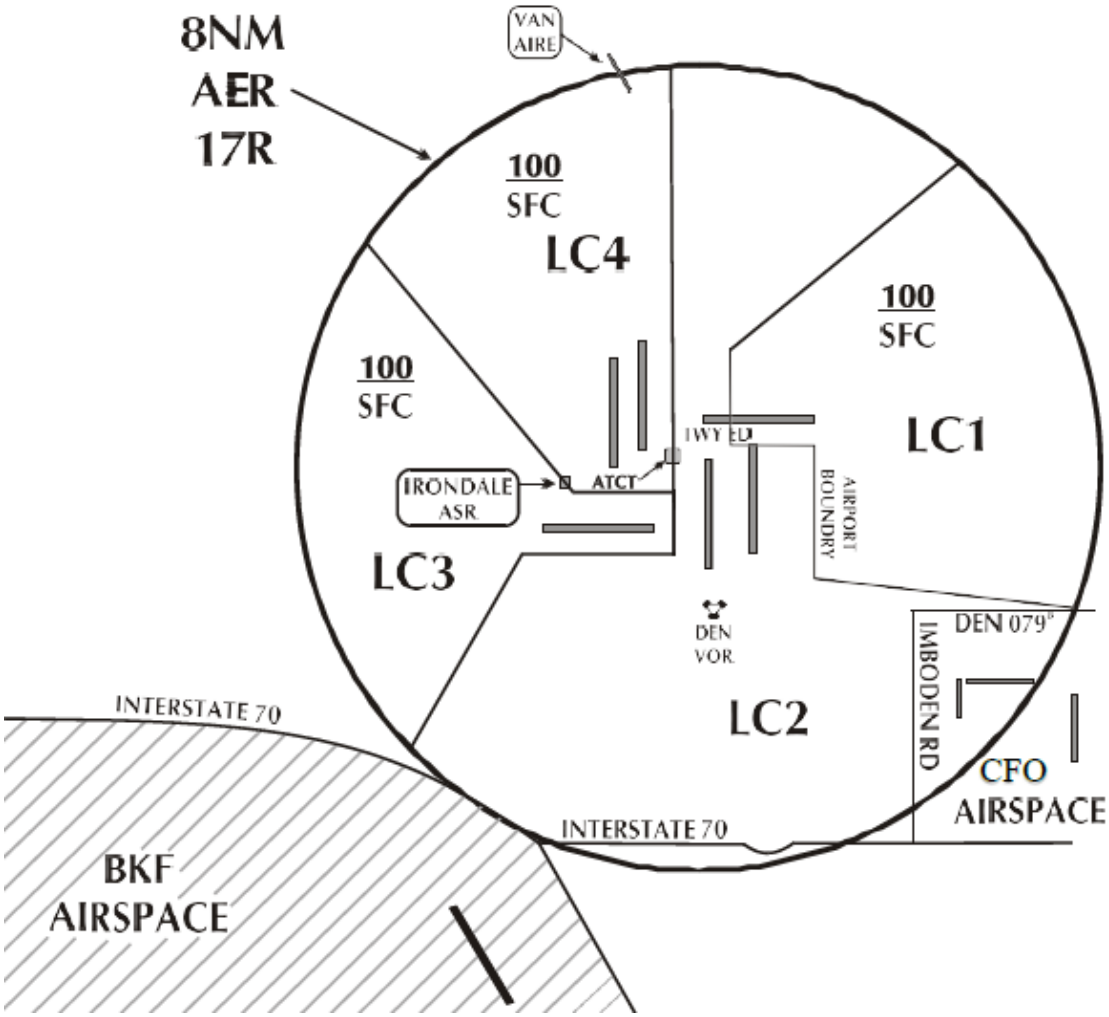
Appendix 1B. North VMC Landing 34L



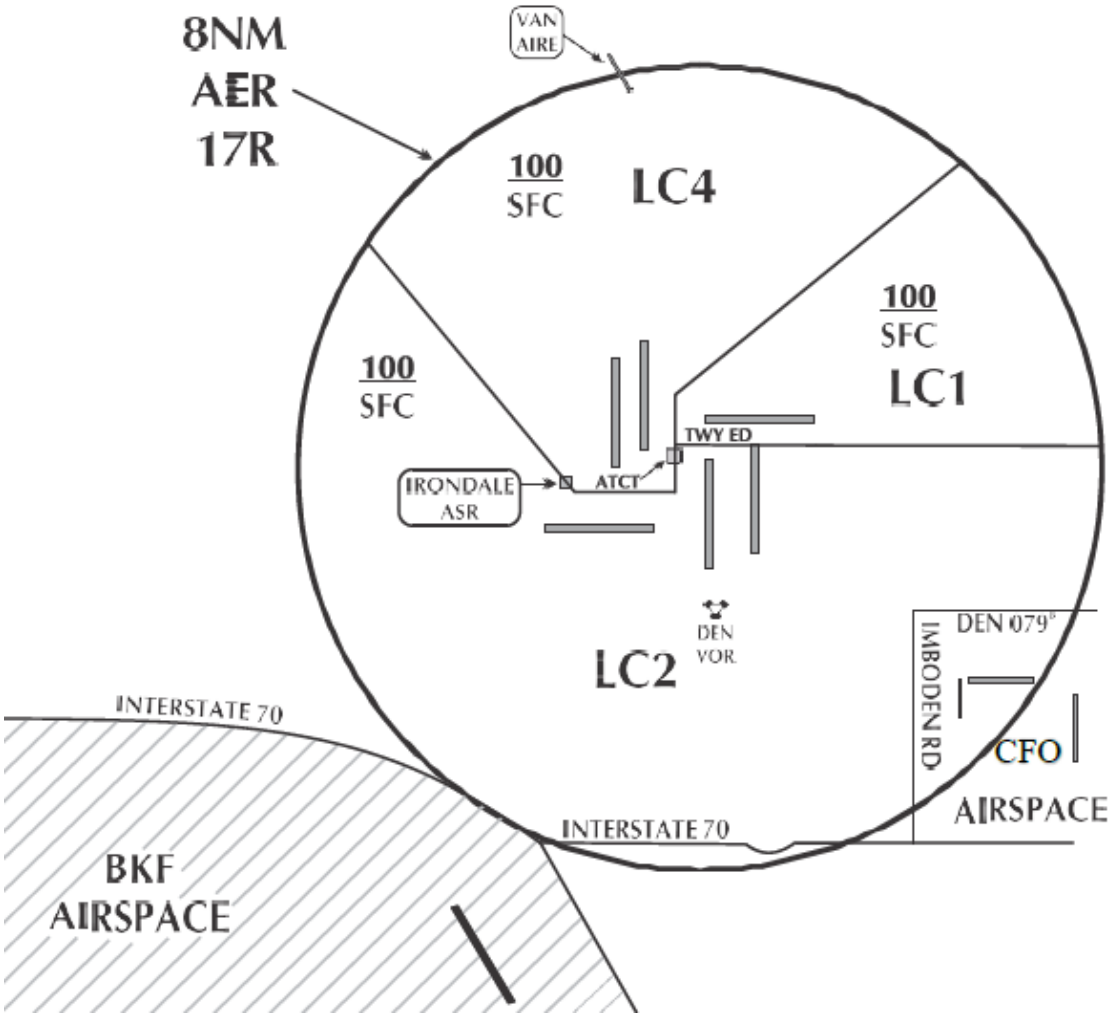
Appendix 1C. Triple Simultaneous ILS Approaches North



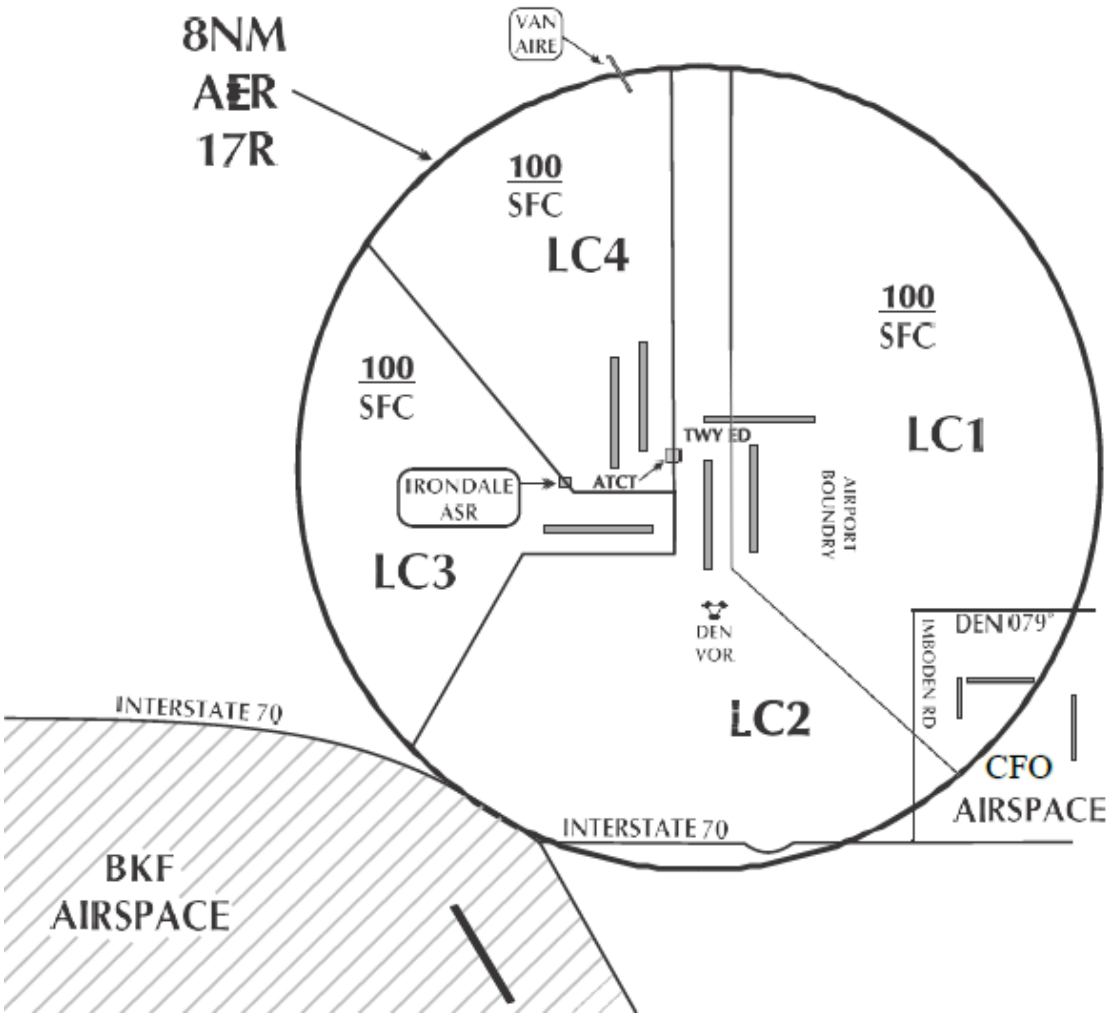
Appendix 1D. South Calm, South and East, South and West



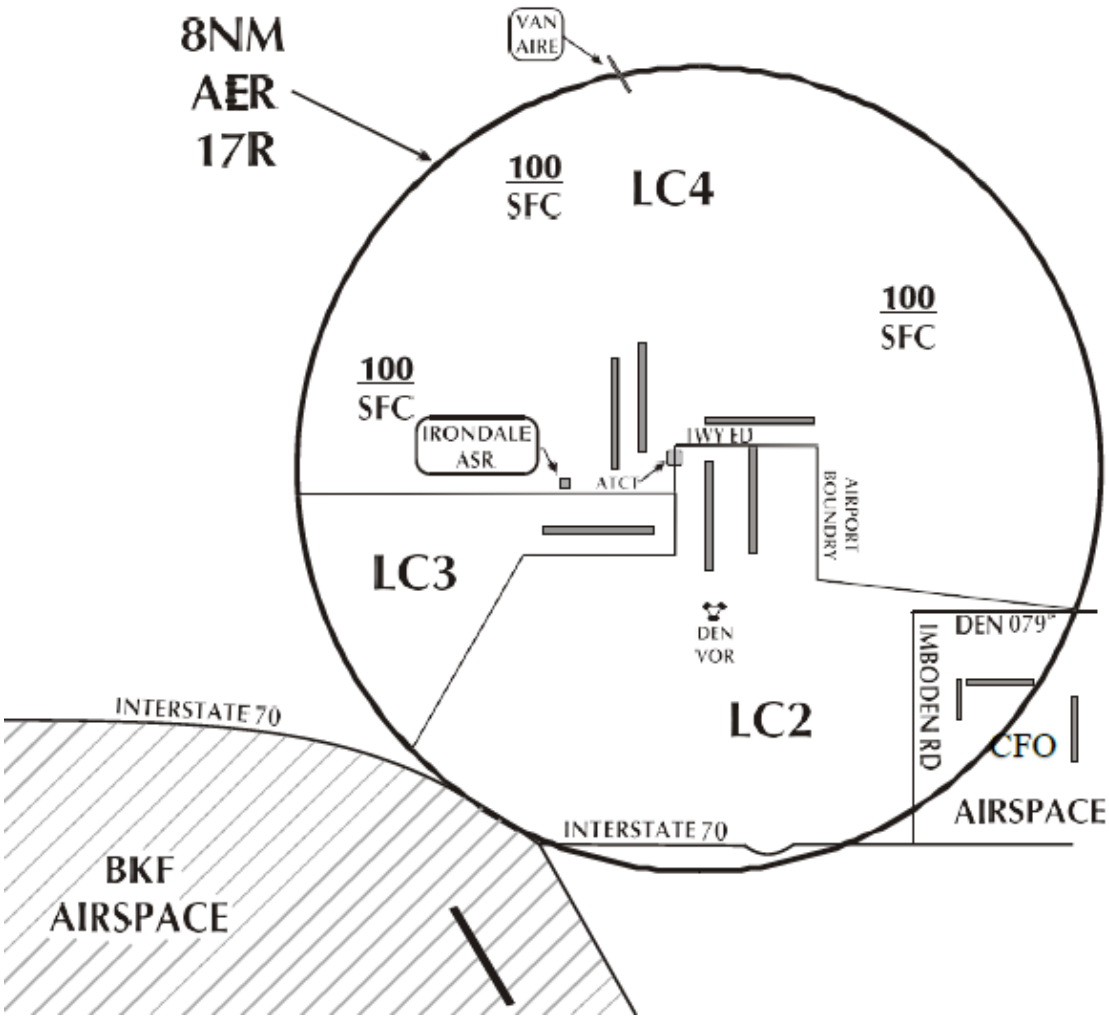
Appendix 1E. South and West Land 25



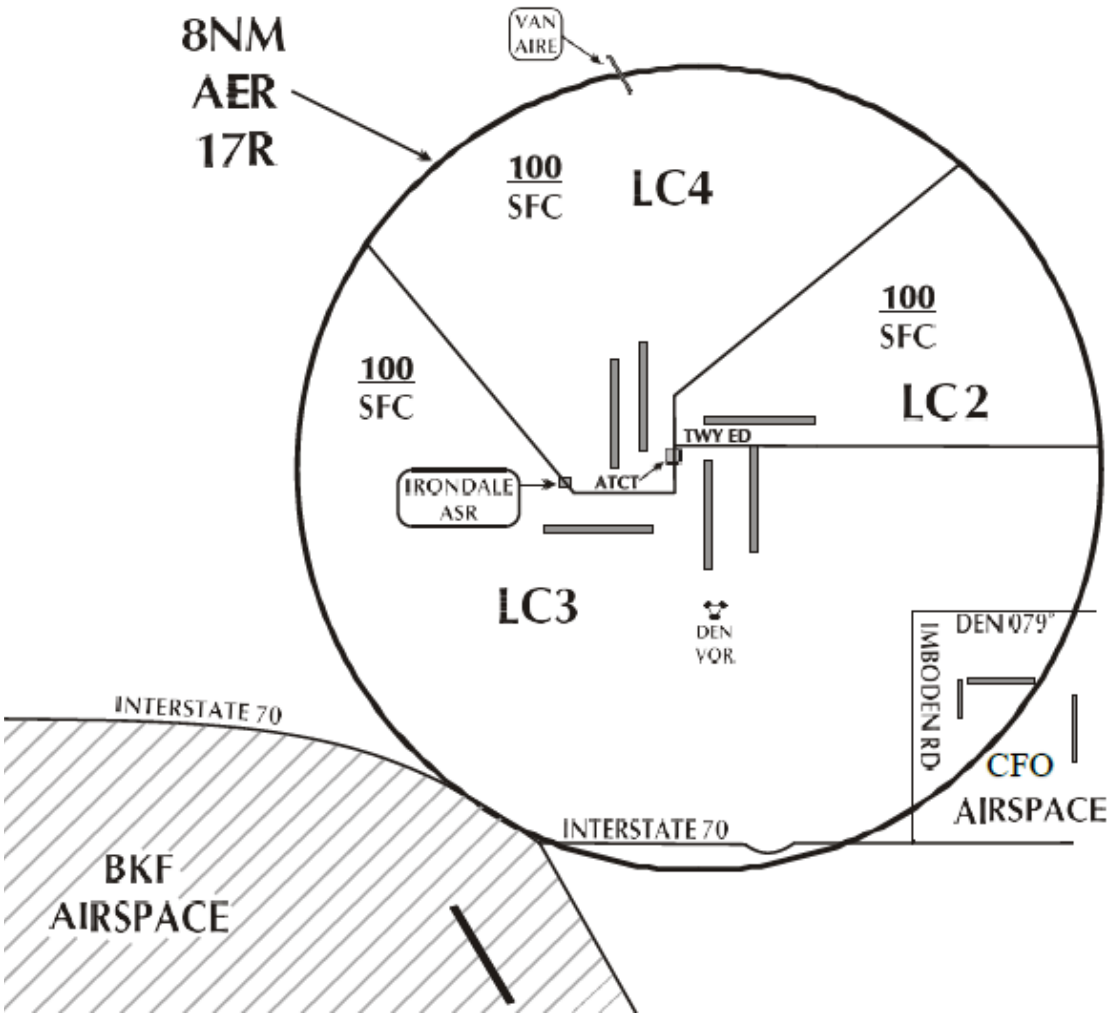
Appendix 1F. Triple Simultaneous ILS Approaches South



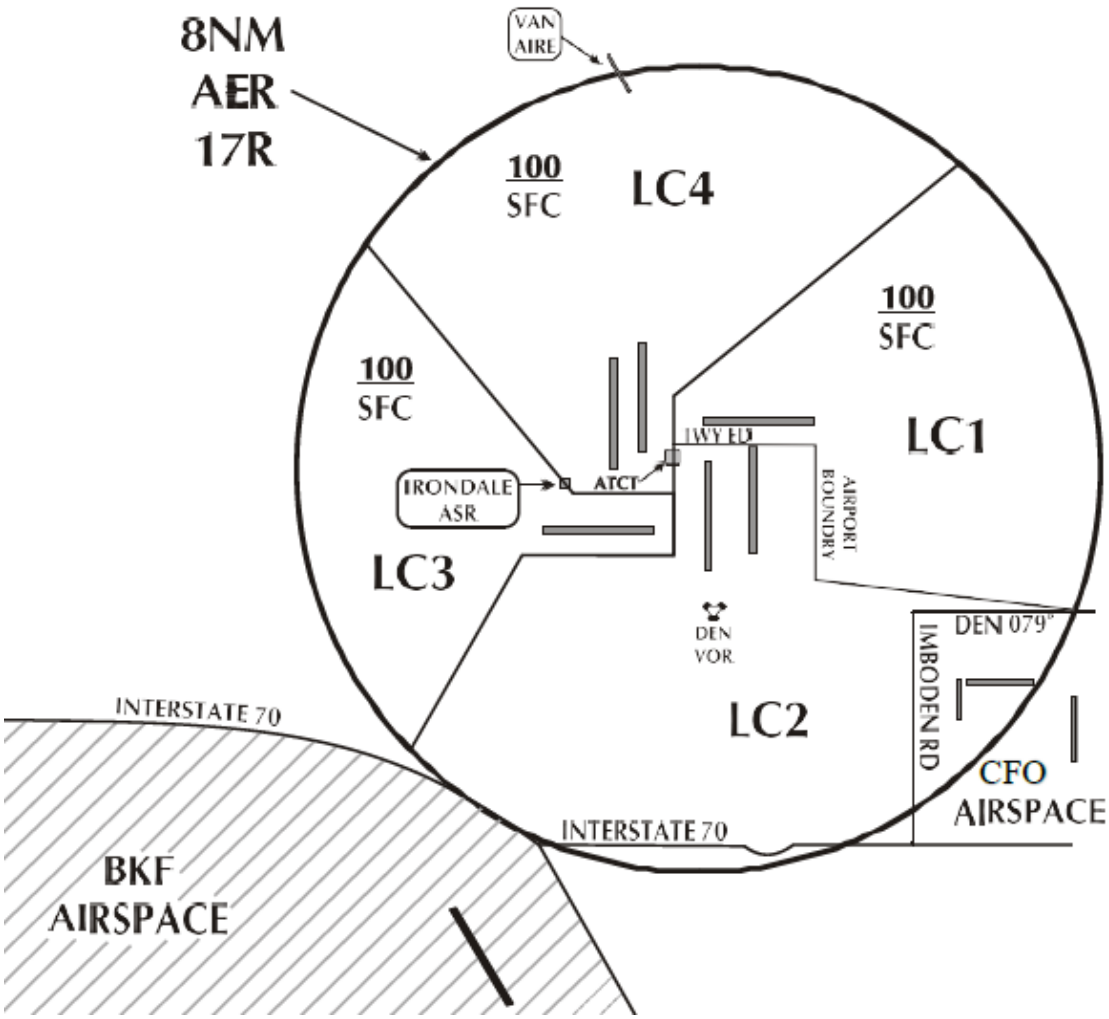
Appendix 1G. East All



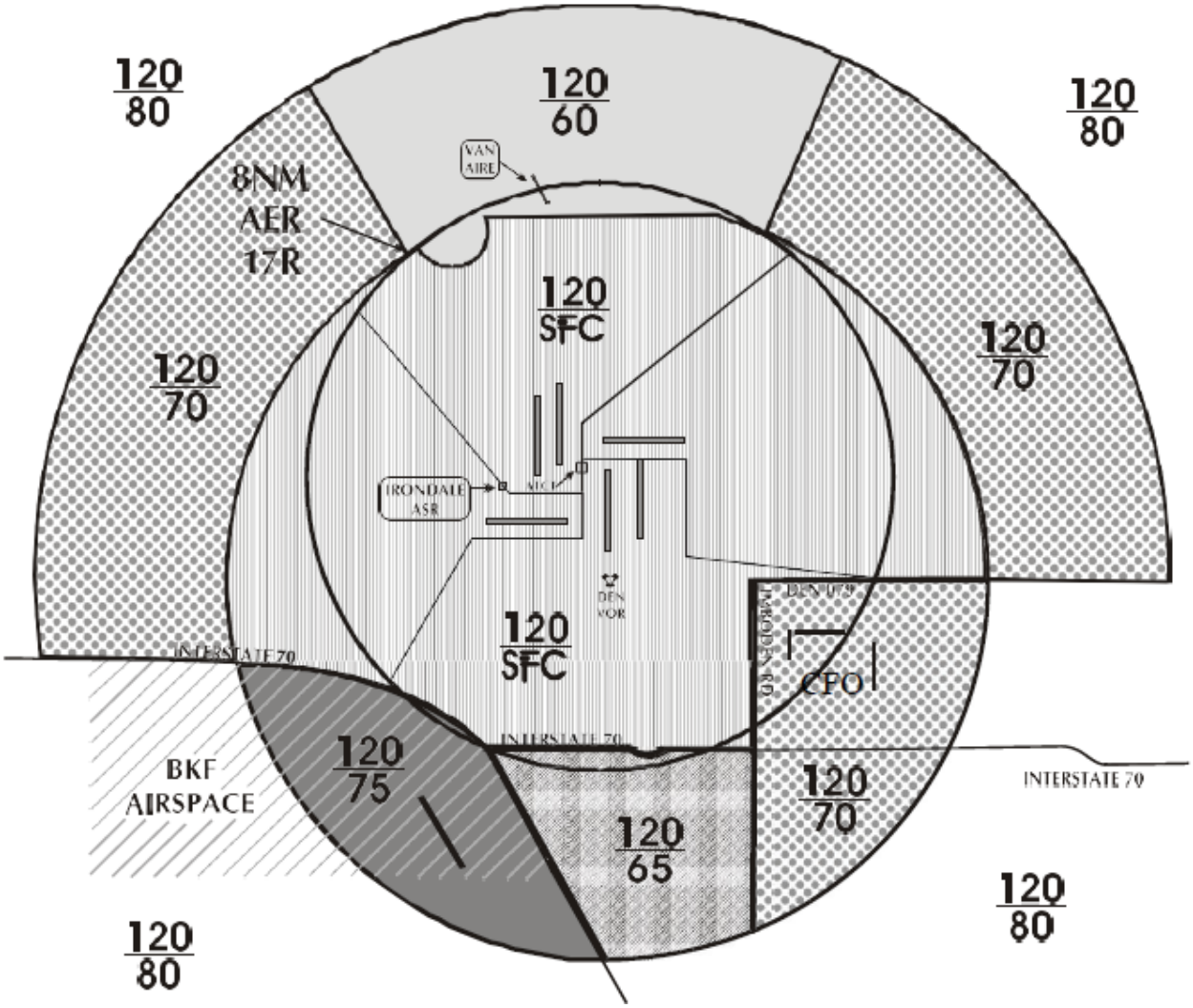
Appendix 1H. West All



Appendix 1I. Honey Badger



Appendix 1J. Class Bravo and LC Airspace



Appendix 2. Departure Runway Assignments

Table 1. Departure Corridors

Corridor	West	North	East	South
Gate	ZIMMR	DDRTH	EEONS	SMMUR
	COORZ	XXWNG	EMMYS	SUDDZ
	CONNR	HHOTH	EXTAN	SABTH
	BAYLR	CHUWY	EPKEE	SLEEK
				LUFSE

Table 2. West Departure Gates

Gate	**ZIMMR**	**COORZ**	**CONNR**	**BAYLR**
Associated SIDs / Fixes / NAVAIDs / Airports	ZIMMR	COORZ	CONNR	BAYLR
	EKR	OAL	DBL	BOBBA
	RLG	TRUEL		DVC
		VOAXA		HBU
				MTJ

Table 3. North Departure Gates

Gate	**DDRTH**	**XXWNG**	**HHOTH**	**CHUWY**
Associated SIDs / Fixes / NAVAIDs / Airports	DDRTH	XXWNG	HHOTH	CHUWY
	LAR	CYS	RAP	HANKI
	MBW		GLL	BFF
	NATTI			

Table 4. East Departure Gates

Gate	EEONS	EMMYS	EXTAN	EPKEE
Associated SIDs / Fixes / NAVAIDs / Airports	EEONS	EMMYS	EXTAN	EPKEE
	HCT	MCK	TXC	GCK
	AKO	BELKE	GLD	WEEDS
	ASHBY		CABET	

Table 5. South Departure Gates

Gate	SMMUR	SUDDZ	SABTH	SLEEK	LUFSE
Associated SIDs / Fixes / NAVAIDs / Airports	SMMUR	SUDDZ	SABTH	SLEEK	LUFSE
	ALS				COS
					PUB

Table 6. North Calm

Runway	Corridors / Gates			
8	East	SABTH	SLEEK	LUFSE
25	West	SMMUR	SUDDZ	
34L	North			

Table 7. South Calm

Runway	Corridors / Gates		
8	East	HHOTH	CHUWY
25	West	DDRTH	XXWNG
16L OR 17L	South		

Table 8. North and East (Landing Runway 34R)

Runway	Corridors	
8	East	South
34L	West	North

Table 9. North and East (Landing Runway 7)

Runway	Corridors / Gates		
8	South	EXTAN	EPKEE
34L	West		
34R	North	EEONS	EMMYS

Table 10. North and West (Landing 34R)

Runway	Corridors	
25	West	South
34L	North	East

Table 11. North and West (Departing 34R)

Runway	Corridors / Gates			
25	South		BAYLR	
34L	North	ZIMMR	COORZ	CONNR
34R	East			

Table 12. South and East

Runway	Corridors	
8	North	East
16L OR 17L	West	South

Table 13. South and West (VMC)

Runway	Corridors / Gates			
25	North	ZIMMR	COORZ	CONNR
17L	East			
17R	South		BAYLR	

Table 14. South and West (IMC)

Runway	Corridors	
25	West	North
16L OR 17L	East	South

Table 15. North All

Runway	Corridors / Gates			
34L	West	North	SMMUR	SUDDZ
34R	East	SABTH	SLEEK	LUFSE

Table 16. South All (Departing Single Runway)

Runway	Corridors
16L OR 17L	ALL

Table 17. South All (Departing Dual Runways)

Runway	Corridors / Gates			
Westernmost	West		DDRTH	XXWNG
Easternmost	East	South	HHOTH	CHUWY

Table 18. East All

Runway	Corridors
8	ALL

Table 19. West All

Runway	Corridors
25	ALL

Table 20. Honey Badger (Arrival Priority)

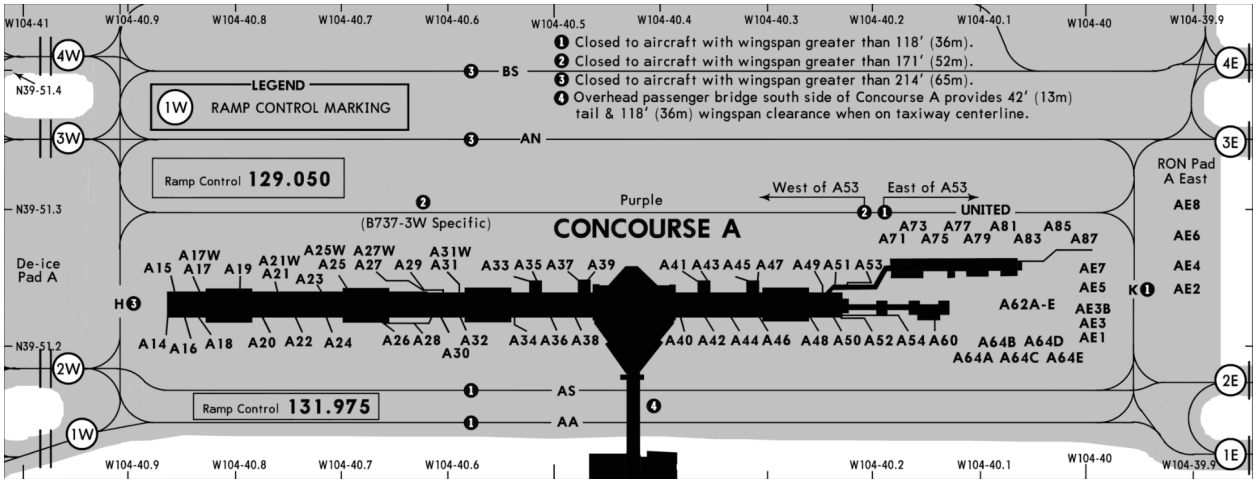
Runway	Corridors / Gates					
8	East	HHOTH	CHUWY	SABTH	SLEEK	LUFSE
25	West	DDRTH	XXWNG	SMMUR	SUDDZ	

Table 21. Honey Badger (Departure Priority)

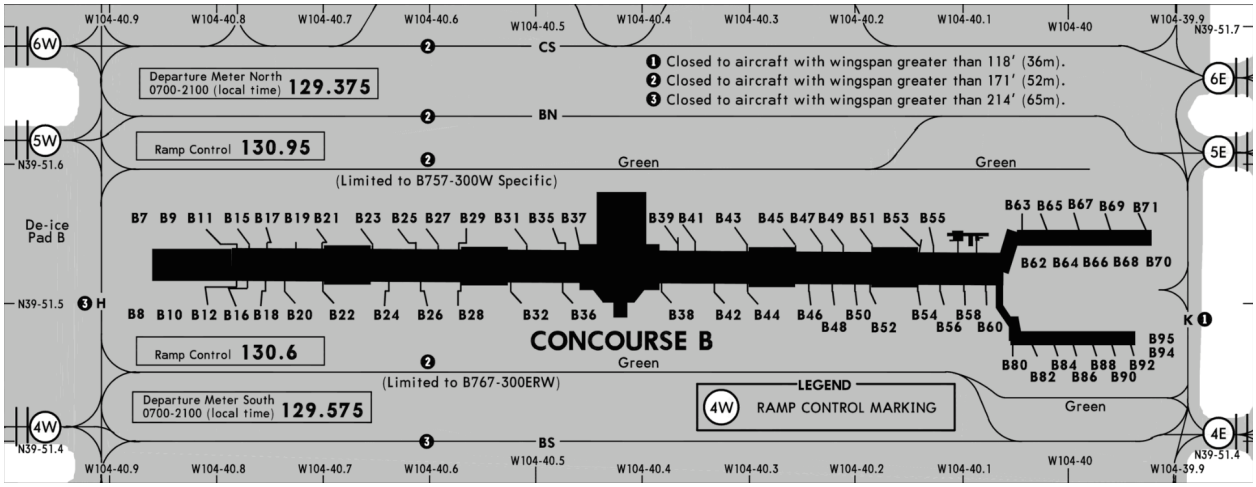
Runway	Corridors / Gates		
17L	South	EXTAN	EPKEE
17R	BAYLR	CONNR	
34L	North	ZIMMR	COORZ
34R	EEONS	EMMYS	

Appendix 3. Ramp Control Supplements

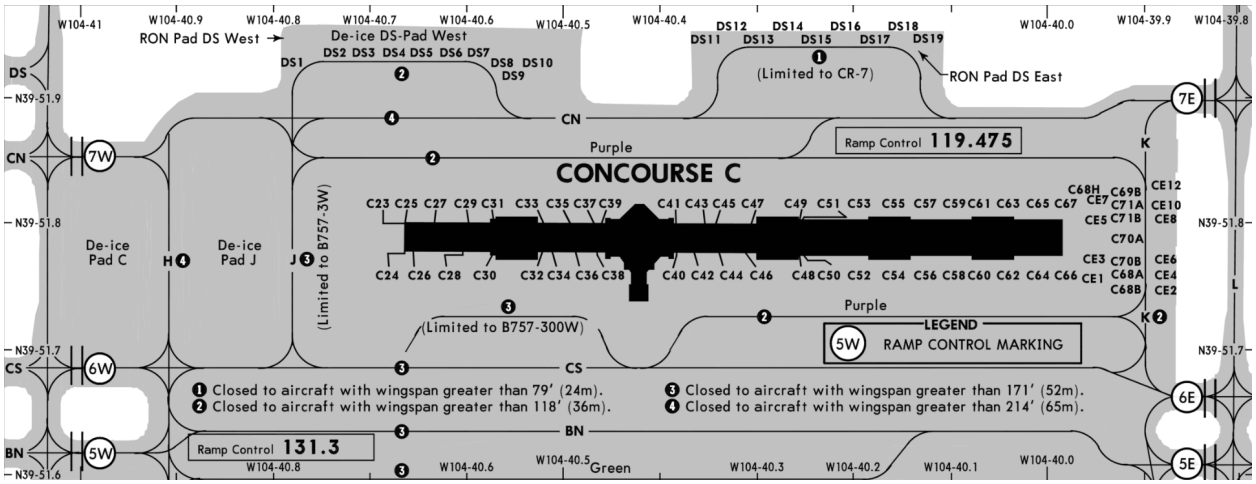
Appendix 3A. Concourse A Gate Information



Appendix 3B. Concourse B Gate Information



Appendix 3C. Concourse C Gate Information



Appendix 3D. Directional Pushback Gates

Concourse	Concourse A	Concourse B	Concourse C
Gates That Require Directional Pushbacks	A39	B60	C39
	A41	B62	
	A47	B64	
		B66	
		B68	
		B70	
		B71	
		B94	

Appendix 3E. Taxilane Wingspan Requirements

Taxilane	Largest Permitted Aircraft
Purple (North of Concourse A, At or West of A53)	Boeing 767-400ER
Purple (North of Concourse A, East of A53)	Boeing 737 MAX 10 / Airbus A321neo
Green (South of Concourse B)	Boeing 767-300ER
Green (North of Concourse B)	Boeing 757-300
Purple (South of Concourse C, At or West of C36)	
Purple (South of Concourse C, At or East of C42)	Boeing 737 MAX 10 / Airbus A321neo
Purple (North of Concourse C)	

Appendix 3F. Taxiway Wingspan Requirements

Taxiway	Max Wingspan	Largest Permitted Aircraft
AA	118’	Boeing 737 MAX 10 / Airbus A321neo
AS		
AN	214’	Boeing 747-400 / Airbus A350-1000
BS		
BN	171’	Boeing 767-400ER
CS		
CN	214’	Boeing 747-400 / Airbus A350-1000
H		
J	125’	Boeing 757-300
K	118’	Boeing 737 MAX 10 / Airbus A321neo