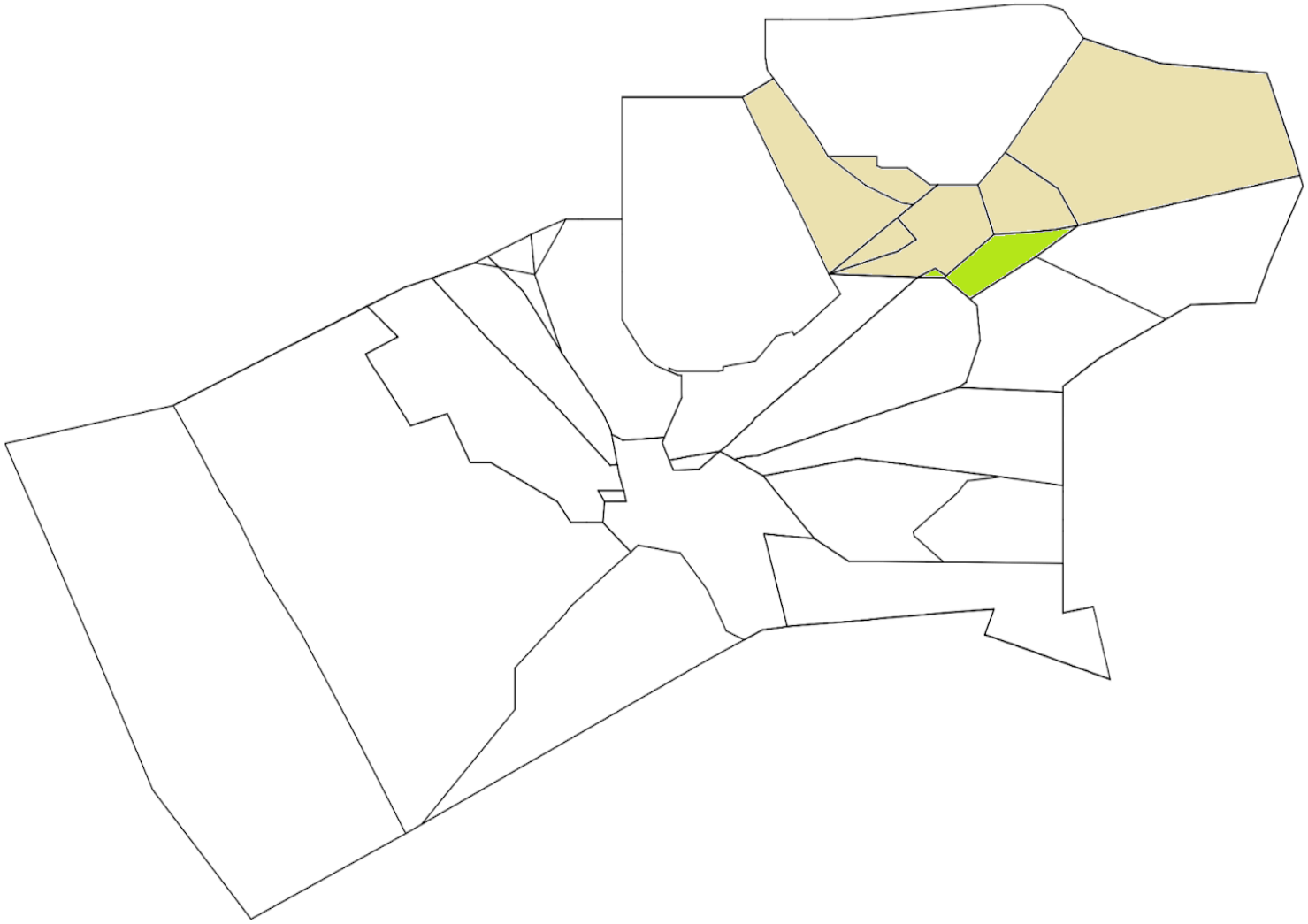
VATSIM LOS ANGELES ARTCC
AREA D STANDARD OPERATING PROCEDURES

June 2024



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FOREWORD

This document establishes facility Standard Operating Procedures for Los Angeles Center Area D in the VATSIM Los Angeles ARTCC and is intended for use when this Area is being worked as a single Area or consolidated with adjacent areas. It is also intended for use when working any individual sector within Area D. All controllers shall adhere to these policies and use their best judgment when encountering situations not covered by this SOP.

This document is to be used for simulation purposes only; it is not authorized for or intended for real world use.

TABLE OF CONTENTS

Change Notices

Version	Date	Explanation of Changes
1.00	23JUN24	Initial Version

CHAPTER 1. GENERAL
Section 1. Split Information

1-1-1. AREA CONSOLIDATION

When LA Center is combined, controllers shall connect as **Sector 25** using frequency **126.525**. When LA Center is split into two or more positions, sectors should first be split out by Area, then by individual sector. Sectors shall be recombined east to west, then areas east to west.

AREA	COMBINES TO	SECTORS
A	25	25, 26, 28
B	27	27, 38
C	39	37, 39, 40, 60
D	16	16, 34, 54
E	30	30, 31
F	35	35, 53

CHAPTER 2. AREA D SECTOR INFORMATION
Area D Section 1 - General Information

2-1-1. GENERAL
The information contained in this chapter is applicable to all sectors within Area D. Controllers are required to comply with all applicable Letters of Agreement (LOA), and shall additionally reference Section 3 of the Combined Center SOP for crossing and descent information to TRACONS for which no LOA exists.

Area D is responsible for working the Las Vegas TRACON (L30) and Nellis Approach (LSV) top-down when they are respectively offline.

2-1-2. SECTORS NORMALLY COMBINED
a. Area D combined sector frequency usage:
   i. Sector 34 combines on Sector 16
   ii. Sector 54 combines on Sector 16

b. Normal area configurations:
   i. **Area A -** Sector 25 (25, 26, 28)
   ii. **Area B** - Sector 38 (27, 38)
   iii. **Area C** - Sector 39 (37, 39, 40, 60)
   iv. **Area D** - Sector 16 (16, 34, 54)
   v. **Area E** - Sector 30 (30, 31)
   vi. **Area F** - Sector 35 (35, 53)
   vii. **Combined** - Sector 25 (Areas A, B, C, D, E, F)

Area D Section 2
Sector 16

Vertical Limits - Surface to unlimited except:

SHELF	ALTITUDES
Above LEE	FL280 and above
16/34	SFC-FL300

2-2-1. NARRATIVE AND CONFLICT POINTS

Sector 16 is a narrow corridor northwest of Las Vegas. Sector 16 has multiple shelves but generally owns from the surface to Infinity except for the areas above Nellis Approach where Sector 16 owns at and above FL280. Sector 16 also owns surface to FL300 in the area west of L30 below Sector 34.

Joshua Approach (also referred to as High Desert, JCF or the Edwards Complex) owns all of the airspace west of Sector 16 surface and above. Oakland Center (ZOA) Sectors 33 (High) and 46 (Low) own the airspace north of Sector 16. Occasionally, you may have to coordinate a route with ZOA 15 which owns airspace to the west of Joshua Approach. The Nevada Test and Training Range (NTTR) is delegated all of the airspace east of Sector 16 surface and above. L30's airspace is to the east and below a portion of Sector 16 from the surface to FL190. ZLA Sectors 27 and 34 also border Sector 16.

Sector 16 controls all traffic in and out of the LAS Terminal area to the west of L30's airspace. Arrival traffic enters L30 via COKTL and departures exit via JOHKR. Sector 16 also controls over-flights to and from the San Francisco Bay Area and PHX Terminal areas. Traffic Management Initiatives (TMI) with mile-in-trail (MIT) and/or routing revisions can increase Sector 16's workload.

The majority of traffic confliction points in Sector 16 are from overtakes into and out of L30 and low altitude traffic between FL210 and FL310. The low altitude aircraft can conflict with arrivals and departures. Sector 16 is a very narrow corridor, vectoring can quickly result into an airspace violation with Special Use Airspace (SUA).

Sector 16 does not provide approach control service to any airports. Several small airports are within the confines of Sector 16, but traffic in and out of them is minimal. VFR traffic is also minimal.

2-2-2. FREQUENCY INFORMATION

Sector 16 operates on 124.625 and has radio transceivers in the vicinity of Keeler Peak, Mt. Potosi, and Tonopah.

2-2-3. UNIQUE SECTOR EQUIPMENT CONFIGURATION

a. Altimeter Stations: LAS, TPH
b. Codes: 1200, 1202, 1255, 1277, 4000
c. Map: ZLADH or ZLAWEST/ZLAEAST
    i. HIGH SECTORS
    ii. Minimum Range: 70

2-2-4. SECTOR SPECIFIC DIRECTIVES

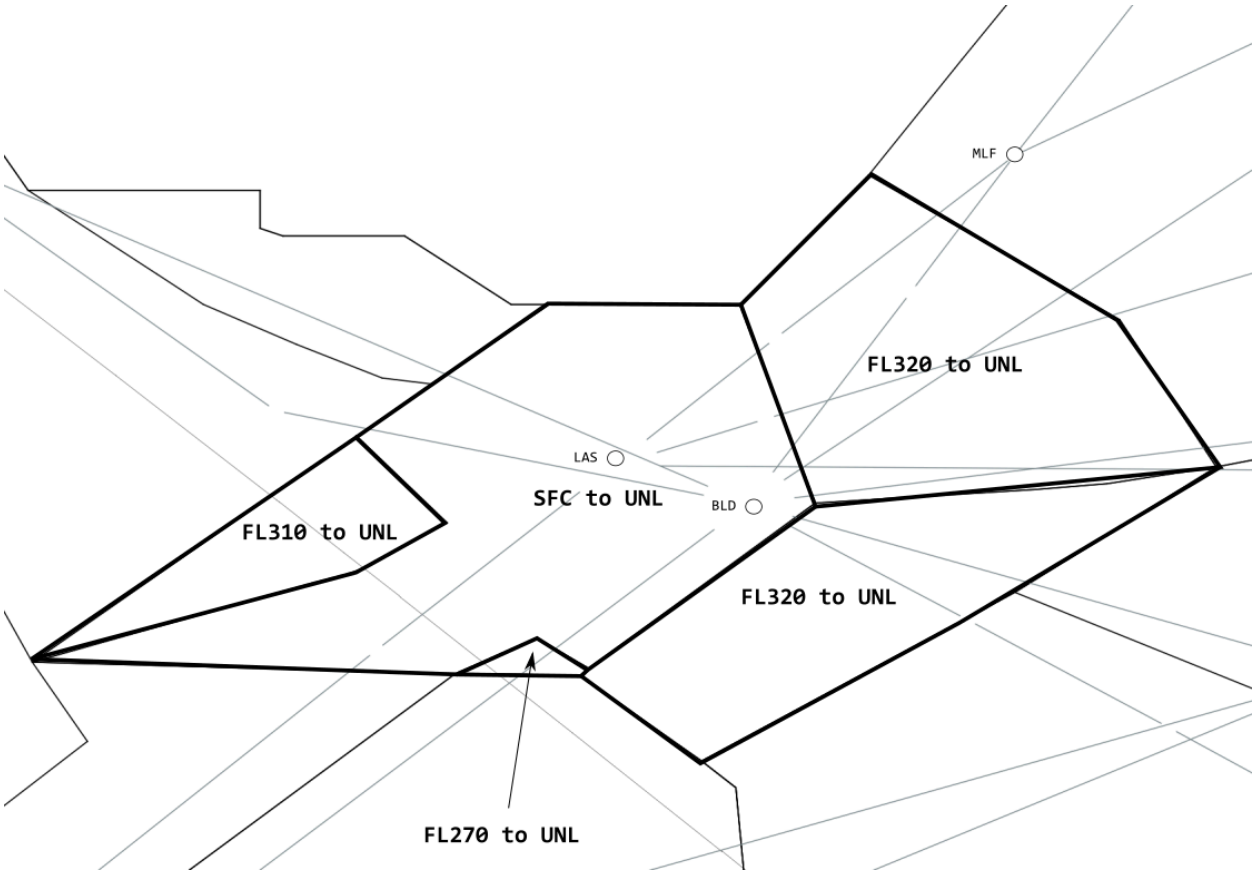
The following list contains information specific to Sector 16 as it relates to its neighboring sectors. Information is grouped by Area.

a. <u>Area D</u>

i. **Sector 34**

1. Sector 16 must route aircraft landing KPHX via PRFUM and then the appropriate STAR.
2. Aircraft landing KPSP, KTRM, and KUDD must be routed via direct GFS or JOTNU/LVELL and the appropriate STAR. Aircraft should be descended in a manner to enter Sector 37 AOB FL330.

Area D Section 3
Sector 34



Vertical Limits - Surface to unlimited except:

SHELF	ALTITUDES
34/37	FL270 and above
34/35	FL320 and above
34/54	FL320 and above
16/34	FL310 and above

2-3-1. NARRATIVE AND CONFLICT POINTS

Sector 34 is a high altitude Sector overlying the Las Vegas and Boulder City area. Sector 34 altitude jurisdiction is FL240 and above, except above the Sector 16 shelf (FL310 and above), above the Sector 37 shelf (FL 270 and above), above Sector 35 (FL320 and above) and above Sector 54 (FL320 and above). The purpose of these shelves is to allow Sectors 16, 35, 37 and 54 to climb LAS Terminal Area departures without coordinating with Sector 34. Nellis Control owns the airspace to the north of Sector 34 and Joshua Approach owns the airspace to the west. The Sector is also surrounded by ZLA Sectors 16, 38, 37, 53, 35, and 54.

Sector 34 works traffic into and out of the Los Angeles Basin to points northeast and to/from the San Francisco Bay Area and PHX Terminal areas. Sector 34 can be responsible for sequencing aircraft into the Los Angeles Basin, Salt Lake City, Denver and Phoenix areas.

Traffic departing the Los Angeles Basin is routed through Sector 38 via one of three (3) parallel departure routes. The departure procedures end in Sector 34 at either LAS or BEALE then proceed into Sector 54 via WINEN BAWER or DVC. Some departure traffic also enters Sector 34 from Sector 37 which can be in conflict with other departure traffic from Sector 38. Traffic into the Los Angeles Basin is delivered to Sector 34 from Sectors 54 and flow through Sector 34 on three (3) parallel streams. Aircraft are delivered to Sector 37 via NATEE, PURSE or HAKMN.

Sector 34 assumes responsibility for the Las Vegas TRACON top-down when L30 is offline.

2-3-2. FREQUENCY INFORMATION

Sector 34 operates on 132.625 and has radio transceivers in the vicinity of Mt. Potosi.

2-3-3. UNIQUE SECTOR EQUIPMENT CONFIGURATION

a. Altimeter Stations: LAS
b. Codes: 1200, 1202, 4000
c. Map: ZLADH or ZLAWEST
    i. HIGH SECTORS
    ii. Minimum Range: 80

2-3-4. SECTOR SPECIFIC DIRECTIVES

The following list contains information specific to Sector 34 as it relates to its neighboring sectors. Information is grouped by Area.

a. <u>Area B</u>
    i. **Sector 38**
        1. Sector 34 has control 30 NM southwest of RNDRZ from Sector 38 for:
            a. Turns
            b. Climb
            c. Speed adjustments
        2. Sector 34 must not route aircraft through Sector 38.
        3. Sector 38 must ensure all aircraft into Sector 34 are routed:

a. RNAV via:
    i. LAS then:
        1. .J146.DICEE
        2. .Q70.BAWER or LAS direct BAWRE
        3. ..BLIPP.Q842.WINEN
    ii. BEALE then:
        1. .J146.DICEE
        2. ..EEVUN.Q70.BAWER or BEALE direct ..BAWER.Q842.WINEN
b. Non-RNAV preferred via LAS then:
    i. .J76.TBC
    ii. .J146.DVC
    iii. .J100.BCE
    iv. .J9.MLF

b. Area C
    i. **General**
        1. Area D must issue the appropriate STAR for all aircraft landing L.A. Basin and SAN areas.
    ii. **Sector 37**
        1. Sector 37 has control 15 NM north of the common boundary from Sector 34 for speed adjustments.
        2. Sector 34 has control north of GFS from Sector 37 for:
            a. Turns
            b. Speed adjustments
        3. Sector 37 must route all RNAV1 aircraft, inbound to Sector 34, via the following routes:
            a. Aircraft AOA FL340, via HAKMN.Q73.LAKRR or HAKMN..LAKRR..
            b. Aircraft AOB FL330, via HAKMN then the next fix on the flight plan routes.
        4. Sector 37 must route all non-RNAV1 aircraft, inbound to Sector 34, via BLD then the next fix on the flight plan route.
        5. Sector 34 must assign the following routes/altitudes for aircraft entering Sector 37:
            a. KONT/KSNA/KLGB Arrivals:
                i. RNAV aircraft via NATEE.
                ii. Non-RNAV aircraft via BLD..HEC.
                iii. All KONT arrivals are below all other traffic via NATEE/HEC and cross NATEE/enter Sector 37 AOB FL320.
            b. KLAX Prop/KBUR/KVNY/KSMO/KCMA/KOXR/KNTD Arrivals:
                i. RNAV aircraft via PURSE and cross PURSE AOB FL340.
                ii. Non-RNAV aircraft via BLD..HEC and enter Sector 37 AOB FL340.

c. KLAX Jet Arrivals:
    i. KLAX West:
        1. RNAV aircraft via HAKMN.
        2. Non-RNAV aircraft via EED..TNP.
    ii. KLAX East:
        1. RNAV aircraft via HAKMN.
        2. Non-RNAV aircraft via BLD..HEC.
d. KSAN Jet Arrivals:
    i. RNAV aircraft via HAKMN.Q73 and the appropriate STAR.
    ii. Non-RNAV via GFS.
e. CRQ Arrivals: HKAMN.Q73.LVELL..TRM..ESCON; AOB FL320.
f. KMYF/KSEE/KSDM Arrivals: AOB FL320.
g. KPSP/KTRM/KUDD Arrivals: HAKMN..GFS/JOTNU and the appropriate STAR; AOB FL320.
h. Other Arrivals:
    i. All aircraft landing KVCV, KRIV, or on the ZIGGY STAR must enter Sector 37 AOB FL340.
    ii. All aircraft landing KBFL or KSBA via HEC.

c. <u>Area D</u>
    i. **General**
        1. Sector 54 must issue all appropriate STARs for aircraft landing in ZLA.
    ii. Sector 16
        1. Must route aircraft landing KPHX via PRFUM then the appropriate STAR.
        2. Must route aircraft landing KPSP, KTRM, and KUDD via direct GFS or JOTNU and then the appropriate STAR. Aircraft should be descended in a manner to enter Sector 37 AOB FL330.
    iii. Sector 54 must assign the following to aircraft entering Sector 34:
        1. All non-RNAV arrivals, except KLAX jets and PSP/SAN areas, via BLD..HEC.
        2. KONT/KSNA/KLGB Arrivals:
            a. Via NATEE
            b. ONT arrivals descending to FL380 or below.
            c. KLAX prop, KBUR, KVNY, KSMO, KCMA, KOXR, and KNTD arrivals via PURSE.
            d. KLAX Jet Arrivals:
                i. RNAV aircraft via HAKMN.
                ii. Non-RNAV aircraft:
                    1. KLAX West via: EED..TNP.
                    2. KLAX East via BLD..HEC.
            e. KSAN Jet Arrivals:
                i. RNAV aircraft via HAKMN.Q73 and the appropriate STAR.
                ii. Non-RNAV via GFS.
            f. KCRQ Arrivals:
                i. Via HAKMN.Q73.LVELL..TRM..ESCON.

ii. Descending to FL380 or below.

g. KMYF, KSEE, and KSDM arrivals descending to FL380 or below.

h. KPSP, KTRM, and KUDD Arrivals:

i. HAKMN..GFS/JOTNU and the appropriate STAR.

ii. Descending to FL380 or below.

d. Area F

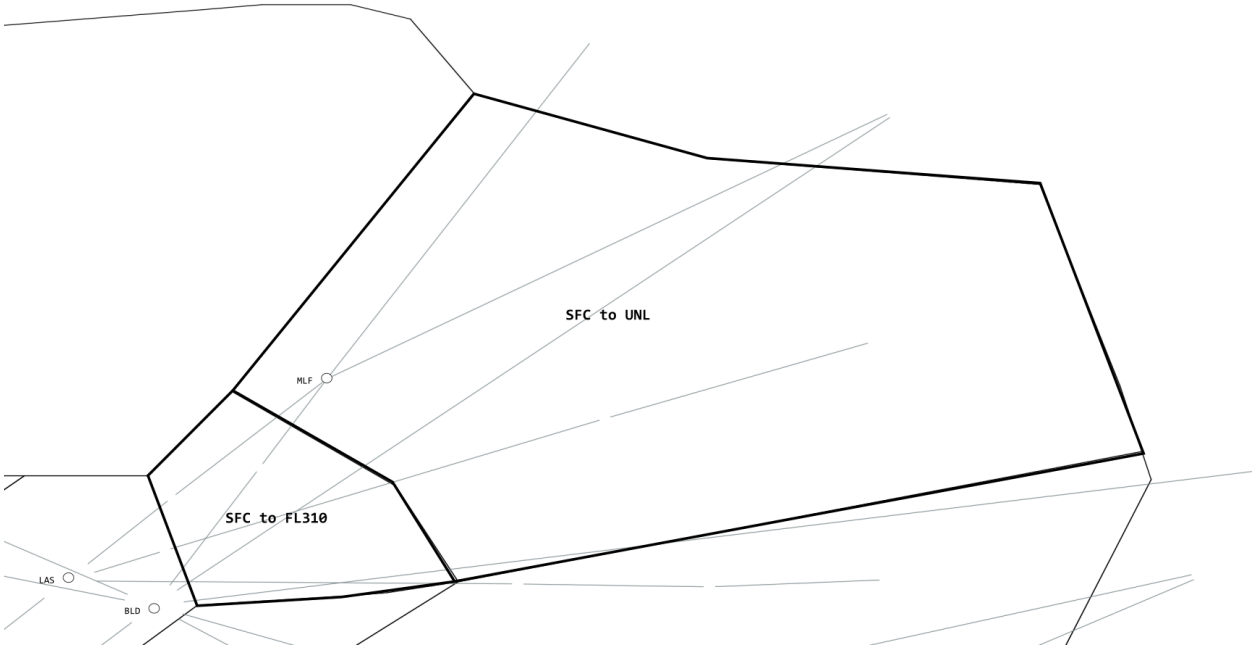
i. **General**

1. Area D must issue the appropriate STAR for all PHX arrivals.

ii. Sector 35/53

1. Sectors 35/53 may clear aircraft departing PHX Terminal Area entering Sector 34 no further direct BIKKR or BTY.
2. Sector 34 must assign the following routes and altitudes for aicraft entering Sectors 35/53:
   a. KPHX Arrivals:
      i. Sector 35/53 has control for speed on contact.
      ii. RNAV aircraft via PRFUM..WOTRO and exit Sector 34 AOB FL370.
      iii. Non-RNAV aircraft via PRFUM and exit Sector 34 AOB FL370.
      iv. KSDL, KCHD, KDVT, KFFZ, KIWA, and KP19 arrivals via J92.DRK, BLD..DRK or BLD..KIDDR and must exit Sector 34 AOB FL370.
      v. KE25, KGEU, KGYR, KLUF and K18AZ arrivals via J92.DRK or BLD..DRK and must exit Sector 34 AOB FL370.
      vi. KPRC and KFLG arrivals exit Sector 34 AOB FL330.

Area D Section 4
Sector 54



Vertical Limits - Surface to unlimited except:

SHELF	ALTITUDES
34/54	Surface to FL310

2-4-1. NARRATIVE AND CONFLICT POINTS

Sector 54's vertical confines are surface to unlimited, except for the shelf under Sector 34 where Sector 54 owns from the surface to FL310. Salt Lake City ARTCC (ZLC) Sectors 33, 34, 44 and 46 are adjacent to Sector 54 to the north. Denver ARTCC (ZDV) Sectors 23 and 68 are adjacent to Sector 54 to the East. ZLA Sectors 34 and 54 also surround the Sector.

Sector 54 controls L30 departures and begins sequencing arrival traffic for L30. Sector 54 is also responsible for over flight traffic into and out of the Los Angeles Basin, Salt Lake City, Denver and Phoenix areas. Traffic management initiatives (TMI) will impose time based metering (TBM), mile-in-trail (MIT) restrictions and route revisions that can greatly increase workload at Sector 54.

Traffic inbound to KLAS is sequenced over CHOWW or AALAN. Traffic departing KLAS comes from L30 via GIDGT or RATPK.

Major confliction points in the Sector are in the vicinity of BETHL and westbound traffic from ZDV. Additional confliction points are for KPHX arrivals southbound and KLAS departures eastbound.

Other confliction points in the Sector are for eastbound aircraft in the vicinity of BLOBB and southbound traffic from ZLC. Additionally, traffic departing KLAS via VERKN or TUKRR could be in conflict with KLAS arrivals from GGAPP and TYEGR. Be vigilant for traffic converging in Sector 34.

2-4-2. FREQUENCY INFORMATION

Sector 54 operates on 135.250 and has radio transceivers in the vicinity of Grand Canyon, Cedar City, Seligman, and Nelson.

2-4-3. UNIQUE SECTOR EQUIPMENT CONFIGURATION

a. Altimeter Stations: LAS, CDC, SGU, PGA
b. Codes: 1200, 1202, 1255, 1277, 4000
c. Map: ZLADH or ZLAWEST:
    i. HIGH SECTORS
    ii. Minimum Range: 100

2-4-4. SECTOR SPECIFIC DIRECTIVES

The following list contains information specific to Sector 54 as it relates to its neighboring sectors. Information is grouped by Area.

a. <u>Area D</u>
    i. **General**
        1. Sector 54 must issue all appropriate STARs for aircraft landing in ZLA and the PHX Terminal Area.
    ii. **Sector 34**

1. Sector 54 must assign the following routes and altitudes for aircraft entering Sector 34:
    a. All non-RNAV Arrivals (except KLAX jets and PSP/SAN areas): Via BLD..HEC.
    b. KONT/KSNA/KLGB Arrivals:
        i. Via NATEE
        ii. KONT arrivals descending to FL380 or below.
    c. KLAX prop, KBUR, KVNY, KSMO, KCMA, KOXR, and KNTD Arrivals: Via PURSE.
    d. KLAX jet arrivals:
        i. RNAV aircraft via HAKMN.
        ii. Non-RNAV aircraft:
            1. KLAX West via: EED..TNP.
            2. KLAX East via BLD..HEC.
    e. KSAN Jet Arrivals:
        i. RNAV aircraft via HAKMN.Q73 and the appropriate STAR.
        ii. Non-RNAV via GFS.
    f. KCRQ Arrivals:
        i. Via HAKMN.Q73.LVELL..TRM..ESCON.
        ii. Descending to FL380 or below.
    g. KMYF/KSEE/KSDM Arrivals: Descending to FL380 or below.
    h. KPSP/KTRM/KUDD Arrivals:
        i. HAKMN..GFS/JOTNU and the appropriate STAR.
        ii. Descending to FL380 or below.

b. <u>Area F</u>
    i. **General**
        1. Area D must issue the appropriate STAR for all KPHX arrivals.
    ii. **Sector 35**
        1. Sector 35 has control south of PGA (with the exception of PHX Terminal Area arrivals) from Sector 54 for turns no further right than direct HEC.
        2. Sector 35 has control on PHX Terminal Area for:
            a. Left turns, no further than direct FLG
            b. Speeds
        3. Sector 35 must issue the following routes and altitudes for aircraft entering Sector 54:
            a. All aircraft (except KSLC arrivals):
                i. Via Q35 or J11.
                ii. Any direct routing entering ZLC over or east of EHK.
                iii. Direct WINEN or BERYL.
            b. KSLC Arrivals:
                i. Via BCE.
        4. Sector 54 must assign the following routes and altitudes for aircraft entering Sector 35:
            a. KPHX Arrivals:

i. Via CORKR TENTS and enter Sector 35 AOB FL330.

b. KSDL/KCHD/KDVT/KFFZ/KIWA/KP19 Arrivals:
   i. Via DRK, KIDDR, or FLG.
   ii. Enter Sector 35 AOB FL330.

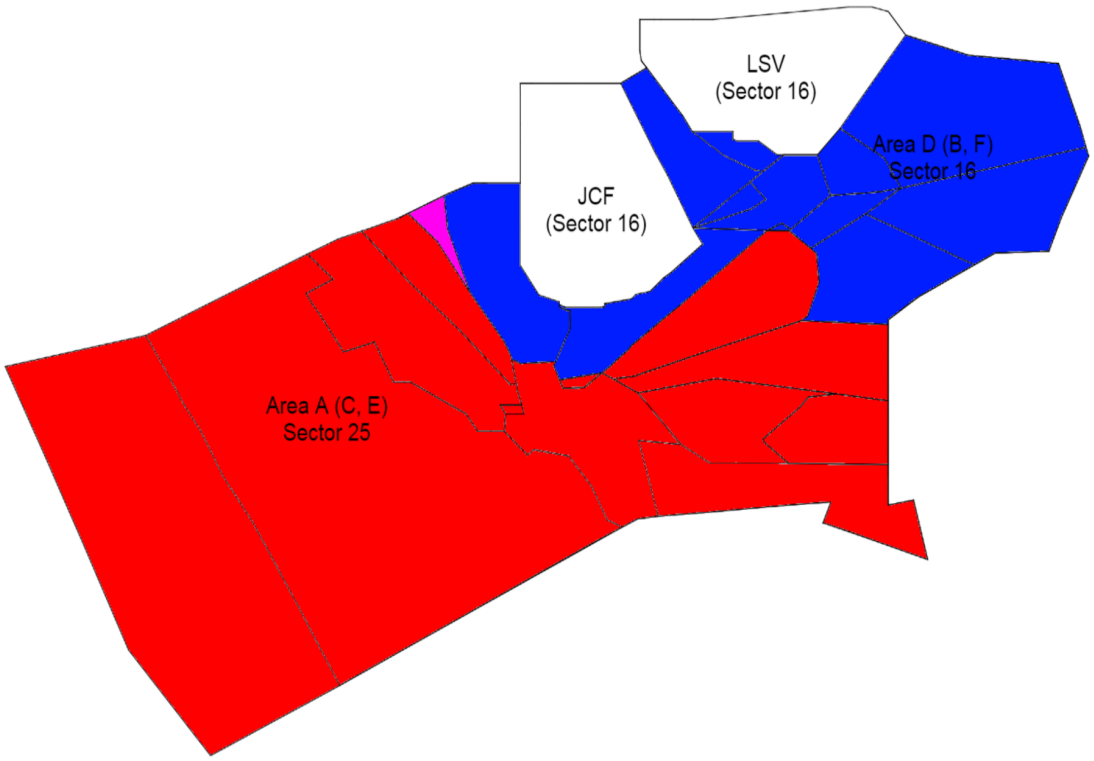
c. KE25/KLUF/KGEU/KGYR/K18AZ Arrivals:
   i. Via DRK.
   ii. Enter Sector 35 AOB FL330.
   iii. KPRC/KSEZ/KFLG Arrivals: Enter Sector 35 AOB FL330.

APPENDIX A. STANDARD SECTOR COMBINATIONS

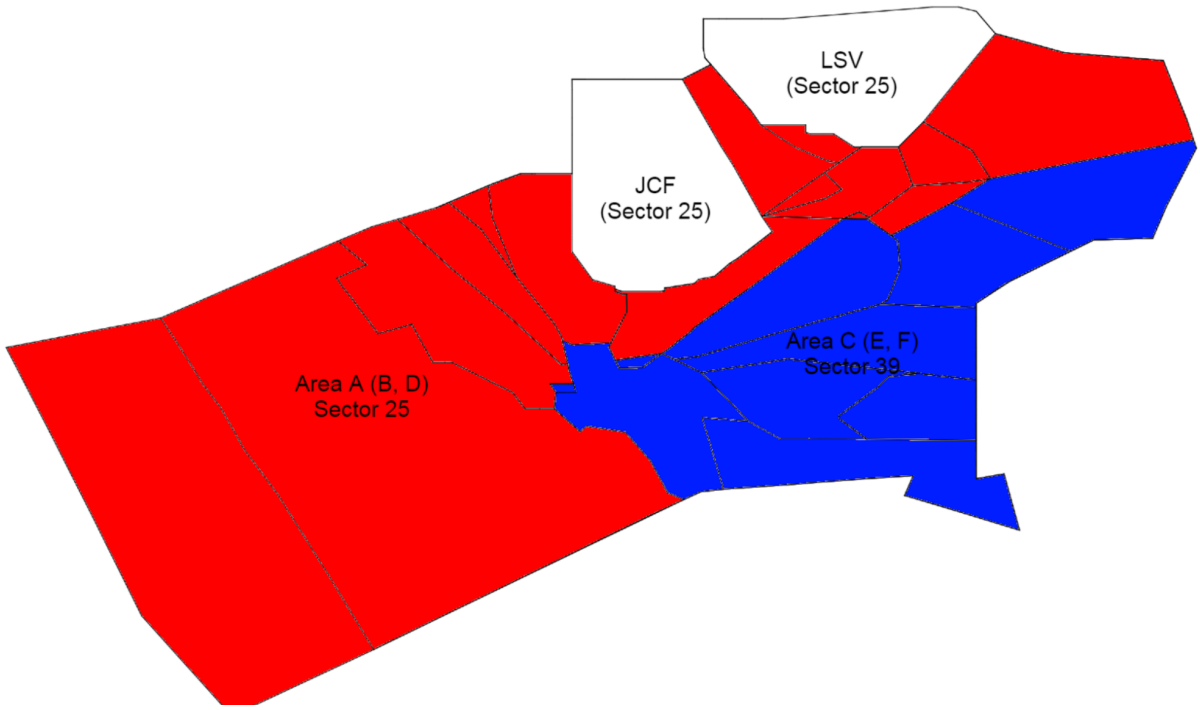
The following airspace configurations shall be implemented and advertised to neighboring facilities unless not operationally advantageous. In the event a configuration is not operationally advantageous, controllers may adopt a nonstandard split and shall make their best effort to communicate the nonstandard split to neighboring facilities. This includes, but is not limited to ATC chat messages, controller remarks, and Discord announcements.

When center splits are in use, controllers shall, to the best of their ability, use the defined combined area's sector as their primary position. When consolidating positions after any positions are split off, controllers shall consolidate individual sectors into their respective areas in accordance with that area's SOP. Areas and standard splits shall be consolidated East to West to the extent possible, with all positions eventually consolidating on Area A.

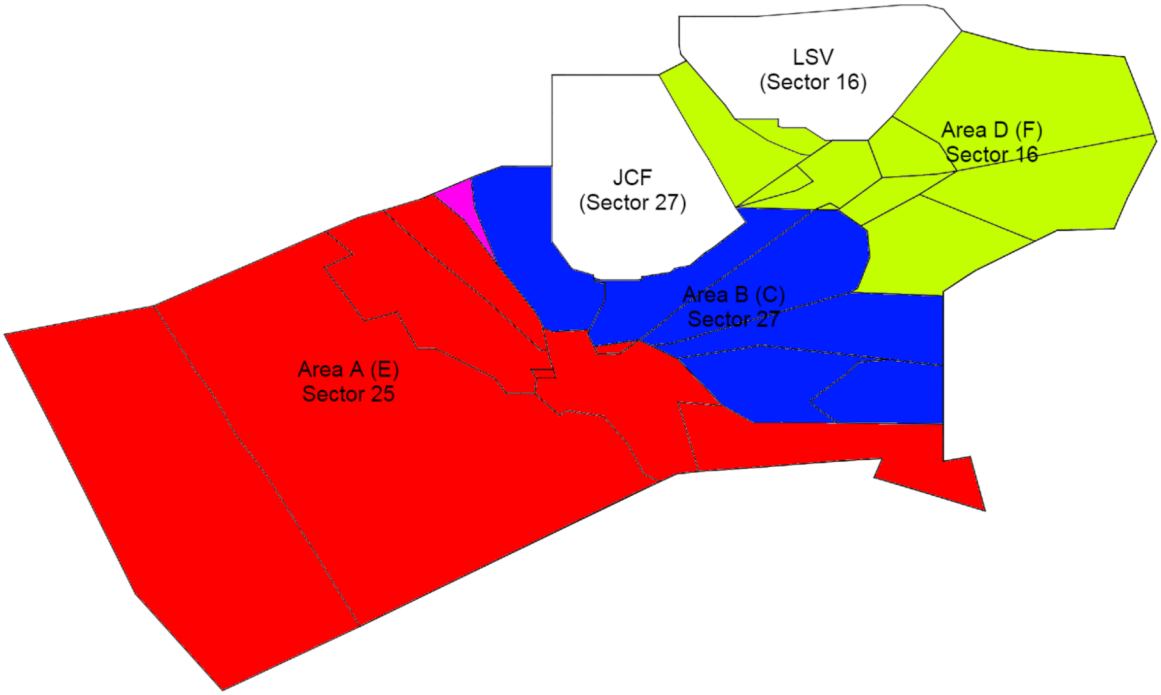
Desert Split



Canyon Split



J65 Split



Gambler Split