

FEDERAL AVIATION ADMINISTRATION
 FLIGHT STANDARDS SERVICE
 STANDARD TERMINAL ARRIVAL (STAR)

Bearings, headings, courses, tracks and radials are magnetic. Elevations and altitudes are in feet, MSL. Altitudes are minimum altitudes unless otherwise indicated. Distances are in nautical miles (NM). Graphic depictions attached.

Arrival Name CHOWW (RNAV)	Number TWO	STAR Computer Code CHOWW.CHOWW2	Superseded Number ONE	Dated 02/25/2021	Effective Date 27JAN2022
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TRANSITION ROUTES:

Transition Name	Transition Computer Codes	From FIX/NAVAID	To FIX/NAVAID	Course	Distance	MEA	MOCA	MAA	Crossing Altitudes / Fixes
GGAPP	GGAPP.CHOWW2	GGAPP	GGAPP						
			MNCIN	226.06	33.00	FL240	11500		
			PHHIL	225.71	45.65	FL240	9400		AT/ABOVE FL240
			AALAN	225.34	24.02	17000	9400		BETWEEN 17000 AND FL230
			CHOWW	221.51	19.00	9500	9400		AT/BELOW FL190
STEWV	STEWV.CHOWW2	STEWV	STEWV						
			RIGLL	194.13	19.48	FL240	10700		AT/ABOVE FL240
			AALAN	194.14	23.98	17000	10100		BETWEEN 17000 AND FL230
			CHOWW	221.51	19.00	9500	9400		AT/BELOW FL190
TYEGR	TYEGR.CHOWW2	TYEGR	TYEGR						
			WARKA	240.47	38.50	FL240	9400		
			DUUGG	240.02	19.32	FL240	9400		
			HAANG	239.79	29.48	FL240	9400		AT/ABOVE FL240
			AALAN	239.56	24.02	17000	9400		BETWEEN 17000 AND FL230
			CHOWW	221.51	19.00	9500	9400		AT/BELOW FL190

ARRIVAL ROUTE DESCRIPTION:

FROM CHOWW ON TRACK 220.80/13.57 TO WOLPH.

LANDING RWY 1L: FROM WOLPH ON TRACK 208.94/12.50 TO CROSS PACKK AT OR ABOVE 17000, THEN ON TRACK 208.84/8.00 TO CROSS BEEPR AT OR ABOVE 15000, THEN ON TRACK 208.61/9.51 TO CROSS RFUSE AT OR ABOVE 12000, THEN ON TRACK 208.54/3.17 TO CROSS DNZIG AT OR ABOVE 11000, THEN ON TRACK 208.52/4.46 TO CROSS JAIDE BETWEEN 10000 AND 13000, THEN ON TRACK 258.85/5.40 TO CROSS MAHNA AT OR ABOVE 9000, THEN ON TRACK 258.79/7.00 TO CROSS TUJTH BETWEEN 8000 AND 10000 AND AT 220 KIAS, THEN ON TRACK 306.45/7.02 TO CROSS TRREY AT OR ABOVE 7000 AND AT 210 KIAS. EXPECT ILS OR LOC RWY 1L APPROACH.

LANDING RWY 1R: FROM WOLPH ON TRACK 208.94/12.50 TO CROSS PACKK AT OR ABOVE 17000, THEN ON TRACK 208.84/8.00 TO CROSS BEEPR AT OR ABOVE 15000, THEN ON TRACK 208.61/9.51 TO CROSS RFUSE AT OR ABOVE 12000, THEN ON TRACK 208.54/3.17 TO CROSS DNZIG AT OR ABOVE 11000, THEN ON TRACK 208.52/4.46 TO CROSS JAIDE BETWEEN 10000 AND 13000, THEN ON TRACK 258.85/5.40 TO CROSS MAHNA AT OR ABOVE 9000, THEN ON TRACK 258.79/7.00 TO CROSS TUJTH BETWEEN 8000 AND 10000 AND AT 220 KIAS, THEN ON TRACK 318.66/5.00 TO CROSS BUHLL AT 7000 AND AT 210 KIAS, THEN ON TRACK 334.17. EXPECT RADAR VECTORS TO FINAL APPROACH COURSE.

LANDING RWY 19L/R: FROM WOLPH ON TRACK 240.53/5.00 TO CROSS SACHL BETWEEN 10000 AND 13000, THEN ON TRACK 240.47/5.13 TO CROSS FELAA BETWEEN 8500 AND 11000, THEN ON TRACK 240.41/9.76 TO CROSS FOOOF BETWEEN 7000 AND 8000 AND AT 220 KIAS, THEN ON TRACK 240.30/3.00 TO NNEON, THEN ON TRACK 262.58/1.79 TO CROSS PPENN AT 6000 AND AT 210 KIAS, THEN ON TRACK 262.58. EXPECT RADAR VECTORS TO FINAL APPROACH COURSE.

LANDING RWY 26L: FROM WOLPH ON TRACK 220.20/5.00 TO CROSS TATUU BETWEEN 9500 AND 10500, THEN ON TRACK 220.16/4.66 TO CROSS KRLOZ AT OR BELOW 9000, THEN ON TRACK 220.10/7.69 TO CROSS PRINO AT 8000 AND AT 210 KIAS. EXPECT ILS OR LOC RWY 26L APPROACH.

LANDING RWY 26R: FROM WOLPH ON TRACK 220.20/5.00 TO CROSS TATUU BETWEEN 9500 AND 10500, THEN ON TRACK 220.16/4.66 TO CROSS KRLOZ AT OR BELOW 9000, THEN ON TRACK 221.45/7.65 TO CROSS FLYES AT 8000 AND AT 210 KIAS. EXPECT ILS OR LOC RWY 26R APPROACH.

PBN REQUIREMENT NOTES

RNAV 1 - DME/DME/IRU OR GPS



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CHOWW (RNAV)	TWO	CHOWW.CHOWW2	ONE	02/25/2021	27JAN2022

EQUIPMENT REQUIREMENT NOTES

RADAR REQUIRED

PROCEDURAL DATA NOTES:

NOTE: TURBOJET AIRCRAFT ONLY

FIXES AND/OR HOLDING PATTERNS:

CHART HOLDING AT DUUGG: HOLD NE, RT, 240.02 INBOUND, 12 NM LEGS.

CHART HOLDING AT AALAN: HOLD NE, RT, 225.34 INBOUND, 10 NM LEGS.

CHART HOLDING AT PHHIL: HOLD NE, RT, 225.71 INBOUND, 12 NM LEGS.

COMMUNICATIONS:

CHART: LAS VEGAS APP CON, LAS VEGAS TWR

AIRPORTS SERVED:

HARRY REID INTL, LAS VEGAS, NV (KLAS)

LOST COMMUNICATIONS PROCEDURE:

LANDING RUNWAY 1L: AT TRREY EXECUTE ILS OR LOC RWY 1L APPROACH.

LANDING RUNWAY 1R: AT BUHLL EXECUTE RNAV (GPS) RWY 1R APPROACH.

LANDING RUNWAY 19L: AT PPENN EXECUTE RNAV (RNP) RWY 19L APPROACH, IF UNABLE, PROCEED VISUALLY VIA LAST TRACK TO INTERCEPT THE FINAL APPROACH COURSE; IF UNABLE, MAINTAIN 7000 PROCEED DIRECT LAS VORTAC THEN DIRECT BLD VORTAC AND EXECUTE ILS OR LOC RWY 26L APPROACH.

LANDING RUNWAY 26L: AT PRINO EXECUTE ILS OR LOC RWY 26L APPROACH.

LANDING RUNWAY 26R: AT FLYES EXECUTE ILS OR LOC RWY 26R APPROACH.

REMARKS:

MEAs FL190 AND ABOVE NEEDED TO MITIGATE CRITICAL DMEs AND INSURE ADEQUATE SIGNAL COVERAGE FOR DME/DME/IRU NAVIGATION.

ADDITIONAL FLIGHT DATA:

DME/DME ASSESSMENT: SAT (RNP 2.0)

REFERENCE MAGNETIC VARIATION = KLAS 11E/2020

CHART AT TRREY TERMINUS: KLAS LDG RWY 1L

CHART AT BUHLL TERMINUS: KLAS LDG RWY 1R

CHART AT PPENN TERMINUS: KLAS LDG RWY 19L/R

CHART AT PRINO TERMINUS: KLAS LDG RWY 26L

CHART AT FLYES TERMINUS: KLAS LDG RWY 26R



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CHOWW (RNAV)	TWO	CHOWW.CHOWW2	ONE	02/25/2021	27 JAN 2022
<u>FLIGHT INSPECTED BY:</u>				ALLAN WILL	
DANIEL C FAVORITE		FPO	12/01/2021	Dec 15, 2021	
Name		Organization	Date	Signature	
<u>DEVELOPED BY:</u>				ALLAN WILL	
MARK PHIPPS, LAS METROPLEX MANAGER		DENVER ARTCC	6/21/2021	Dec 15, 2021	
Name		Organization	Date	Signature	
<u>APPROVED BY:</u>				ALLAN WILL	
MARLON ROBINSON		AJV-A420		Dec 15, 2021	
Name		Organization	Date	Signature	

CHANGES:

1. ADDED MAHNA BETWEEN JAIDE AND TUUTH ON RWY 1L AND RWY 1R RUNWAY TRANSITIONS WITH A RESTRICTION OF AT/ABOVE 9000
2. ADDED MAHNA BETWEEN JAIDE AND TUUTH ON RWY 1L AND RWY 1R TRANSITIONS ON 8260-17.2
3. ADDED ATLTUTDE RESTRICTION TO CROSS JAIDE BETWEEN 10000 AND 13000 IN RWY 1L AND RWY 1R ARRIVAL ROUTE DESCRIPTIONS
4. CHANGED ALTITUDE RESTRICTION AT SACHL FROM AT OR ABOVE 10000 TO BETWEEN 10000 AND 13000 IN ARRIVAL ROUTE DESCRIPTION FOR RWY 19L/R
5. CHANGED ALTITUDE RESTRICTION AT FELAA FROM AT OR ABOVE 8500 TO BETWEEN 8500 AND 11000 IN ARRIVAL ROUTE DESCRIPTION FOR RWY 19L/R
6. CHANGED ALITUTDE RESTRICTION AT FOOF FROM AT OR ABOVE 7000 TO BETWEEN 7000 AND 8000 IN ARRIVAL ROUTE DESCRIPTION FOR RWEY 19L/R
7. KLAS NAME CHANGED TO HARRY REID INTL.
8. CHANGED TRACK FROM WOLPH TO PACKK FROM 208.93 TO 208.94 ON RWY 1L AND RWY 1R ARRIVAL ROUTE DESCRIPTION
9. CHANGED TRACK FROM NNEON TO PPENN FROM 262.57 TO 262.58 AND LAST FM TRACK FROM 262.57 TO 262.58 IN RWY 19L/R ARRIVAL ROUTE DESCRIPTION.
10. CHANGED TRACK FROM WOLPH TO TATUU FROM 220.21 to 220.20 IN RWY 26L AND RWY 26R ARRIVAL ROUTE DESCRIPTION
11. CHANGED RWY 1L AND RWY 1R PACKK LEG TC FROM 219.93 TO 219.94 ON 8260-17.2
12. CHANGED RWY 26L AND RWY 26R TATUU LEG TC FROM 231.21 TO 231.20 ON 8260-17.2
13. ADDED 10000B130000 TO RWY 1L AND RWY 1R JAIDE LEG ON 8260-17.2
14. CHANGED RWY 1L AND RWY 1R TUUTH LEG TC/DIST FROM 269.85/12.40 TO 269.79/7.00 ON 8260-17.2
15. CHANGED RWY 19L/R ALTITUDE RESTRICTION AT SACHL FROM AT/ABOVE 10000 TO 10000B13000 AND AT FELAA FROM AT/ABOVE 8500 TO 8500B11000 ON 8260-17.2
16. UPDATED ALL MOCAS IN TRANSITION ROUTES

REASONS:

- 1-3. ATC REQUEST TO SEGREGATE TRAFFIC ON THE STAR FROM SATELLITE AIRPORT TRAFFIC
- 4-6. ATC REQUEST TO CONTAIN PROCEDURE WITHIN THE CORRECT ARRIVAL SECTOR
7. THE AIRPORT AUTHORITY CHANGED THE NAME.
- 8-12. CURRENT COURSE BASED ON FIX LOCATIONS
13. RESTRICTION ADDED TO SEGREGATE TRAFFIC ON THE STAR FROM SATELLITE AIRPORT TRAFFIC



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- 14. COURSE/DISTANCE CHANGED SINCE MAHNA WAS ADDED BETWEEN JAIDE AND TUUTH
- 15. ATC REQUEST TO CONTAIN PROCEDURE WITHIN THE CORRECT ARRIVAL SECTOR
- 16. 8260.19I 4-5-12

12/08/21: THIS IS AN UPDATED COPY OF THE FORM DEVELOPED ON 06/21/2

- 1. CHANGED GGAPP TO MNCIN MOCA FROM 9500 TO 11500 - FLIGHT INSPECTION IDENTIFIED HIGH TERRAIN WITHIN 1NM OF COURSE AT 9440.

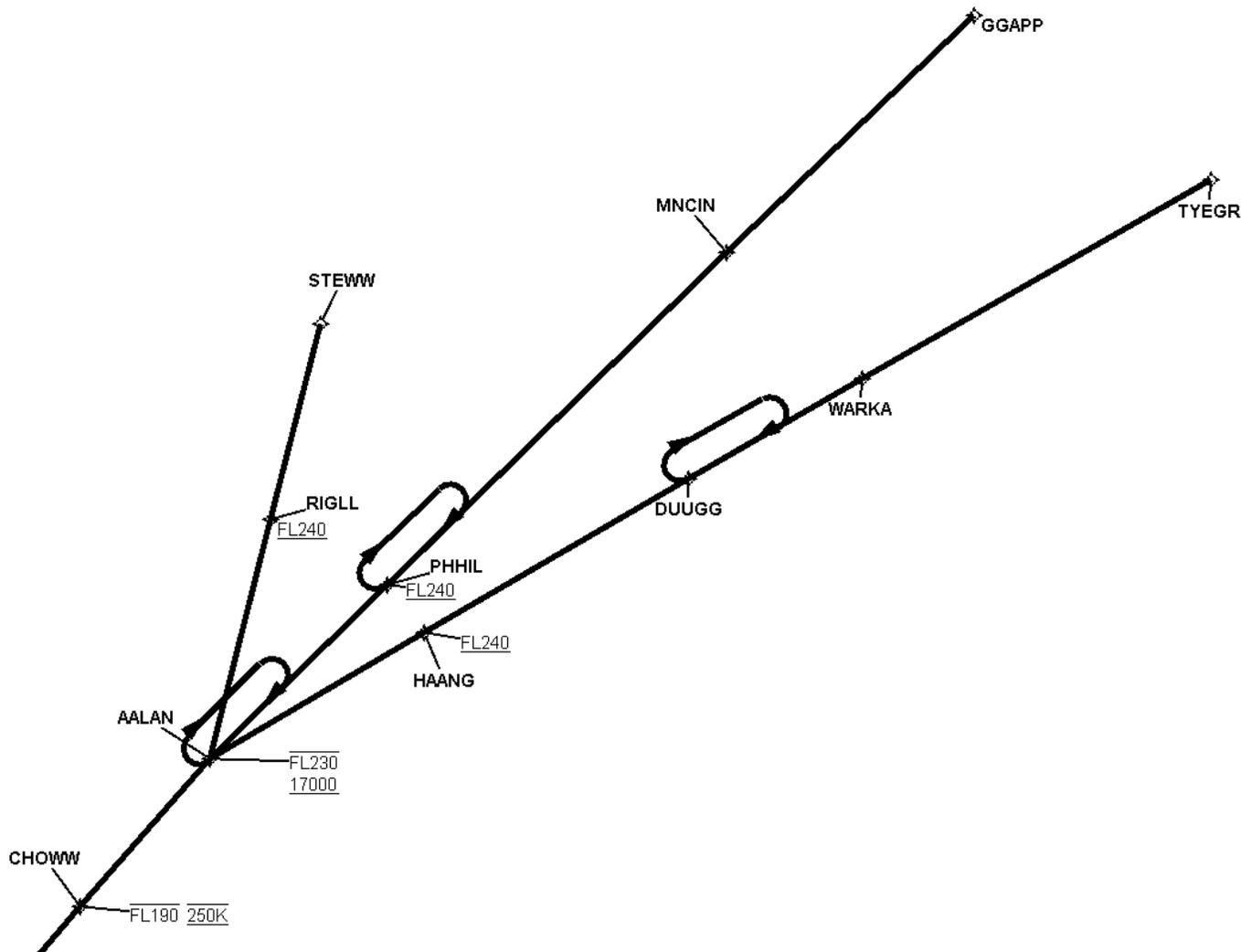


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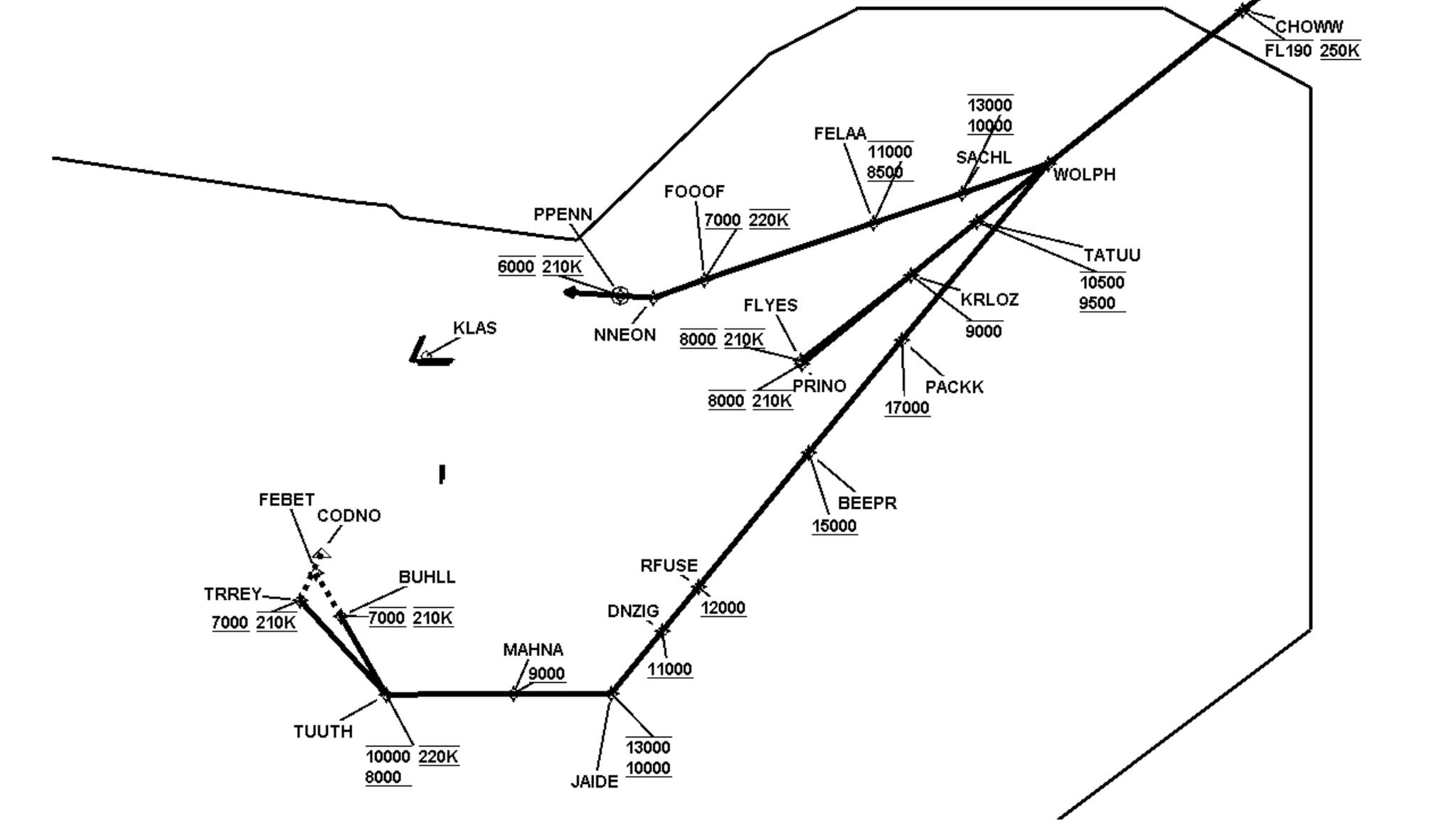
Graphic Depiction 1



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 FLIGHT STANDARDS SERVICE
 STAR (DATA RECORD)

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FIX/NAVAID	LAT/LONG	C	FO/FB	LEG TYPE	TC	DIST (NM)	ALTITUDE	SPEED	REMARKS
En Route Transition									
GGAPP	373159.60N / 1120804.63W	Y		IF					GGAPP.CHOWW2
MNCIN	371356.59N / 1124245.44W	Y	FB	TF	237.06	33.00			
PHHIL	364841.74N / 1133016.71W	Y	FB	TF	236.71	45.65	AT/ABOVE FL240		
AALAN	363519.39N / 1135506.09W	Y	FB	TF	236.34	24.02	17000BFL230		
CHOWW	362343.14N / 1141346.48W	Y	FB	TF	232.51	19.00	AT/BELOW FL190	AT 250K	

En Route Transition									
STEWV	371443.87N / 1133208.16W	Y		IF					STEWV.CHOWW2
RIGLL	365704.14N / 1134227.32W	Y	FB	TF	205.13	19.48	AT/ABOVE FL240		
AALAN	363519.39N / 1135506.09W	Y	FB	TF	205.14	23.98	17000BFL230		
CHOWW	362343.14N / 1141346.48W	Y	FB	TF	232.51	19.00	AT/BELOW FL190	AT 250K	

En Route Transition									
TYEGR	371154.33N / 1114400.97W	Y		IF					TYEGR.CHOWW2
WARKA	365930.63N / 1122935.00W	Y	FB	TF	251.47	38.50			
DUUGG	365310.85N / 1125221.37W	Y	FB	TF	251.02	19.32			
HAANG	364323.00N / 1132658.89W	Y	FB	TF	250.79	29.48	AT/ABOVE FL240		
AALAN	363519.39N / 1135506.09W	Y	FB	TF	250.56	24.02	17000BFL230		
CHOWW	362343.14N / 1141346.48W	Y	FB	TF	232.51	19.00	AT/BELOW FL190	AT 250K	

Common Route									
CHOWW	362343.14N / 1141346.48W	Y		IF			AT/BELOW FL190	AT 250K	CHOWW.CHOWW2
WOLPH	361518.22N / 1142657.69W	Y	FB	TF	231.80	13.57			

Runway Transition									
WOLPH	361518.22N / 1142657.69W	Y		IF					
PACKK	360542.05N / 1143651.60W	Y	FB	TF	219.94	12.50	AT/ABOVE 17000		
BEEPR	355932.77N / 1144310.52W	Y	FB	TF	219.84	08.00	AT/ABOVE 15000		
RFUSE	355212.33N / 1145038.17W	Y	FB	TF	219.61	09.51	AT/ABOVE 12000		



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 STAR (DATA RECORD)

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FIX/NAVAID	LAT/LONG	C	FO/FB	LEG TYPE	TC	DIST (NM)	ALTITUDE	SPEED	REMARKS
DNZIG	354945.41N / 1145307.08W	Y	FB	TF	219.54	03.17	AT/ABOVE 11000		
JAIDE	354618.84N / 1145636.11W	Y	FB	TF	219.52	04.46	10000B13000		
MAHNA	354617.83N / 1150314.27W	Y	FB	TF	269.85	05.40	AT/ABOVE 9000		
TUUTH	354615.97N / 1151150.40W	Y	FB	TF	269.79	07.00	8000B10000	AT 220K	
TRREY	355126.54N / 1151740.79W	Y	FB	TF	317.45	07.02	AT/ABOVE 7000	AT 210K	
KLAS:RWY 1L									

Runway Transition									
WOLPH	361518.22N / 1142657.69W	Y		IF					
PACKK	360542.05N / 1143651.60W	Y	FB	TF	219.94	12.50	AT/ABOVE 17000		
BEEPR	355932.77N / 1144310.52W	Y	FB	TF	219.84	08.00	AT/ABOVE 15000		
RFUSE	355212.33N / 1145038.17W	Y	FB	TF	219.61	09.51	AT/ABOVE 12000		
DNZIG	354945.41N / 1145307.08W	Y	FB	TF	219.54	03.17	AT/ABOVE 11000		
JAIDE	354618.84N / 1145636.11W	Y	FB	TF	219.52	04.46	10000B13000		
MAHNA	354617.83N / 1150314.27W	Y	FB	TF	269.85	05.40	AT/ABOVE 9000		
TUUTH	354615.97N / 1151150.40W	Y	FB	TF	269.79	07.00	8000B10000	AT 220K	
BUHLL	355035.23N / 1151456.78W	Y	FO	TF	329.66	05.00	AT 7000	AT 210K	
KLAS:RWY 1R				FM	345.17				

Runway Transition									
WOLPH	361518.22N / 1142657.69W	Y		IF					
SACHL	361342.90N / 1143249.39W	Y	FB	TF	251.53	05.00	10000B13000		
FELAA	361204.87N / 1143849.75W	Y	FB	TF	251.47	05.13	8500B11000		
FOOOF	360857.34N / 1145015.37W	Y	FB	TF	251.41	09.76	7000B8000	AT 220K	
NNEON	360759.50N / 1145345.85W	Y	FB	TF	251.30	03.00			
PPENN	360806.18N / 1145557.97W	Y	FO	TF	273.58	01.79	AT 6000	AT 210K	
KLAS:RWY 19L,RWY 19R				FM	273.58				



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FIX/NAVAID	LAT/LONG	C	FO/FB	LEG TYPE	TC	DIST (NM)	ALTITUDE	SPEED	REMARKS
Runway Transition									
WOLPH	361518.22N / 1142657.69W	Y		IF					
TATUU	361209.89N / 1143146.60W	Y	FB	TF	231.20	05.00	9500B10500		
KRLOZ	360914.10N / 1143615.66W	Y	FB	TF	231.16	04.66	AT/BELOW 9000		
PRINO	360423.60N / 1144338.86W	Y	FB	TF	231.10	07.69	AT 8000	AT 210K	
KLAS:RWY 26L									

Runway Transition									
WOLPH	361518.22N / 1142657.69W	Y		IF					
TATUU	361209.89N / 1143146.60W	Y	FB	TF	231.20	05.00	9500B10500		
KRLOZ	360914.10N / 1143615.66W	Y	FB	TF	231.16	04.66	AT/BELOW 9000		
FLYES	360433.54N / 1144344.83W	Y	FB	TF	232.45	07.65	AT 8000	AT 210K	
KLAS:RWY 26R									

