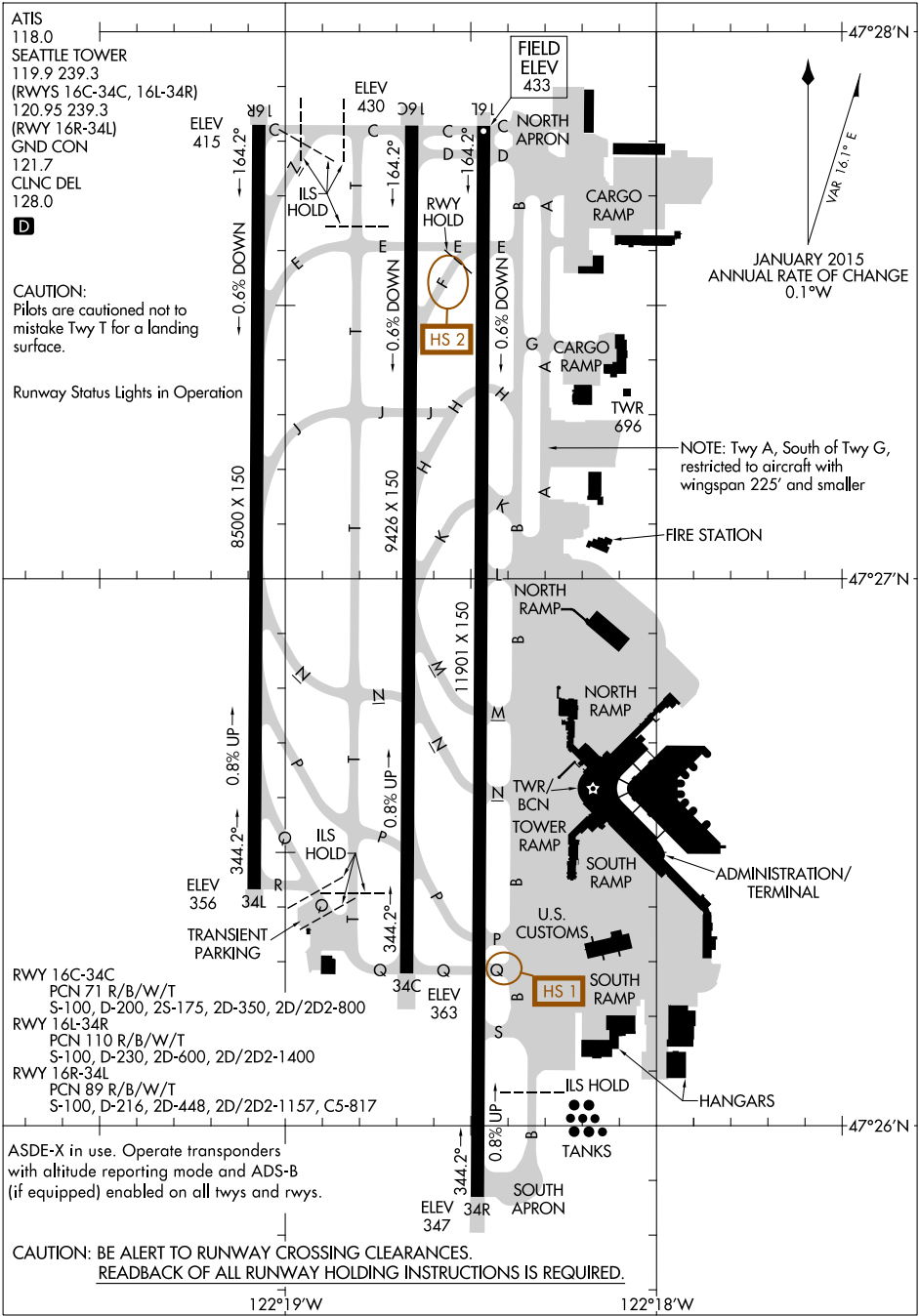




SEA - IAPS, SIDS AND STARS CURRENTLY IN USE

Not to be used for real world navigation

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DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 16L: Climb heading 163° to at/above 932, then direct CAVOB, then on track 165° to cross RENBE at or above 3000, then on depicted route to BANGR, cross BANGR at or above 10000, thence. . . .

TAKEOFF RUNWAY 16C: Climb heading 163° to at/above 932, then direct OTLIE, then on track 163° to cross RENBE at or above 3000, then on depicted route to BANGR, cross BANGR at or above 10000, thence. . . .

TAKEOFF RUNWAY 16R: Climb heading 163° to at/above 932, then direct WESET, then on track 160° to cross RENBE at or above 3000, then on depicted route to BANGR, cross BANGR at or above 10000, thence. . . .

TAKEOFF RUNWAY 34L: Climb heading 343° to at/above 932, then direct CUSBU, then on track 348° to cross WUREL at or above 3100, then on depicted route to BANGR, cross BANGR at or above 10000, thence. . . .

TAKEOFF RUNWAY 34C: Climb heading 343° to at/above 932, then direct NESOE, then on track 343° to cross WUREL at or above 3100, then on depicted route to BANGR, cross BANGR at or above 10000, thence. . . .

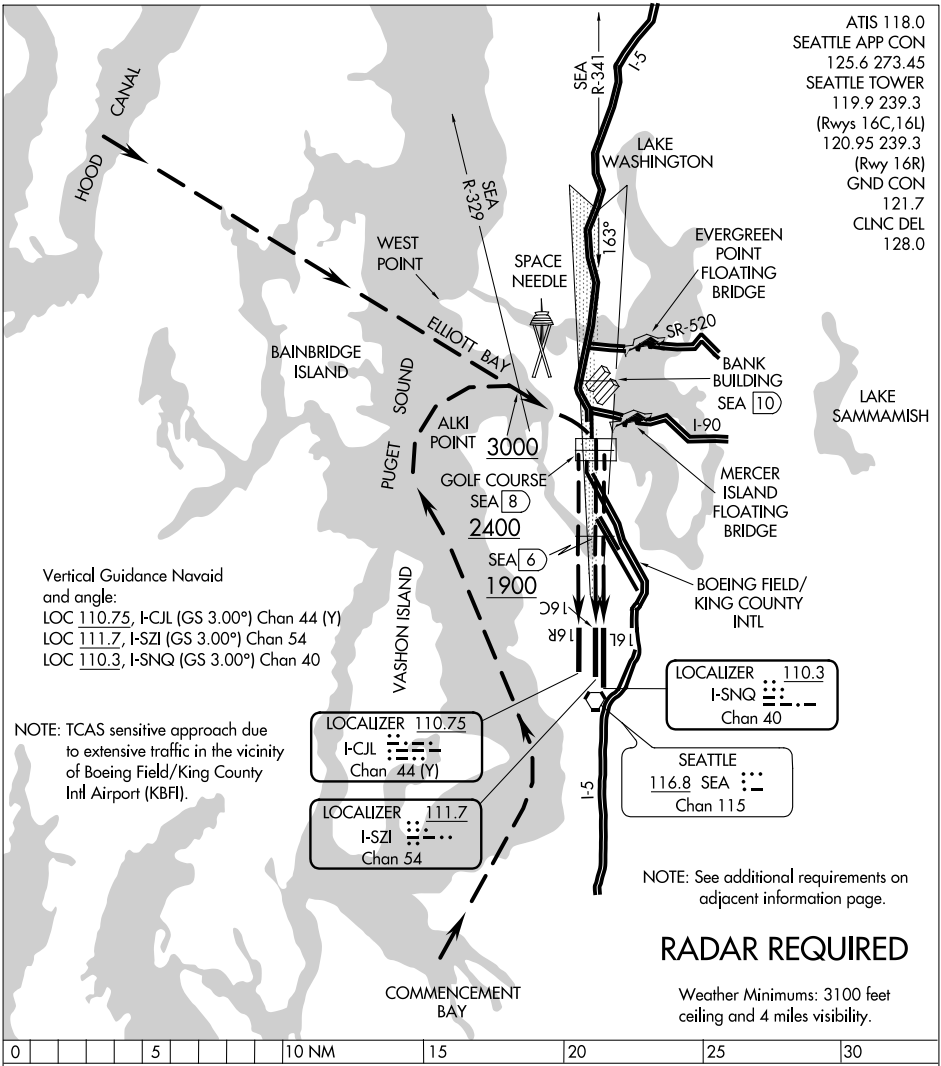
TAKEOFF RUNWAY 34R: Climb heading 343° to at/above 932, then direct DODVE, then on track 341° to cross WUREL at or above 3100, then on depicted route to BANGR, cross BANGR at or above 10000, thence. . . .

. . . . via (transition). Maintain assigned altitude, expect filed altitude/flight level 15 NM from SEA VORTAC.

ARRIE TRANSITION (BANGR8.ARRIE)
PANGL TRANSITION (BANGR8.PANGL)

NW-1, 12 NOV 2015 to 10 DEC 2015

NW-1, 12 NOV 2015 to 10 DEC 2015



BAY VISUAL APPROACH RWY 16R/C/L

When the ceiling is at least 3100' and visibility is at least 4 miles, aircraft may be vectored over Puget Sound for a Bay Visual Runway 16R/C/L Approach. When cleared for a Bay Visual Approach: proceed inbound visually over the middle of Elliott Bay (via route depicted); intercept the Runway 16R/C/L localizer/SEA R-341 on Runway 16R/C/L extended centerline at the golf course (8 DME) and complete a straight in visual approach to the airport. On final approach, a descent profile of approximately 300' per mile may be made with reference to the altitudes shown at the visual checkpoints or associated DME/fix positions.

NW-1, 12 NOV 2015 to 10 DEC 2015

NW-1, 12 NOV 2015 to 10 DEC 2015

SEATTLE, WASHINGTON



NOTE: Chart not to scale.

ARRIVAL ROUTE DESCRIPTION

KIMBERLY TRANSITION (IMB.CHINS1): From over IMB VOR/DME on IMB R-334 to SUNED, then on YKM R-108 to YKM VORTAC, then on YKM R-284 to CHINS, thence

PENDLETON TRANSITION (PDT.CHINS1): From over PDT VORTAC on PDT R-290 to SUNED, then on YKM R-108 to YKM VORTAC, then on YKM R-284 to CHINS, thence

. . . . from CHINS on YKM R-284 and SEA R-104 to RADDY, then on SEA R-104 to HUMPP, then on SEA R-104 to AUBRN thence

LANDING NORTH: Heading 250° for vectors to final approach course.

LANDING SOUTH: Heading 340° for vectors to final approach course.

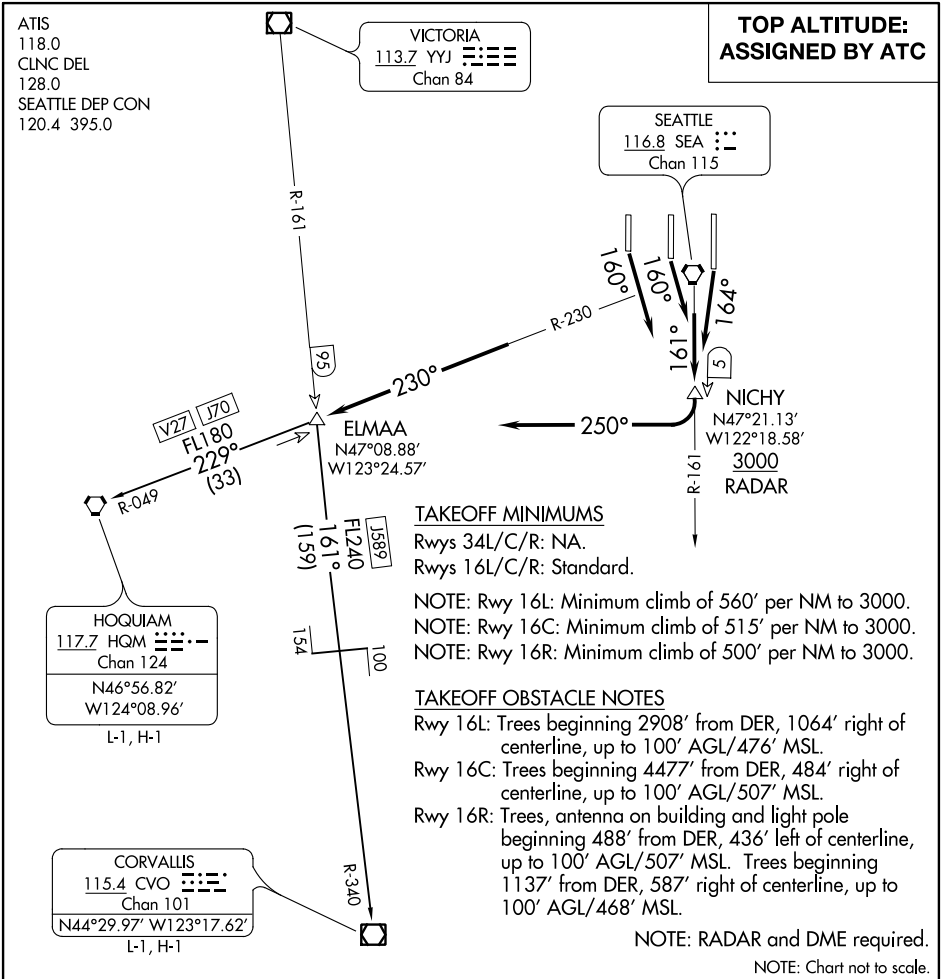
LANDING SNOHOMISH COUNTY (PAINE FIELD): Heading 340° for vectors to final approach course.

LANDING RENTON MUNI: Heading 340° for vectors to final approach course.

LOST COMMUNICATIONS: After AUBRN proceed direct SEA VORTAC.

NW-1, 12 NOV 2015 to 10 DEC 2015

NW-1, 12 NOV 2015 to 10 DEC 2015



DEPARTURE ROUTE DESCRIPTION

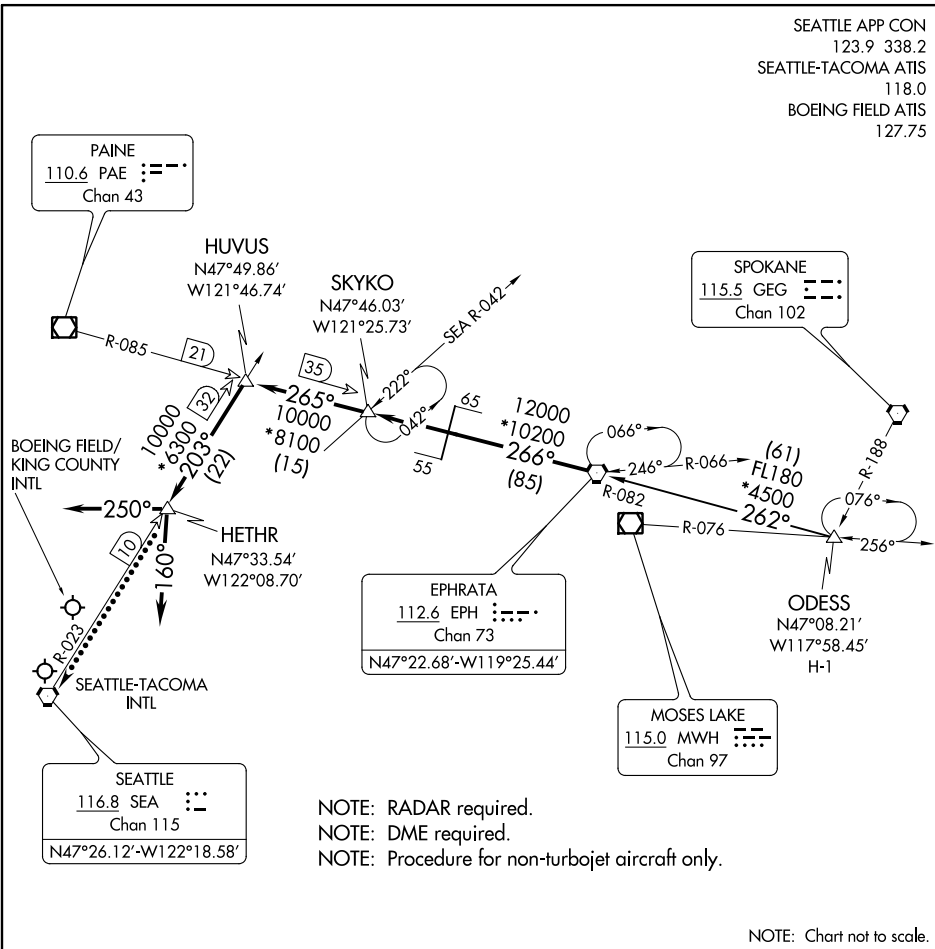
TAKEOFF RUNWAY 16L: Climb heading 164° and SEA R-161, thence. . .
TAKEOFF RUNWAYS 16C, 16R: Climb heading 160° and SEA R-161, thence. . .
. . .to cross NICHY/5 DME/RADAR at or above 3000, then right turn heading 250° to intercept SEA R-230 to ELMAA INT, then via (transition/assigned route), expect requested altitude/flight level 15 NM from SEA.
CORVALLIS TRANSITION (ELMAA2.CVO): From over ELMAA on YYJ R-161 and CVO R-340 to CVO VOR/DME.
HOQUIAM TRANSITION (ELMAA2.HQM): From over ELMAA on HQM R-049 to HQM VORTAC.

EPHRATA SEVEN ARRIVAL

SEATTLE, WASHINGTON

NW-1, 12 NOV 2015 to 10 DEC 2015

NW-1, 12 NOV 2015 to 10 DEC 2015



ARRIVAL ROUTE DESCRIPTION

ODESS TRANSITION (ODESS.EPH7): From over ODESS INT on EPH R-082 to EPH VORTAC. Thence . . .

. . . from over EPH VORTAC on EPH R-266 and PAE R-085 to SKYKO, then then on PAE R-085 to HUVUS, then on SEA R-023 to HETHR, thence . . .

LANDING NORTH: Heading 160°. Expect vectors to final approach course.

LANDING SOUTH: Heading 250°. Expect vectors to final approach course.

LOST COMMUNICATIONS: From over HETHR proceed direct SEA VORTAC.

EPHRATA SEVEN ARRIVAL

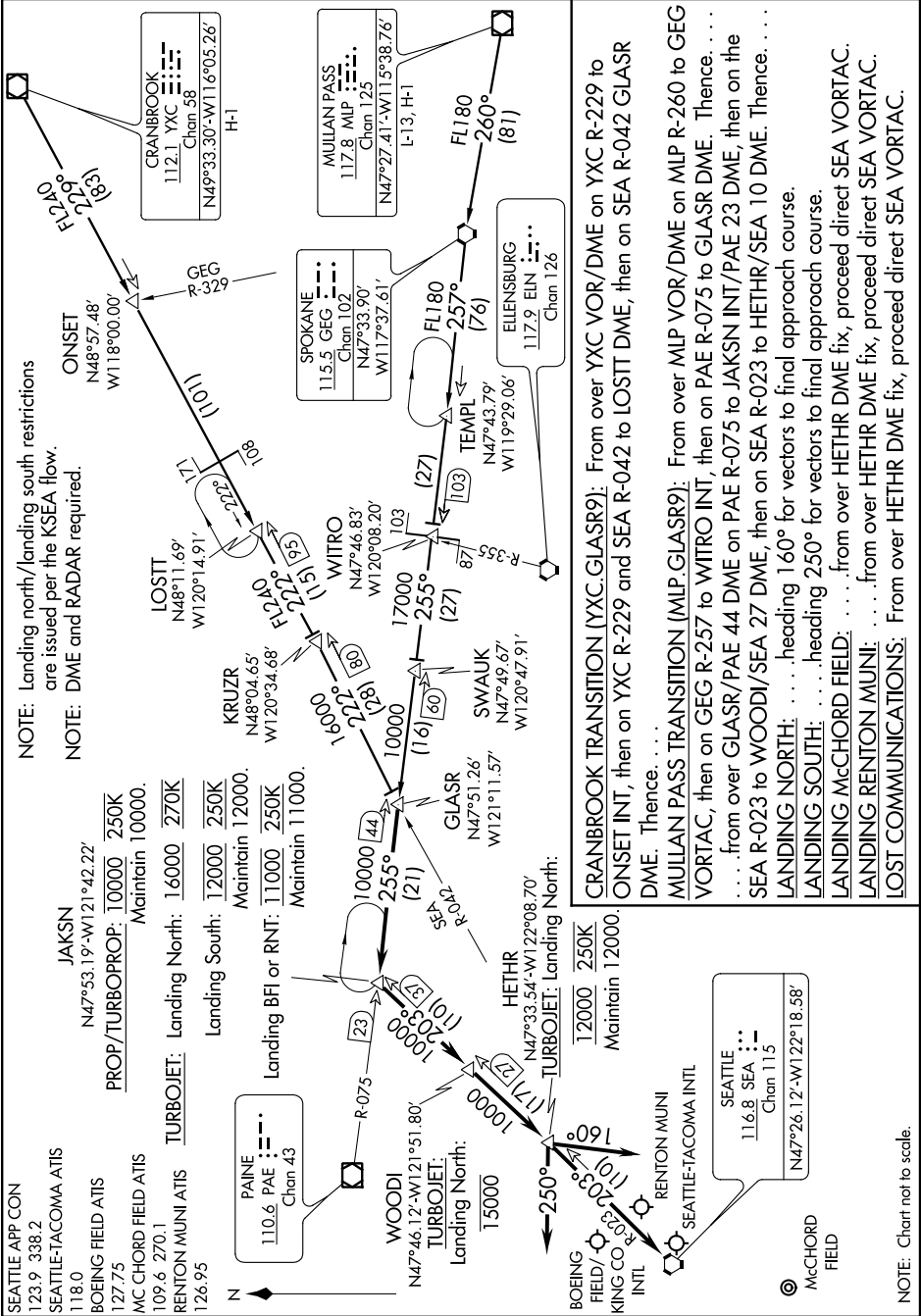
SEATTLE, WASHINGTON

GLASR NINE ARRIVAL

ST-582 (FAA)

SEATTLE, WASHINGTON

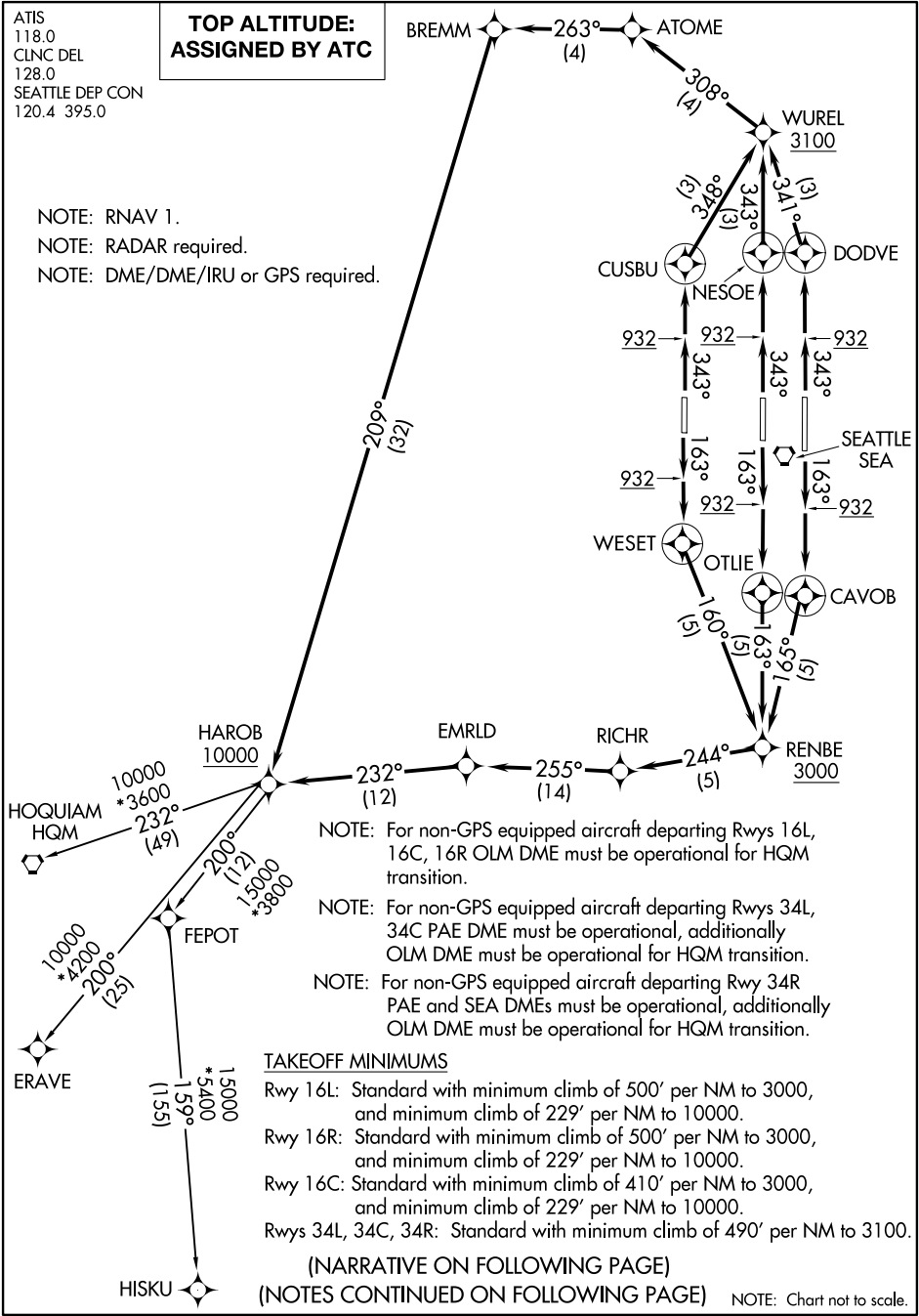
NW-1, 12 NOV 2015 to 10 DEC 2015



GLASR NINE ARRIVAL

SEATTLE, WASHINGTON

NW-1, 12 NOV 2015 to 10 DEC 2015





DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 16C: Climb heading 163° to at/above 932, then direct OTUE, then on track 163° to cross RENBE at/above 3000, then on depicted route to HAROB, cross HAROB at or above 10000, thence. . . .

TAKEOFF RUNWAY 16L: Climb heading 163° to at/above 932, then direct CAVOB, then on track 165° to cross RENBE at/above 3000, then on depicted route to HAROB, cross HAROB at or above 10000, thence. . . .

TAKEOFF RUNWAY 16R: Climb heading 163° to at/above 932, then direct WESET, then on track 160° to cross RENBE at/above 3000, then on depicted route to HAROB, cross HAROB at or above 10000, thence. . . .

TAKEOFF RUNWAY 34C: Climb heading 343° to at/above 932, then direct NESOE, then on track 343° to cross WUREL at/above 3100, then on depicted route to HAROB, cross HAROB at or above 10000, thence. . . .

TAKEOFF RUNWAY 34L: Climb heading 343° to at/above 932, then direct CUSBU, then on track 348° to cross WUREL at/above 3100, then on depicted route to HAROB, cross HAROB at or above 10000, thence. . . .

TAKEOFF RUNWAY 34R: Climb heading 343° to at/above 932, then direct DODVE, then on track 341° to cross WUREL at/above 3100, then on depicted route to HAROB, cross HAROB at or above 10000, thence. . . .

. . . . via (transition). Maintain assigned altitude, expect filed altitude/flight level 15 NM from SEA VORTAC.

ERAVE TRANSITION (HAROB5.ERAVE)

FEPOT TRANSITION (HAROB5.FEPOT)

HISKU TRANSITION (HAROB5.HISKU)

HOQUIAM TRANSITION (HAROB5.HQM)

TAKEOFF OBSTACLE NOTES

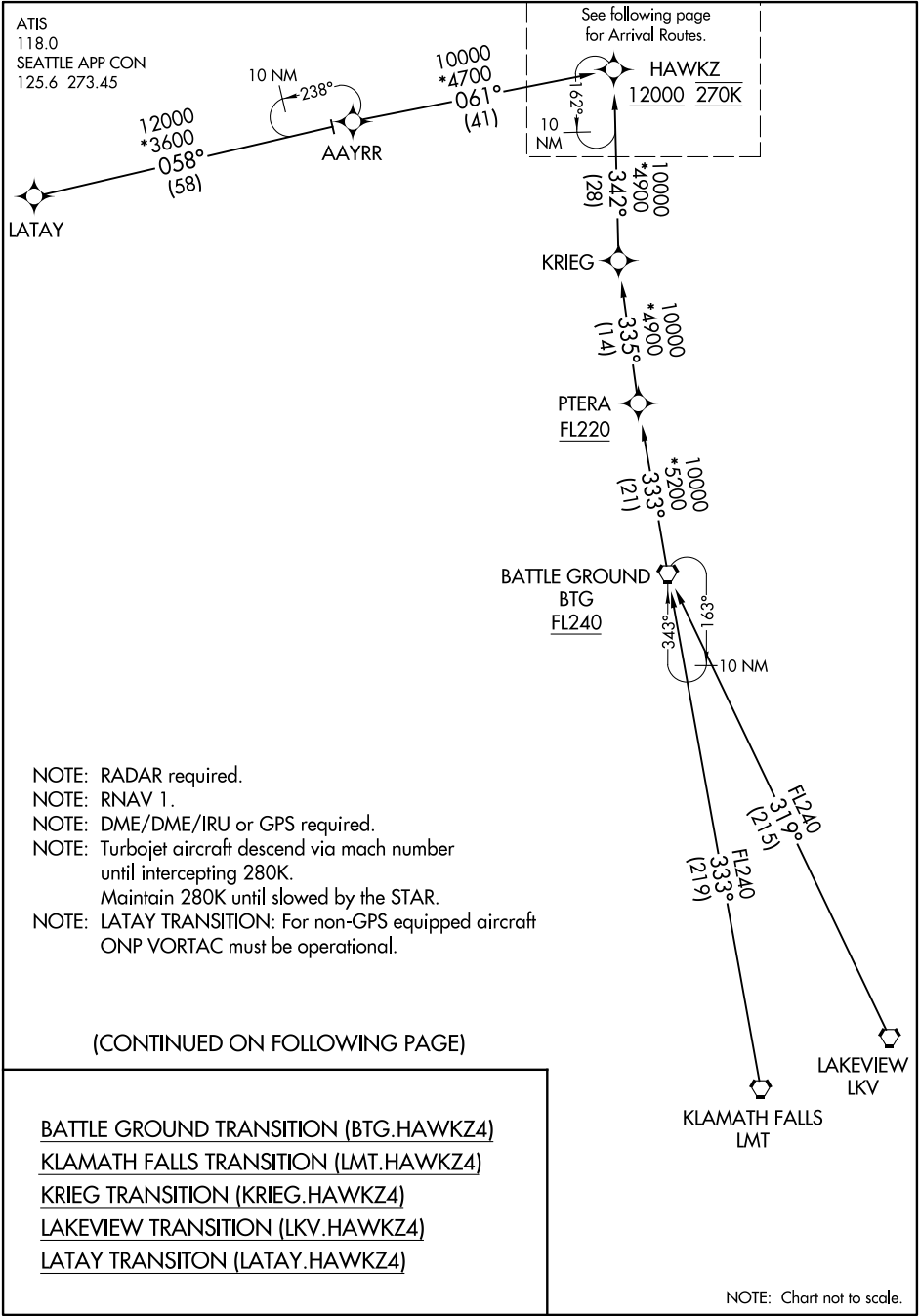
Rwy 16L: Trees beginning 2908' from DER, 1064' right of centerline, up to 100' AGL/476' MSL.

Rwy 16C: Trees beginning 4477' from DER, 484' right of centerline, up to 100' AGL/507' MSL.

Rwy 16R: Trees, antenna on building and light pole beginning 488' from DER, 436' left of centerline, up to 100' AGL/507' MSL. Trees beginning 1137' from DER, 587' right of centerline, up to 100' AGL/468' MSL.

Rwy 34L: Fence 189' from DER, 401' right of centerline, up to 12' AGL/420' MSL.

Trees beginning 4010' from DER, 857' left of centerline, up to 100' AGL/522' MSL.



NW-1, 12 NOV 2015 to 10 DEC 2015

NW-1, 12 NOV 2015 to 10 DEC 2015

HAWKZ FOUR ARRIVAL (RNAV) Arrival Routes

SEATTLE-TACOMA INTL (SEA)
SEATTLE, WASHINGTON

ARRIVAL ROUTE DESCRIPTION

From HAWKZ on track 022° to LIINE.

LANDING RUNWAYS 16L/C/R: From LIINE on track 021° to cross PIKEZ between 12000 and 15000 and at 270K, then on track 360° to COFAY, then on track 350° to cross BREVE between 10000 and 11000 and at 250K, then on track 349° to cross NETTZ at or above 8000 and at 230K, then on track 343° to cross KWEST at or above 7000, then on track 343° to cross VASHN at 6000 and at 210K, then on track 343° to RAYUU, then on track 343°.

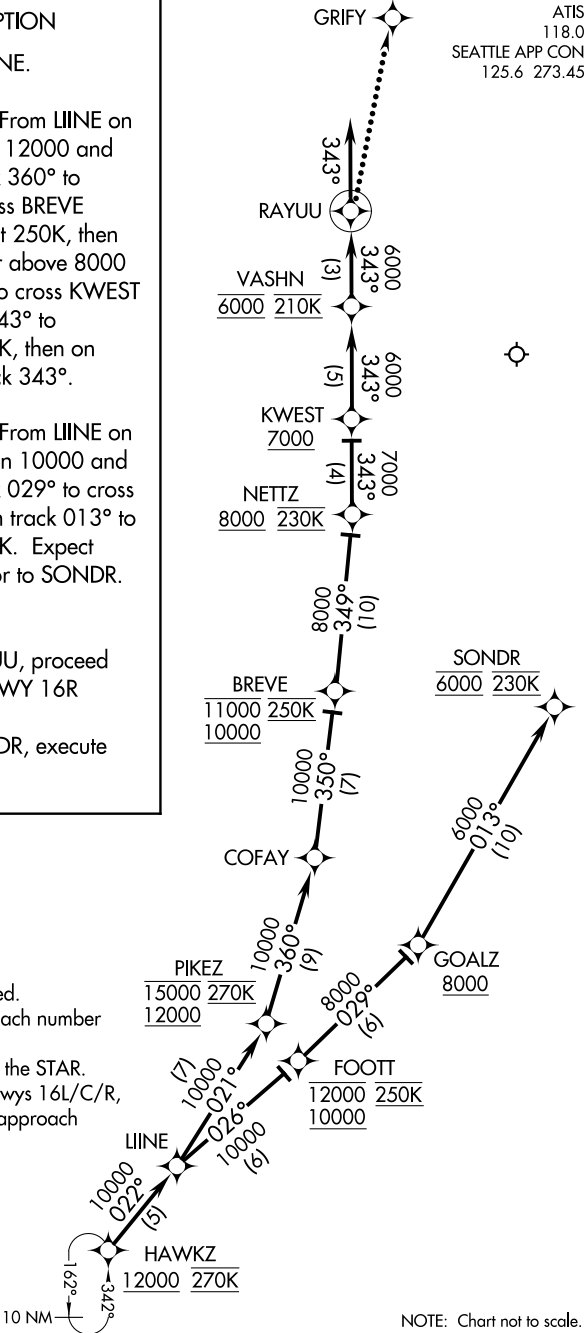
LANDING RUNWAYS 34L/C/R: From LIINE on track 026° to cross FOOTT between 10000 and 12000 and at 250K, then on track 029° to cross GOALZ at or above 8000, then on track 013° to cross SONDR at 6000 and at 230K. Expect assigned instrument approach prior to SONDR.

LOST COMMUNICATIONS

LANDING RUNWAY 16: At RAYUU, proceed direct GRIFY and execute the ILS RWY 16R approach.

LANDING RUNWAY 34: At SONDR, execute the ILS RWY 34L approach.

- NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: Turbojet aircraft descend via mach number until intercepting 280K. Maintain 280K until slowed by the STAR.
NOTE: For non-RNP aircraft landing Rwy 16L/C/R, expect RADAR vectors to final approach course prior to RAYUU.



HAWKZ FOUR ARRIVAL (RNAV) Arrival Routes

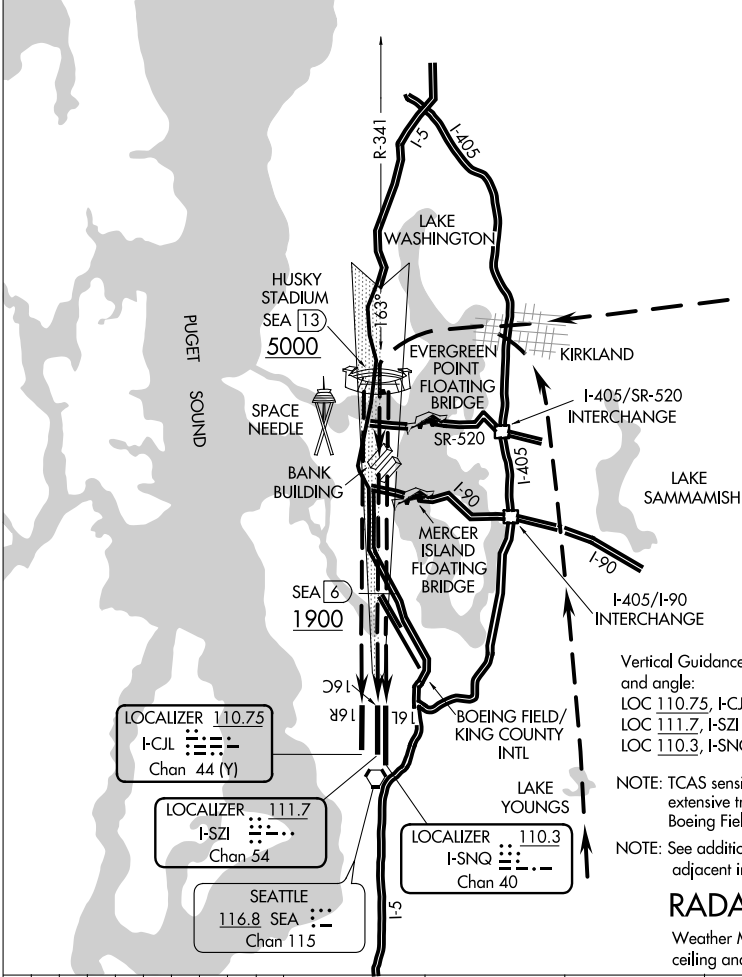
SEATTLE, WASHINGTON
SEATTLE-TACOMA INTL (SEA)

HUSKY VISUAL RWY 16R/C/L

AL-582 (FAA)

SEATTLE-TACOMA INTL (SEA)
SEATTLE, WASHINGTON

ATIS 118.0
SEATTLE APP CON
123.9 263.1
SEATTLE TOWER
119.9 239.3
(Rwys 16C, 16L),
120.95 239.3
(Rwy 16R)
GND CON
121.7
CLNC DEL
128.0



Vertical Guidance Navaid
and angle:
LOC 110.75, I-CJL (GS 3.00°) Chan 44 (Y)
LOC 111.7, I-SZI (GS 3.00°) Chan 54
LOC 110.3, I-SNQ (GS 3.00°) Chan 40

NOTE: TCAS sensitive approach due to
extensive traffic in vicinity of
Boeing Field/King County Intl Airport.

NOTE: See additional requirements on
adjacent information page.

RADAR REQUIRED

Weather Minimums: 5000 feet
ceiling and 4 miles visibility.

HUSKY VISUAL APPROACH RWY 16R/C/L

When the ceiling is at least 5000' and visibility is at least 4 miles, aircraft may be vectored over Kirkland or Lake Youngs for a Husky Visual Runway 16R/C/L Approach. When cleared for a Husky Visual Approach; proceed inbound visually over Husky Stadium (via route depicted); intercept the Runway 16R/C/L localizer/SEA R-341 at 13 DME and complete a straight in visual approach to the airport.

HUSKY VISUAL RWY 16R/C/L

47°27'N-122°19'W

SEATTLE, WASHINGTON
SEATTLE-TACOMA INTL (SEA)

LOC/DME I-SZI 111.7 Chan 54	APP CRS 163°	Rwy Idg 16C 9426 16L 11901 TDZE 430 Apt Elev 433 433
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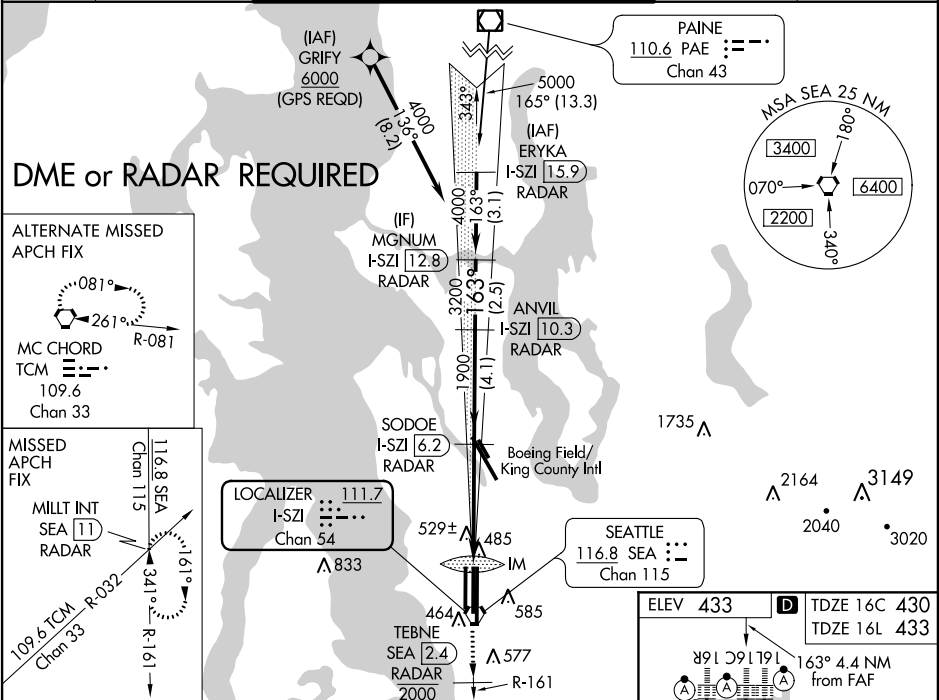
ILS or LOC RWY 16C
SEATTLE-TACOMA INTL (SEA)

▼ Inoperative table does not apply to Sidestep 16L. For inop ALSF-2, increase S-LOC 16C Cat C, D visibility to RVR 5000. Simultaneous approach authorized with ILS or LOC RWY 16R. Simultaneous operations require use of vertical guidance, maintain last assigned altitude until established on glideslope. DME or RADAR required. See additional requirements on adjacent information page.

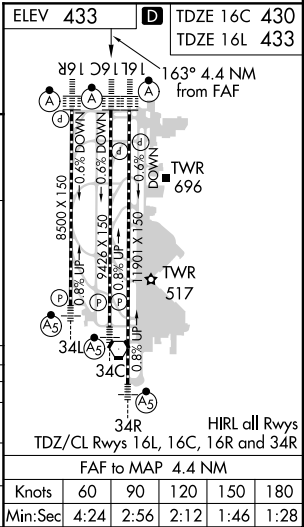
ALSF-2
Rwy 16C/L
A

MISSED APPROACH: Climb on heading 160° and SEA VORTAC R-161 to cross TEBNE/SEA 2.4 DME/RADAR at or below 2000, then climb to 5000 on SEA VORTAC R-161 to MILIT INT/SEA 11 DME/RADAR and hold, continue climb-in-hold to 5000.

ATIS 118.0	SEATTLE APP CON 133.65 273.45	SEATTLE TOWER 119.9 239.3 (Rwys 16C/34C, 16L/34R) 120.95 239.3 (Rwy 16R/34L)	GND CON 121.7	CLNC DEL 128.0
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VGSI and ILS glidepath not coincident (VGSI Angle 3.00/TCH 57).			
MGNUM I-SZI 12.8 RADAR	ANVIL I-SZI 10.3 RADAR	SODOE I-SZI 6.2 RADAR	*LOC only
4000	3200	1900	
GS 3.00° TCH 57	163°		
2.5 NM	4.1 NM	3.6 NM	0.7 NM
A	B	C	D
S-ILS 16C	630/18	200 (200-½)	
S-LOC 16C	760/24	330 (400-½)	760/26 330 (400-⅝)
SIDESTEP 16L	780/50	347 (400-1)	780-1½ 347 (400-1½)
CIRCLING	1000-1	567 (600-1)	1000-1½ 567 (600-1½) 1000-2 567 (600-2)



NW-1, 12 NOV 2015 to 10 DEC 2015

NW-1, 12 NOV 2015 to 10 DEC 2015

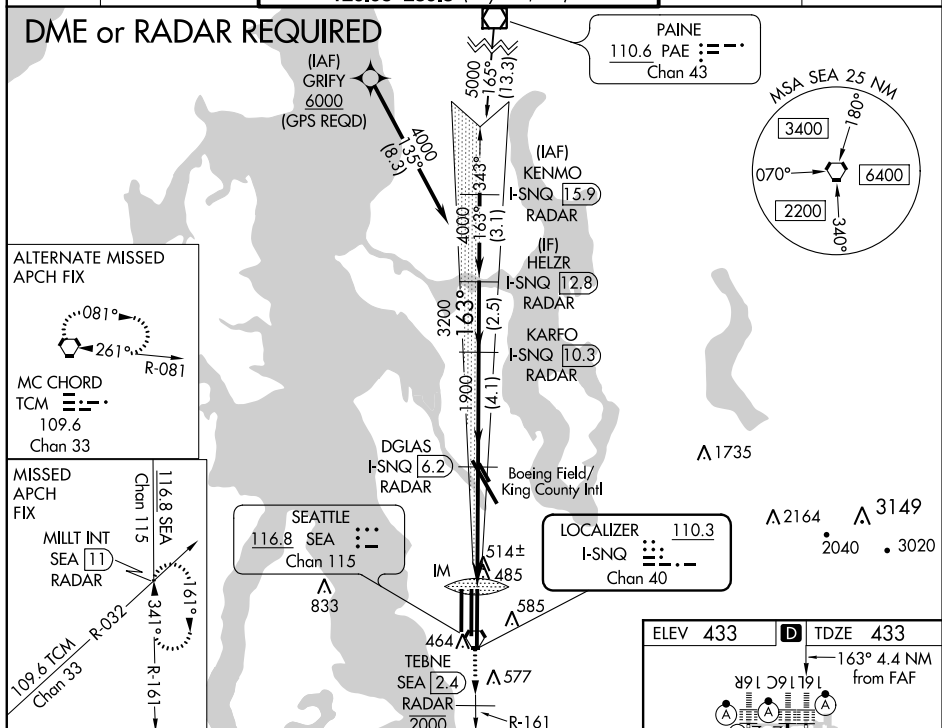
ILS or LOC RWY 16L
SEATTLE-TACOMA INTL (SEA)

ALSF-2

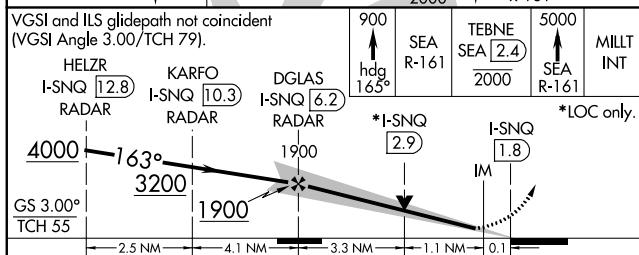
MISSED APPROACH: Climb to 900 on heading 165° then on SEA VORTAC R-161 to cross TEBNE/SEA 2.4 DME/RADAR at or below 2000 then climb to 5000 on SEA VORTAC R-161 to MILLT INT/SEA 11 DME/RADAR and hold, continue climb-in-hold to 5000.

ATIS 118.0	SEATTLE APP CON 133.65 273.45	SEATTLE TOWER 119.9 239.3 (Rwys 16C/34C, 16L/34R) 120.95 239.3 (Rwy 16R/34L)	GND CON 121.7	CLNC DEL 128.0
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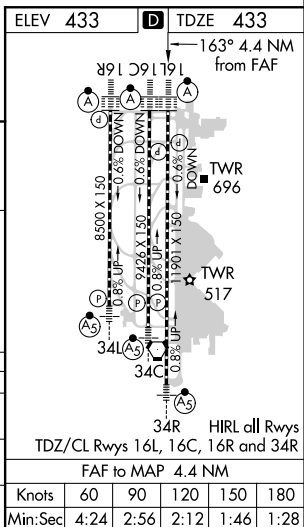
DME or RADAR REQUIRED



VGSI and ILS glidepath not coincident
(VGSI Angle 3.00/TCH 79).



CATEGORY	A	B	C	D
S-ILS 16L	697/20 264 (300-½)	633/18 200 (200-½)		
S-LOC 16L	880/24 447 (500-½)		880/45 447 (500-¾)	
C CIRCLING	1000-1 567 (600-1)	1000-1½ 567 (600-1½)		1000-2 567 (600-2)



LOC/DME I-CJL 110.75 Chan 44 (Y)	APP CRS 163°	Rwy Idg TDZE Apt Elev	8500 415 433
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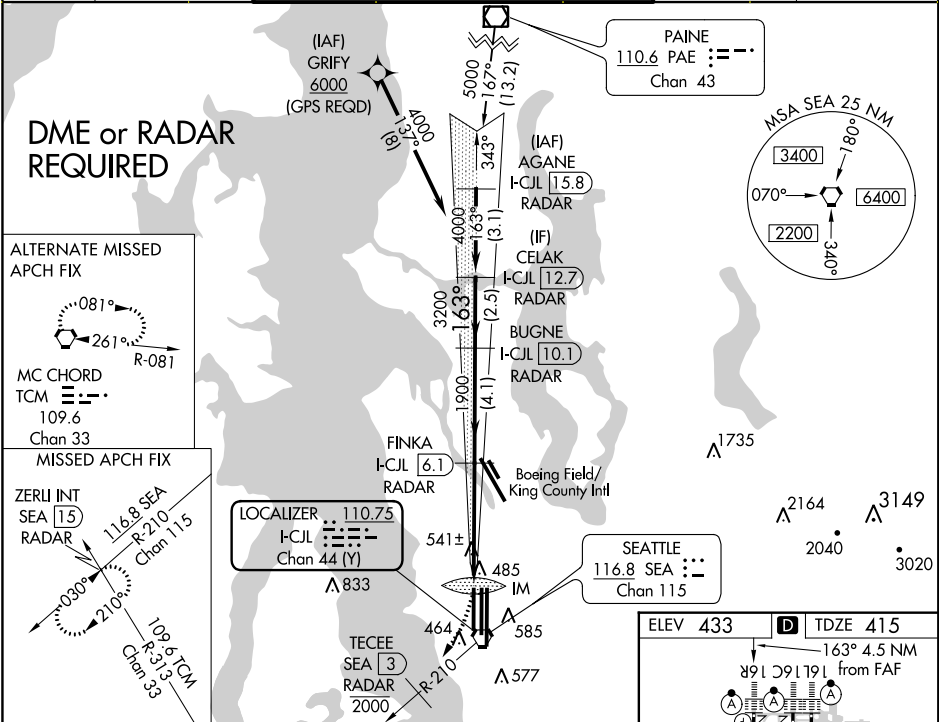
ILS or LOC RWY 16R
SEATTLE-TACOMA INTL (SEA)

Simultaneous approach authorized with Rwy 16L and ILS or LOC RWY 16C. Simultaneous operations with Rwy 16C require use of vertical guidance, maintain last assigned altitude until established on glideslope. DME or RADAR required.

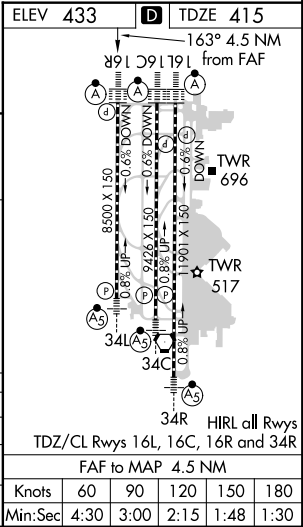
ALSF-2

MISSED APPROACH: Climb to 900 then climb on heading 195° and on SEA VORTAC R-210 to cross TEECEE/SEA 3 DME/RADAR at or below 2000 then climb to 5000 on SEA VORTAC R-210 to ZERLU INT/SEA 15 DME/RADAR and hold, continue climb-in-hold to 5000.

ATIS 118.0	SEATTLE APP CON 133.65 273.45	SEATTLE TOWER 119.9 239.3 (Rwys 16C/34C, 16L/34R) 120.95 239.3 (Rwy 16R/34L)	GND CON 121.7	CLNC DEL 128.0
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VGSI and ILS glidepath not coincident (VGSI Angle 3.00/TCH 69°).	900 hdg 195°	SEA R-210	TEEC SEA 3 2000	5000 SEA R-210	ZERLU INT
CELAK I-CJL 12.7 RADAR	BUGNE I-CJL 10.1 RADAR	FINKA I-CJL 6.1 RADAR	* I-CJL 2.6	I-CJL 1.6	
GS 3.00° TCH 55	4000	3200	1900	IM	
2.5 NM	4.1 NM	3.5 NM	0.9	0.1	
CATEGORY	A	B	C	D	
S-ILS 16R	615/18 200 (200-½)				
S-LOC 16R	800/24 385 (400-½)		800/35 385 (400-¾)		
CIRCLING	1000-1 567 (600-1)		1000-1½ 567 (600-½)		1000-2 567 (600-2)

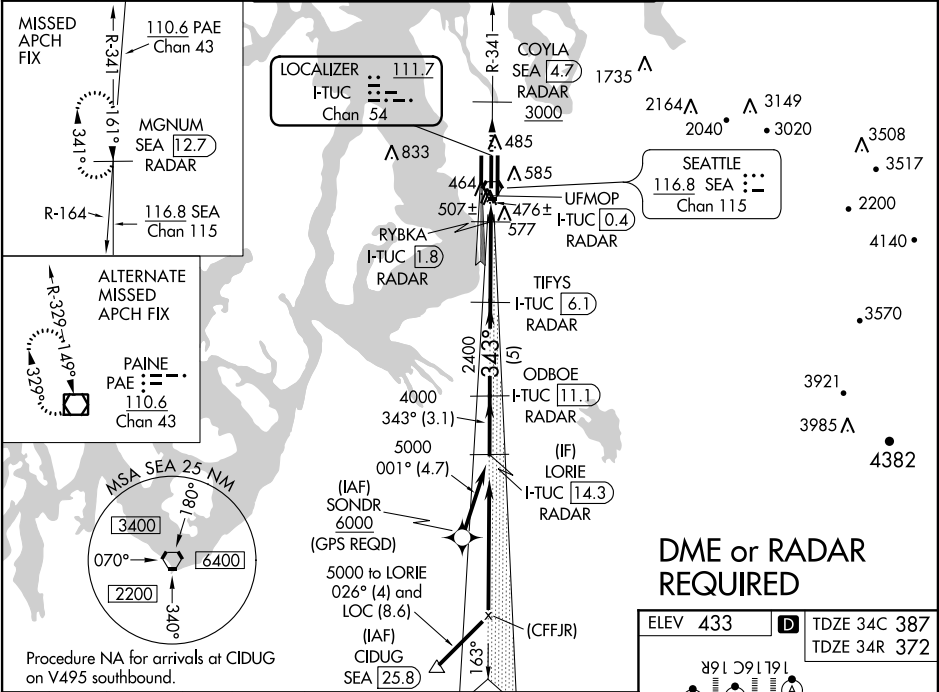


LOC/DME I-TUC 111.7 Chan 54	APP CRS 343°	Rwy Idg 34C 9426 34R 11901 TDZE 387 372 Apt Elev 433 433
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ILS or LOC RWY 34C
SEATTLE-TACOMA INTL (SEA)

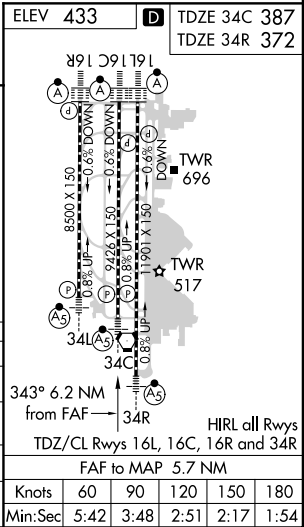
▼ DME or RADAR required. Inoperative table does not apply to MALSR Rwy 34R. Simultaneous approach authorized with Rwy 34L. # RVR 1800 authorized with the use of FD or AP or HUD to DA.	MALSR Rwy 34C/R 	MISSED APPROACH: Climb on heading 345° and outbound on SEA VORTAC R-341 to cross COYLA/SEA 4.7 DME/RADAR at or above 3000 then climb to 5000 on SEA VORTAC R-341 to MGNUM/SEA 12.7 DME/RADAR and hold, continue climb-in-hold to 5000.
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ATIS 118.0	SEATTLE APP CON 133.65 273.45	SEATTLE TOWER 119.9 239.3 (Rwys 16C/34C, 16L/34R) 120.95 239.3 (Rwy 16R/34L)	GND CON 121.7	CLNC DEL 128.0
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DME or RADAR
REQUIRED

hdg 345°	SEA R-341	COYLA SEA 4.7 RADAR 3000	5000 SEA R-341	MGNUM SEA 12.7 RADAR	VGSI and ILS glidepath not coincident (VGSI Angle 3.00°/TCH 75).	LORIE I-TUC 14.3 RADAR	ODBOE I-TUC 11.1 RADAR	TIFYS I-TUC 6.1 RADAR	RYBKA I-TUC 1.8 RADAR	UFMOP I-TUC 0.4 RADAR	*LOC only
343°	343°	343°	343°	343°	343°	343°	343°	343°	343°	343°	343°
0.5	0.5	0.9 NM	4.3 NM	5 NM	3.1 NM	GS 3.00° TCH 56	GS 3.00° TCH 56	GS 3.00° TCH 56	GS 3.00° TCH 56	GS 3.00° TCH 56	GS 3.00° TCH 56
CATEGORY	A	B	C	D							
S-ILS 34C#	604/24	217 (200-½)									
S-LOC 34C	760/24	373 (400-½)	760/35	373 (400-¾)							
SIDESTEP 34R	760/50	388 (400-1)	760/60	388 (400-1¼)							
CIRCLING	1000-1	567 (600-1)	1000-1½	567 (600-1½)	1000-2	567 (600-2)					



ILS or LOC RWY 34L
SEATTLE-TACOMA INTL (SEA)

ATIS 118.0	SEATTLE APP CON 133.65 273.45	SEATTLE TOWER 119.9 239.3 (Rwys 16C/34C, 16L/34R) 120.95 239.3 (Rwy 16R/34L)	GND CON 121.7	CLNC DEL 128.0
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ELEV 433	D	TDZE 379			
343° 6.3 NM from FAF 8500 X 150 0.6% DOWN 0.8% UP 9426 X 150 0.6% DOWN 0.8% UP 11901 X 150 0.6% DOWN 0.8% UP TWR 696 TWR 517 34R 34C 34R HIRL all Rwy's					
FAF to MAP 6.3 NM					
Knots	60	90	120	150	180
Min:Sec	6:18	4:12	3:09	2:31	2:06

NW-1, 12 NOV 2015 to 10 DEC 2015

NW-1. 12 NOV 2015 to 10 DEC 2015

LOC/DME I-SEA 110.3 Chan 40	APP CRS 343°	Rwy Idg TDZE Apt Elev	34R 11901 372 433	34C 9426 387 433
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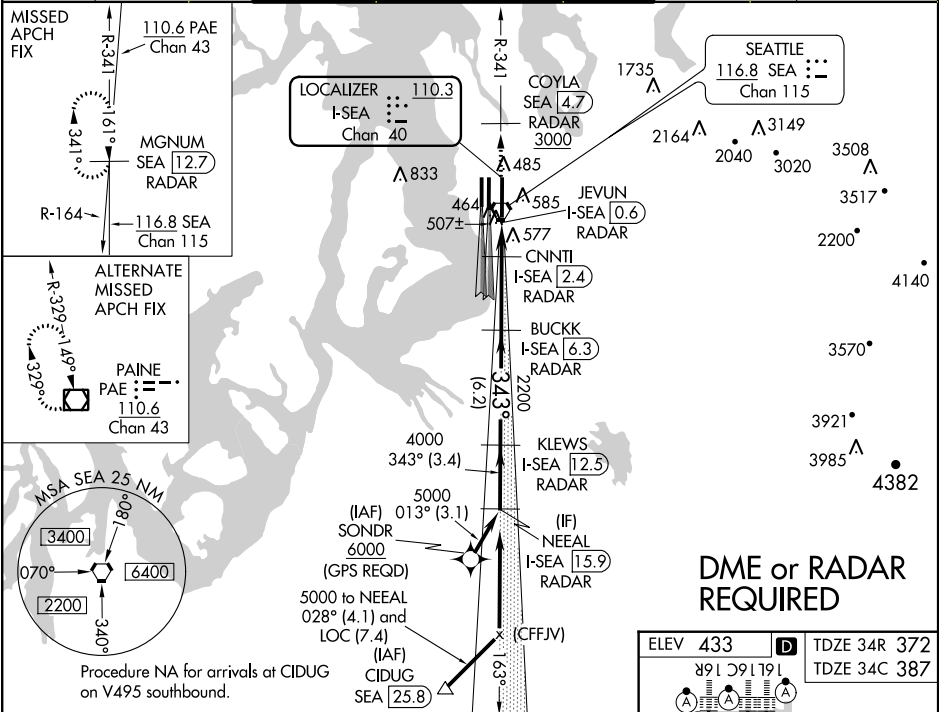
ILS or LOC RWY 34R
SEATTLE-TACOMA INTL (SEA)

▼ DME or RADAR required.
Simultaneous approach authorized with Rwy 34L. Inoperative table does not apply to SIDESTEP 34C Cats A and B.

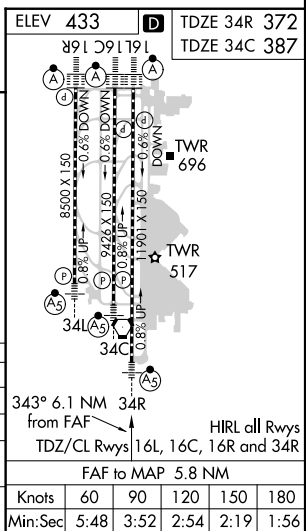
MALSR
Rwy 34R/C

MISSED APPROACH: Climb on heading 343° and outbound on SEA VORTAC R-341 to cross COYLA/SEA 4.7 DME/RADAR at or above 3000 then climb to 5000 on SEA VORTAC R-341 to MGNUM/SEA 12.7 DME/RADAR and hold, continue climb-in-hold to 5000.

ATIS 118.0	SEATTLE APP CON 133.65 273.45	SEATTLE TOWER 119.9 239.3 (Rwys 16C/34C, 16L/34R) 120.95 239.3 (Rwy 16R/34L)	GND CON 121.7	CLNC DEL 128.0
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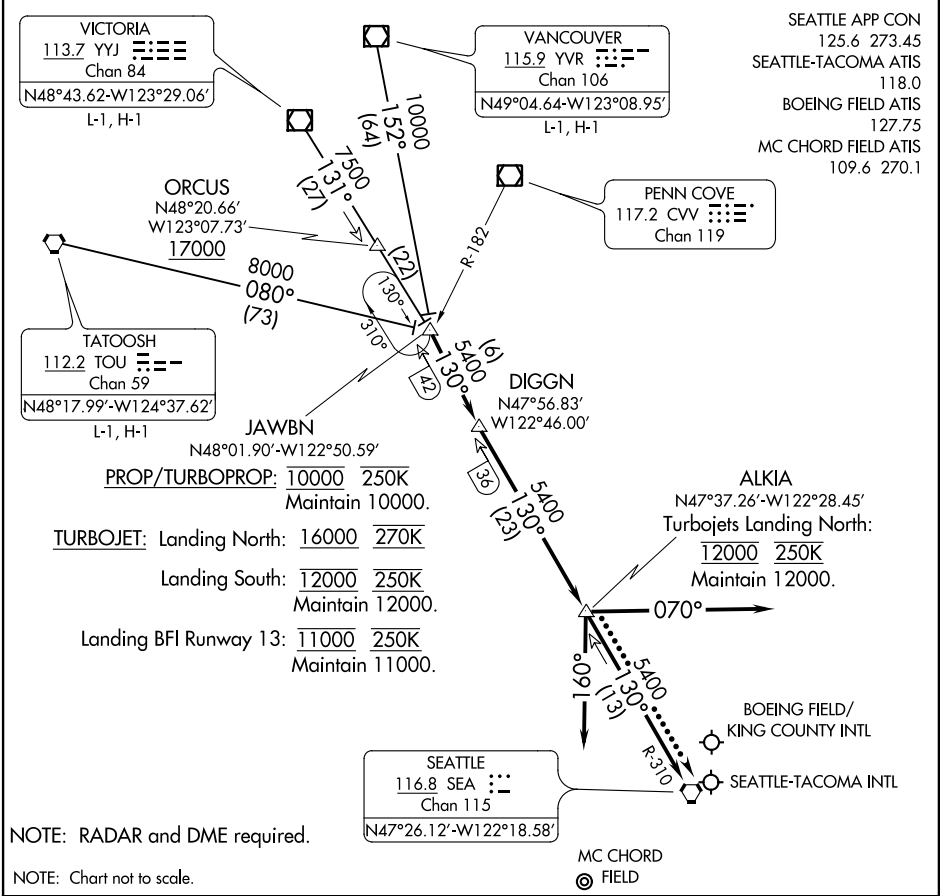
hdg 343°	SEA R-341	COYLA SEA 4.7 RADAR 3000	5000 SEA R-341	MGNUM SEA 12.7 RADAR	Use I-SEA DME when on localizer course. VGSI and ILS glidepath not coincident (VGSI Angle 2.75/TCH 83).			
*LOC only		JEVUN I-SEA 0.6 RADAR	CNNTI I-SEA 2.4 RADAR	BUCKK I-SEA 6.3 RADAR	KLEWS I-SEA 12.5 RADAR	NEEL I-SEA 15.9 RADAR	GS 2.75° TCH 60	
		0.4	0.6	1.2 NM	4 NM	6.2 NM	3.4 NM	
CATEGORY	A		B		C		D	
S-ILS 34R			572/18		200 (200-½)			
S-LOC 34R	720/24		348 (300-½)		720/35		348 (300-¾)	
SIDESTEP 34C			760/50		373 (400-1)			
CIRCLING	1000-1		567 (600-1)		1000-1½		567 (600-2)	



JAWBN FOUR ARRIVAL

ST-582 (FAA)

SEATTLE, WASHINGTON



NW-1, 12 NOV 2015 to 10 DEC 2015

NW-1, 12 NOV 2015 to 10 DEC 2015

ARRIVAL ROUTE DESCRIPTION

TATOOSH TRANSITION (TOU.JAWBN4): From over TOU VORTAC on TOU R-080 to JAWBN. Thence. . . .
VANCOUVER TRANSITION (YVR.JAWBN4): From over YVR VOR/DME on YVR R-152 to JAWBN. Thence. . . .
VICTORIA TRANSITION (YYJ.JAWBN4): From over YYJ VOR/DME on YYJ R-131 to JAWBN. Thence. . . .
. . . .from over JAWBN on SEA R-310 to DIGGN then on SEA R-310 to ALKIA, thence. . . .

LANDING NORTH:depart ALKIA heading 160° for vectors to final approach course.
LANDING SOUTH:depart ALKIA heading 070° for vectors to final approach course.
LANDING McCHORD FIELD:depart ALKIA proceed direct SEA VORTAC.

LOST COMMUNICATIONS: After ALKIA, proceed direct SEA VORTAC.

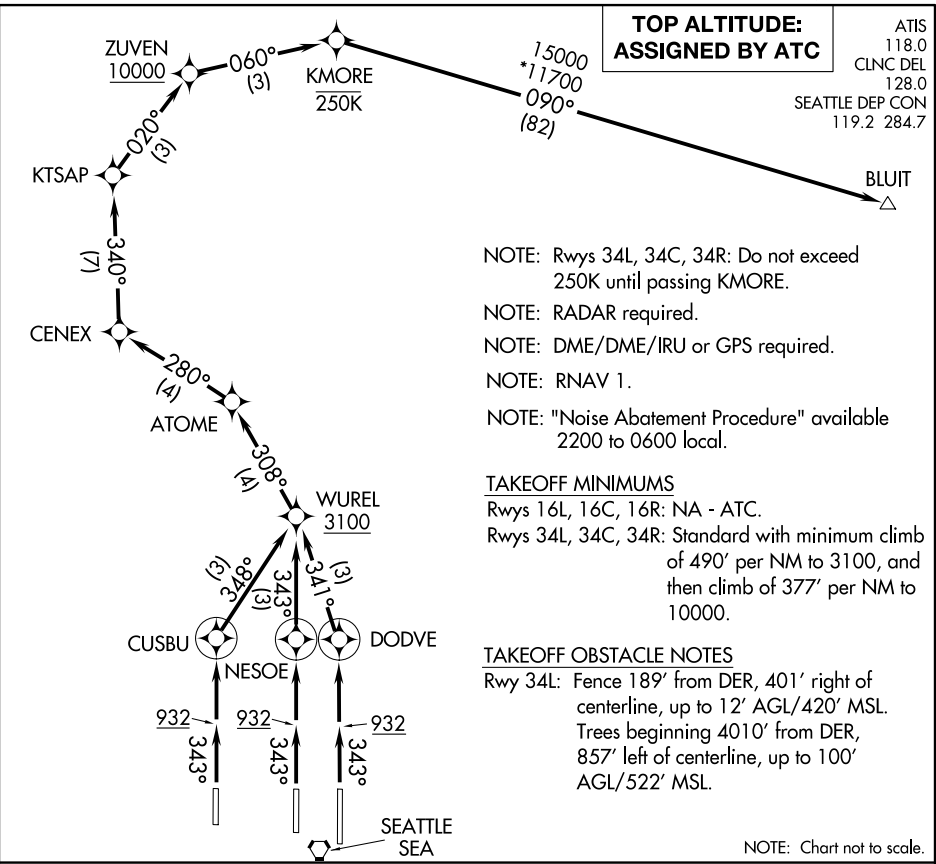
JAWBN FOUR ARRIVAL

SEATTLE, WASHINGTON

KMORE FOUR DEPARTURE (RNAV)

SL-582 (FAA)

SEATTLE-TACOMA INTL (SEA)
SEATTLE, WASHINGTON



NW-1, 12 NOV 2015 to 10 DEC 2015

NW-1, 12 NOV 2015 to 10 DEC 2015

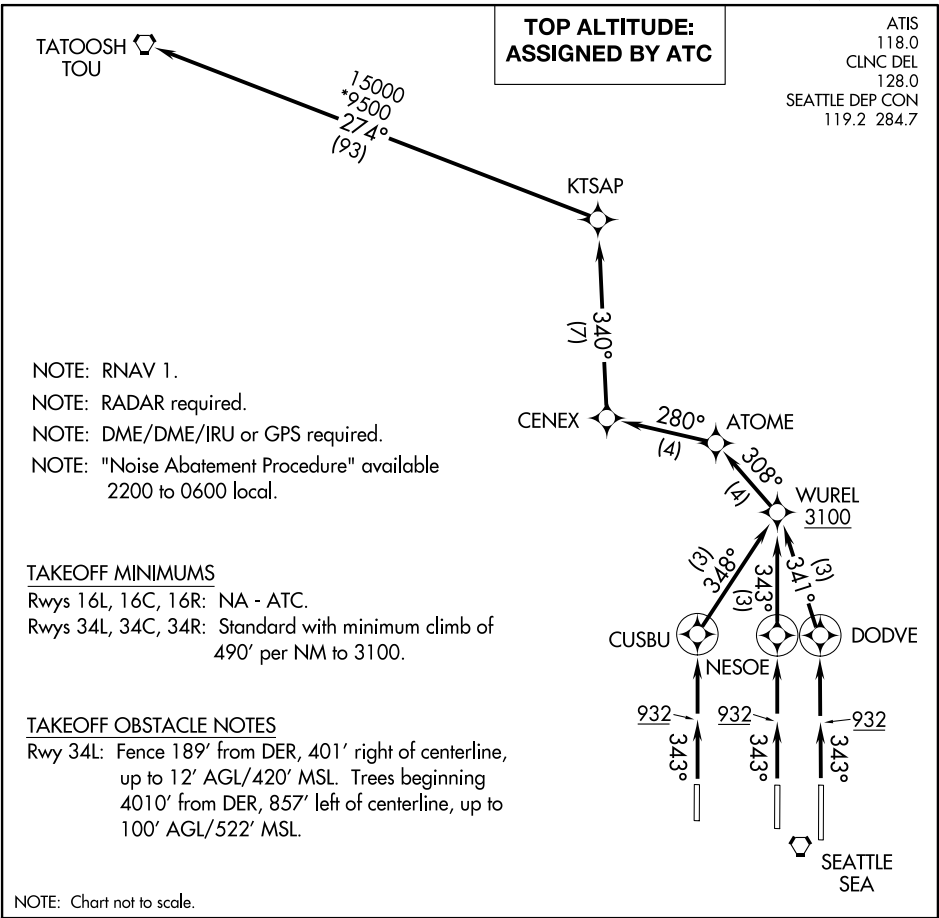
DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 34L: Climb heading 343° to 932, then direct CUSBU, then on track 348° to cross WUREL at or above 3100, then on track 308° to ATOME, then on track 280° to CENEX, then on track 340° to KTSAP, then on track 020° to cross ZUVEN at or above 10000, then on track 060° to KMORE, then on track 090° to BLUIT, thence. . .

TAKEOFF RUNWAY 34C: Climb heading 343° to 932, then direct NESOE, then on track 343° to cross WUREL at or above 3100, then on track 308° to ATOME, then on track 280° to CENEX, then on track 340° to KTSAP, then on track 020° to cross ZUVEN at or above 10000, then on track 060° to KMORE, then on track 090° to BLUIT, thence. . .

TAKEOFF RUNWAY 34R: Climb heading 343° to 932, then direct DODVE, then on track 341° to cross WUREL at or above 3100, then on track 308° to ATOME, then on track 280° to CENEX, then on track 340° to KTSAP, then on track 020° to cross ZUVEN at or above 10000, then on track 060° to KMORE, then on track 090° to BLUIT, thence. . .

. . . via assigned route. Maintain assigned altitude, expect filed altitude/flight level 15 NM from SEA VORTAC.



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 34L: Climb via heading 343° to 932, then direct CUSBU, then on track 348° to cross WUREL at or above 3100, then on depicted route to TOU VORTAC, thence. . .

TAKEOFF RUNWAY 34C: Climb via heading 343° to 932, then direct NESOE, then on track 343° to cross WUREL at or above 3100, then on depicted route to TOU VORTAC, thence. . .

TAKEOFF RUNWAY 34R: Climb via heading 343° to 932, then direct DODVE, then on track 341° to cross WUREL at or above 3100, then on depicted route to TOU VORTAC, thence. . .

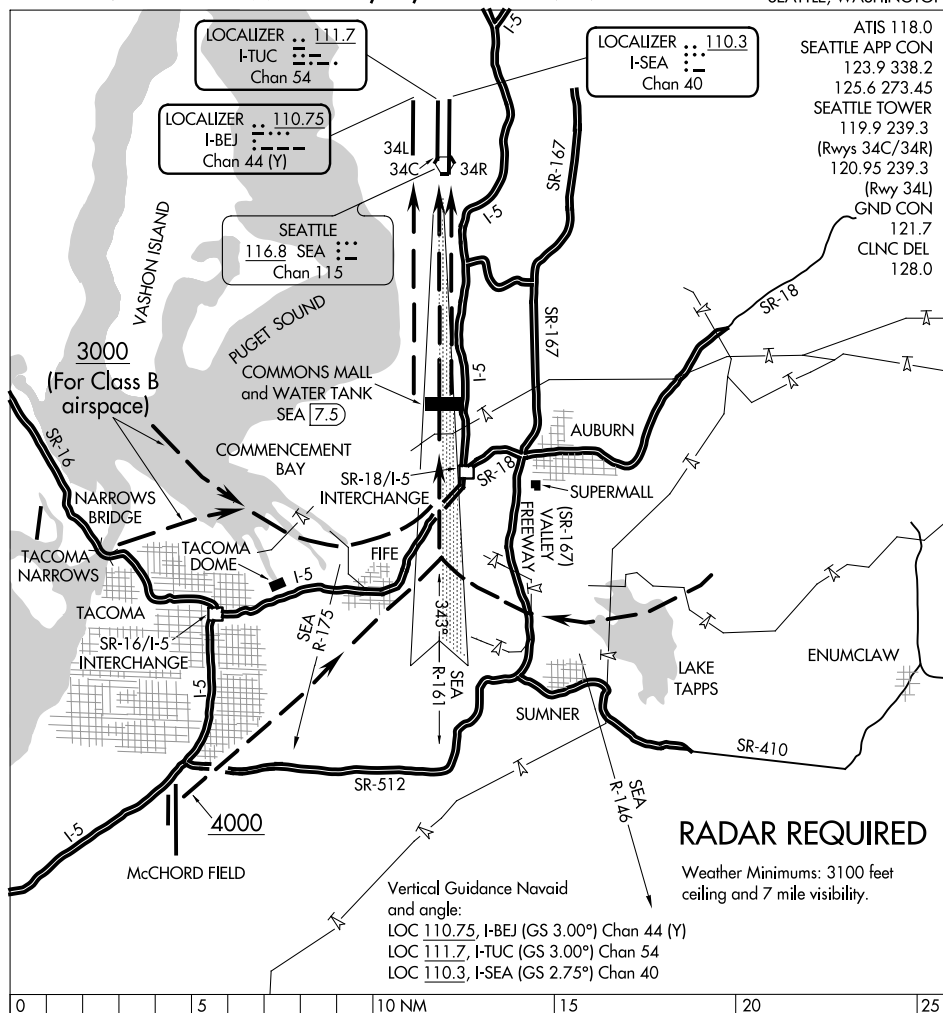
. . . via assigned route. Maintain assigned altitude, expect filed altitude/flight level 15 NM from SEA VORTAC.

MALL VISUAL RWY 34R/C/L

AL-582 (FAA)

SEATTLE-TACOMA INTL (SEA)
SEATTLE, WASHINGTON

NW-1, 12 NOV 2015 to 10 DEC 2015



NW-1, 12 NOV 2015 to 10 DEC 2015

MALL VISUAL APPROACH RWY 34R/C/L

When the ceiling is at least 3100' and visibility is at least 7 miles, aircraft may be vectored towards Commencement Bay or McChord Field or Lake Tapps for a Mall Visual Runway 34R/C/L Approach. When cleared for this approach; proceed inbound visually using the depicted landmarks to the centerline of runway 34R/C/L. Turn final before or over the interchange of State Road 18 (SR-18) and Interstate 5. Be established on the localizer or runway centerline at the Commons Mall and Water Tank (7.5 DME) and proceed visually to runway 34R/C/L.

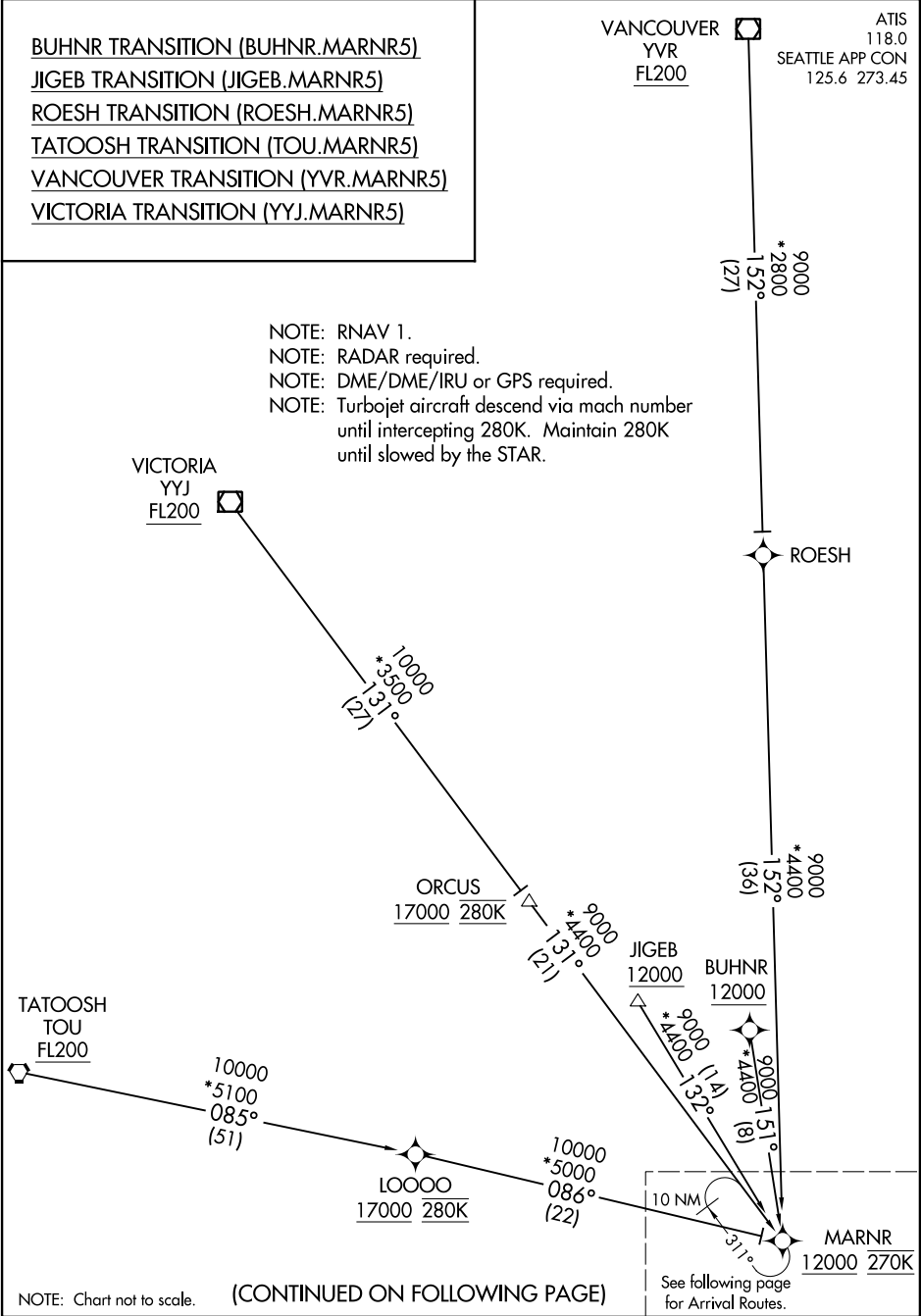
MALL VISUAL RWY 34R/C/L

47°27'N-122°19'W

SEATTLE, WASHINGTON
SEATTLE-TACOMA INTL (SEA)

MARNR FIVE ARRIVAL (RNAV) Transition Routes

SEATTLE-TACOMA INTL (SEA)
SEATTLE, WASHINGTON



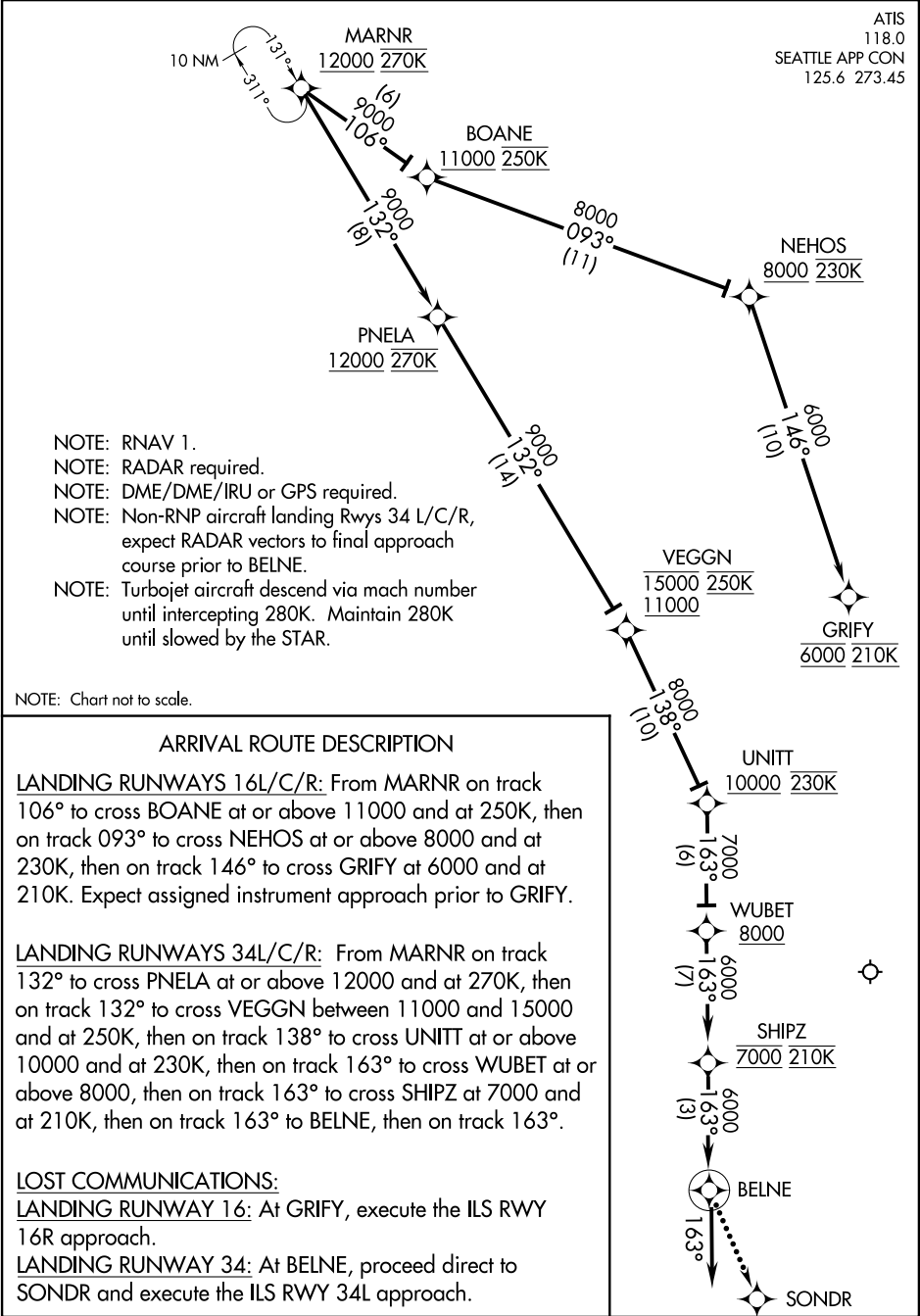
NW-1, 12 NOV 2015 to 10 DEC 2015

NW-1, 12 NOV 2015 to 10 DEC 2015

MARNR FIVE ARRIVAL (RNAV) Transition Routes

SEATTLE, WASHINGTON
SEATTLE-TACOMA INTL (SEA)

MARNR FIVE ARRIVAL (RNAV) Arrival Routes



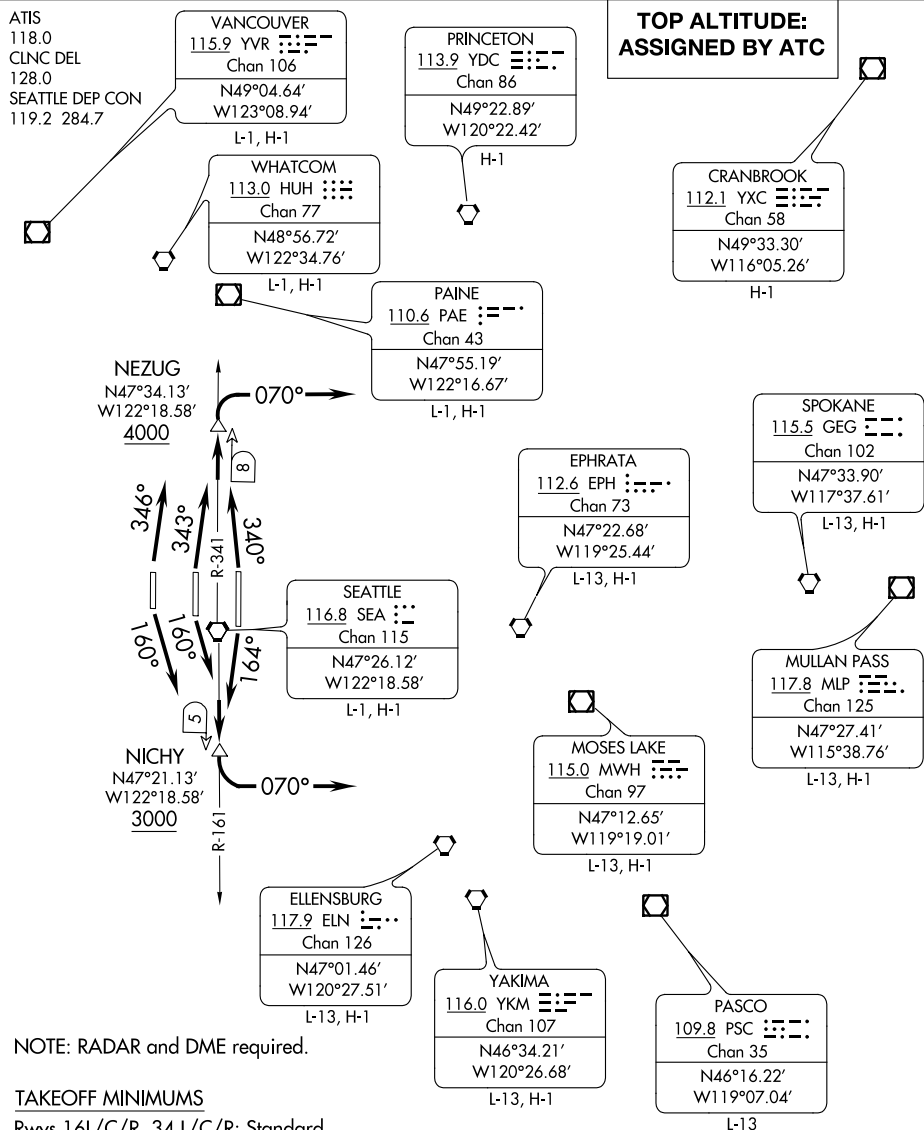
NW-1, 12 NOV 2015 to 10 DEC 2015

NW-1, 12 NOV 2015 to 10 DEC 2015

MARNR FIVE ARRIVAL (RNAV) Arrival Routes

MOUNTAIN SEVEN DEPARTURE

SL-582 (FAA)

SEATTLE-TACOMA INTL (SEA)
SEATTLE, WASHINGTON

NW-1, 12 NOV 2015 to 10 DEC 2015

NW-1, 12 NOV 2015 to 10 DEC 2015

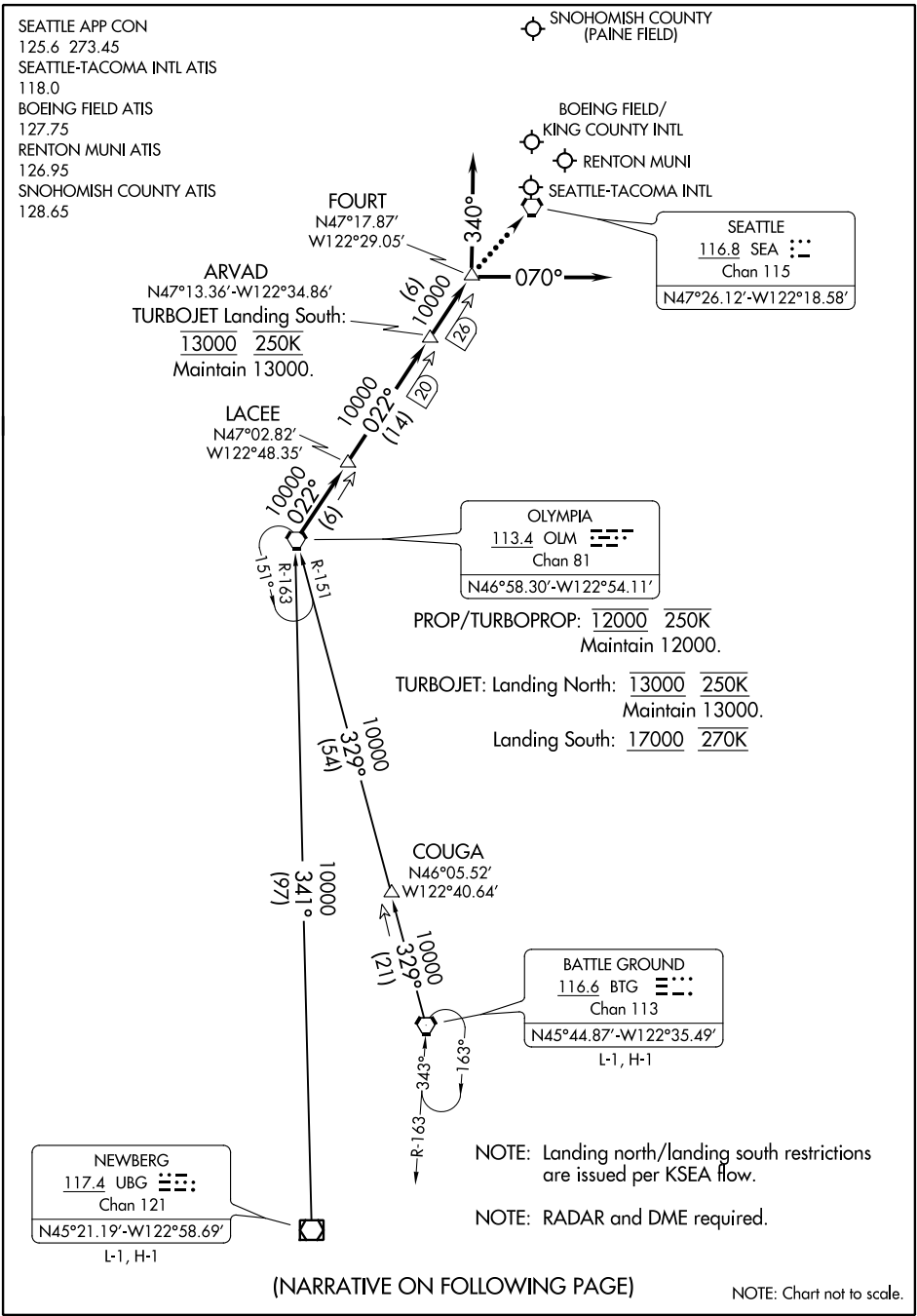
MOUNTAIN SEVEN DEPARTURE

SEATTLE, WASHINGTON
SEATTLE-TACOMA INTL (SEA)

OLYMPIA ONE ARRIVAL

ST-582 (FAA)

SEATTLE, WASHINGTON



NW-1, 12 NOV 2015 to 10 DEC 2015

NW-1, 12 NOV 2015 to 10 DEC 2015

OLYMPIA ONE ARRIVAL

SEATTLE, WASHINGTON

ARRIVAL ROUTE DESCRIPTION

BATTLE GROUND TRANSITION (BTG.OLM1): From over BTG VORTAC on BTG R-329 to COUGA, then on BTG R-329 and OLM R-151 to OLM VORTAC. Thence. . . .

NEWBERG TRANSITION (UBG.OLM1): From over UBG VOR/DME on UBG R-341 and OLM R-163 to OLM VORTAC. Thence. . . .

. . . . from over OLM VORTAC on OLM R-022 to LACEE, then on OLM R-022 to ARVAD, then on OLM R-022 to FOURT, thence. . . .

. . . . LANDING NORTH SEA/BFI: Depart FOURT heading 070° for vectors to final approach course.

. . . . LANDING SOUTH SEA/BFI: Depart FOURT heading 340° for vectors to final approach course.

. . . . LANDING SNOHOMISH COUNTY (PAINE FIELD): Depart FOURT heading 340° for vectors to final approach course.

. . . . LANDING RENTON MUNI: Depart FOURT heading 340° for vectors to final approach course.

LOST COMMUNICATIONS: From over FOURT, proceed direct SEA VORTAC.

NW-1, 12 NOV 2015 to 10 DEC 2015

NW-1, 12 NOV 2015 to 10 DEC 2015

APP CRS	Rwy Idg	9426
163°	TDZE	430
	Apt Elev	433

RNAV (RNP) Z RWY 16C

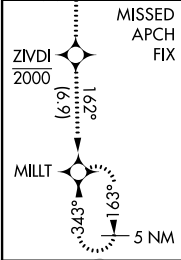
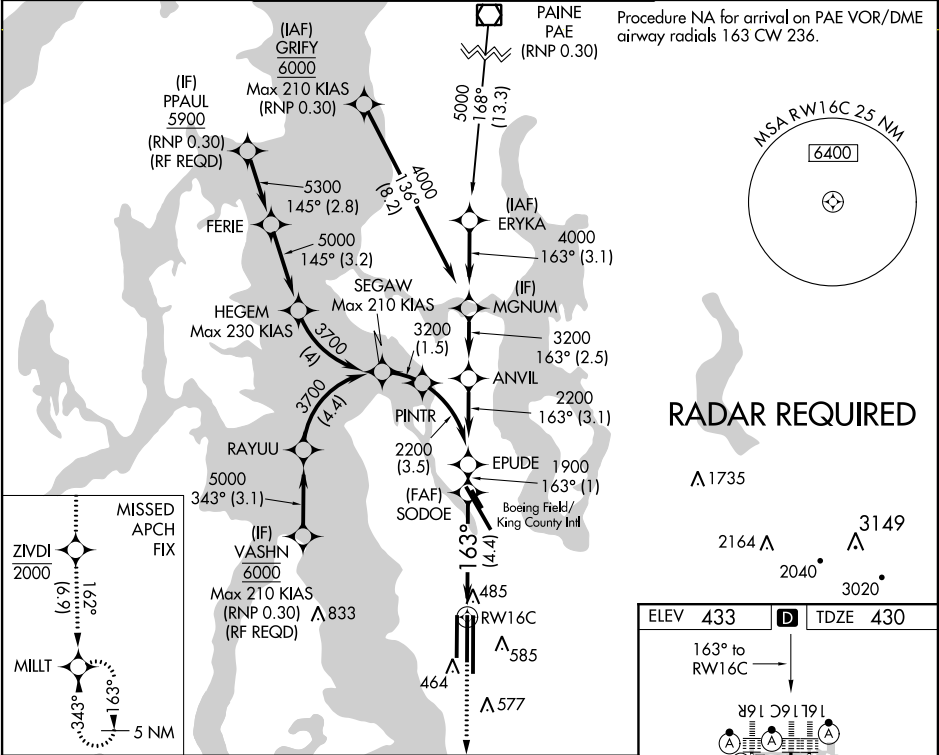
SEATTLE-TACOMA INTL (SEA)

For uncompensated Baro-VNAV systems, procedure NA below -6°C (22°F) or above 54°C (130°F). For inop ALSF, increase RNP 0.12 all Cats visibility to RVR 5200, and increase RNP 0.30 all Cats visibility to 1 1/2 mile. GPS required. See additional requirements on adjacent information page.

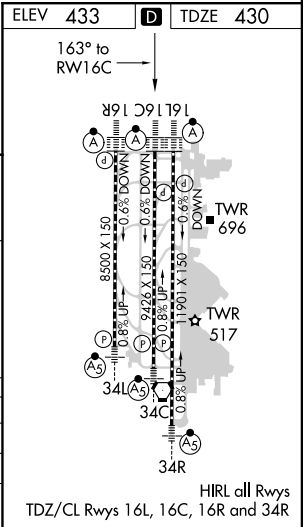
ALSF-2

MISSED APPROACH: Climb direct ZIVDI to cross ZIVDI at or below 2000, then climb to 5000 on track 162° to MILLT and hold, continue climb-in-hold to 5000.

ATIS	SEATTLE APP CON	SEATTLE TOWER	GND CON	CLNC DEL
118.0	133.65 273.45	119.9 239.3 (Rwys 16C/34C, 16L/34R) 120.95 239.3 (Rwy 16R/34L)	121.7	128.0



RADAR REQUIRED



See Planview for multiple IF locations.

EPUDE 2200

SODOE 1900

GP 3.00° TCH 57

163°

1900

1 NM

4.4 NM

RW16C

VGSI and RNP glidepath not coincident (VGSI Angle 3.00/TCH 75).

CATEGORY	A	B	C	D
RNP 0.12 DA		758/29	328 (400-5%)	
RNP 0.30 DA		834/43	404 (500-7%)	

AUTHORIZATION REQUIRED

NW-1, 12 NOV 2015 to 10 DEC 2015

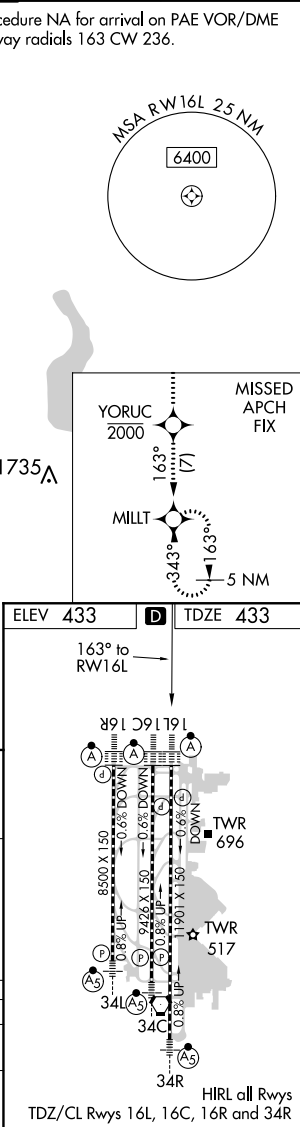
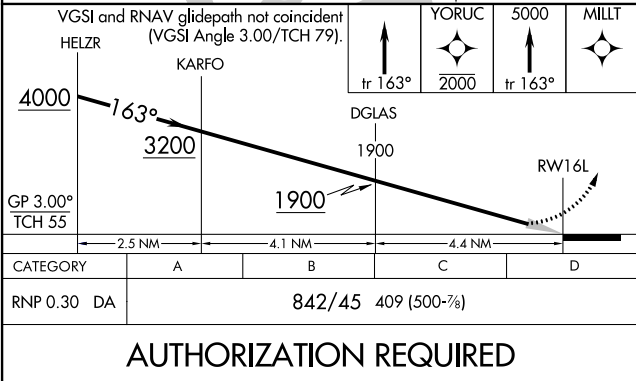
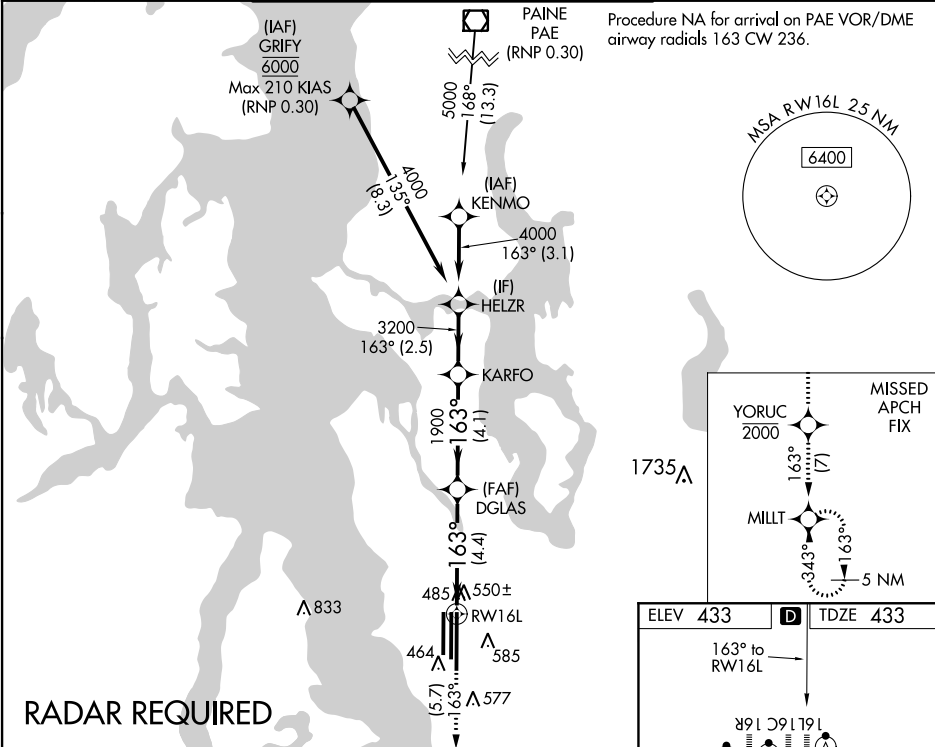
NW-1, 12 NOV 2015 to 10 DEC 2015

APP CRS	Rwy Idg	11901
163°	TDZE	433
	Apt Elev	433

RNAV (RNP) Z RWY 16L
SEATTLE-TACOMA INTL (SEA)

For uncompensated Baro-VNAV systems, procedure NA below -6°C (22°F) or above 54°C (130°F). For inop ALSF-2, increase RNP 0.30 all Cats visibility to 1 3/8 mile. Simultaneous approach authorized with Rwy 16R. GPS required. Use of FD or AP providing RNAV track guidance required during simultaneous operations.	ALSF-2	MISSED APPROACH: Climb on track 163° to cross YORUC at or below 2000, then climb to 5000 on track 163° to MILLT and hold, continue climb-in-hold to 5000.
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ATIS 118.0	SEATTLE APP CON 133.65 273.45	SEATTLE TOWER 119.9 239.3 (Rwys 16C/34C, 16L/34R) 120.95 239.3 (Rwy 16R/34L)	GND CON 121.7	CLNC DEL 128.0
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NW-1, 12 NOV 2015 to 10 DEC 2015

NW-1, 12 NOV 2015 to 10 DEC 2015

APP CRS 163°	Rwy Idg TDZE Apt Elev	8500 415 433
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RNAV (RNP) Z RWY 16R
SEATTLE-TACOMA INTL (SEA)

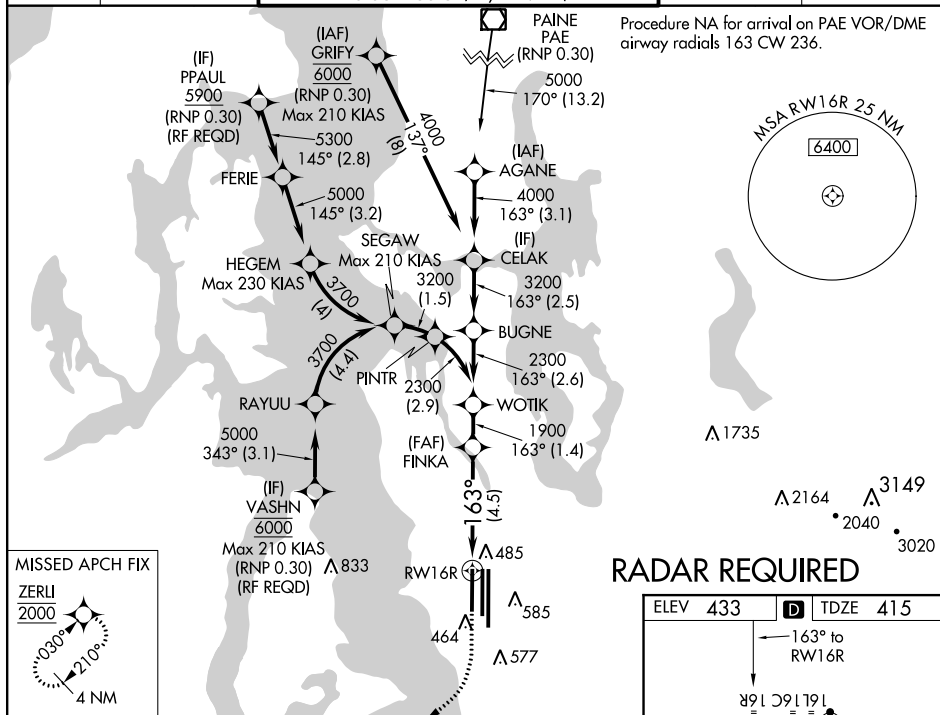
▼ For uncompensated Baro-VNAV systems, procedure NA below -6°C (22°F) or above 54°C (130°F). For inop ALSF, increase RNP 0.15 all Cats visibility to RVR 5800, increase RNP 0.30 all Cats visibility to 1½ mile. Simultaneous approach authorized with Rwy 16L, except for arrivals at PPAUL and VASHN. GPS required. Use of FD or AP providing RNAV track guidance required during simultaneous operations.

ALSF-2



MISSED APPROACH: Climb to 900 then climbing right direct ZERU to cross ZERU at 2000 and hold, when authorized by ATC, continue climb in hold to 5000.

ATIS 118.0	SEATTLE APP CON 133.65 273.45	SEATTLE TOWER 119.9 239.3 (Rwys 16C/34C, 16L/34R) 120.95 239.3 (Rwy 16R/34L)	GND CON 121.7	CLNC DEL 128.0
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NW-1, 12 NOV 2015 to 10 DEC 2015

NW-1. 12 NOV 2015 to 10 DEC 2015

VGS and RNAV glidepath not coincident (VGS Angle 3.00/TCH 69).

WOTIK

FINKA

900

ZERLI

2000

2300

1900

163°

GP 3.00°
TCH 55

1.4 NM

4.5 NM

RW16R

See planview for multiple IF locations.

CATEGORY	A	B	C	D
RNP 0.15 DA		770/34	355 (400-¾)	
RNP 0.30 DA		854/50	439 (500-1)	

AUTHORIZATION REQUIRED

APP CRS 343°	Rwy Idg TDZE Apt Elev	9426 387 433
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RNAV (RNP) Z RWY 34C
SEATTLE-TACOMA INTL (SEA)

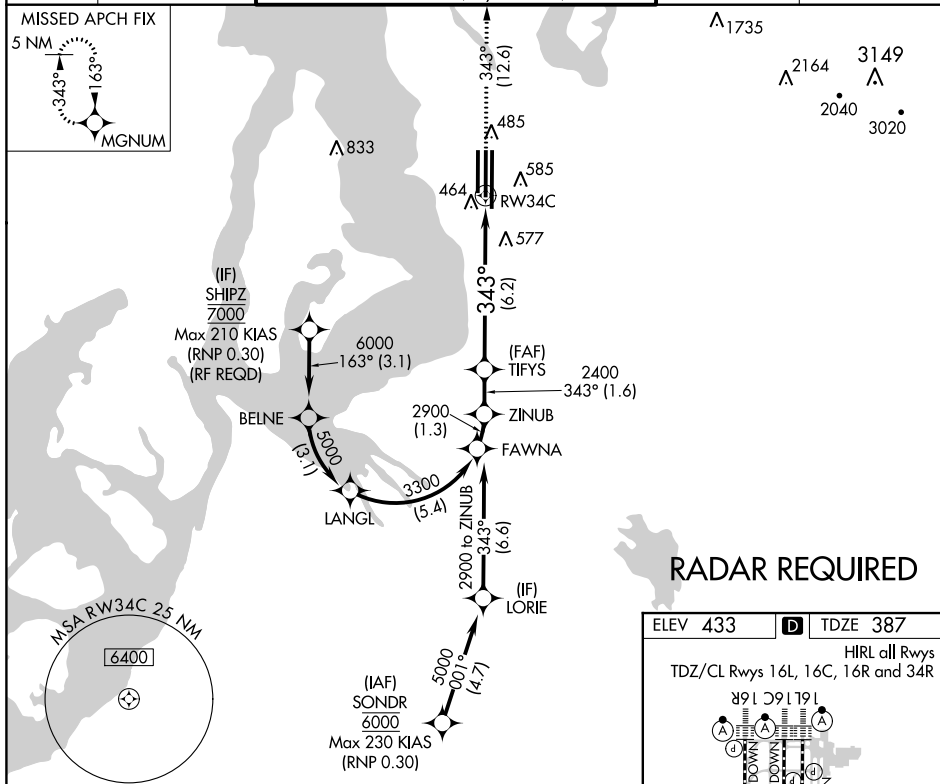
MISSED APPROACH: Climb to 5000 on track 343° to MGNUM and hold, continue climb-in-hold to 5000.

MALSR



ATIS 118.0	SEATTLE APP CON 133.65 273.45	SEATTLE TOWER 119.9 239.3 (Rwys 16C/34C, 16L/34R) 120.95 239.3 (Rwy 16R/34L)	GND CON 121.7	CLNC DEL 128.0
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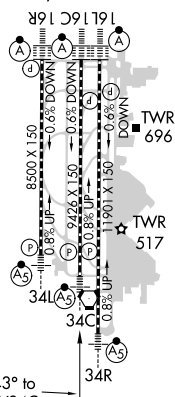
MISSED APCH FIX



RADAR REQUIRED

ELEV 433	D	TDZE 387
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HIRL all Rwys
TDZ/CL Rwys 16L, 16C, 16R and 34R



5000 ↑ tr 343°	MGNUM ✦	VGS1 and RNAV glidepath not coincident (VGS1 Angle 3.00/TCH 75).			
See planview for multiple IF locations.					
RW34C		TIFY5 2400		ZINUB 2900	
		343°			
		2400			
6.2 NM		1.6 NM		GP 3.00° TCH 56	
CATEGORY	A	B	C	D	
RNP 0.30 DA	808/50 421 (400-1)				
AUTHORIZATION REQUIRED					

SEATTLE, WASHINGTON

Amdt 2 15OCT15

47°27'N-122°19'W

SEATTLE-TACOMA INTL (SEA)

RNAV (RNP) Z RWY 34C

APP CRS	Rwy Idg	8500
343°	TDZE	379
	Apf Elev	433

RNAV (RNP) Z RWY 34L
SEATTLE-TACOMA INTL (SEA)

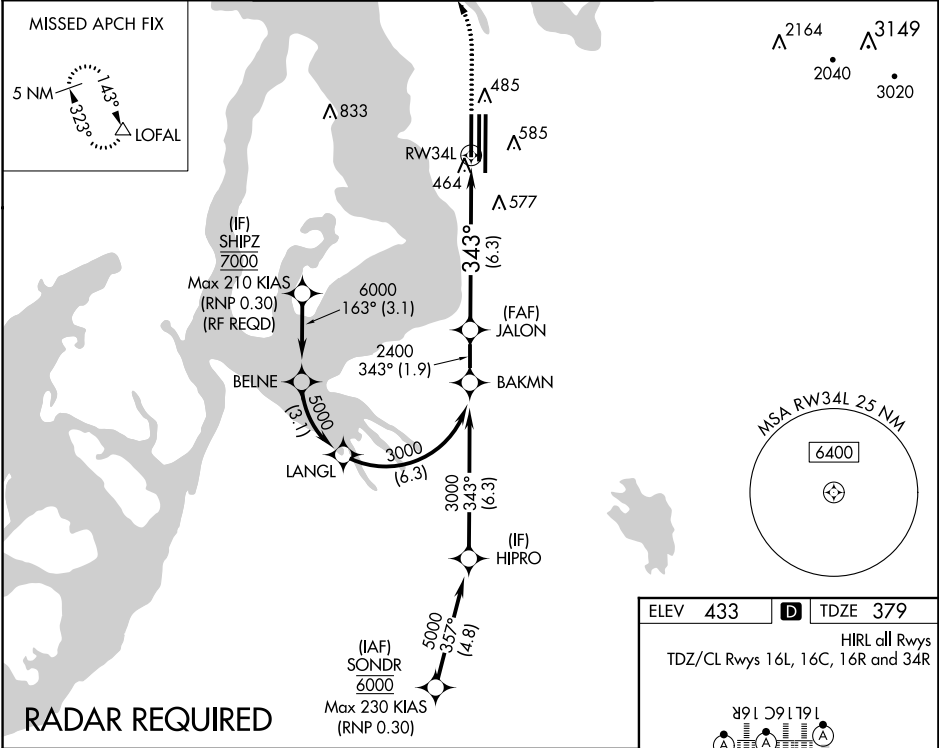
For uncompensated Baro-VNAV systems, procedure NA below -6°C (22°F) or above 54°C (130°F). GPS required. Simultaneous approach authorized with Rwy 34R except for arrivals at SHIPZ. Use of FD or AP providing RNAV track guidance required during simultaneous operations. For inop MALSR, increase RNP 0.15 all Cats visibility to RVR 6000 and RNP 0.30 all Cats visibility to 1½ mile.

MALSR

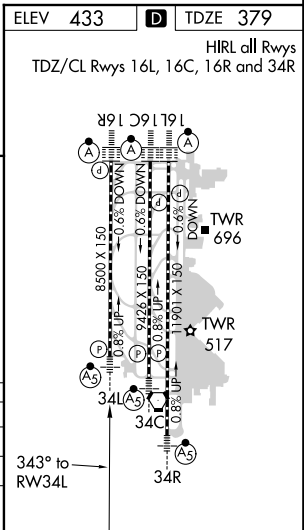


MISSED APPROACH: Climb to 900 then climbing left turn to 5000 direct LOFAL and hold.

ATIS 118.0	SEATTLE APP CON 133.65 273.45	SEATTLE TOWER 119.9 239.3 (Rwys 16C/34C, 16L/34R) 120.95 239.3 (Rwy 16R/34L)	GND CON 121.7	CLNC DEL 128.0
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900	5000	LOFAL	VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 75).
See planview for multiple IF locations.			
RW34L			
JALON 2400 343° 3000			
BAKMN 2400			
GP 3.00° TCH 55			
6.3 NM 1.9 NM			
CATEGORY	A	B	C
RNP 0.15 DA	695/40 316 (300-¾)		
RNP 0.30 DA	787/50 408 (400-1)		
AUTHORIZATION REQUIRED			

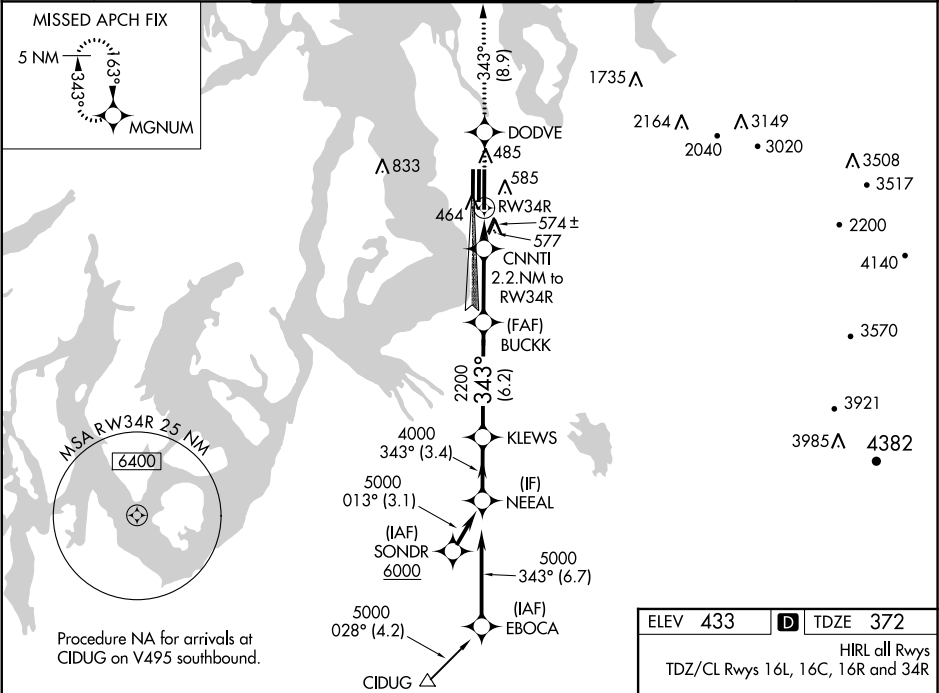


WAAS CH 42710 W34D	APP CRS 343°	Rwy Idg 11901 TDZE 372 Apt Elev 433
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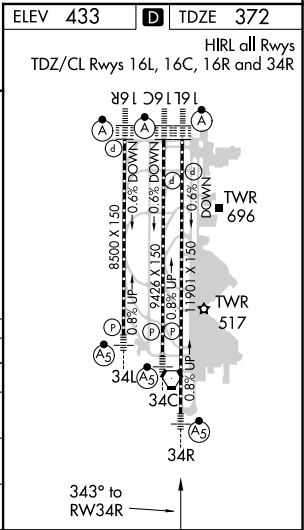
RNAV (GPS) Y RWY 34R
SEATTLE-TACOMA INTL (SEA)

▼ DME/DME RNP-0.3 NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -8°C (18°F) or above 54°C (130°F). LNAV procedure NA during simultaneous operations. Use of FD or AP providing RNAV track guidance required during simultaneous operations. Simultaneous approach authorized with Rwy 34L. For inoperative MALS, increase LNAV Cat C and D visibility to 1½.	MALS AS	MISSED APPROACH: Climb to 3000 direct DODVE then climb to 5000 on track 343° to MGNUM and hold, continue climb-in-hold to 5000.
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ATIS 118.0	SEATTLE APP CON 133.65 273.45	SEATTLE TOWER 119.9 239.3 (Rwys 16C/34C, 16L/34R) 120.95 239.3 (Rwy 16R/34L)	GND CON 121.7	CLNC DEL 128.0
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3000	DODVE	5000	MGNUM	VGSI and RNAV glidepath not coincident (VGSI Angle 2.75/TCH 83).
*LNAV only				
CNNTI 2.2 NM to RWY 34R				
*1.5 NM to RWY 34R				
RWY 34R				
1040*				
2200				
4000				
5000				
GP 2.75° TCH 60				
CATEGORY	A	B	C	D
LPV DA	572/24 200 (200-½)			
LNAV/VNAV DA	915-1½ 543 (500-1½)			
LNAV MDA	840/24 468 (500-½)		840/50 468 (500-1)	
CIRCLING	1000-1 567 (600-1)		1000-2 567 (600-½)	



SEATTLE FOUR DEPARTURE

SL-582 (FAA)

SEATTLE-TACOMA INTL (SEA)
SEATTLE, WASHINGTON

ATIS
118.0
CLNC DEL
128.0
SEATTLE DEP CON
119.2 284.7

VANCOUVER
115.9 YVR
Chan 106
N49°04.64'
W123°08.94'
L-1, H-1

WHATCOM
113.0 HUH
Chan 77
N48°56.72'
W122°34.76'
L-1, H-1

PRINCETON
113.9 YDC
Chan 86
N49°22.89'
W120°22.42'
H-1

VICTORIA
113.7 YYJ
Chan 84
N48°43.62'
W123°29.06'
L-1, H-1

TATOOSH
112.2 TOU
Chan 59
N48°17.99'
W124°37.62'
L-1, H-1

HOQUIAM
117.7 HQM
Chan 124
N46°56.82'
W124°08.96'
L-1, H-1

OLYMPIA
113.4 OLM
Chan 81
N46°58.30'
W122°54.11'
L-1, H-1

PAINE
110.6 PAE
Chan 43
N47°55.19'
W122°16.67'
L-1, H-1

EPHRATA
112.6 EPH
Chan 73
N47°22.68'
W119°25.44'
L-13, H-1

SEATTLE
116.8 SEA
Chan 115
N47°26.12'
W122°18.58'
L-1, H-1

ELLENSBURG
117.9 ELN
Chan 126
N47°01.46'
W120°27.51'
L-13, H-1

BATTLE GROUND
116.6 BTG
Chan 113
N45°44.87'
W122°35.49'
L-1, H-1

YAKIMA
116.0 YKM
Chan 107
N46°34.21'
W120°26.68'
L-13, H-1

ASTORIA
114.0 AST
Chan 87
N46°09.70'
W123°52.82'
L-1

NEWBERG
117.4 UBG
Chan 121
N45°21.19'
W122°58.69'
L-1, H-1

EUGENE
112.9 EUG
Chan 76
N44°07.25'
W123°13.37'
L-1, H-1

TAKEOFF MINIMUMS
Rwy 16L/C/R: Standard.
Rwy 34L/C/R: Standard.

NOTE: RADAR required.

NOTE: Between the hours of 2200 and 0600 local, large turbine powered aircraft departing runways 34L/C/R will be vectored over Puget Sound for noise abatement before proceeding on course.

TAKEOFF OBSTACLE NOTES

Rwy 16L: Trees beginning 2908' from DER, 1064' right of centerline, up to 100' AGL/476' MSL.

Rwy 16C: Trees beginning 4477' from DER, 484' right of centerline, up to 100' AGL/507' MSL.

Rwy 16R: Trees, antenna on building and light pole beginning 488' from DER, 436' left of centerline, up to 100' AGL/507' MSL. Trees beginning 1137' from DER, 587' right of centerline, up to 100' AGL/468' MSL.

Rwy 34L: Fence 189' from DER, 401' right of centerline, up to 12' AGL/420' MSL.

Trees beginning 4010' from DER, 857' left of centerline, up to 100' AGL/522' MSL.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTIONTAKEOFF RUNWAY 34L: Climb heading 349° and SEA R-341, thence. . .TAKEOFF RUNWAY 34C/R: Climb heading 344° and SEA R-341, thence. . .TAKEOFF RUNWAY 16L: Climb heading 164° and SEA R-161, thence. . .TAKEOFF RUNWAY 16C: Climb heading 162° and SEA R-161, thence. . .TAKEOFF RUNWAY 16R: Climb heading 157° and SEA R-161, thence. . .

. . . Maintain assigned altitude, expect radar vectors to assigned route.

SEATTLE FOUR DEPARTURE

SEATTLE, WASHINGTON
SEATTLE-TACOMA INTL (SEA)

SUMMA EIGHT DEPARTURE

SL-582 (FAA)

SEATTLE-TACOMA INTL (SEA)
SEATTLE, WASHINGTON

ATIS
118.0
SEATTLE DEP CON
119.2 284.7

SEATTLE
116.8 SEA
Chan 115
N47°26.12' W122°18.58'

OLYMPIA
113.4 OLM
Chan 81

LAKEVIEW
112.0 LKV
Chan 57
N42°29.57' W120°30.43'
L-11, H-3

SUMMA
N46°37.07' W121°59.30'

NEVJO
N47°15.13' W122°18.58'

PAINE
110.6 PAE
Chan 43

TOP ALTITUDE:
ASSIGNED BY ATC

TAKEOFF MINIMUMS

Rwys 16L/C/R: Standard.
Rwys 34L/C/R: Standard with minimum climb
of 580' per NM to 4000 (ATC).

TAKEOFF OBSTACLE NOTES

Rwy 16L: Trees beginning 2906' from DER, 1064' right of
centerline, up to 100' AGL/476' MSL.
Rwy 16C: Trees beginning 4477' from DER, 484' right of
centerline, up to 100' AGL/507' MSL.
Rwy 16R: Trees, antenna on building and light pole beginning
488' from DER, 436' left of centerline, up to 100'
AGL/507' MSL. Trees beginning 1137' from DER,
587' right of centerline, up to 100' AGL/468' MSL.
Rwy 34L: Fence 189' from DER, 401' right of centerline, up to
12' AGL/420' MSL. Trees beginning 4010' from
DER, 857' left of centerline, up to 100' AGL/522'
MSL.

BAKER CITY
115.3 BKE
Chan 100
N44°50.44' W117°48.47'
L-13, H-1

NOTE: RADAR and DME required.
NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 34L: Climb heading 346° and SEA R-341, thence. . .
TAKEOFF RUNWAY 34C: Climb heading 343° and SEA R-341, thence. . .
TAKEOFF RUNWAY 34R: Climb heading 342° and SEA R-341, thence. . .
. . . to cross NEZUG at or above 4000, then right turn heading 070° to cross the
PAE R-139, then right turn heading 165° to intercept SEA R-146 to SUMMA INT,
then via assigned transition.

TAKEOFF RUNWAYS 16L/C: Climb heading 163° and SEA R-161, thence. . .
TAKEOFF RUNWAY 16R: Climb heading 161° and SEA R-161, thence. . .
. . . to NEVJO, then left turn heading 130° to intercept the SEA R-146 to SUMMA INT,
then via assigned transition.

BAKER CITY TRANSITION (SUMMA8.BKE): From over SUMMA INT via OLM R-100
and BKE R-283 to BKE VOR/DME.

LAKEVIEW TRANSITION (SUMMA8.LKV): From over SUMMA INT via SEA R-146
and LKV R-327 to LKV VORTAC.

SUMMA EIGHT DEPARTURE

NW-1, 12 NOV 2015 to 10 DEC 2015

NW-1, 12 NOV 2015 to 10 DEC 2015