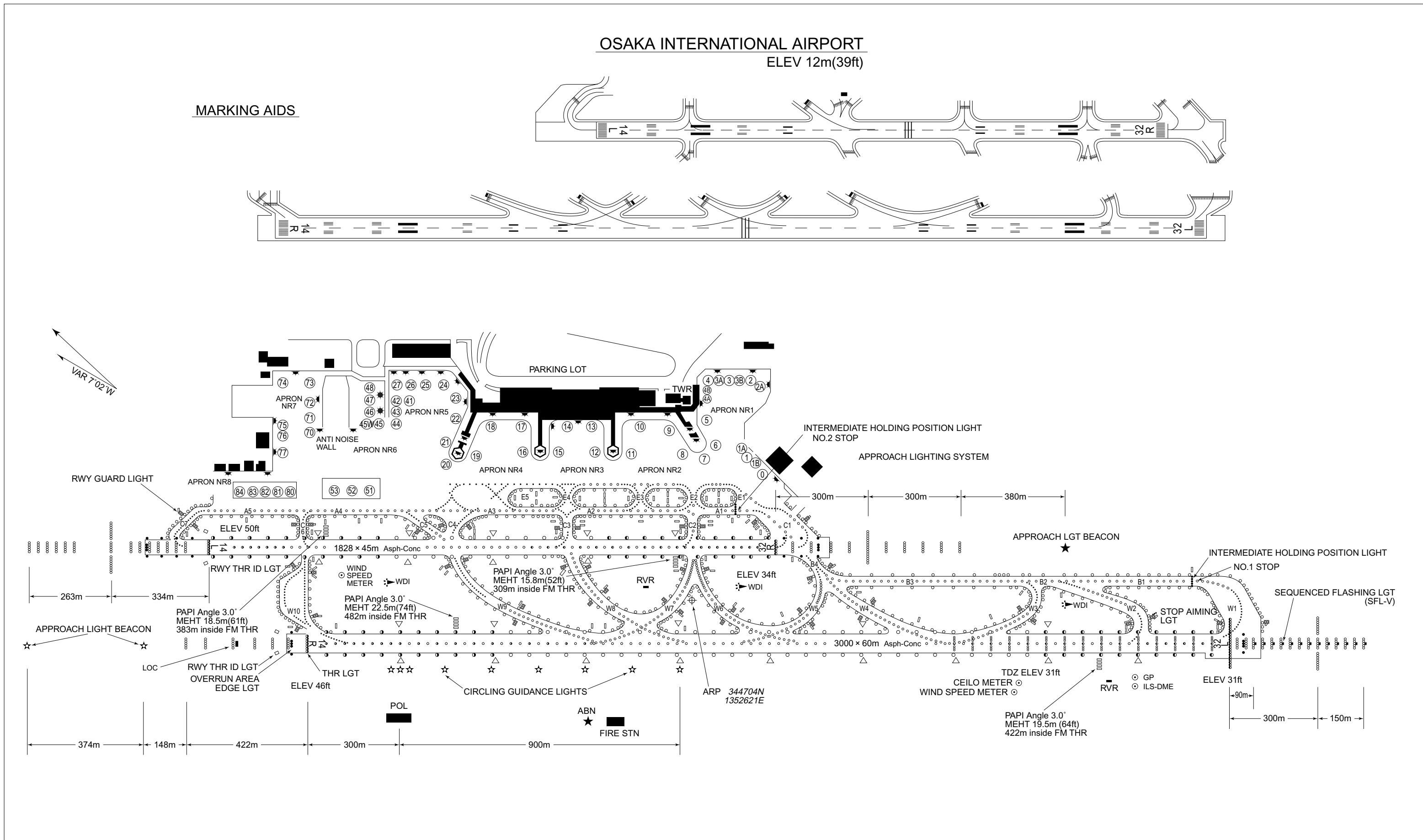
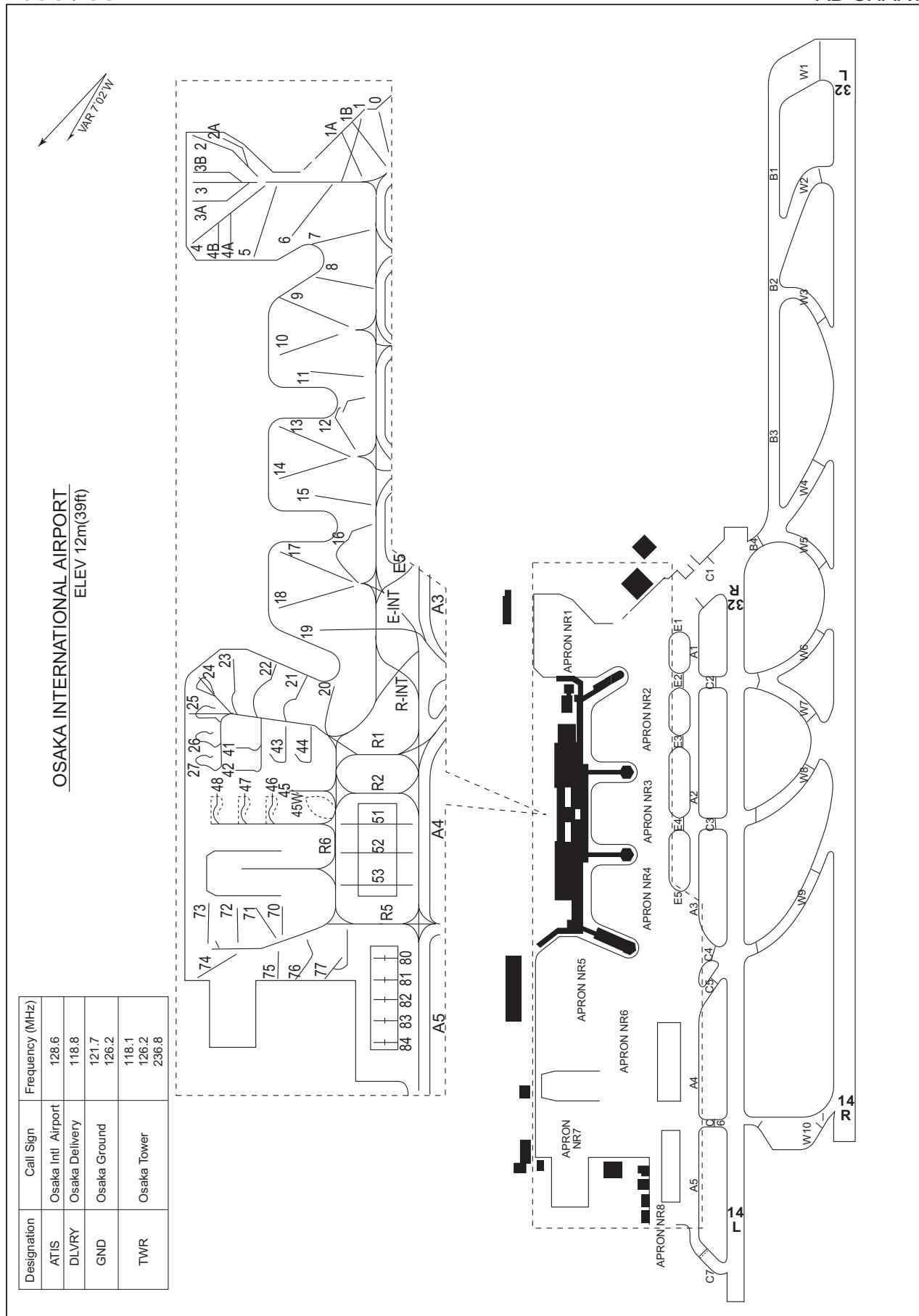


AERODROME CHART



RJOO / OSAKA INTL

AD CHART



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DIMENSIONS AND ELEVATIONS IN FEET BEARINGS ARE MAGNETIC

AERODROME OBSTACLE CHART-ICAO
TYPE A (OPERATING LIMITATIONS)

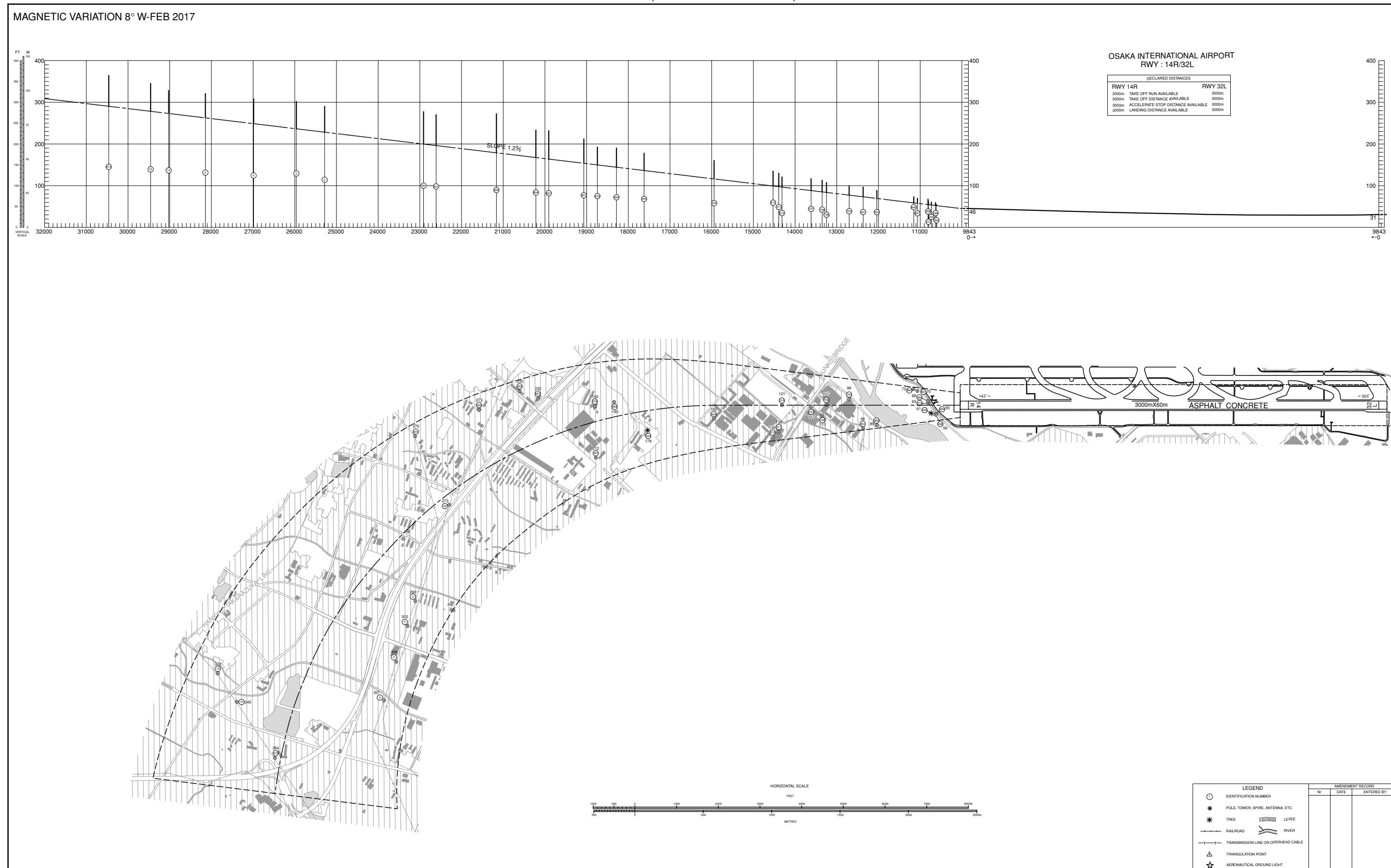
MAGNETIC VARIATION 8° W-FEB 2017



DIMENSIONS AND ELEVATIONS IN FEET BEARINGS ARE MAGNETIC

AERODROME OBSTACLE CHART-ICAO
TYPE A (OPERATING LIMITATIONS)

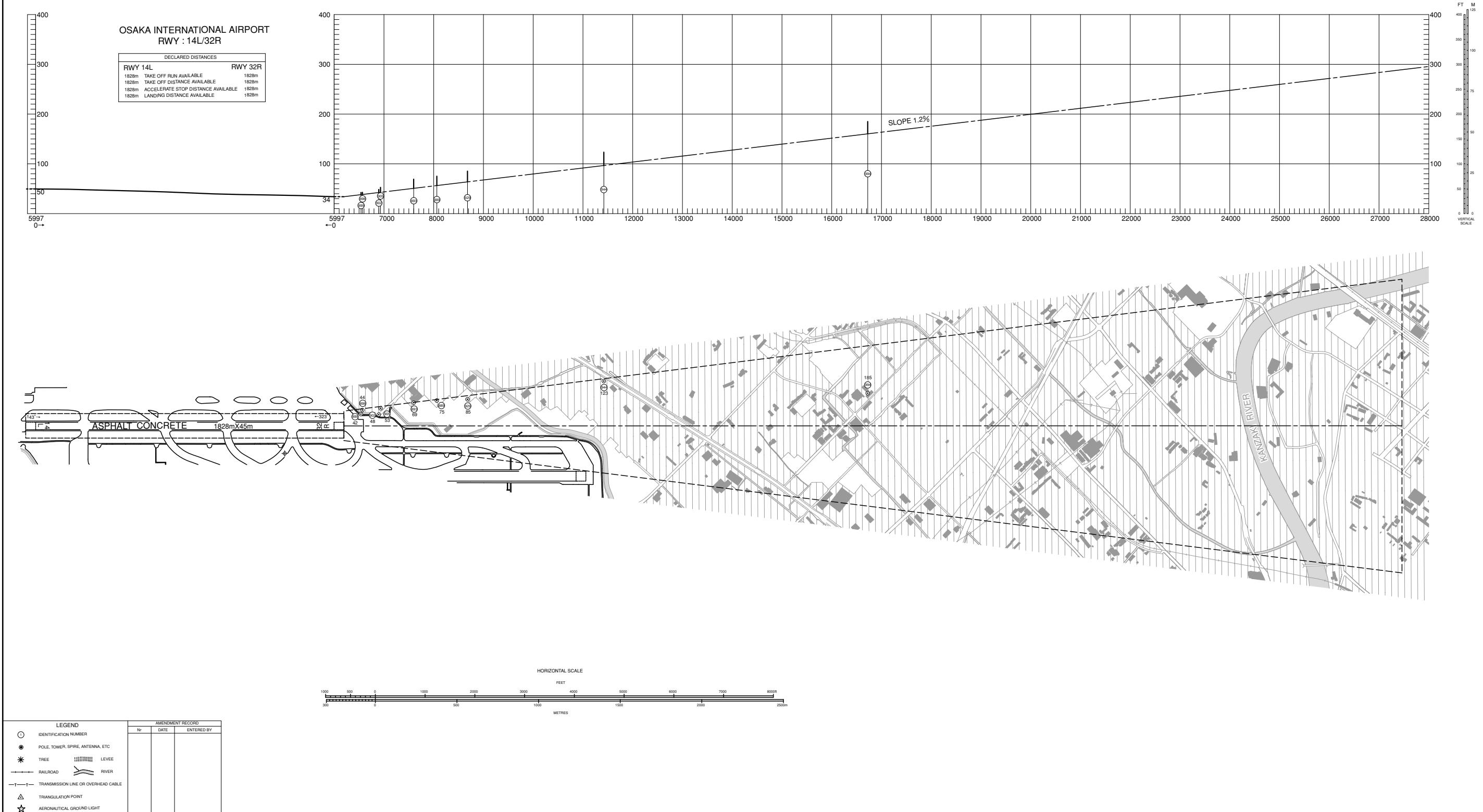
MAGNETIC VARIATION 8° W-FEB 2017



DIMENSIONS AND ELEVATIONS IN FEET BEARINGS ARE MAGNETIC

AERODROME OBSTACLE CHART-ICAO
TYPE A (OPERATING LIMITATIONS)

MAGNETIC VARIATION 8° W-FEB 2017



DIMENSIONS AND ELEVATIONS IN FEET BEARINGS ARE MAGNETIC

AERODROME OBSTACLE CHART-ICAO
TYPE A (OPERATING LIMITATIONS)

MAGNETIC VARIATION 8° W-FEB 2017



AERODROME OBSTACLE CHART-ICAO TYPE B

DIMENSIONS AND ELEVATIONS IN FEET BEARINGS ARE MAGNETIC



STANDARD DEPARTURE CHART -INSTRUMENT

RJOO / OSAKA INTL

SID

ASUKA FOUR DEPARTURE

RWY 32R/32L : Climb RWY HDG to 500FT or above, turn left within 4NM from RWY end/ITE 2.1DME,...

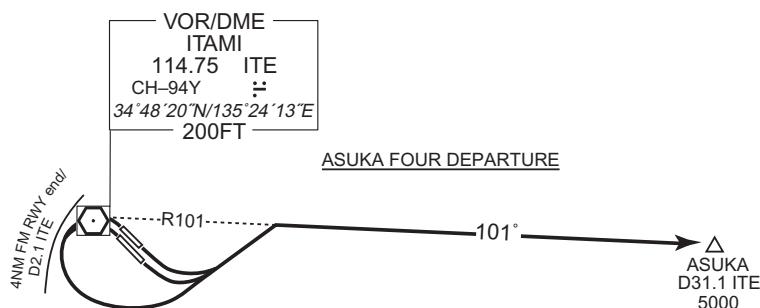
RWY 14R/14L : Climb RWY HDG to 500FT or above, turn left,...
...via ITE R101 to ASUKA.

Cross ASUKA at or above 5000FT.

Note : When take off RWY 14R/14L, following climb gradient should be maintained until 500FT.

Speed (Knots)	60	90	120	150	180	210
Rate (Feet/Min)	300	450	600	750	900	1050

CHANGE : DME FM ITE added (ASUKA).



STANDARD DEPARTURE CHART -INSTRUMENT

RJOO / OSAKA INTL

SID and TRANSITION

OTSU FIVE DEPARTURE

RWY 32R/32L : Climb RWY HDG to 500FT or above, turn left within 4NM from RWY end/ITE 2.1DME,...

RWY 14R/14L : Climb RWY HDG to 500FT or above, turn left,...

...via ITE R101 to intercept and proceed via CUE R206 to CUE VOR/DME.

Cross CUE VOR/DME at or above 7000FT.

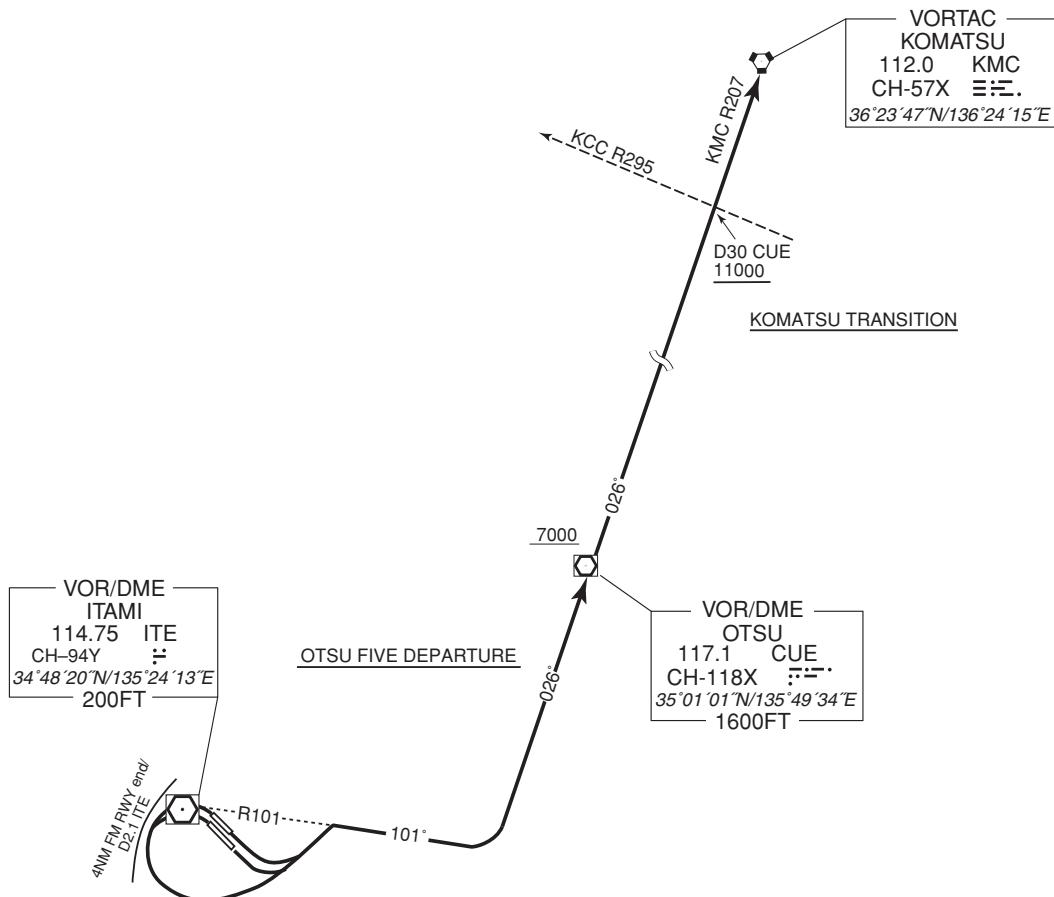
Note : When take off RWY 14R/14L, following climb gradient should be maintained until 500FT.

Speed (Knots)	60	90	120	150	180	210
Rate (Feet/Min)	300	450	600	750	900	1050

KOMATSU TRANSITION

From over CUE VOR/DME, via CUE R026/KMC R207 to KMC VORTAC.

Cross CUE R026/30DME (KCC R295) at or above 11000FT.



STANDARD DEPARTURE CHART -INSTRUMENT

RJOO / OSAKA INTL

SID

IZUMI ONE DEPARTURE

RWY 32R/32L : Climb RWY HDG to 500FT or above, turn left within 4NM from RWY end/ITE 2.1DME, via ITE R201 to YODOH,...

RWY 14R/14L : Climb RWY HDG to 500FT or above, turn right HDG230° to intercept and proceed via ITE R201 to YODOH,...

...turn left, via YOE R295 to intercept and proceed via ITE R184 to IZUMI.
Cross IZUMI at or above 6000FT.

Note : When take off RWY 14R/14L, following climb gradient should be maintained until 500FT.

Speed (Knots)	60	90	120	150	180	210
Rate (Feet/Min)	300	450	600	750	900	1050



STANDARD DEPARTURE CHART -INSTRUMENT

RJOO / OSAKA INTL

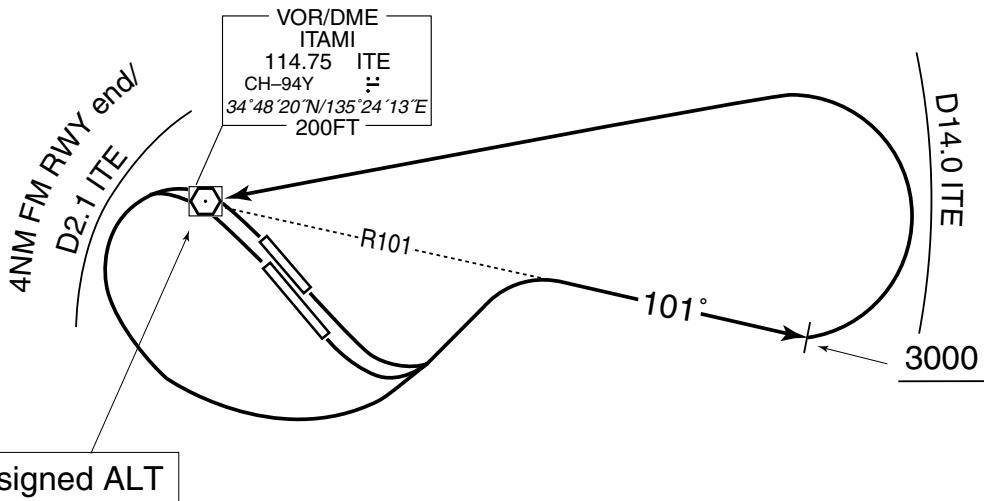
SID

EAST REVERSAL FOUR DEPARTURE

RWY 32R/32L : Climb RWY HDG to 500FT or above, turn left within 4NM from RWY end/ITE 2.1DME,...

RWY 14R/14L : Climb RWY HDG to 500FT or above, turn left,...
...via ITE R101 to 3000FT or above, turn left direct to ITE VOR/DME within ITE 14.0DME.
Cross ITE VOR/DME at assigned altitude.
Note : When take off RWY 14R/14L, following climb gradient should be maintained until 500FT.

Speed (Knots)	60	90	120	150	180	210
Rate (Feet/Min)	300	450	600	750	900	1050

EAST REVERSAL FOUR DEPARTURE

STANDARD DEPARTURE CHART -INSTRUMENT

RJOO / OSAKA INTL

SID

TIGER TWO DEPARTURE

RWY 32R/32L : Climb RWY HDG to 500FT or above, turn left within 4NM from RWY end/ITE 2.1DME, via ITE R201 until crossing YOE R301...

RWY 14R/14L : Climb RWY HDG to 500FT or above, turn right HDG230° until crossing YOE R301...

...turn right to intercept and proceed via YOE R291 to TIGER.
Cross TIGER at or above 6000FT.

Note : Following climb gradient should be maintained until 2500FT.

Speed (Knots)	60	90	120	150	180	210
Rate (Feet/Min)	300	450	600	750	900	1050



STANDARD DEPARTURE CHART -INSTRUMENT

RJOO / OSAKA INTL

TRANSITION

KAGAWA TRANSITION

From over TIGER, via YOE R291 to SUMAR, via ITE R260 to intercept and proceed via KTE R057 to KTE VOR/DME.

Cross SUMAR at or above 9000FT, cross ITE R260/43.1DME at or above FL180.



STANDARD DEPARTURE CHART -INSTRUMENT

RJOO / OSAKA INTL

TRANSITION

ASAGI TRANSITION

From over TIGER, via KCE R324 to ASAGI.
Cross KCE R324/22.4DME at or above 7000FT.

TOZAN TRANSITION

From over TIGER, via KCE R324 to TOZAN, via ASAGI.
Cross KCE R324/22.4DME at or above 7000FT, cross KCE R324/47.0DME at or above 10000FT.

BUMER TRANSITION

From over TIGER, via YOE R291 to intercept and proceed via KCE R311 to BUMER.

CHANGE : TOZAN TRANSITION. Radial FM KCE.



STANDARD DEPARTURE CHART-INSTRUMENT

RJOO / OSAKA INTL

SID and TRANSITION

MINAC FOUR DEPARTURE

RWY 32R/32L : Climb RWY HDG to 500FT or above, turn left within 4NM from RWY end/ITE 2.1DME,...

RWY 14R/14L : Climb RWY HDG to 500FT or above, turn left,...
...via ITE R101 to intercept and proceed via KCE R077 to MINAC.

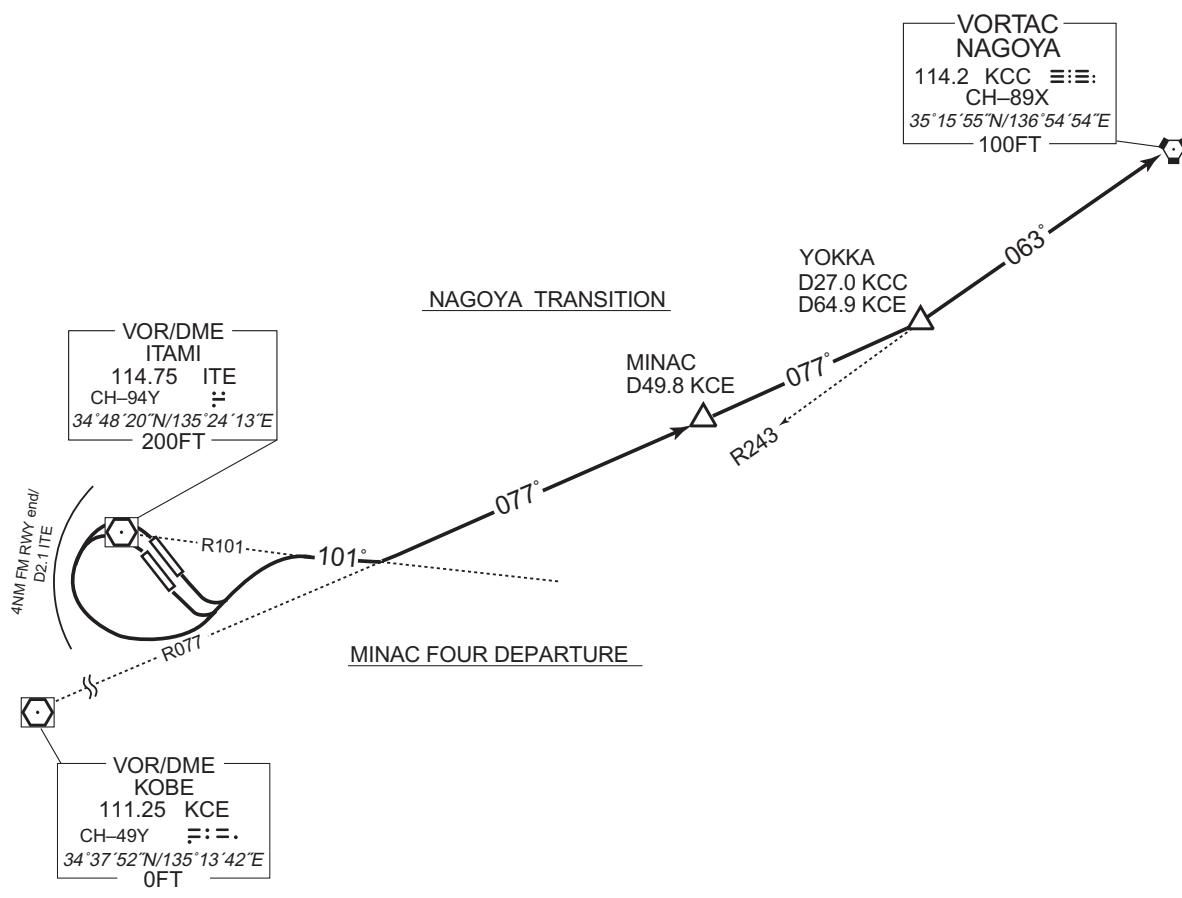
Note: When take off RWY14R/14L, following climb gradient should be maintained until 500FT.

Speed (Knots)	60	90	120	150	180	210
Rate (Feet/Min)	300	450	600	750	900	1050

NAGOYA TRANSITION

From over MINAC, via KCE R077 to YOKKA, via KCC R243 to KCC VORTAC.

CHANGE : PROC renamed. Radial FM KCE.

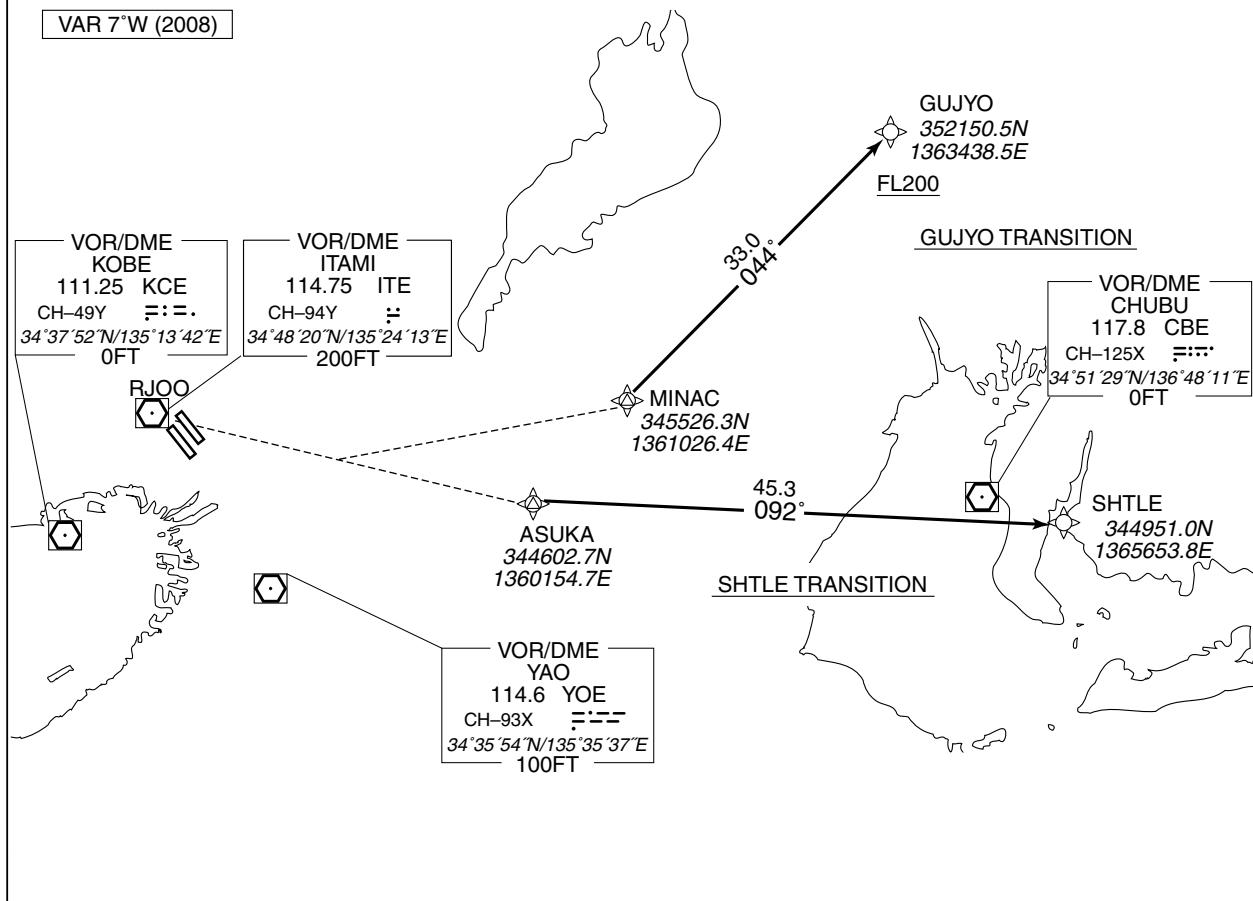


STANDARD DEPARTURE CHART-INSTRUMENT

RJOO / OSAKA INTL

RNAV TRANSITION

GUJYO TRANSITION / SHTLE TRANSITION		RNAV1
NOTE 1) DME/DME/IRU or GNSS required. 2) RADAR service required.	Critical DME	—
	DME GAP	—
	Inappropriate Navaids	See AD1.1.6.10.3. Inappropriate NAVAIDs for RNAV1



GUJYO TRANSITION

From MINAC, to GUJYO at or above FL200.

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	IF	MINAC	—	—	-7.1	—	—	—	—	—	RNAV1
002	TF	GUJYO	—	044 (036.7)	-7.1	33.0	—	+FL200	—	—	RNAV1

SHTLE TRANSITION

From ASUKA, to SHTLE.

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	IF	ASUKA	—	—	-7.1	—	—	—	—	—	RNAV1
002	TF	SHTLE	—	092 (084.9)	-7.1	45.3	—	—	—	—	RNAV1

STANDARD DEPARTURE CHART-INSTRUMENT

RJOO / OSAKA INTL

RNAV TRANSITION

AWAJI TRANSITION		RNAV1
NOTE 1) DME/DME/IRU or GNSS required.	Critical DME	KNE : TIGER – MAIKO
2) RADAR service required.	DME GAP	–
	Inappropriate Navaids	See AD1.1.6.10.3. Inappropriate NAVAIDs for RNAV1

AWAJI TRANSITION

From TIGER, to MAIKO, to AWAJI.

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	IF	TIGER	–	–	-7.6	–	–	–	–	–	RNAV1
002	TF	MAIKO	–	252 (244.2)	-7.6	9.6	–	–	–	–	RNAV1
003	TF	AWAJI	–	222 (213.6)	-7.6	24.8	–	–	–	–	RNAV1

STANDARD DEPARTURE CHART-INSTRUMENT

RJOO / OSAKA INTL

RNAV TRANSITION

AYAME TRANSITION / SOUJA TRANSITION / WASYU TRANSITION		RNAV1
NOTE 1) DME/DME/IRU or GNSS required. 2) RADAR service required.	Critical DME	-
	DME GAP	-
	Inappropriate Navaids	See AD1.1.6.10.3. Inappropriate NAVAIDs for RNAV1



AYAME TRANSITION

From TIGER, to SUMAR, to AYAME.

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	IF	TIGER	-	-	-7.6	-	-	-	-	-	RNAV1
002	TF	SUMAR	-	291 (283.2)	-7.6	7.4	-	-	-	-	RNAV1
003	TF	AYAME	-	265 (257.2)	-7.6	28.9	-	-	-	-	RNAV1

SOUJA TRANSITION

From TIGER, to SUMAR, to AYAME, to SETOH, to SOUJA.

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	IF	TIGER	-	-	-7.6	-	-	-	-	-	RNAV1
002	TF	SUMAR	-	291 (283.2)	-7.6	7.4	-	-	-	-	RNAV1
003	TF	AYAME	-	265 (257.2)	-7.6	28.9	-	-	-	-	RNAV1
004	TF	SETOH	-	264 (256.8)	-7.6	15.7	-	-	-	-	RNAV1
005	TF	SOUJA	-	292 (284.8)	-7.6	20.7	-	-	-	-	RNAV1

STANDARD DEPARTURE CHART-INSTRUMENT

RJOO / OSAKA INTL

RNAV TRANSITION

WASYU TRANSITION

From TIGER, to SUMAR, to AYAME, to SETOH, to WASYU.

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	IF	TIGER	—	—	-7.6	—	—	—	—	—	RNAV1
002	TF	SUMAR	—	291 (283.2)	-7.6	7.4	—	—	—	—	RNAV1
003	TF	AYAME	—	265 (257.2)	-7.6	28.9	—	—	—	—	RNAV1
004	TF	SETOH	—	264 (256.8)	-7.6	15.7	—	—	—	—	RNAV1
005	TF	WASYU	—	272 (263.9)	-7.6	37.9	—	—	—	—	RNAV1

STANDARD ARRIVAL CHART-INSTRUMENT

RJOO / OSAKA INTL

STAR

IZUMI ARRIVAL

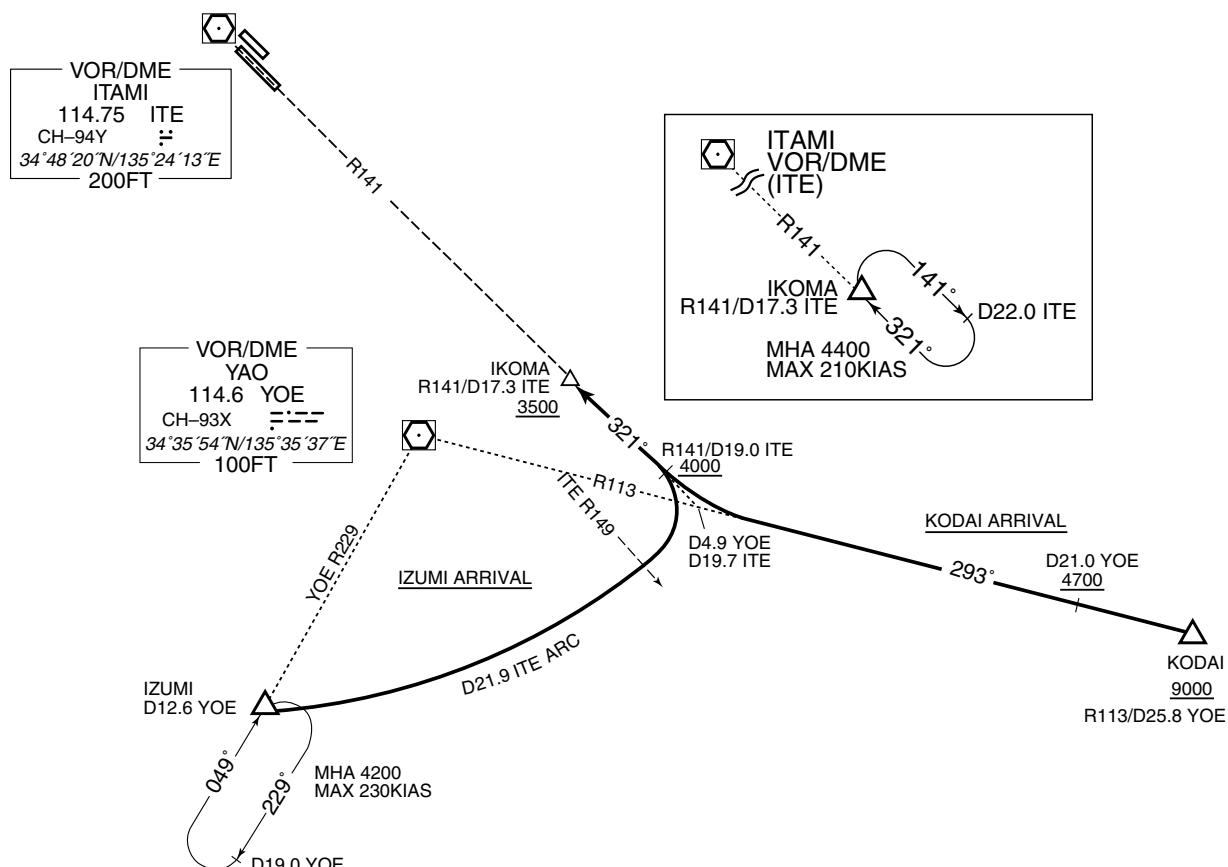
From over IZUMI, via ITE 21.9DME counterclockwise ARC to intercept and proceed via ITE R141 to IKOMA.

Cross ITE R141/19.0DME at or above 4000FT, cross IKOMA at or above 3500FT.

KODAI ARRIVAL

From over KODAI, via YOE R113 to intercept and proceed via ITE R141 to IKOMA.

Cross KODAI at or above 9000FT, cross YOE R113/21.0DME at or above 4700FT, cross ITE R141/19.0DME at or above 4000FT, cross IKOMA at or above 3500FT.



STANDARD ARRIVAL CHART-INSTRUMENT

RJOO / OSAKA INTL

RNAV STAR RWY32L/32R

IKOMA EAST ARRIVAL / IKOMA NORTH ARRIVAL

RNAV1

- Note 1) DME/DME/IRU or GNSS required
 2) RADAR service required

VAR 8°W (2016)

ROKKO
350700.6N
1351800.9E
7000

D28.0 YOE
351°
KAMEO
D22.0 YOE
R351
YAO
VOR/DME (YOE)

VOR/DME
ITAMI
114.75 ITE
CH-94Y
34°48'20"N/135°24'13"E
200FT

KAMEO
345702.7N
1352804.2E
7000

IKOMA NORTH ARRIVAL

VOR/DME
KOBE
111.25 KCE
CH-49Y
34°37'52"N/135°13'42"E
0FT

MAX 210KIAS for
IKOMA NORTH
ARRIVAL

MIRAI
D32.7 KNE
R085
KANSAI
VOR/DME (KNE)
MHA 6000
MAX 230KIAS
D39.0 KNE

MAX 210KIAS for
IKOMA NORTH
ARRIVAL

IKOMA
343616.7N
1353914.8E
3500

OTABE
343928.9N
1354539.8E

IKOMA EAST ARRIVAL

MAX 210KIAS for
IKOMA NORTH
ARRIVAL

VOR/DME
YAO
114.6 YOE
CH-93X
34°35'54"N/135°35'37"E
100FT

ABENO
343532.4N
1354155.6E
10.5°
296°

MIRAI

343212.6N

1355358.1E

6000

KODAI
342855.6N
1360545.8E

VOR/DME
KANSAI
111.8 KNE
CH-55X
34°25'48"N/135°15'06"E
0FT

ITAMI
VOR/DME (ITE)
R147
IKOMA
D17.3 ITE
321°
D22.0
ITE
141°

ITAMI
VOR/DME (ITE)
R138
ABENO
D19.4 ITE
318°
D24.0
ITE
138°

STANDARD ARRIVAL CHART-INSTRUMENT

RJOO / OSAKA INTL

RNAV STAR RWY32L/32R

IKOMA EAST ARRIVAL

From KODAI, to MIRAI at or above 6000FT, to ABENO, to IKOMA at or above 3500FT.

Critical DME	KCC : KODAI – MIRAI		
DME GAP	–		
Inappropriate Navaids	See AD1.1.6.10.3. Inappropriate NAVAIDs for RNAV1		

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	IF	KODAI	–	–	-7.6	–	–	–	–	–	RNAV1
002	TF	MIRAI	–	296 (288.7)	-7.6	10.3	–	+6000	–	–	RNAV1
003	TF	ABENO	–	296 (288.6)	-7.6	10.5	–	–	–	–	RNAV1
004	TF	IKOMA	–	296 (288.5)	-7.6	2.3	–	+3500	–	–	RNAV1

IKOMA NORTH ARRIVAL

From ROKKO at or above 7000FT, to KAMEO at or above 7000FT, to OTABE, to ABENO, to IKOMA at or above 3500FT.

Critical DME	ITE : 9.9NM to KAMEO – KAMEO YME : 19.7NM to OTABE – 13.7NM to OTABE		
DME GAP	–		
Inappropriate Navaids	See AD1.1.6.10.3. Inappropriate NAVAIDs for RNAV1		

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	IF	ROKKO	–	–	-7.6	–	–	+7000	–	–	RNAV1
002	TF	KAMEO	–	148 (140.4)	-7.6	12.9	–	+7000	–	–	RNAV1
003	TF	OTABE	–	148 (140.5)	-7.6	22.8	–	–	–	–	RNAV1
004	TF	ABENO	–	226 (218.0)	-7.6	5.0	–	–	-210	–	RNAV1
005	TF	IKOMA	–	296 (288.5)	-7.6	2.3	–	+3500	-210	–	RNAV1

STANDARD ARRIVAL CHART-INSTRUMENT

RJOO / OSAKA INTL

RNAV STAR RWY32L/32R

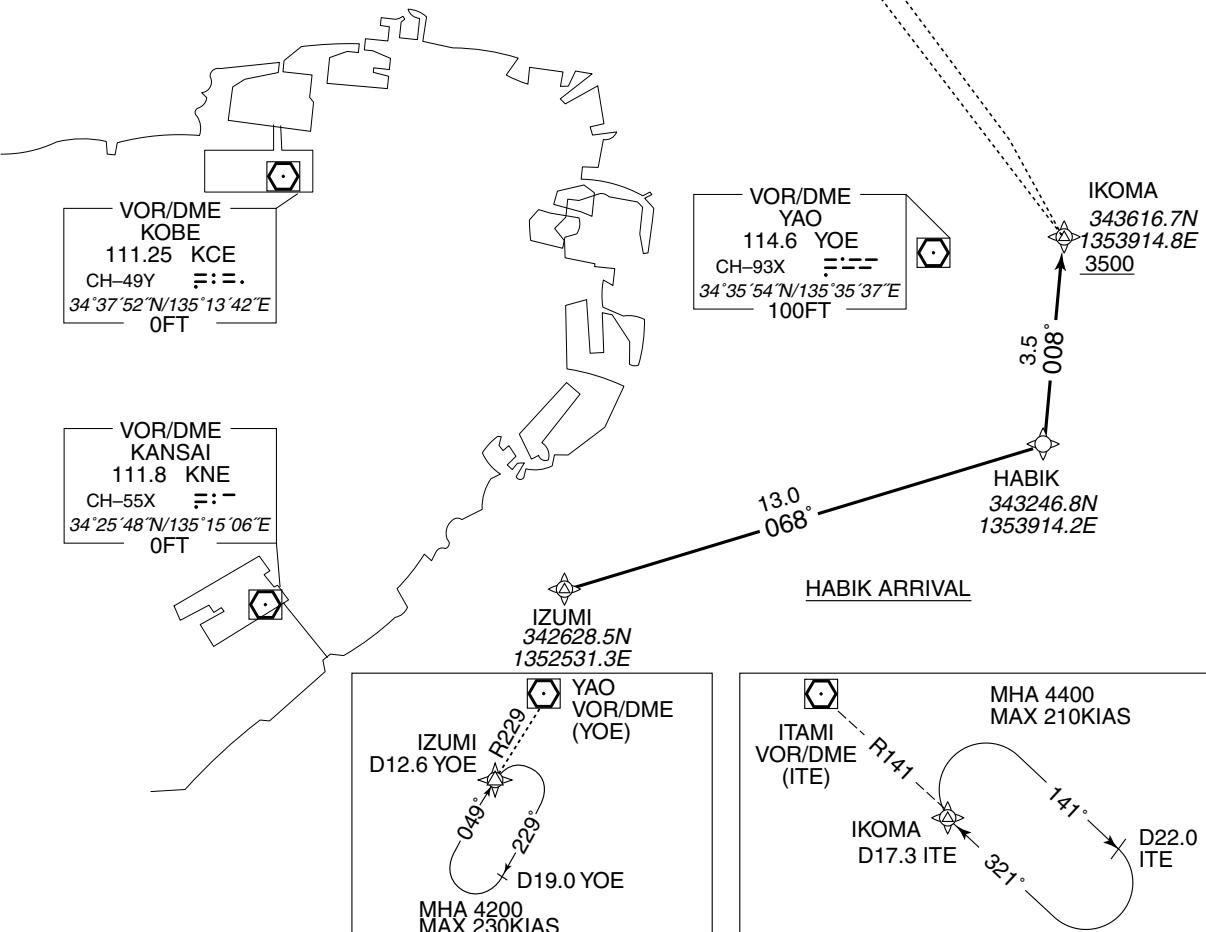
HABIK ARRIVAL

RNAV1

- Note 1) DME/DME/IRU or GNSS required
 2) RADAR service required

VAR 8°W (2016)

VOR/DME
ITAMI
114.75 ITE
CH-94Y
34°48'20"N/135°24'13"E
200FT

HABIK ARRIVAL

From IZUMI, to HABIK, to IKOMA at or above 3500FT.

Critical DME	-
DME GAP	-
Inappropriate Navaids	See AD1.1.6.10.3. Inappropriate NAVAIDs for RNAV1

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	IF	IZUMI	—	—	-7.6	—	—	—	—	—	RNAV1
002	TF	HABIK	—	068 (060.8)	-7.6	13.0	—	—	—	—	RNAV1
003	TF	IKOMA	—	008 (000.1)	-7.6	3.5	—	+3500	—	—	RNAV1

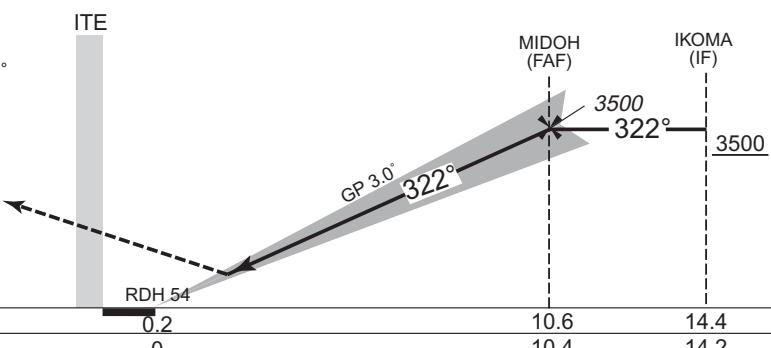
INSTRUMENT APPROACH CHART



MISSED APPROACH

Climb to 5000FT on HDG322°, 1.0DME prior to ITE VOR/DME, turn left HDG145° to intercept and proceed via ITE R184 to IZUMI and hold.

Contact KANSAI APP.



Missed APCH climb gradient MNM 4.0%

MINIMA THR elev. 31 AD elev. 39

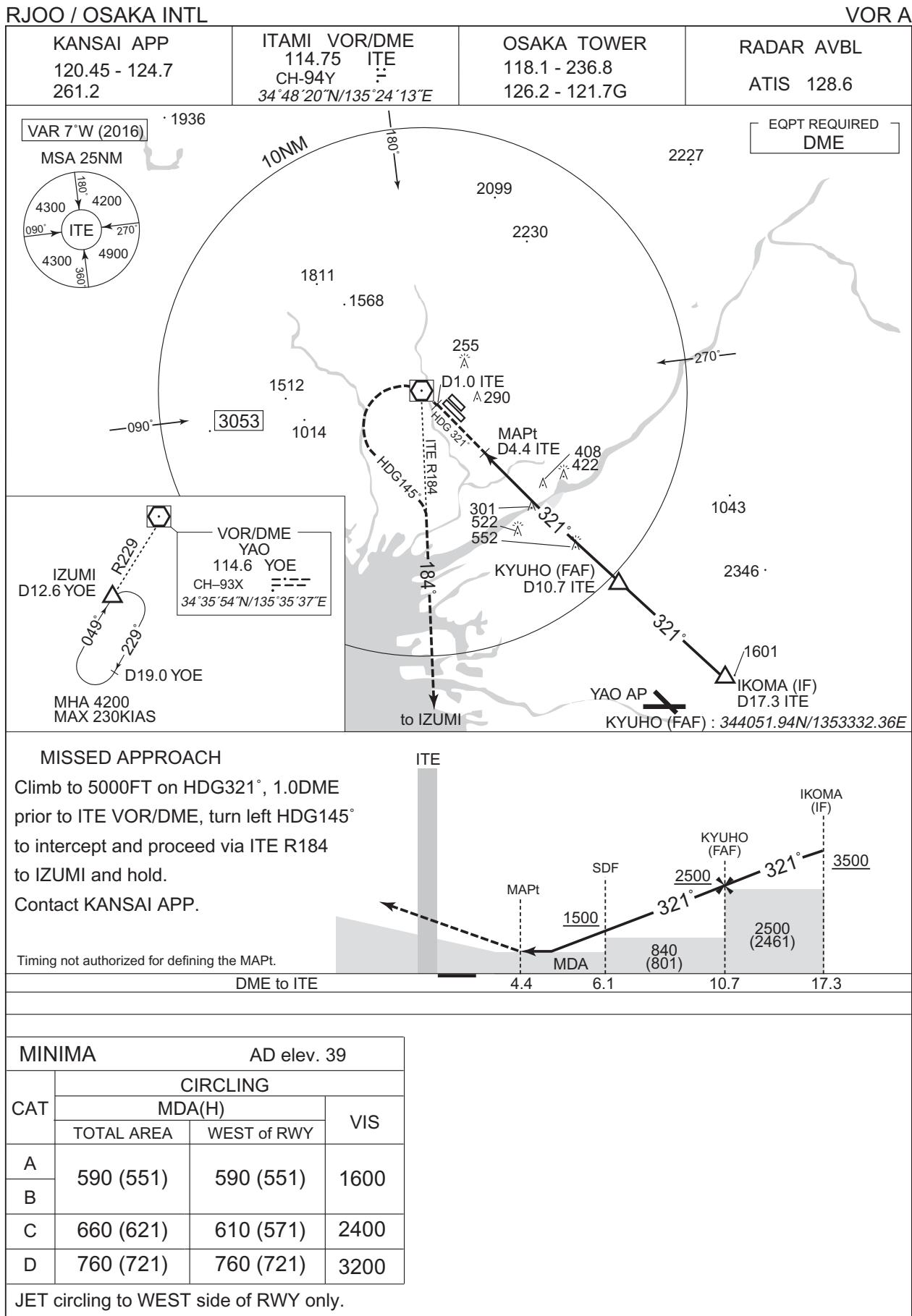
CAT	CAT I		CIRCLING		
	DA(H)	RVR/ CMV	MDA(H)		VIS
			TOTAL AREA	WEST of RWY	
A			590 (551)	590 (551)	1600
B			660 (621)	610 (571)	2400
C			760 (721)	760 (721)	3200
D					

MINIMA with Missed APCH climb gradient of 2.5% are not established.
JET circling to WEST side of RWY only.

INSTRUMENT APPROACH CHART



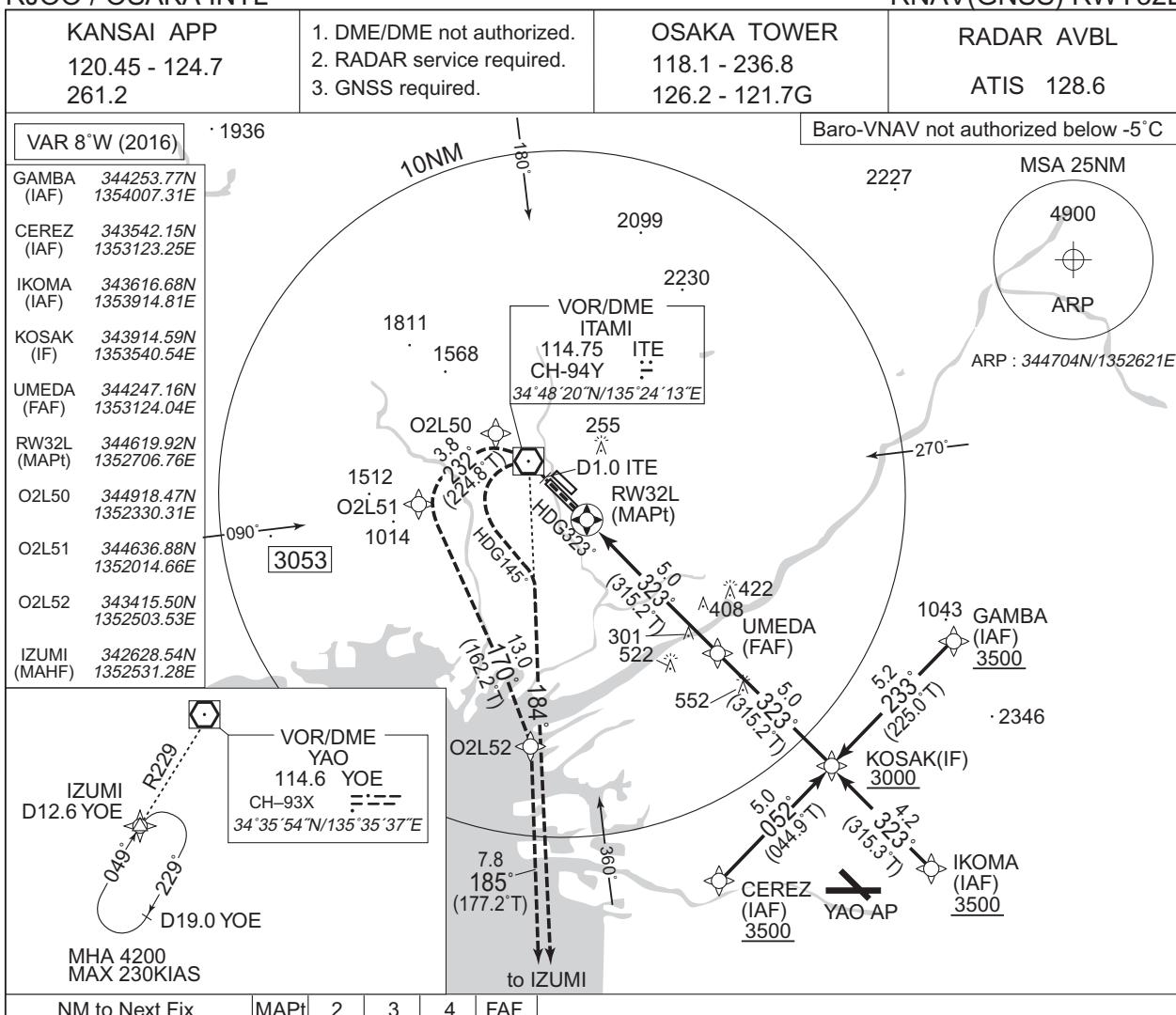
INSTRUMENT APPROACH CHART



INSTRUMENT APPROACH CHART

RJOO / OSAKA INTL

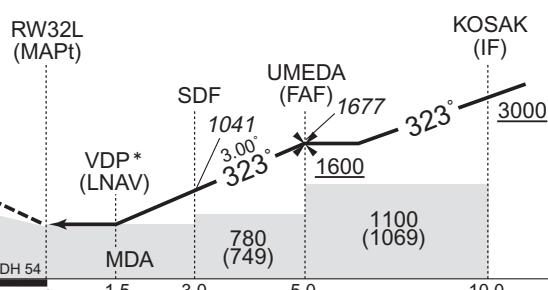
RNAV(GNSS) RWY32L



MISSED APPROACH
Climb to 5000FT, to O2L50,
to O2L51, to O2L52,
to IZUMI and hold.
Contact KANSAI APP.

(For using VOR/DME)
Climb to 5000FT on HDG323°, 1.0DME prior to ITE VOR/DME, turn left HDG145° to intercept and proceed via ITE R184 to IZUMI and hold.
Contact KANSAI APP.

* VDP not applicable when Missed APCH climb gradient is 5.0%.



NM to THR 0 1.5 3.0 5.0 10.0

Missed APCH climb gradient MNM 6.0%

Missed APCH climb gradient MNM 5.0%

MINIMA				THR elev. 31	AD elev. 39
CAT	LNAV/VNAV		LNAV	CIRCLING	
	DA(H)	RVR/CMV	MDA(H)	RVR/CMV	MDA(H)
A	1400		1400		
B	530 (499)		1500	590 (551)	590 (551)
C			1500		1600
C			1600	660 (621)	610 (571)
D	1800		1800	760 (721)	760 (721)
				3200	

MINIMA				THR elev. 31	AD elev. 39
CAT	LNAV/VNAV		LNAV	CIRCLING	
	DA(H)	RVR/CMV	MDA(H)	RVR/CMV	MDA(H)
A	1400		1400		
B	650 (619)		1500		
C			1600		1600
D	1800		1800		1800
				760 (721)	3200

JET circling to WEST side of RWY only.

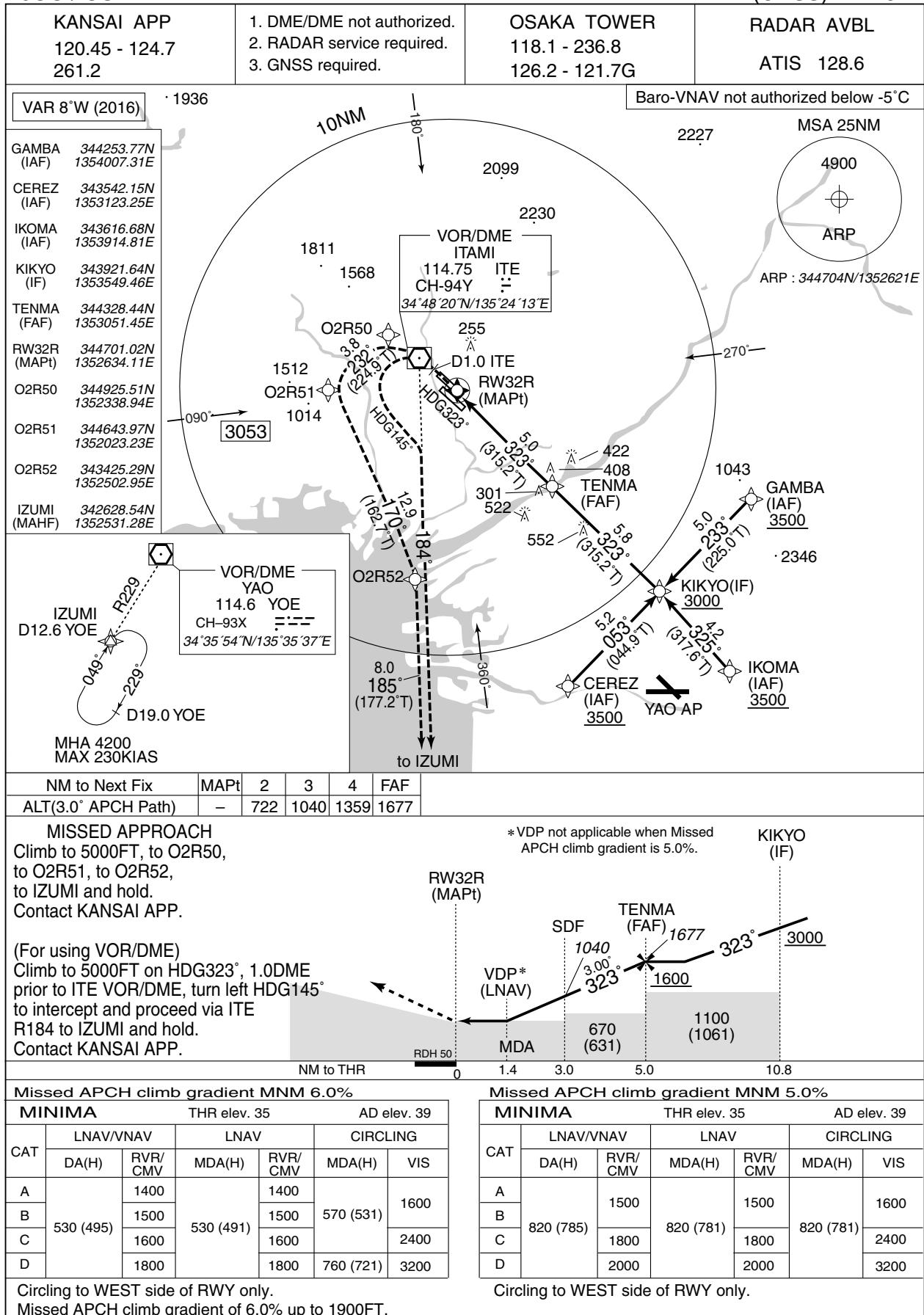
JET circling to WEST side of RWY only.

Missed APCH climb gradient of 6.0% up to 1900FT.

INSTRUMENT APPROACH CHART

RJOO / OSAKA INTL

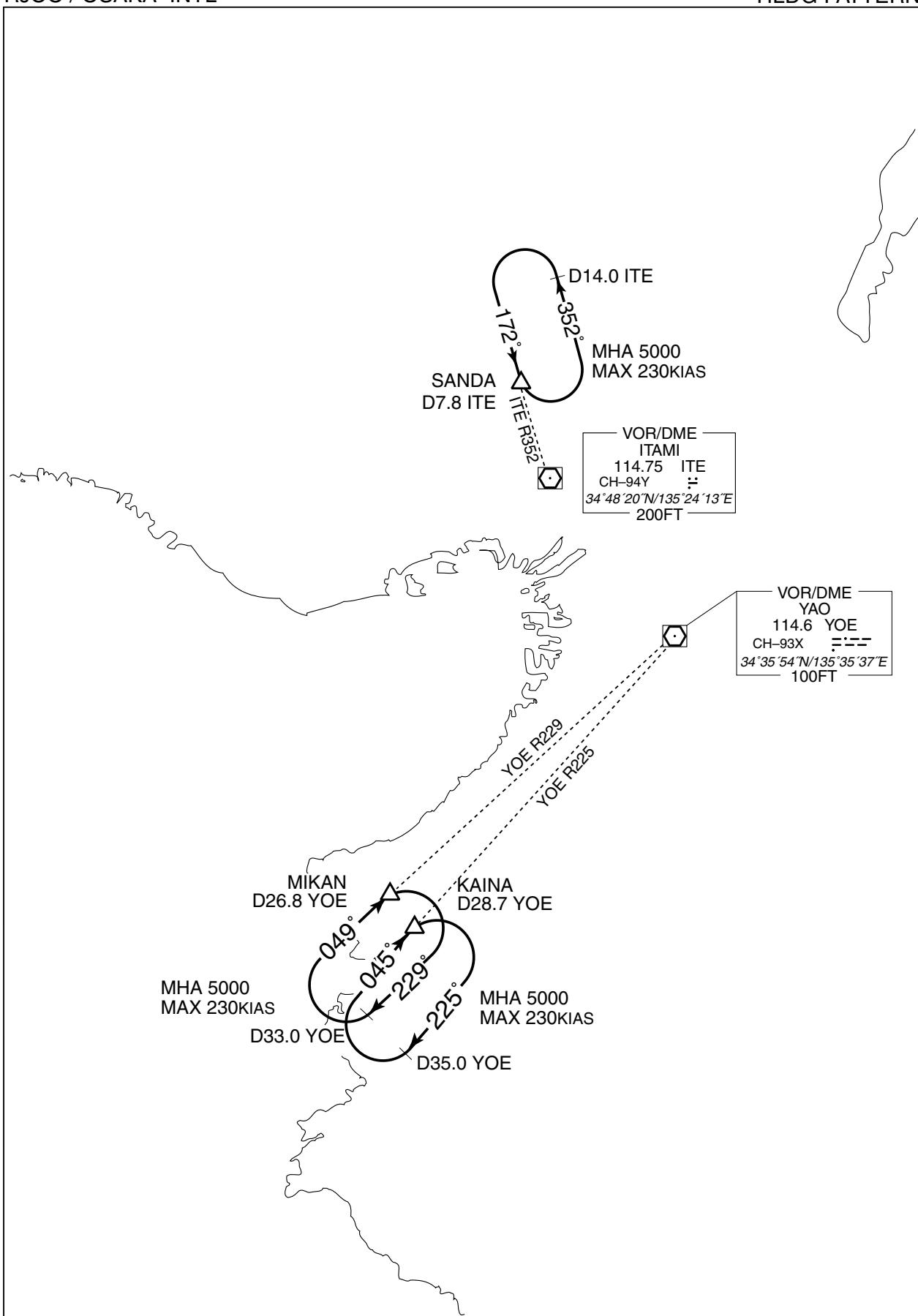
RNAV(GNSS) RWY32R



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RJOO / OSAKA INTL

HLDG PATTERN

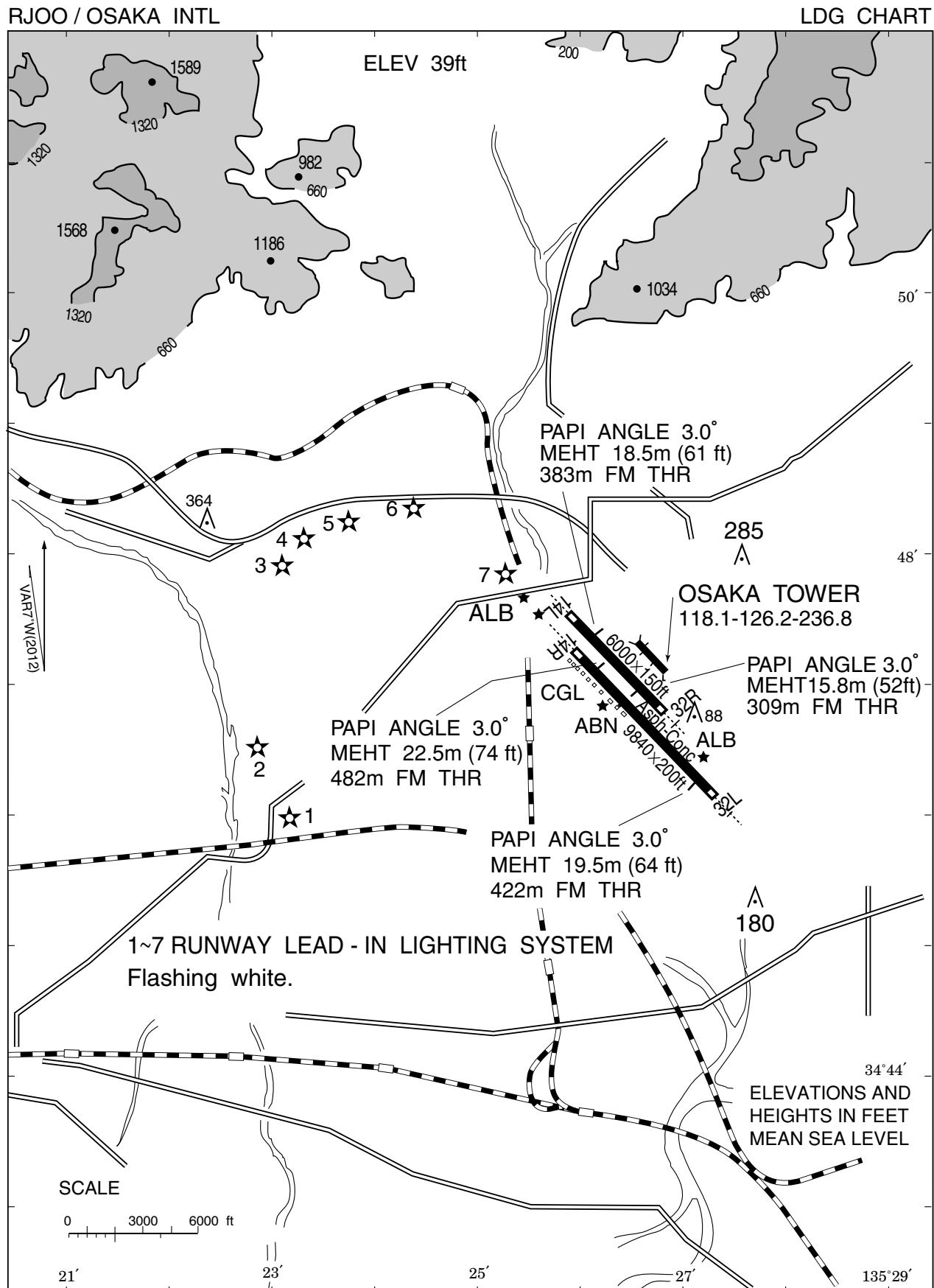


RJOO / OSAKA INTL

OSAKA Visual REP



Call sign	BRG / DIST from ARP	Remarks
刀根山 Toneyama	044°/1.3NM	中国豊中インターチェンジ interchange
千里 Senri	070°/3.0NM	千里ジャンクション Junction
吹田 Suita	082°/5.4NM	吹田インターチェンジ interchange
鳥飼 Torikai	110°/6.8NM	鳥飼大橋 Bridge
鳴尾 Naruo	232°/5.4NM	甲子園球場 Baseball ground
伊丹 Itami	263°/0.9NM	JR伊丹駅 Station
川西 Kawanishi	345°/5.0NM	多田神社 Shrine
石橋 Ishibashi	020°/1.5NM	阪急石橋阪大前駅 Station



RJOO / OSAKA INTL

Minimum Vectoring Altitude CHART

VAR 7°W (2011)



- ① 4500 (1) 342930N/1353527E
- ② 5000 (2) 342925N/1355432E
- ③ 7000 (3) 342918N/1360849E
- ④ 4000 (4) 342924N/1361335E

CENTER : 344752N/1352550E (No.1 RADAR SITE)
 CENTER : 344659N/1352600E (No.2 RADAR SITE)