JEPPESEN
JeppView for Windows

List of pages in this Trip Kit

Trip Kit Index
Airport Information For VMMC
Terminal Charts For VMMC
Revision Letter For Cycle 11-2024
Change Notices
Notebook

General Information

Location: MACAO MAC
ICAO/IATA: VMMC / MFM
Lat/Long: N22° 08.97', E113° 35.48'
Elevation: 20 ft

Airport Use: Public
Daylight Savings: Not Observed
UTC Conversion: -8:00 = UTC
Magnetic Variation: 3.0° W

Fuel Types: Jet A-1
Repair Types: Minor Airframe, Minor Engine
Customs: Yes
Airport Type: IFR
Landing Fee: Yes
Control Tower: Yes
Jet Start Unit: No
LLWS Alert: No
Beacon: No
Traffic Pattern Altitude: 1020 ft (1000 ft AGL)

Sunrise: 2141 Z
Sunset: 1106 Z

Runway Information

Runway: 16
Length x Width: 11024 ft x 148 ft
Surface Type: concrete
TDZ-Elev: 20 ft
Lighting: Edge, ALS, Centerline, REIL
Displaced Threshold: 1181 ft
Stopway: 197 ft

Runway: 34
Length x Width: 11024 ft x 148 ft
Surface Type: concrete
TDZ-Elev: 20 ft
Lighting: Edge, ALS, Centerline, REIL, TDZ
Displaced Threshold: 1214 ft
Stopway: 197 ft

Communication Information

ATIS: 126.400
Macao Tower: 118.000
Macao Tower: 119.400 Secondary
Macao Ground: 121.725
Macao Ground: 121.975 Secondary

Zhuhai Approach: 120.350
Hong Kong Approach: 119.100
Zhuhai Approach: 119.775 Secondary
Hong Kong Radar: 126.300 RCO
Macau Heliport Helicopter: 123.500
Fire Fighting Emergency: 123.100

1. GENERAL

1.1. ATIS

ATIS 126.4

1.2. NOISE ABATEMENT PROCEDURES

1.2.1. RUN-UP TESTS

Engine runs above ground idle power are not permitted between 2200-0700LT. Exception may be considered case by case, depending on actual operational analyses.

An engine ground run is defined as any engine start-up not associated with the planned ACFT departure. Maintenance or test running of jet engine not mounted on an ACFT is prohibited unless performed in a test cell of adequate design.

Engine ground running at idle power for duration not exceeding 15 minutes may be conducted on ACFT parking bays with previous coordination with APT Operation Coordination Center. Extension of such limitation is subject to APT Operation Coordination Center approval depending on APT conditions. Power runs above idle for maintenance purpose must be conducted at designated areas.

Initial requests for a ground run at any time should be made by telephone to APT Operation Coordination Center. The airline or their representatives are responsible for ensuring that all safety precautions against injury to persons or damage to properties, ACFT, vehicles, marine vessels (when the jet blast is directed towards the sea) and equipment in the vicinity are adopted. When ready to conduct the engine run, clearance from MACAO Ground on 121.725 MHz. A listening watch must be maintained on the frequency throughout the engine run. The ACFT anti-collision beacons must be activated for the entire duration and MACAO Ground should be advised on its completion.

1.3. LOW VISIBILITY PROCEDURES (LVP)

LVP will be in force whenever

- TDZ RVR of RWY 34 is 800m or below; or
- ceiling is 200' or below; or
- VIS conditions decrease rapidly.

Pilots will be informed when LVP are in use via RTF or ATIS through the message "Low Visibility Procedure in force".

1.4. PARKING INFORMATION

Advanced Visual Docking Guidance System available at stands A2, A4, A6, B2, B4, B6, B8 and B10/10L/10R.

1.5. OTHER INFORMATION

1.5.1. GENERAL

RWY 34 right-hand circuit.

1.5.2. PREFERENTIAL RWY SYSTEM

The preferential RWY is RWY 34, within the limits of a wind intensity (actual and/or forecasted) of no more than 10 KT as tailwind component.

If the tailwind component for RWY 34 is higher than 10 KT and the VIS or ceiling for RWY 16 are below minima for this RWY, no landings will be allowed unless specifically requested by the pilot.

2. ARRIVAL

2.1. SPEED RESTRICTIONS

MAX 250 KT below FL110 within Hong Kong airspace, unless otherwise instructed.
MAX 190 KT during approach turns.

2.2. NOISE ABATEMENT PROCEDURES

Landing on RWY 16

Maintain 218° track inbound on LOC course.

Do not deviate from ZAO R-231, which defines the northern limit for flights landing on RWY 16 due to noise abatement for Zhuhai City.

ACFT according to ICAO Annex 16 Chapter 2 will only be considered in a case-by-case basis. For Chapter 2 Noise ACFT, operation time between 2400-0800LT is not allowed.

2.3. CAT II OPERATIONS

RWY 34 approved for CAT II operations, special aircrew and ACFT certification required.

2.4. PREFERRED IAP

Preferred IAPs are identified by suffix Z.

Preferred for RWY 34 is ILS Z RWY 34 RNAV (GNSS).

Preferred for RWY 16 is LOC/DME Z RWY 16.

For requesting non-preferred IAPs, notify ATC while conducting STAR and request an IAP in the sequence Y, X of the same navigation type or other procedures.

2.5. OTHER INFORMATION

To harmonize the implementation of PBN procedures, pilots of arriving ACFT are requested to report the type of approach on their initial contact with ATC.

3. DEPARTURE

3.1. START-UP AND PUSH-BACK PROCEDURES

For color coded push-back procedures refer to 10-9 pages.

Contact Ground/Tower for clearance request 5 minutes prior to start-up.

Pilots have to inform Ground/Tower about their call sign, parking bay number/location and proposed flight level if it is different from the filed flight plan when making the call.

ACFT should not commence start-up, push-back or any other maneuver on the apron unless pilot has obtained clearance from MACAO Ground/Tower as appropriate.

ACFT start-up engines will be allowed by Tower after the engines clear the white taxiline protection.

3.2. SPEED RESTRICTIONS

MAX 250 KT below FL110 within Hong Kong airspace, unless otherwise instructed.

3.3. NOISE ABATEMENT PROCEDURES

Take-off on RWY 34

Climb offset 15° (Right) to 400', turn RIGHT.

Do not overshoot ZAO R-231, which defines the northern limit for flights taking off on RWY 34 due to noise abatement for Zhuhai City.

MACAO, PR OF CHINA

TERMINAL TRANSITION ROUTE

ATIS	Apt Elev	Alt Set: hPa
126.4	20	Trans level: By ATC

TERMINAL TRANSITION ROUTE
J101
TO SMT VOR

DESCENT REQUIREMENTS
If holding is required, each flight will be instructed individually.
Cross NEDLE at FL230.
DO NOT DESCEND WITHOUT ATC CLEARANCE.

BUMDI
269°
089°
MAX 220 KT
MHA FL190

JIEYANG Chaoshan ZGOW

SHENZHEN Baoan ZGSZ

SIU MO TO
114.8 SMT

(CRP for non-jet ACFT)
BUMDI
18.5
R089
8.3
D

(CRP for non-jet ACFT)
NEDLE
FL230
13.2

(CRP for non-jet ACFT)
PONTI

70.3
269°

(CRP for non-jet ACFT)
SAMMI
39.6
270°

(CRP for non-jet ACFT)
TUBBY
47.1
J101
286°
ELATO

4253

6000
4000
2000
CONTOUR INTERVALS

HONG KONG
RADAR
121.3
132.525

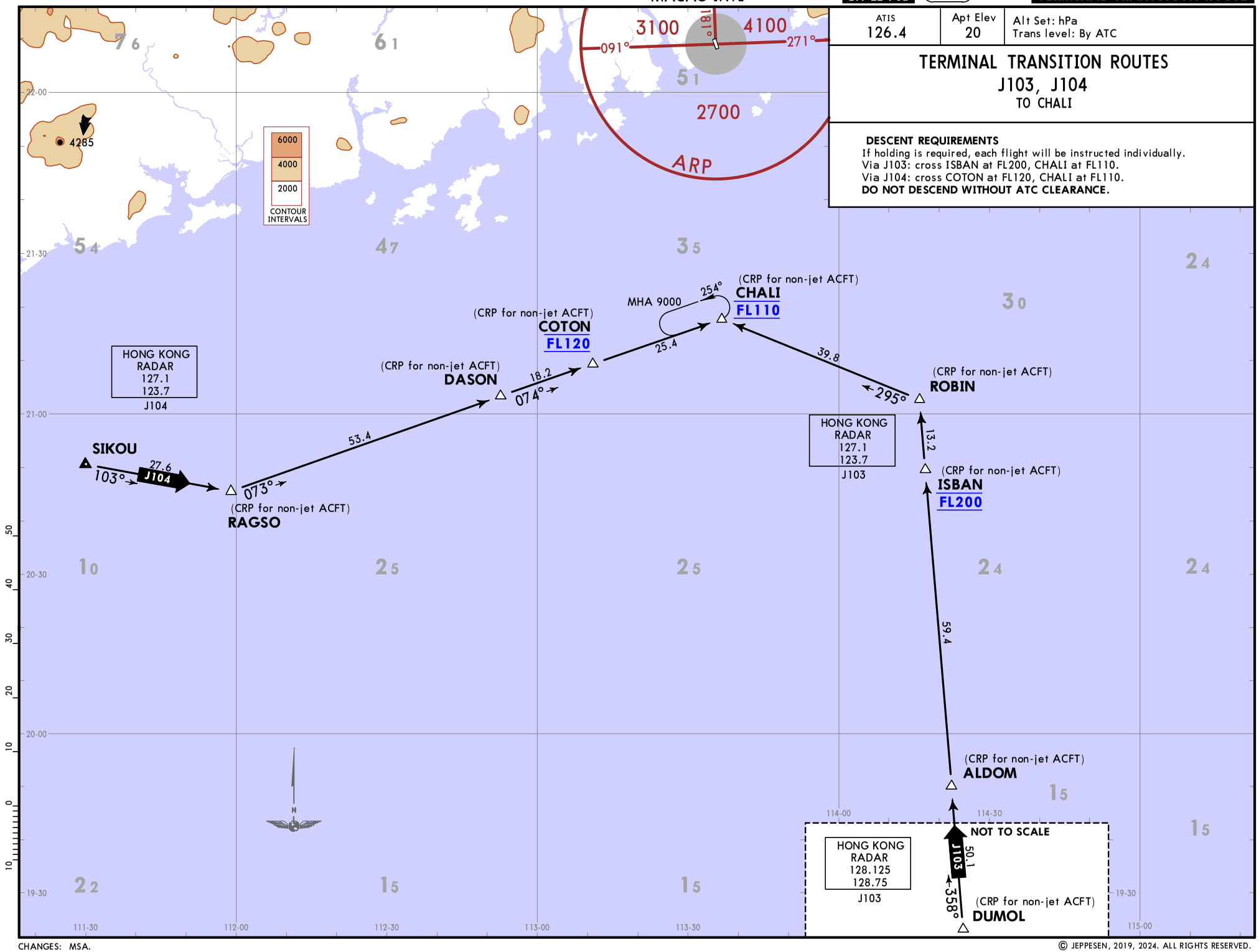
4100
3100
181°
271°
091°
2700
ARP
HONG KONG
-Intl
VHHH

CHANGES: MSA.

ATIS	Apt Elev	Alt Set: hPa Trans level: By ATC
126.4	20	

TERMINAL TRANSITION ROUTES
J103, J104
TO CHALI

DESCENT REQUIREMENTS
If holding is required, each flight will be instructed individually.
Via J103: cross ISBAN at FL200, CHALI at FL110.
Via J104: cross COTON at FL120, CHALI at FL110.
DO NOT DESCEND WITHOUT ATC CLEARANCE.



CHANGES: MSA.

JEPPESEN MACAO, PR OF CHINA
9 FEB 24 10-2B Eff 22 Feb
RNAV STAR

ATIS	Apt Elev	Alt Set: hPa	Trans level: By ATC
126.4	20	RNP 1 GNSS required	

BIGRO 1A [BIGR1A]
BIGRO 7A [BIGR7A]
RNAV (GNSS) ARRIVALS
(ALL RWYS)

SPEED: MAX 190 KT DURING APPROACH TURNS

LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS
Comply with STAR, then join:
BIGRO 1A: runway 16 approach.
BIGRO 7A: runway 34 approach.
LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS

❸ 4100

6000
4000
2000
CONTOUR INTERVALS

4010

8 0
6 1
5 1
5 8
4 7
3 5

3100
2700

ARP

(IAF)
LIANSHENGWEI
D 116.7 ZUH
5900

(IAF Rwy 34)
GAOLAN
204 UJ
8900

GURIN
8900

BIGRO
078°

BIGRO 1A, 7A
67.7

16.7

BIGRO 1A
20.5

091°
271°
181°
031°
051°
231°

MAX 190 KT
MHA 8900

22-30
22-00
21-30
112-00
112-30
113-00
113-30

FT/METER CONVERSION
QNH
8900' - 2700m
5900' - 1800m

STAR	RWY	ROUTING
BIGRO 1A ❶	16	To GURIN, then to UJ, then to ZUH.
BIGRO 7A ❷	34	To GURIN, then to UJ.

For Non-RNP 1 approved aircraft or whose RNP 1 capability has been degraded use non-RNAV STAR:
❶ BIGRO 9A/ ❷ BIGRO 6A.

CHANGES: MSA.

ATIS	Apt Elev	
126.4	20	Alt Set: hPa Trans level: By ATC
		RNP 1 GNSS required
		If holding is required each flight will be instructed individually.

CHALI 4A [CHAL4A], CHALI 5B [CHAL5B] RNAV (GNSS) ARRIVALS (ALL RWYS)

FOR NON-RNP 1 APPROVED AIRCRAFT OR WHOSE RNP 1 CAPABILITY HAS BEEN DEGRADED REPORT TO HK ATC AND EXPECT RADAR VECTOR

SPEED: MAX 250 KT BELOW FL110 WITHIN HONG KONG AIRSPACE UNLESS OTHERWISE INSTRUCTED MAX 190 KT DURING APPROACH TURNS

STAR	RWY	ROUTING
CHALI 4A	34	Descend from CHALI at FL110, turn LEFT via RUNLI to MC611. Cross RUNLI at 9000 and MC611 at or above 6000 descending to 3000. **Do not descend without ATC clearance.**
CHALI 5B	16	Descend from CHALI at FL110, turn LEFT to RUNLI, turn LEFT to MC513, then via INDUS and MC514 to ZUH. Cross RUNLI at 9000, INDUS at 8900, MC514 at 6900 and ZUH at 5900. **Do not descend without ATC clearance.**

LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS
Comply with STAR, then join:
CHALI 4A: runway 34 approach.
CHALI 5B: runway 16 approach.
LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS

FL CONVERSION
FL110 FL3353m

FT/METER CONVERSION
QNH
8900' - 2700m
6900' - 2100m
5900' - 1800m
3000' - 900m

(IAF)
LIANSHENGWEI
D 116.7 ZUH
5900

MC514
6900
1500

INDUS
8900

MC513

PAPA

Rwy 16
MAX 190 KT
MHA 3000

Rwy 34
MAX 190 KT
MHA 3000

ATIKO

MAX 210 KT
MHA 5000

(IAF)
MC611
6000

RUNLI
9000

CHALI
MAX 230 KT
MHA 9000

NOT TO SCALE

CHALI
FL110

CHALI 4A
CHALI 5B
CHALI 5B
34.2
CHALI 4A
13.5

4100
3100
2700
5 1
3 0
3 5
22-00
21-30
113-30
114-00

VMMC/MFM
MACAO INTL

JEPPESEN
9 FEB 24 (10-2C) Eff 22 Feb

MACAO, PR OF CHINA
RNAV STAR

CHALI 4A [CHAL4A]
CHALI 5B [CHAL5B]
RNAV (GNSS) ARRIVALS
(ALL RWYS)

FOR NON-RNP 1 APPROVED AIRCRAFT OR WHOSE RNP 1 CAPABILITY HAS BEEN DEGRADED REPORT TO HK ATC AND EXPECT RADAR VECTOR

ATIS	Apt Elev	Alt Set: hPa Trans level: By ATC
126.4	20	RNP 1 GNSS required

NLG 7A, POU 1A, POU 8A
RNAV (GNSS) ARRIVALS
(ALL RWYS)

SPEED: MAX 190 KT DURING APPROACH TURNS

NOT TO SCALE

PINGZHOU
D 114.1 POU
FL108

120°
POU 1A, 8A
18.2

SAREX
FL108

171°
21.5

SHENZHEN
Baoan
ZGSZ

RWY 16
MAX 190 KT
MHA 6900

(IAF Rwy 16)
NANLANG
D 117.7 NLG
POU 1A:
6900

171°
167°
181°

ARP

NLG 7A
POU 8A
15.6

2057

4100

3100

LATOP
7900

200°
9.1

(IAF)
MACAO
D 116.4 MCU
6900

091°
271°
2700

22-30
113-30

FL CONVERSION	
FL108	FL3300m

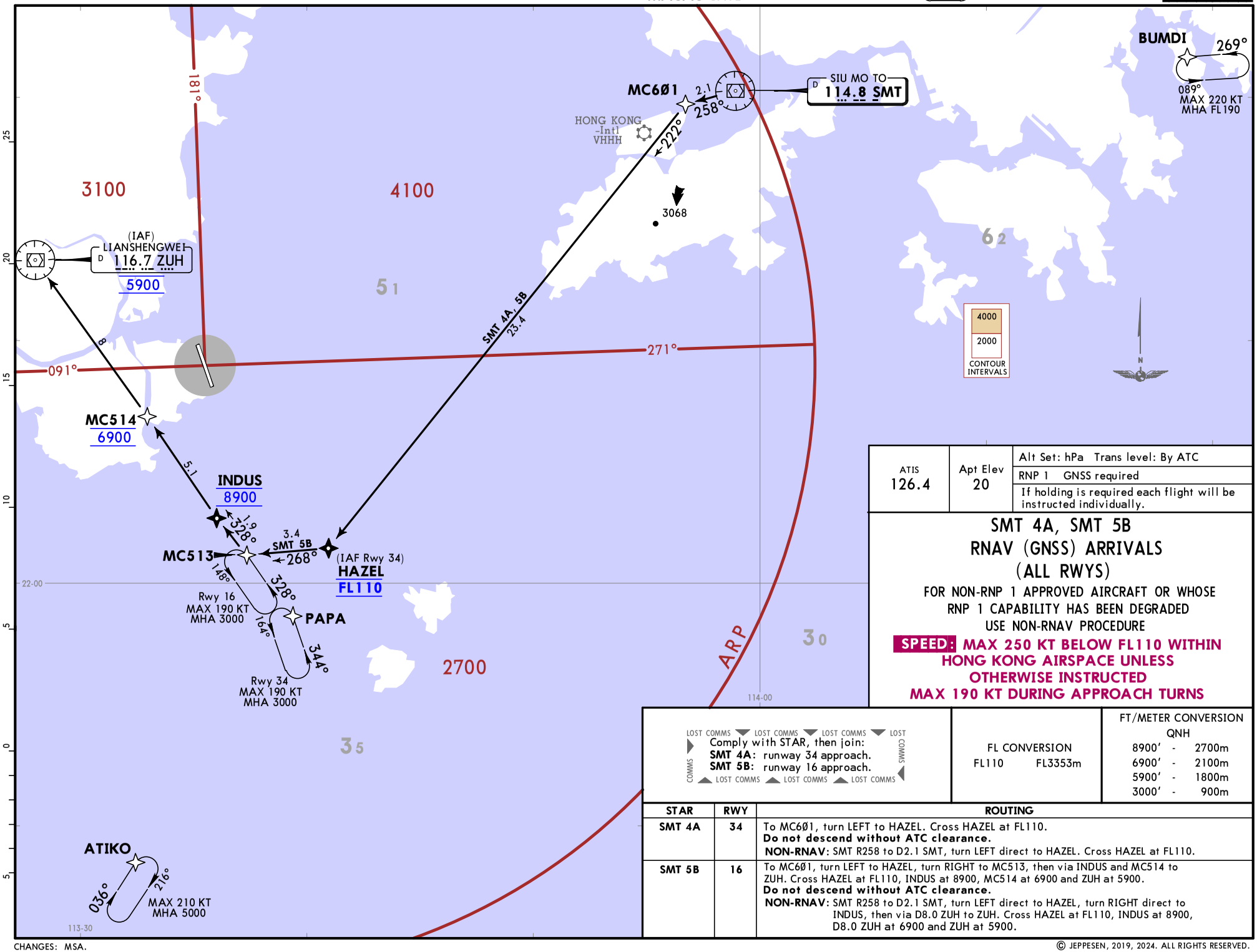
FT/METER CONVERSION QNH	
7900'	2400m
6900'	2100m

LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS
COMMS ▶ Comply with STAR, then join:
NLG 7A, POU 8A: runway 34 approach.
POU 1A: runway 16 approach.
◀ COMMS
LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST

STAR	RWY	ROUTING
NLG 7A ❶	34	To LATOP, then to MCU.
POU 1A ❷	16	To SAREX, then to NLG.
POU 8A ❸	34	To SAREX, then to NLG, then to LATOP, then to MCU.

For Non-RNP 1 approved aircraft or whose RNP 1 capability has been degraded use non-RNAV STAR:
❶ NLG 5A/ ❷ POU 9A/ ❸ POU 6A.

NLG 7A, POU 1A, POU 8A
RNAV ARRIVALS



ATIS	Apt Elev	
126.4	20	Alt Set: hPa Trans level: By ATC
		RNP 1 GNSS required
		If holding is required each flight will be instructed individually.

SMT 4A, SMT 5B
RNAV (GNSS) ARRIVALS
(ALL RWYS)

FOR NON-RNP 1 APPROVED AIRCRAFT OR WHOSE RNP 1 CAPABILITY HAS BEEN DEGRADED USE NON-RNAV PROCEDURE

SPEED: MAX 250 KT BELOW FL110 WITHIN HONG KONG AIRSPACE UNLESS OTHERWISE INSTRUCTED
MAX 190 KT DURING APPROACH TURNS

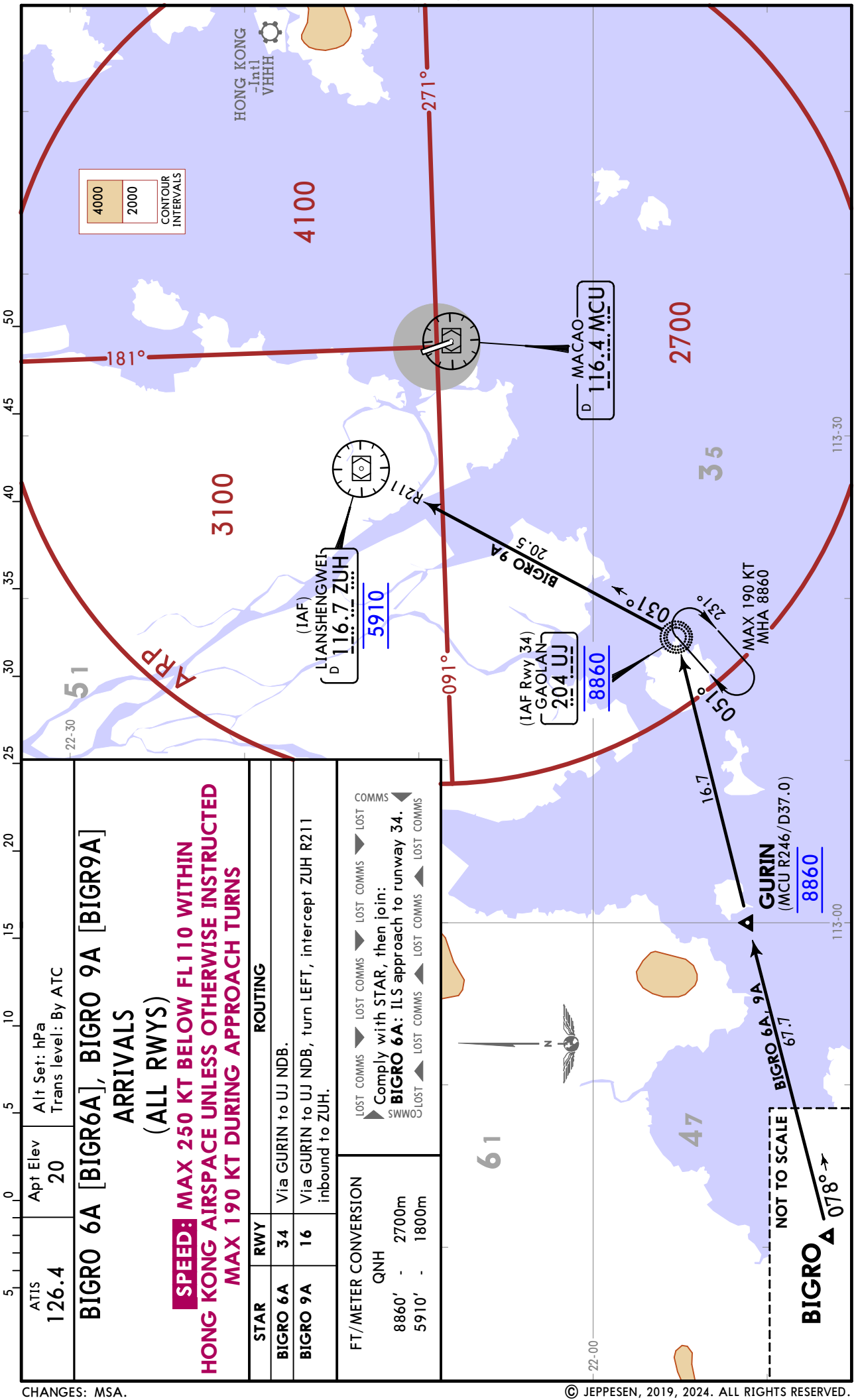
LOST COMMS
Comply with STAR, then join:
SMT 4A: runway 34 approach.
SMT 5B: runway 16 approach.

FL CONVERSION
FL110 FL3353m

FT/METER CONVERSION
QNH
8900' - 2700m
6900' - 2100m
5900' - 1800m
3000' - 900m

STAR	RWY	ROUTING
SMT 4A	34	To MC6Ø1, turn LEFT to HAZEL. Cross HAZEL at FL110. **Do not descend without ATC clearance.** **NON-RNAV:** SMT R258 to D2.1 SMT, turn LEFT direct to HAZEL. Cross HAZEL at FL110.
SMT 5B	16	To MC6Ø1, turn LEFT to HAZEL, turn RIGHT to MC513, then via INDUS and MC514 to ZUH. Cross HAZEL at FL110, INDUS at 8900, MC514 at 6900 and ZUH at 5900. **Do not descend without ATC clearance.** **NON-RNAV:** SMT R258 to D2.1 SMT, turn LEFT direct to HAZEL, turn RIGHT direct to INDUS, then via D8.0 ZUH to ZUH. Cross HAZEL at FL110, INDUS at 8900, D8.0 ZUH at 6900 and ZUH at 5900.

CHANGES: MSA.



ATIS 126.4 | Apt Elev 20 | Alt Set: hPa, Trans level: By ATC

BIGRO 6A [BIGR6A], BIGRO 9A [BIGR9A] ARRIVALS (ALL RWYS)

SPEED: MAX 250 KT BELOW FL110 WITHIN HONG KONG AIRSPACE UNLESS OTHERWISE INSTRUCTED MAX 190 KT DURING APPROACH TURNS

STAR	RWY	ROUTING
BIGRO 6A	34	Via GURIN to UJ NDB.
BIGRO 9A	16	Via GURIN to UJ NDB, turn LEFT, intercept ZUH R211 inbound to ZUH.

FT/METER CONVERSION
QNH
8860' - 2700m
5910' - 1800m

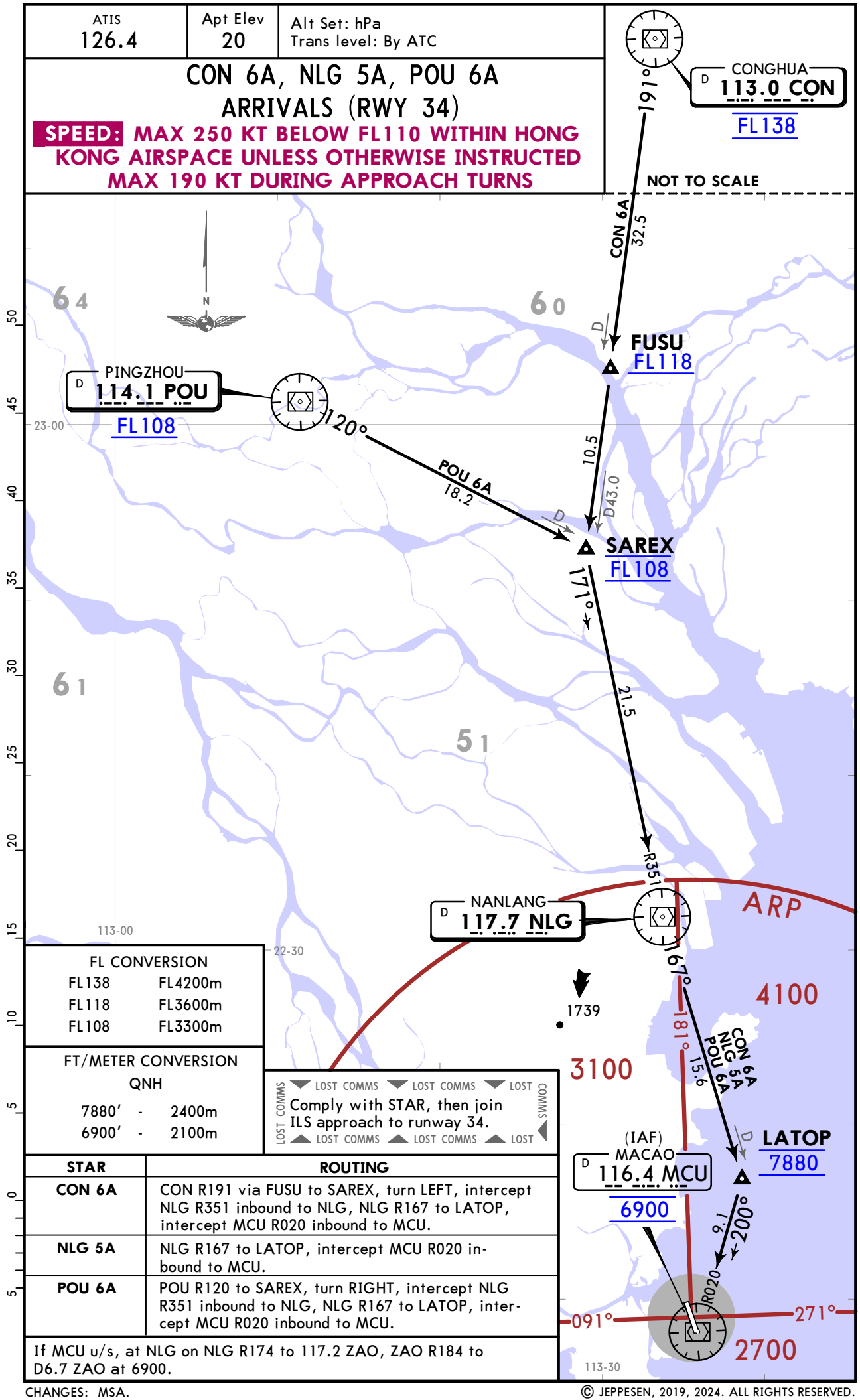
LOST COMMS ▶ LOST COMMS ▶ LOST COMMS ▶ LOST COMMS
◀ LOST COMMS ◀ LOST COMMS ◀ LOST COMMS ◀ LOST COMMS
Comply with STAR, then join:
BIGRO 6A: ILS approach to runway 34.

ATIS	Apt Elev	Alt Set: hPa Trans level: By ATC
126.4	20	

CON 6A, NLG 5A, POU 6A ARRIVALS (RWY 34)

SPEED: MAX 250 KT BELOW FL110 WITHIN HONG KONG AIRSPACE UNLESS OTHERWISE INSTRUCTED MAX 190 KT DURING APPROACH TURNS

NOT TO SCALE



FL CONVERSION	
FL138	FL4200m
FL118	FL3600m
FL108	FL3300m

FT/METER CONVERSION QNH		
7880′	-	2400m
6900′	-	2100m

STAR	ROUTING
CON 6A	CON R191 via FUSU to SAREX, turn LEFT, intercept NLG R351 inbound to NLG, NLG R167 to LATOP, intercept MCU R020 inbound to MCU.
NLG 5A	NLG R167 to LATOP, intercept MCU R020 inbound to MCU.
POU 6A	POU R120 to SAREX, turn RIGHT, intercept NLG R351 inbound to NLG, NLG R167 to LATOP, intercept MCU R020 inbound to MCU.

If MCU u/s, at NLG on NLG R174 to 117.2 ZAO, ZAO R184 to D6.7 ZAO at 6900.

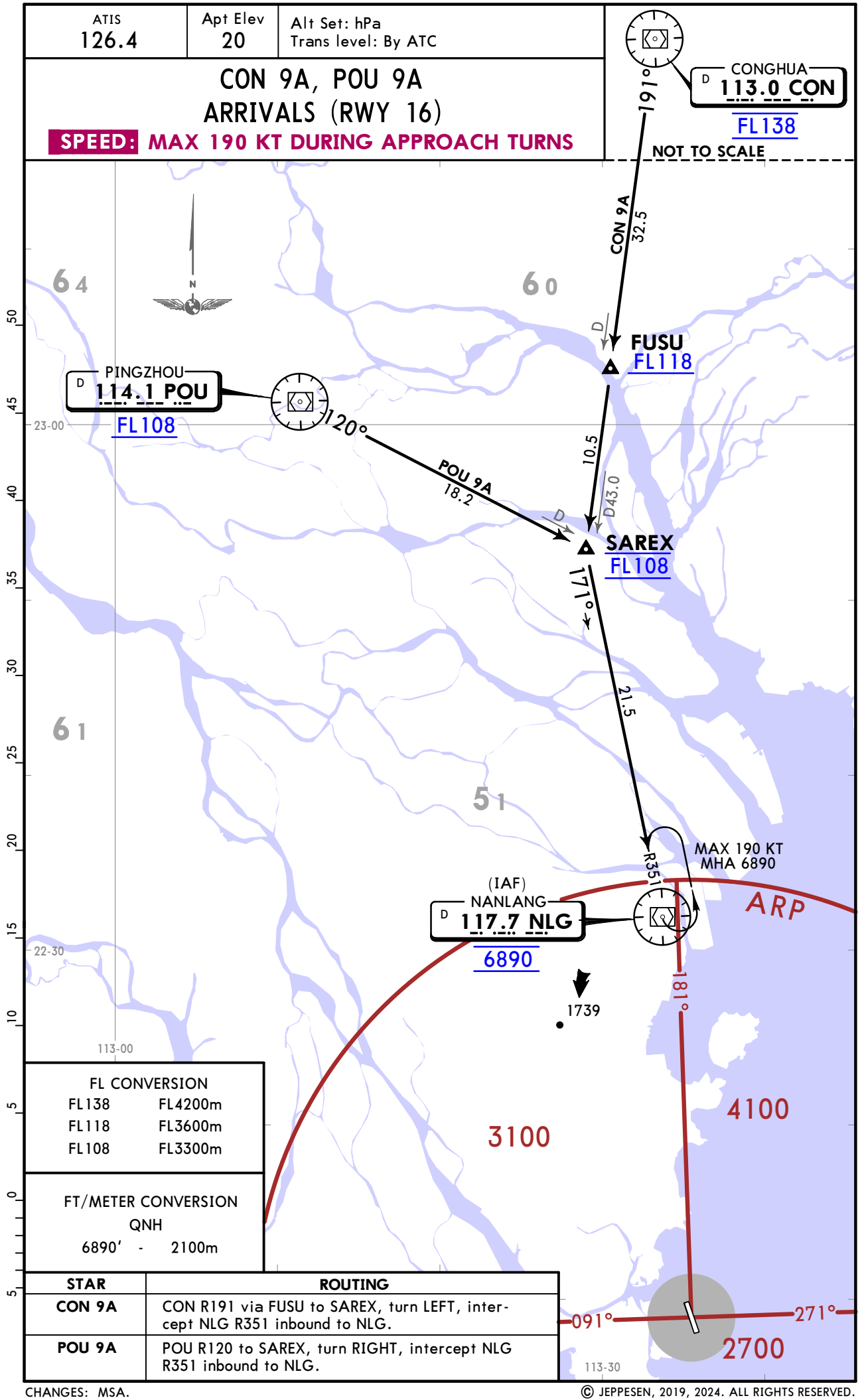
CHANGES: MSA.

ATIS	Apt Elev	Alt Set: hPa Trans level: By ATC
126.4	20	

CON 9A, POU 9A
ARRIVALS (RWY 16)

SPEED: MAX 190 KT DURING APPROACH TURNS

NOT TO SCALE



FL CONVERSION	
FL138	FL4200m
FL118	FL3600m
FL108	FL3300m

FT/METER CONVERSION
QNH
6890' - 2100m

STAR	ROUTING
CON 9A	CON R191 via FUSU to SAREX, turn LEFT, intercept NLG R351 inbound to NLG.
POU 9A	POU R120 to SAREX, turn RIGHT, intercept NLG R351 inbound to NLG.

CHANGES: MSA.

CHANGES: MSA.

Apt Elev	Trans alt: 9000
20	Basic RNP 1 GNSS required

ALLEY 2P [ALEY2P]
RNAV (GNSS) DEPARTURE
(RWY 16)

FOR NON-RNP 1 APPROVED AIRCRAFT OR WHOSE RNP 1 CAPABILITY HAS BEEN DEGRADED USE CONVENTIONAL PROCEDURE

SPEED: MAX 250 KT BELOW FL110 WITHIN HONG KONG AIRSPACE

ROUTING

Climb on 164° track to PAPA, then to MULET, then to ALLEY, continue on terminal transition routes.
NON-RNAV: Intercept MCU R164 to PAPA, cross at or below 4000, further climb when instructed by ATC, continue in accordance with VHHH publication or EXPECT RADAR vectors to ALLEY.
If MCU VOR u/s: Climb straight ahead to at or below 4000, then direct to MULET, continue in accordance with VHHH publication or EXPECT RADAR vectors to ALLEY.

FT/METER CONVERSION
QNH
4000' - 1220m

LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS
Comply with last acknowledged clearance up to the next reporting point, then climb to flight planned cruising level and follow the flight planned route to join the appropriate airway.
LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS

HONG KONG -Intl VHHH
3068
4100
3100
181°
091°
271°
MACAO
D 116.4 MCU
164°
10.0
GUANGZHOU ZGZU FIR
HONG KONG VHHH FIR
5 1
4000
2000
CONTOUR INTERVALS
PAPA
MAX 250 KT
4000
EXPECT further climb when instructed by ATC
2700
ARP
25.0
MULET
184°
29.7
ALLEY
3 5
3 0
22-00
21-30
113-30
114-00

ALLEY 2P [ALEY2P]
RNAV (GNSS) DEPARTURE
(RWY 16)
FOR NON-RNP 1 APPROVED AIRCRAFT OR WHOSE RNP 1 CAPABILITY HAS BEEN DEGRADED USE CONVENTIONAL PROCEDURE

Apt Elev 20	Trans alt: 9000
	Basic RNP 1 GNSS required
	Owing to the proximity of Hong Kong Intl airport, any deviation from the SID track could result in direct conflict with Hong Kong traffic. Pilots departing on RWY 34 are reminded to follow the SID track until LUKBU unless deviation is approved by ATC in advance.

ALLEY 3T [ALEY3T] RNAV (GNSS) DEPARTURE (RWY 34)

FOR NON-RNP 1 APPROVED AIRCRAFT OR WHOSE RNP 1 CAPABILITY HAS BEEN DEGRADED USE CONVENTIONAL PROCEDURE

SPEED: MAX 250 KT BELOW FL110 WITHIN HONG KONG AIRSPACE

MC42Ø 4000
5.6
081°
5.1
MC411 MAX 250 KT 5500
156°
LUKBU 6000
Further climb when instructed by ATC
3278
181°
5.0
041°
LATOP
HONG KONG -Intl VHHH
3100
4100
JIUZHOU D 117.2 ZAO
231°
359°
MAX 205 KT until directing to LATOP 400
091°
271°
23.4
MACAO D 116.4 MCU
SPEED RESTRICTION
Departure turn MAX 205 KT.
Do not overshoot ZAO R231 due to noise abatement for Zhuhai City.
4000
2000
CONTOUR INTERVALS
CAMRI
187°
15.0
BREAM
6.3
TITAN
14.1
PECAN
217°
25.3
ALLEY
NOT TO SCALE
GUANGZHOU ZGZU FIR
HONG KONG VHHK FIR
2700
ARP
22-00
21-30
113-30
114-00

FT/METER CONVERSION QNH		
400′	-	120m
4000′	-	1220m
5500′	-	1680m
6000′	-	1830m

This SID requires a minimum climb gradient of 5.4% until leaving 5500 due to airspace restriction.

Gnd speed-KT	75	100	150	200	250	300
5.4% V/V (fpm)	410	547	820	1094	1367	1641

If unable to comply inform MACAO Ground at first contact.

LOST COMMS
Comply with last acknowledged clearance up to the next reporting point, then climb to flight planned cruising level and follow the flight planned route to join the appropriate airway.

ROUTING

Climb on 359° track to 400, turn RIGHT, direct to LATOP, turn RIGHT to MC42Ø, then via MC411 to LUKBU, then to CAMRI, then via BREAM and TITAN to PECAN, then to ALLEY, continue on terminal transition routes.

NON-RNAV: Climb on 359° track to 400, turn RIGHT to ZAO, intercept ZAO R041, cross D12.5 MCU at or above 4000, turn RIGHT, 081° track to MC411, continue in accordance with VHHH publication or EXPECT RADAR vectors to ALLEY.

If ZAO u/s: On 359° track to D3.3 MCU, turn RIGHT, 041° track, cross D13.1 MCU at or above 4000, turn RIGHT, 081° track to MC411, continue in accordance with VHHH publication or EXPECT RADAR vectors to ALLEY.

VMMC/MFM MACAO INTL

ALLEY 3T [ALEY3T] RNAV (GNSS) DEPARTURE (RWY 34)
FOR NON-RNP 1 APPROVED AIRCRAFT OR WHOSE RNP 1 CAPABILITY HAS BEEN DEGRADED USE CONVENTIONAL PROCEDURE

JEPPESEN 9 FEB 24 (10-3A) Eff 22 Feb

MACAO, PR OF CHINA

RNAV SID

CHANGES: SID renumbered, LKC decommissioned, LUKBU established, notes, MSA.

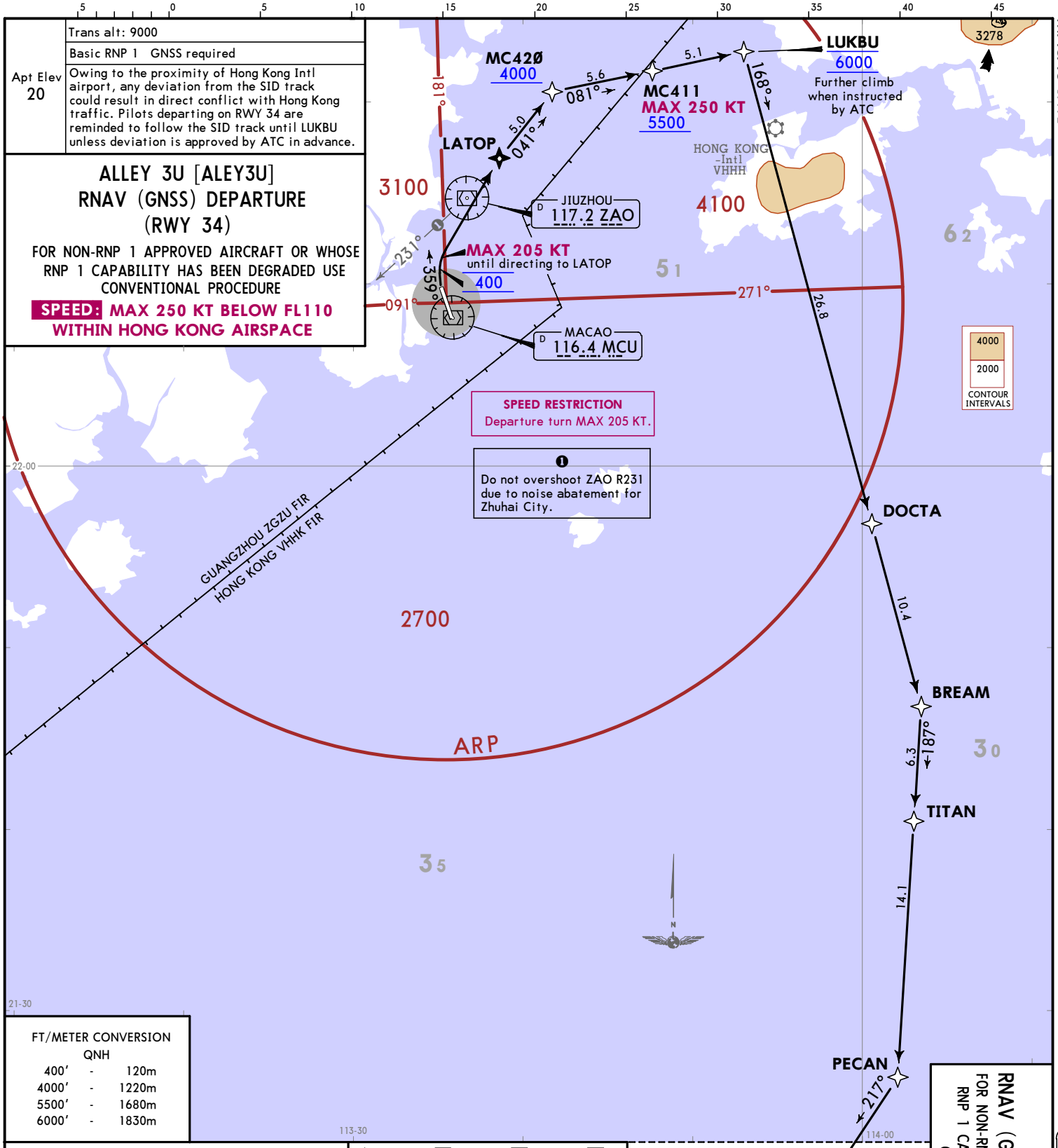
CHANGES: Speed at MC411 added.

Apt Elev 20	Trans alt: 9000
	Basic RNP 1 GNSS required
	Owing to the proximity of Hong Kong Intl airport, any deviation from the SID track could result in direct conflict with Hong Kong traffic. Pilots departing on RWY 34 are reminded to follow the SID track until LUKBU unless deviation is approved by ATC in advance.

ALLEY 3U [ALEY3U]
RNAV (GNSS) DEPARTURE
(RWY 34)

FOR NON-RNP 1 APPROVED AIRCRAFT OR WHOSE RNP 1 CAPABILITY HAS BEEN DEGRADED USE CONVENTIONAL PROCEDURE

SPEED: MAX 250 KT BELOW FL110 WITHIN HONG KONG AIRSPACE



FT/METER CONVERSION QNH		
400′	-	120m
4000′	-	1220m
5500′	-	1680m
6000′	-	1830m

This SID requires a minimum climb gradient of 5.4% until leaving 5500 due to airspace restriction.

Gnd speed-KT	75	100	150	200	250	300
5.4% V/V (fpm)	410	547	820	1094	1367	1641

If unable to comply inform MACAO Ground at first contact.

LOST COMMS
Comply with last acknowledged clearance up to the next reporting point, then climb to flight planned cruising level and follow the flight planned route to join the appropriate airway.

NOT TO SCALE

ROUTING

Climb on 359° track to 400, turn RIGHT, direct to LATOP, turn RIGHT to MC42Ø, then via MC411 to LUKBU, then via DOCTA to BREAM, then via TITAN to PECAN, then to ALLEY, continue on terminal transition routes.

NON-RNAV: Climb on 359° track to 400, turn RIGHT to ZAO, intercept ZAO R041, cross D12.5 MCU at or above 4000, turn RIGHT, 081° track to MC411, continue in accordance with VHHH publication or EXPECT RADAR vectors to ALLEY.

If ZAO u/s: On 359° track to D3.3 MCU, turn RIGHT, 041° track, cross D13.1 MCU at or above 4000, turn RIGHT, 081° track to MC411, continue in accordance with VHHH publication or EXPECT RADAR vectors to ALLEY.

JEPPESEN MACAO, PR OF CHINA
23 FEB 24 (10-3B)
RNAV SID

ALLEY 3U [ALEY3U]
RNAV (GNSS) DEPARTURE (RWY 34)
FOR NON-RNP 1 APPROVED AIRCRAFT OR WHOSE RNP 1 CAPABILITY HAS BEEN DEGRADED USE CONVENTIONAL PROCEDURE

SID	RWY	ROUTING
BIGRO 1G❷	34	Climb on 359° track to 400, turn RIGHT, direct to LATOP, then to MC418, turn LEFT to MC417, then to KIBAS, then via BOKAT to BIGRO.
BIGRO 1H❸	16	Climb on 164° track to MC5Ø1, turn RIGHT, 283° track to U, then to MC5Ø2, then to BIGRO.

For Non-RNP 1 approved aircraft or whose RNP 1 capability has been degraded use conventional SID:
❷ BIGRO 1E/ ❸ BIGRO 1F.

Apt Elev 20

Trans alt: 9000

Basic RNP 1 GNSS required

BIGRO 1G: Owing to the proximity of Hong Kong Intl airport, any deviation from the SID track could result in direct conflict with Hong Kong traffic. Pilots departing on RWY 34 are reminded to follow the SID track until LATOP unless deviation is approved by ATC in advance.

These SIDs require minimum climb gradients of
BIGRO 1G: 4.8% until leaving 5900.
BIGRO 1H: 3.8% until leaving 4900.

Gnd speed-KT	75	100	150	200	250	300
4.8% V/V (fpm)	365	486	729	972	1215	1458
3.8% V/V (fpm)	289	385	577	770	962	1155

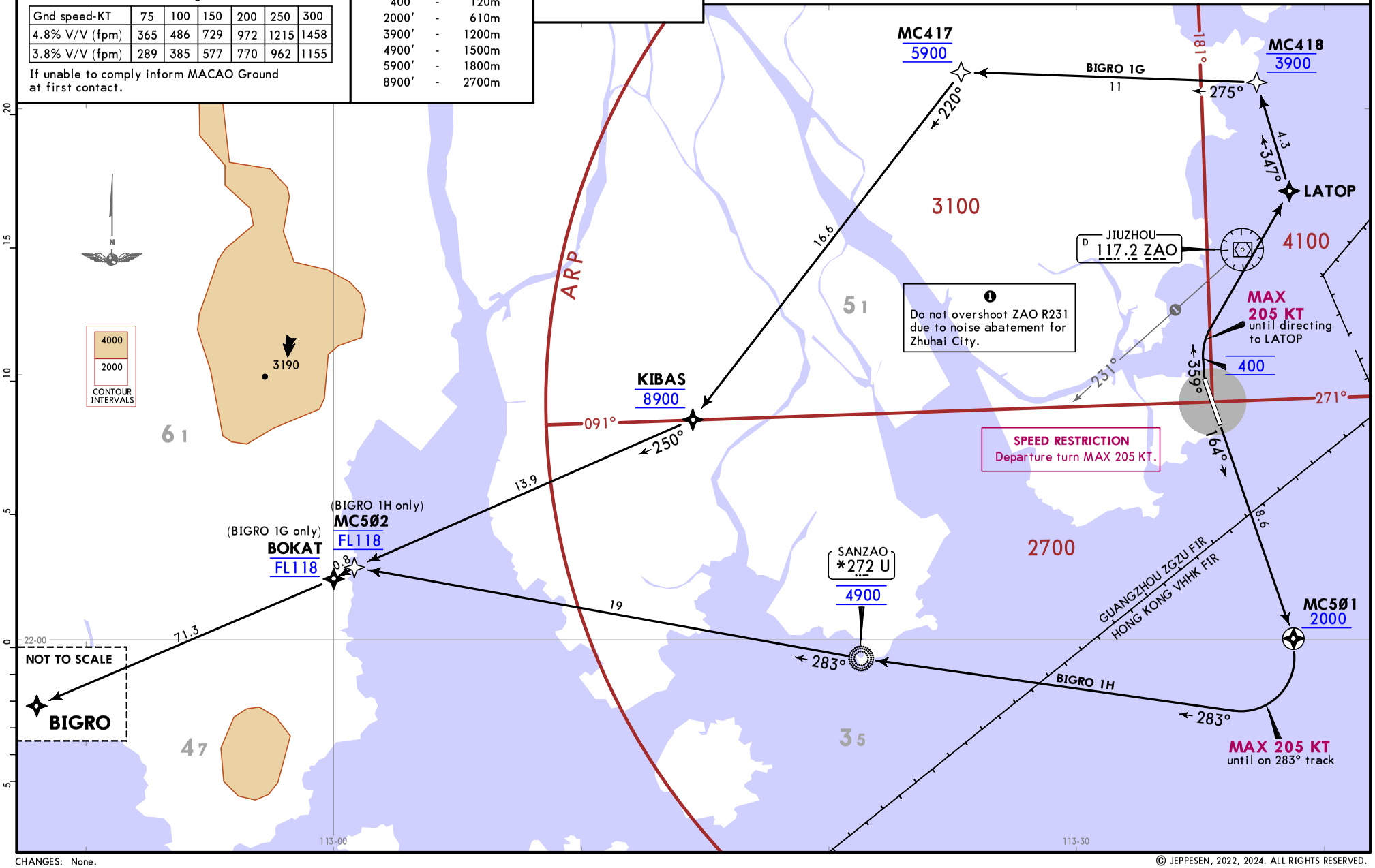
If unable to comply inform MACAO Ground at first contact.

FT/METER CONVERSION
QNH

400′	-	120m
2000′	-	610m
3900′	-	1200m
4900′	-	1500m
5900′	-	1800m
8900′	-	2700m

FL CONVERSION
FL118 - FL3600m

BIGRO 1G [BIGR1G], BIGRO 1H [BIGR1H]
RNAV (GNSS) DEPARTURES (ALL RWYS)



CHANGES: None.

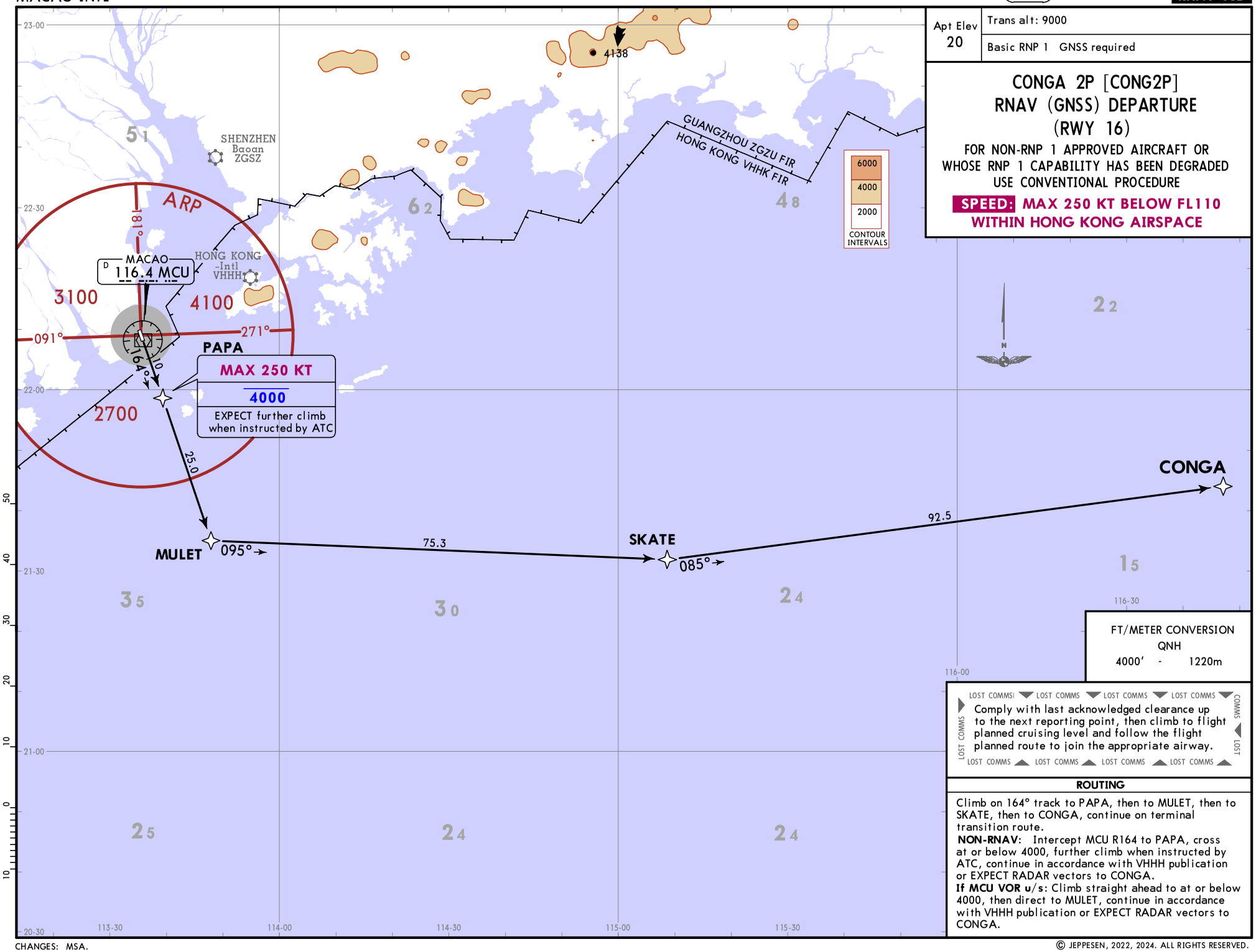
JEPPESEN MACAO, PR OF CHINA
9 FEB 24 (10-3D) Eff 22 Feb
RNAV SID

Apt Elev	Trans alt: 9000
20	Basic RNP 1 GNSS required

CONGA 2P [CONG2P]
RNAV (GNSS) DEPARTURE
(RWY 16)

FOR NON-RNP 1 APPROVED AIRCRAFT OR WHOSE RNP 1 CAPABILITY HAS BEEN DEGRADED USE CONVENTIONAL PROCEDURE

SPEED: MAX 250 KT BELOW FL110 WITHIN HONG KONG AIRSPACE



FT/METER CONVERSION
QNH
4000' - 1220m

LOST COMMS
Comply with last acknowledged clearance up to the next reporting point, then climb to flight planned cruising level and follow the flight planned route to join the appropriate airway.
LOST COMMS

ROUTING

Climb on 164° track to PAPA, then to MULET, then to SKATE, then to CONGA, continue on terminal transition route.
NON-RNAV: Intercept MCU R164 to PAPA, cross at or below 4000, further climb when instructed by ATC, continue in accordance with VHHH publication or EXPECT RADAR vectors to CONGA.
If MCU VOR u/s: Climb straight ahead to at or below 4000, then direct to MULET, continue in accordance with VHHH publication or EXPECT RADAR vectors to CONGA.

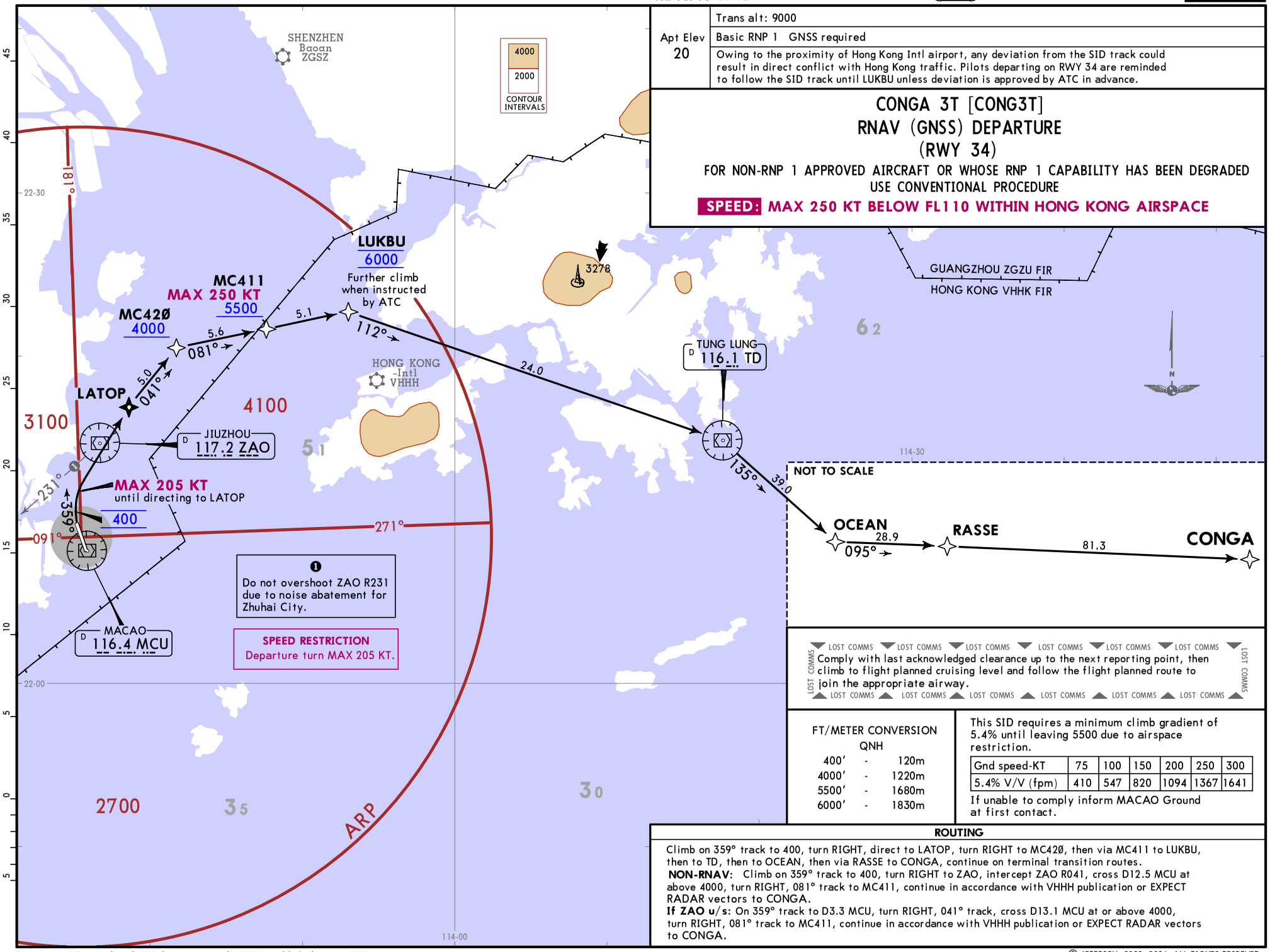
CHANGES: MSA.

Apt Elev	
20	Trans alt: 9000
	Basic RNP 1 GNSS required
	Owing to the proximity of Hong Kong Intl airport, any deviation from the SID track could result in direct conflict with Hong Kong traffic. Pilots departing on RWY 34 are reminded to follow the SID track until LUKBU unless deviation is approved by ATC in advance.

CONGA 3T [CONG3T]
RNAV (GNSS) DEPARTURE
(RWY 34)

FOR NON-RNP 1 APPROVED AIRCRAFT OR WHOSE RNP 1 CAPABILITY HAS BEEN DEGRADED USE CONVENTIONAL PROCEDURE

SPEED: MAX 250 KT BELOW FL110 WITHIN HONG KONG AIRSPACE



LOST COMMS
Comply with last acknowledged clearance up to the next reporting point, then climb to flight planned cruising level and follow the flight planned route to join the appropriate airway.

FT/METER CONVERSION
QNH

400′	-	120m
4000′	-	1220m
5500′	-	1680m
6000′	-	1830m

This SID requires a minimum climb gradient of 5.4% until leaving 5500 due to airspace restriction.

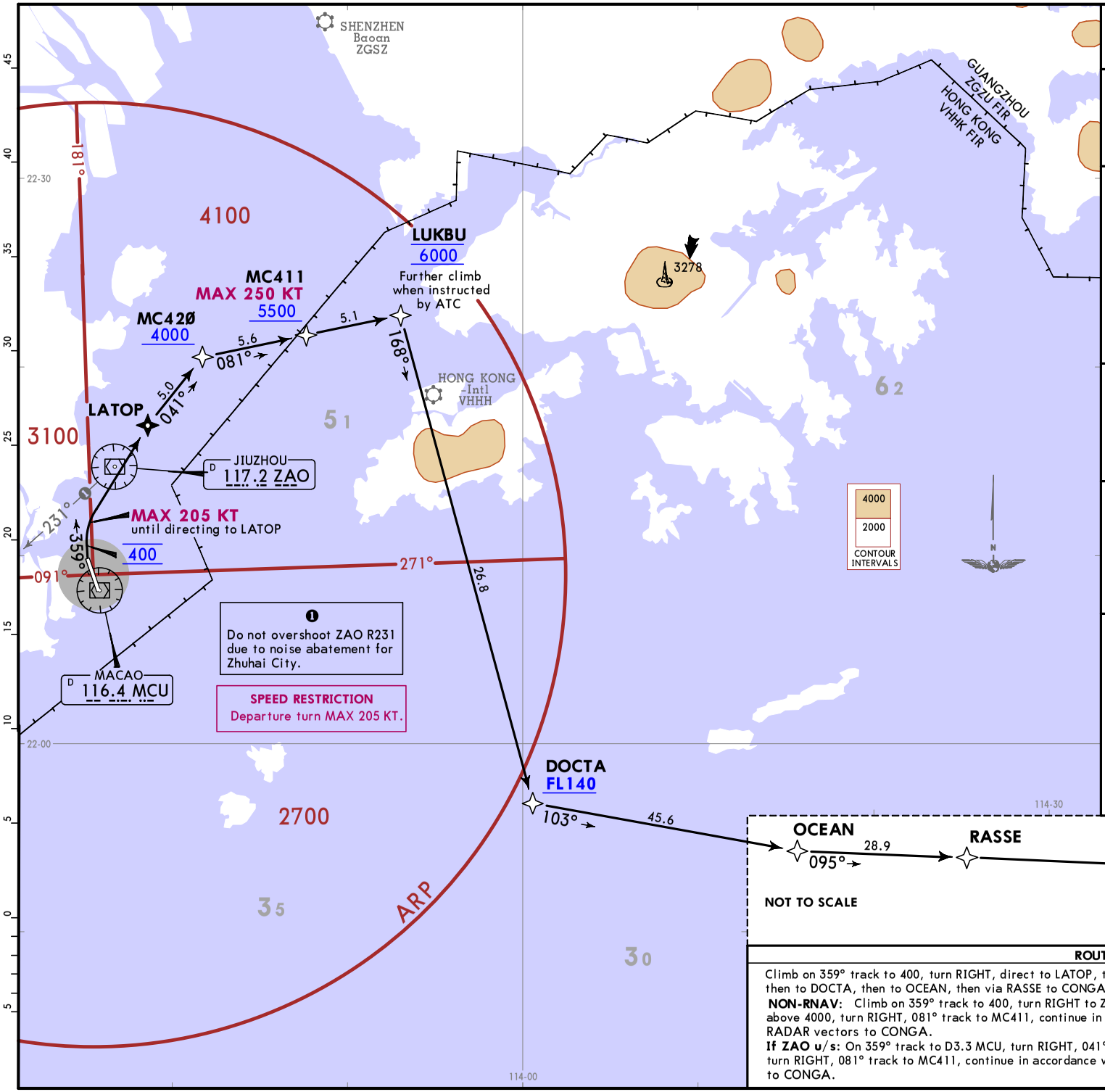
Gnd speed-KT	75	100	150	200	250	300
5.4% V/V (fpm)	410	547	820	1094	1367	1641

If unable to comply inform MACAO Ground at first contact.

ROUTING

Climb on 359° track to 400, turn RIGHT, direct to LATOP, turn RIGHT to MC42Ø, then via MC411 to LUKBU, then to TD, then to OCEAN, then via RASSE to CONGA, continue on terminal transition routes.
NON-RNAV: Climb on 359° track to 400, turn RIGHT to ZAO, intercept ZAO R041, cross D12.5 MCU at above 4000, turn RIGHT, 081° track to MC411, continue in accordance with VHHH publication or EXPECT RADAR vectors to CONGA.
If ZAO u/s: On 359° track to D3.3 MCU, turn RIGHT, 041° track, cross D13.1 MCU at or above 4000, turn RIGHT, 081° track to MC411, continue in accordance with VHHH publication or EXPECT RADAR vectors to CONGA.

CHANGES: SID renumbered, LKC decommissioned, LUKBU established, notes, MSA.



Apt Elev	Trans alt: 9000
20	Basic RNP 1 GNSS required

Owing to the proximity of Hong Kong Intl airport, any deviation from the SID track could result in direct conflict with Hong Kong traffic. Pilots departing on RWY 34 are reminded to follow the SID track until LUKBU unless deviation is approved by ATC in advance.

CONGA 4U [CONG4U]
RNAV (GNSS) DEPARTURE
(RWY 34)

FOR NON-RNP 1 APPROVED AIRCRAFT OR WHOSE RNP 1 CAPABILITY HAS BEEN DEGRADED USE CONVENTIONAL PROCEDURE

SPEED: MAX 250 KT BELOW FL110 WITHIN HONG KONG AIRSPACE

LOST COMMS

Comply with last acknowledged clearance up to the next reporting point, then climb to flight planned cruising level and follow the flight planned route to join the appropriate airway.

This SID requires a minimum climb gradient of 5.4% until leaving 5500 due to airspace restriction.

Gnd speed-KT	75	100	150	200	250	300
5.4% V/V (fpm)	410	547	820	1094	1367	1641

If unable to comply inform MACAO Ground at first contact.

FT/METER CONVERSION
QNH

400′	-	120m
4000′	-	1220m
5500′	-	1680m
6000′	-	1830m

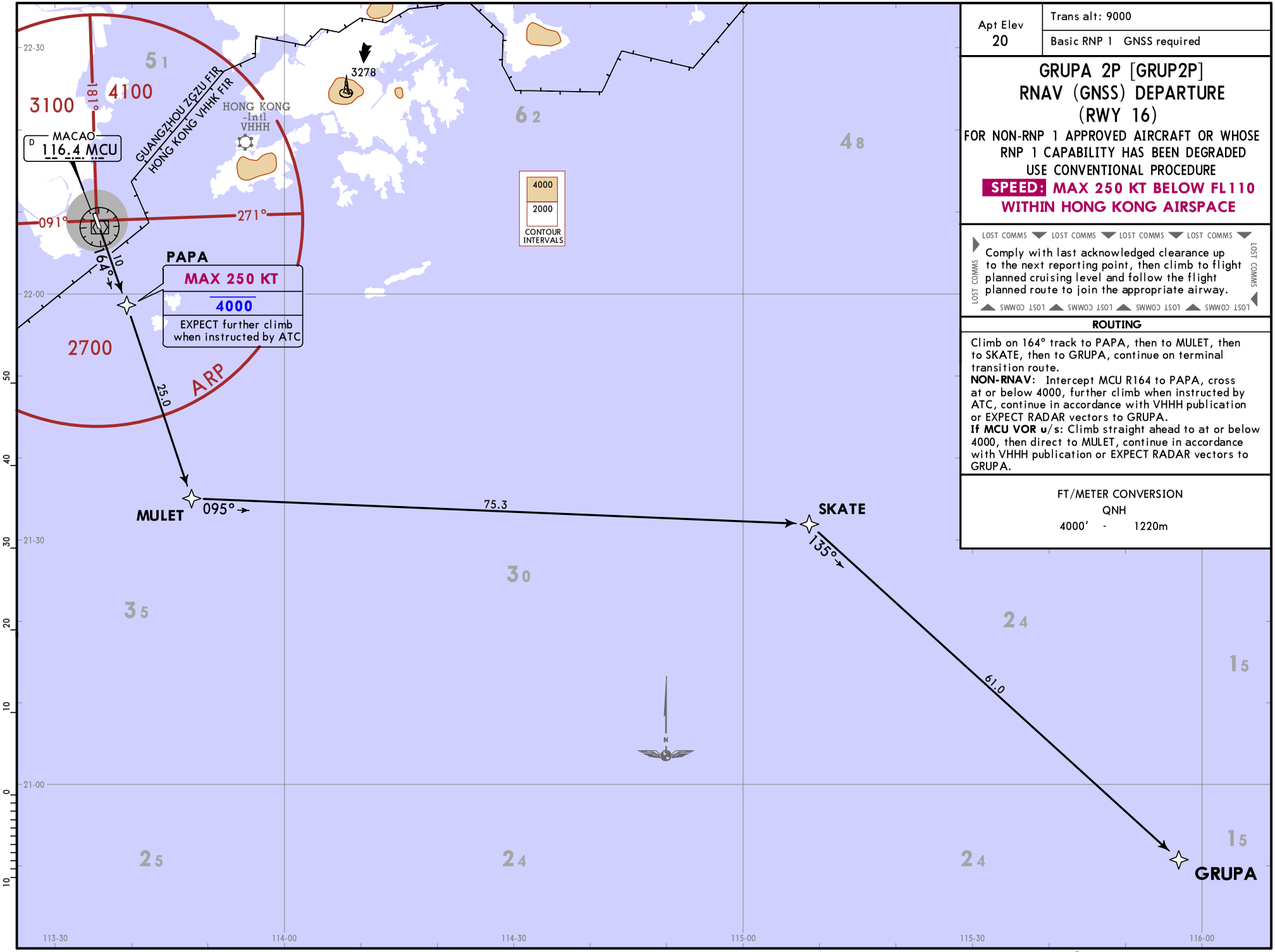
ROUTING

Climb on 359° track to 400, turn RIGHT, direct to LATOP, turn RIGHT to MC42Ø, then via MC411 to LUKBU, then to DOCTA, then to OCEAN, then via RASSE to CONGA, continue on terminal transition routes.

NON-RNAV: Climb on 359° track to 400, turn RIGHT to ZAO, intercept ZAO R041, cross D12.5 MCU at above 4000, turn RIGHT, 081° track to MC411, continue in accordance with VHHH publication or EXPECT RADAR vectors to CONGA.

If ZAO u/s: On 359° track to D3.3 MCU, turn RIGHT, 041° track, cross D13.1 MCU at or above 4000, turn RIGHT, 081° track to MC411, continue in accordance with VHHH publication or EXPECT RADAR vectors to CONGA.

CHANGES: Speed at MC411 added.



Apt Elev	Trans alt: 9000
20	Basic RNP 1 GNSS required

GRUPA 2P [GRUP2P]
RNAV (GNSS) DEPARTURE
(RWY 16)

FOR NON-RNP 1 APPROVED AIRCRAFT OR WHOSE RNP 1 CAPABILITY HAS BEEN DEGRADED USE CONVENTIONAL PROCEDURE

SPEED: MAX 250 KT BELOW FL110 WITHIN HONG KONG AIRSPACE

LOST COMMS

Comply with last acknowledged clearance up to the next reporting point, then climb to flight planned cruising level and follow the flight planned route to join the appropriate airway.

ROUTING

Climb on 164° track to PAPA, then to MULET, then to SKATE, then to GRUPA, continue on terminal transition route.
NON-RNAV: Intercept MCU R164 to PAPA, cross at or below 4000, further climb when instructed by ATC, continue in accordance with VHHH publication or EXPECT RADAR vectors to GRUPA.
If MCU VOR u/s: Climb straight ahead to at or below 4000, then direct to MULET, continue in accordance with VHHH publication or EXPECT RADAR vectors to GRUPA.

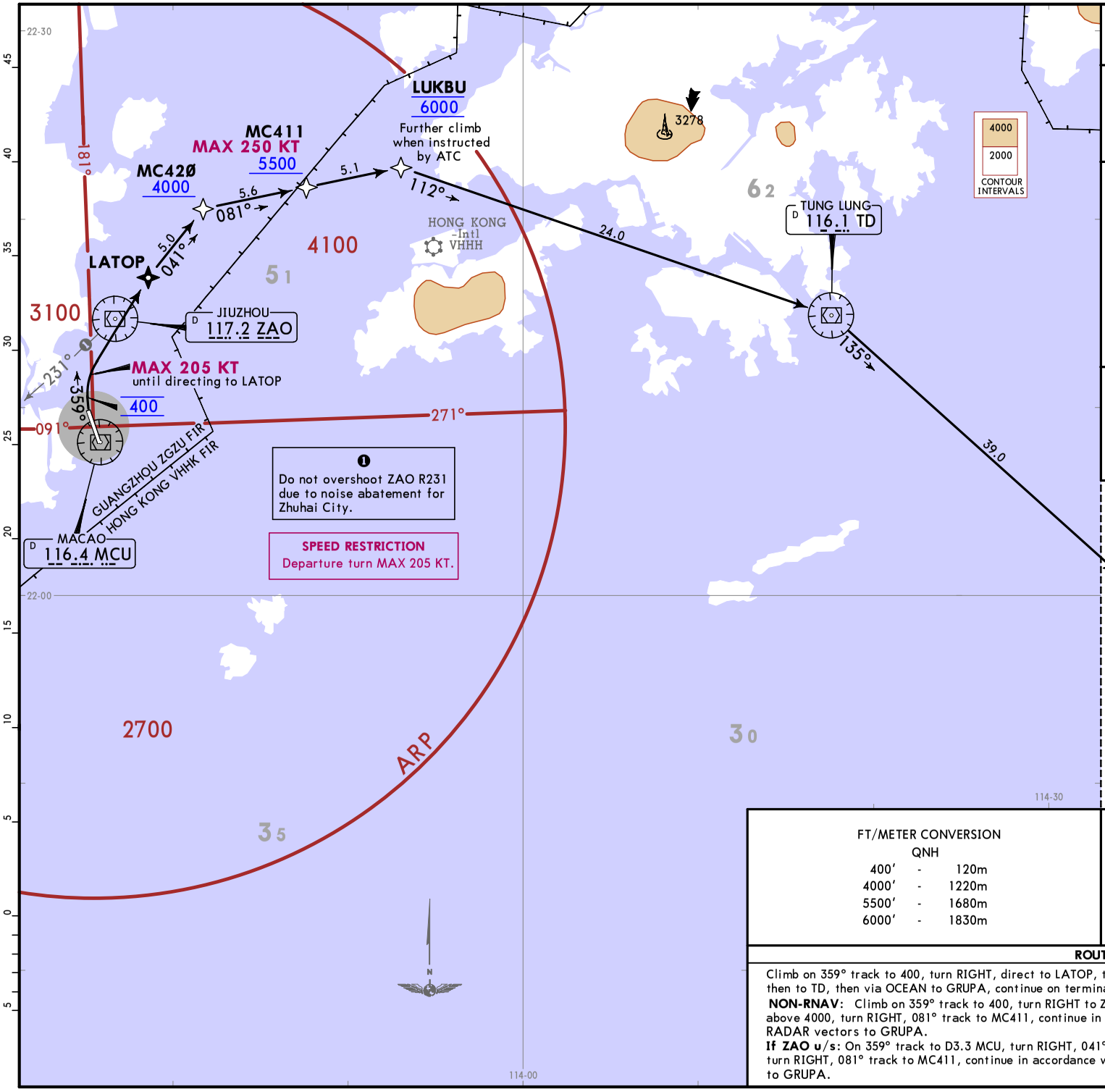
FT/METER CONVERSION
QNH
4000' - 1220m

CHANGES: None.

JEPPESEN
23 FEB 24 (10-3H)

MACAO, PR OF CHINA

RNAV SID



Apt Elev	Trans alt: 9000
20	Basic RNP 1 GNSS required

Owing to the proximity of Hong Kong Intl airport, any deviation from the SID track could result in direct conflict with Hong Kong traffic. Pilots departing on RWY 34 are reminded to follow the SID track until LUKBU unless deviation is approved by ATC in advance.

GRUPA 3T [GRUP3T]
RNAV (GNSS) DEPARTURE
(RWY 34)

FOR NON-RNP 1 APPROVED AIRCRAFT OR WHOSE RNP 1 CAPABILITY HAS BEEN DEGRADED USE CONVENTIONAL PROCEDURE

SPEED: MAX 250 KT BELOW FL110 WITHIN HONG KONG AIRSPACE

LOST COMMS — Comply with last acknowledged clearance up to the next reporting point, then climb to flight planned cruising level and follow the flight planned route to join the appropriate airway.

FT/METER CONVERSION
QNH

400′	-	120m
4000′	-	1220m
5500′	-	1680m
6000′	-	1830m

This SID requires a minimum climb gradient of 5.4% until leaving 5500 due to airspace restriction.

Gnd speed-KT	75	100	150	200	250	300
5.4% V/V (fpm)	410	547	820	1094	1367	1641

If unable to comply inform MACAO Ground at first contact.

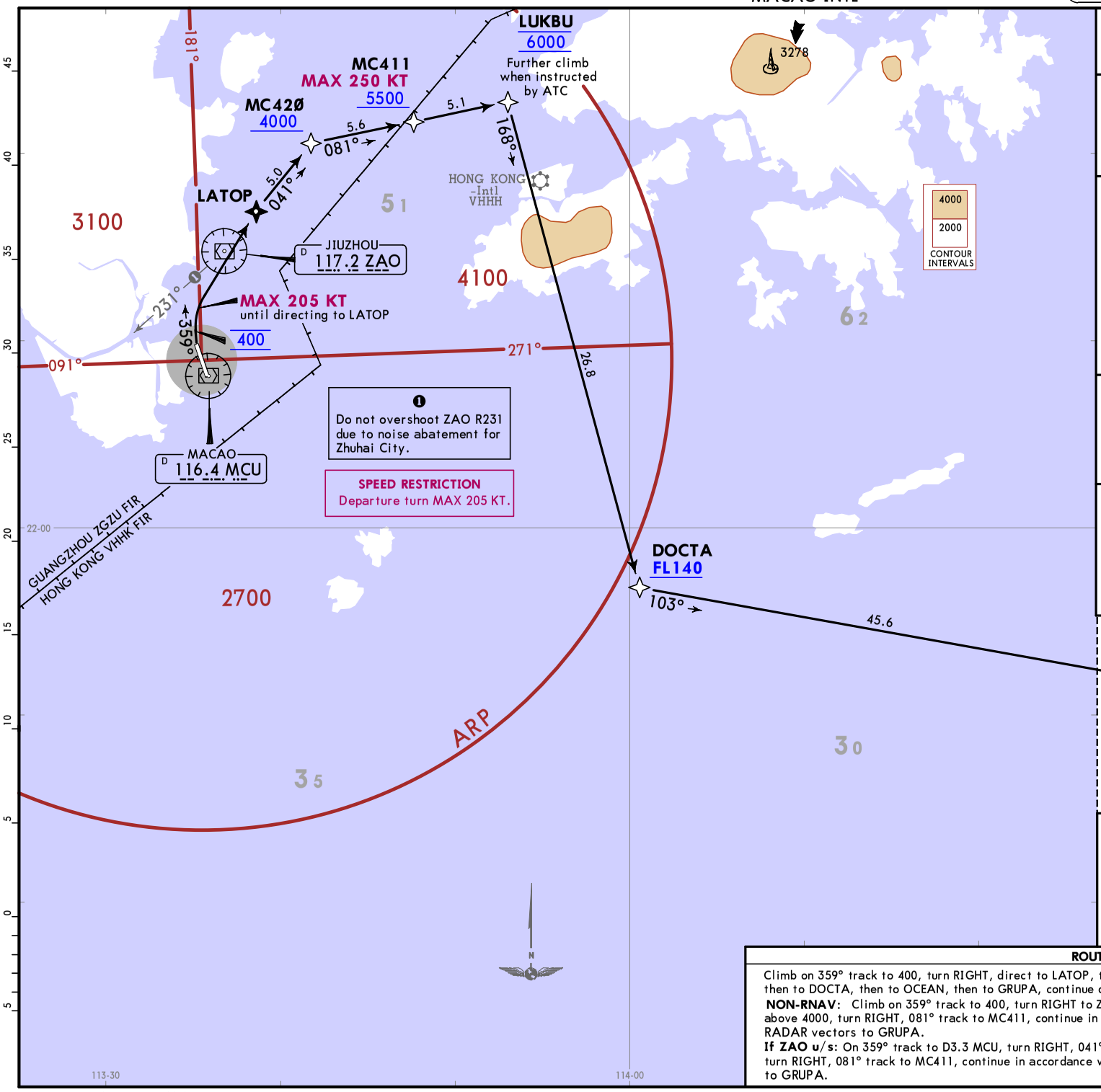
ROUTING

Climb on 359° track to 400, turn RIGHT, direct to LATOP, turn RIGHT to MC42Ø, then via MC411 to LUKBU, then to TD, then via OCEAN to GRUPA, continue on terminal transition routes.

NON-RNAV: Climb on 359° track to 400, turn RIGHT to ZAO, intercept ZAO R041, cross D12.5 MCU at above 4000, turn RIGHT, 081° track to MC411, continue in accordance with VHHH publication or EXPECT RADAR vectors to GRUPA.

If ZAO u/s: On 359° track to D3.3 MCU, turn RIGHT, 041° track, cross D13.1 MCU at or above 4000, turn RIGHT, 081° track to MC411, continue in accordance with VHHH publication or EXPECT RADAR vectors to GRUPA.

CHANGES: None.



Apt Elev	Trans alt: 9000
20	Basic RNP 1 GNSS required

Owing to the proximity of Hong Kong Intl airport, any deviation from the SID track could result in direct conflict with Hong Kong traffic. Pilots departing on RWY 34 are reminded to follow the SID track until LUKBU unless deviation is approved by ATC in advance.

GRUPA 4U [GRUP4U]
RNAV (GNSS) DEPARTURE
(RWY 34)

FOR NON-RNP 1 APPROVED AIRCRAFT OR WHOSE RNP 1 CAPABILITY HAS BEEN DEGRADED USE CONVENTIONAL PROCEDURE

SPEED: MAX 250 KT BELOW FL110 WITHIN HONG KONG AIRSPACE

LOST COMMS

Comply with last acknowledged clearance up to the next reporting point, then climb to flight planned cruising level and follow the flight planned route to join the appropriate airway.

This SID requires a minimum climb gradient of 5.4% until leaving 5500 due to airspace restriction.

Gnd speed-KT	75	100	150	200	250	300
5.4% V/V (fpm)	410	547	820	1094	1367	1641

If unable to comply inform MACAO Ground at first contact.

NOT TO SCALE

FT/METER CONVERSION
QNH

400'	-	120m
4000'	-	1220m
5500'	-	1680m
6000'	-	1830m

ROUTING

Climb on 359° track to 400, turn RIGHT, direct to LATOP, turn RIGHT to MC42Ø, then via MC411 to LUKBU, then to DOCTA, then to OCEAN, then to GRUPA, continue on terminal transition routes.

NON-RNAV: Climb on 359° track to 400, turn RIGHT to ZAO, intercept ZAO R041, cross D12.5 MCU at above 4000, turn RIGHT, 081° track to MC411, continue in accordance with VHHH publication or EXPECT RADAR vectors to GRUPA.

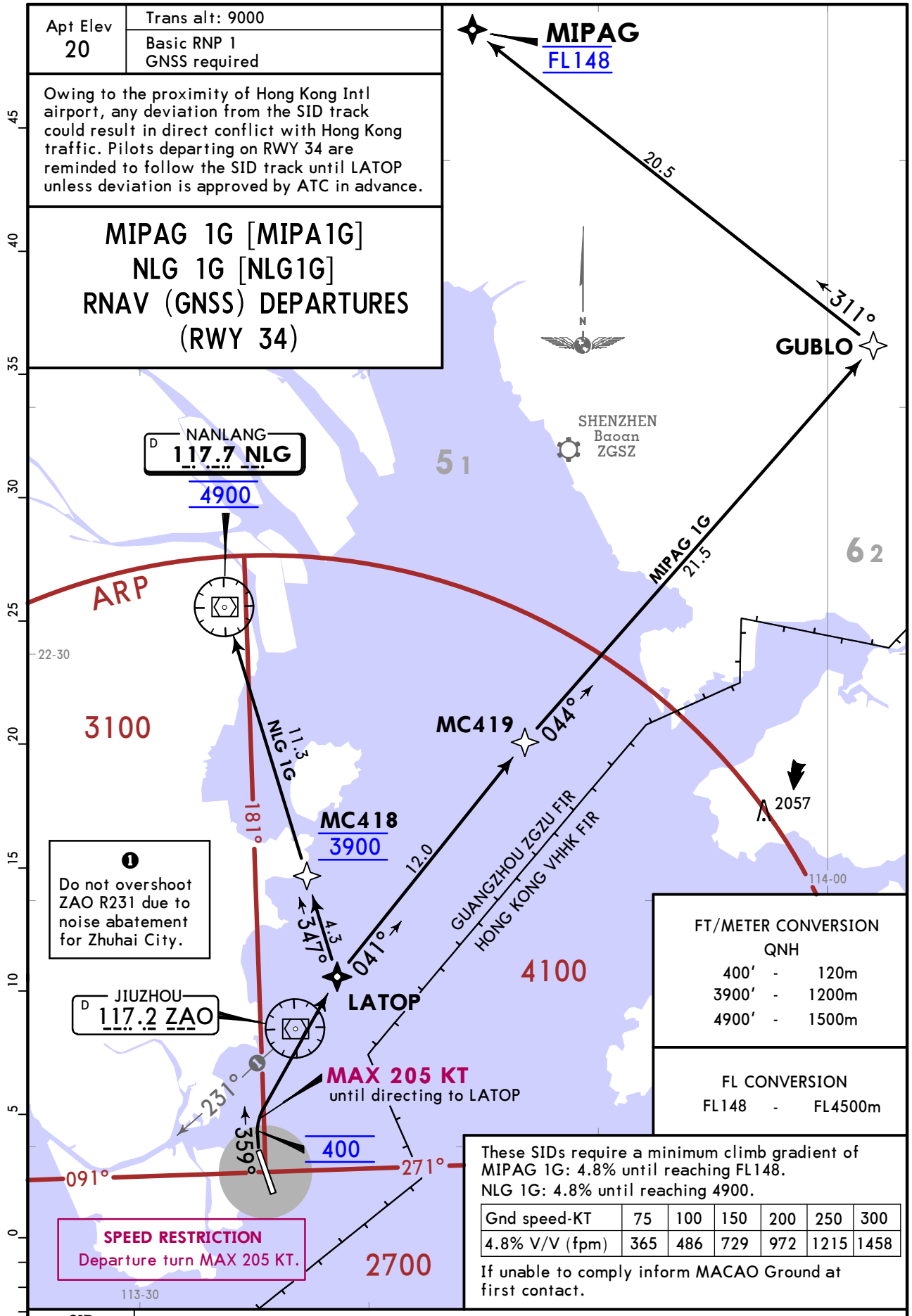
If ZAO u/s: On 359° track to D3.3 MCU, turn RIGHT, 041° track, cross D13.1 MCU at or above 4000, turn RIGHT, 081° track to MC411, continue in accordance with VHHH publication or EXPECT RADAR vectors to GRUPA.

CHANGES: Speed at MC411 added.

Apt Elev	Trans alt: 9000
20	Basic RNP 1 GNSS required

Owing to the proximity of Hong Kong Intl airport, any deviation from the SID track could result in direct conflict with Hong Kong traffic. Pilots departing on RWY 34 are reminded to follow the SID track until LATOP unless deviation is approved by ATC in advance.

MIPAG 1G [MIPA1G]
NLG 1G [NLG1G]
RNAV (GNSS) DEPARTURES
(RWY 34)



❶ Do not overshoot ZAO R231 due to noise abatement for Zhuhai City.

FT/METER CONVERSION QNH		
400′	-	120m
3900′	-	1200m
4900′	-	1500m

FL CONVERSION		
FL148	-	FL4500m

These SIDs require a minimum climb gradient of
MIPAG 1G: 4.8% until reaching FL148.
NLG 1G: 4.8% until reaching 4900.

Gnd speed-KT	75	100	150	200	250	300
4.8% V/V (fpm)	365	486	729	972	1215	1458

If unable to comply inform MACAO Ground at first contact.

SID	ROUTING
MIPAG 1G ❷	Climb on 359° track to 400, turn RIGHT, direct to LATOP, then to MC419, then to GUBLO, turn LEFT to MIPAG.
NLG 1G ❸	Climb on 359° track to 400, turn RIGHT, direct to LATOP, then via MC418 to NLG.

For Non-RNP 1 approved aircraft or whose RNP 1 capability has been degraded use conventional SID:
❷ MIPAG 2E/ ❸ NLG 1E.

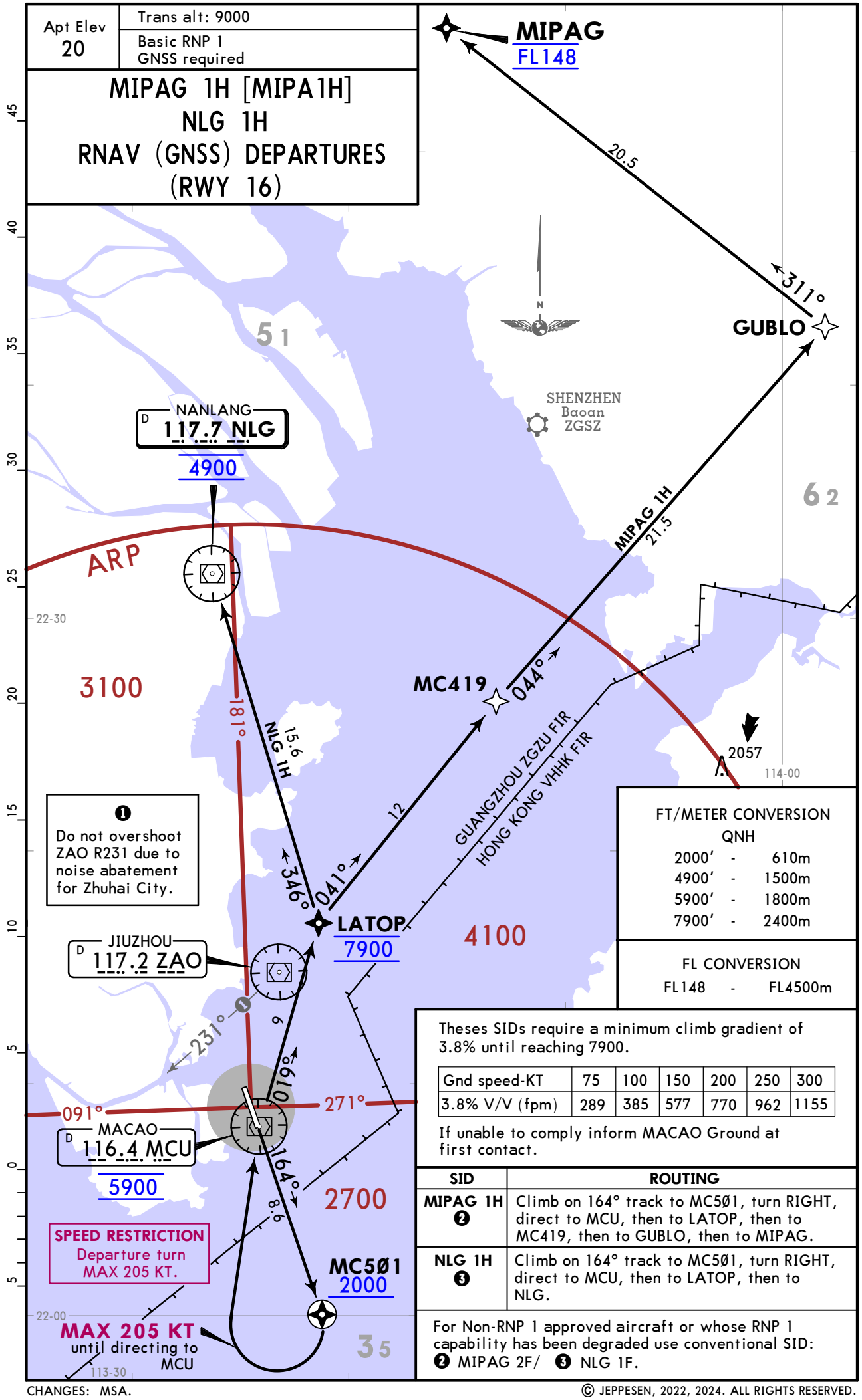
CHANGES: Note, MSA.

Apt Elev 20

Trans alt: 9000

Basic RNP 1
GNSS required

MIPAG 1H [MIPA1H]
NLG 1H
RNAV (GNSS) DEPARTURES
(RWY 16)



❶ Do not overshoot ZAO R231 due to noise abatement for Zhuhai City.

FT/METER CONVERSION QNH		
2000′	-	610m
4900′	-	1500m
5900′	-	1800m
7900′	-	2400m

FL CONVERSION		
FL148	-	FL4500m

Theses SIDs require a minimum climb gradient of 3.8% until reaching 7900.

Gnd speed-KT	75	100	150	200	250	300
3.8% V/V (fpm)	289	385	577	770	962	1155

If unable to comply inform MACAO Ground at first contact.

SID	ROUTING
MIPAG 1H ❷	Climb on 164° track to MC5Ø1, turn RIGHT, direct to MCU, then to LATOP, then to MC419, then to GUBLO, then to MIPAG.
NLG 1H ❸	Climb on 164° track to MC5Ø1, turn RIGHT, direct to MCU, then to LATOP, then to NLG.

For Non-RNP 1 approved aircraft or whose RNP 1 capability has been degraded use conventional SID:
❷ MIPAG 2F/ ❸ NLG 1F.

CHANGES: MSA.

Apt Elev	Trans alt: 9000
20	Basic RNP 1 GNSS required

Owing to the proximity of Hong Kong Intl airport, any deviation from the SID track could result in direct conflict with Hong Kong traffic. Pilots departing on RWY 34 are reminded to follow the SID track until LATOP unless deviation is approved by ATC in advance.

SHL 1G
RNAV (GNSS) DEPARTURE
(RWY 34)

FOR NON-RNP 1 APPROVED AIRCRAFT OR WHOSE RNP 1 CAPABILITY HAS BEEN DEGRADED USE CONVENTIONAL SID SHL 2E

ROUTING

Climb 359° track to 400, turn RIGHT, direct to LATOP, then to MC419, then to GUBLO, turn LEFT to IDUMA, then to SHL.

This SID requires a minimum climb gradient of 4.8% until leaving FL148.

Gnd speed-KT	75	100	150	200	250	300
4.8% V/V (fpm)	365	486	729	972	1215	1458

If unable to comply inform MACAO Ground at first contact.

FT/METER CONVERSION
QNH
400' - 120m

FL CONVERSION
FL148 - FL4500m

SHILONG
D 115.7 SHL

IDUMA
FL148

GUBLO

MC419

LATOP

JIUZHOU
D 117.2 ZAO

SHENZHEN
Baoan
ZGSZ

HONG KONG
Hong Kong Intl
VHHH

ARP

GUANGZHOU ZGZU FIR
HONG KONG VHHK FIR

13.1 338°
12.0 341°
21.5 044°
12.0 041°
181°
231°
359°
271°
091°

1739
3100
4100
3068
2700

4000
2000
CONTOUR INTERVALS

❶ Do not overshoot ZAO R231 due to noise abatement for Zhuhai City.

MAX 205 KT
until directing to LATOP

SPEED RESTRICTION
Departure turn MAX 205 KT.

400

23-00
22-30
113-30
114-00

CHANGES: Note, MSA.

Apt Elev	Trans alt: 9000
20	Basic RNP 1 GNSS required

SHL 1H
RNAV (GNSS) DEPARTURE
(RWY 16)

FOR NON-RNP 1 APPROVED AIRCRAFT OR WHOSE RNP 1 CAPABILITY HAS BEEN DEGRADED USE CONVENTIONAL SID SHL 2F

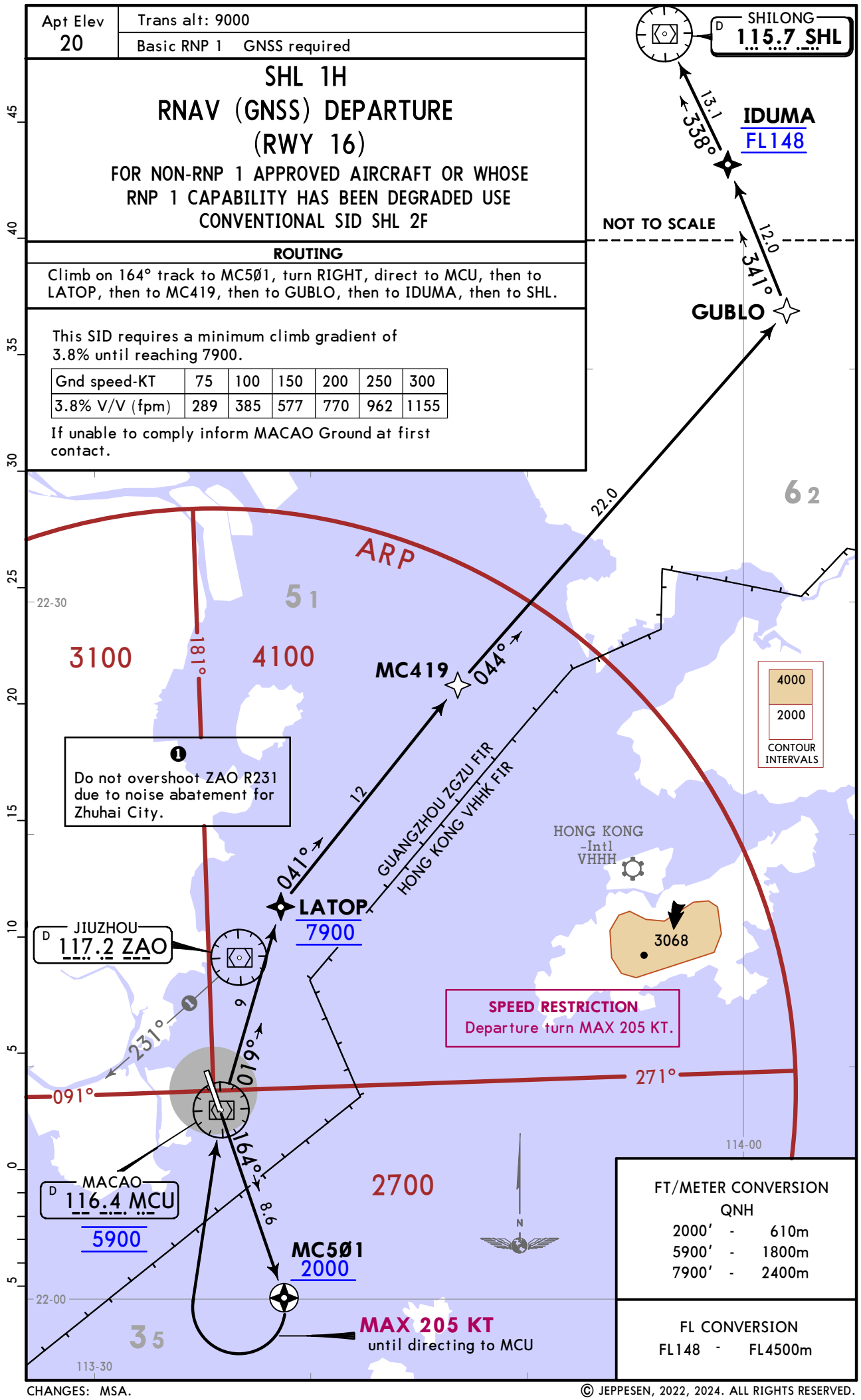
ROUTING

Climb on 164° track to MC5Ø1, turn RIGHT, direct to MCU, then to LATOP, then to MC419, then to GUBLO, then to IDUMA, then to SHL.

This SID requires a minimum climb gradient of 3.8% until reaching 7900.

Gnd speed-KT	75	100	150	200	250	300
3.8% V/V (fpm)	289	385	577	770	962	1155

If unable to comply inform MACAO Ground at first contact.

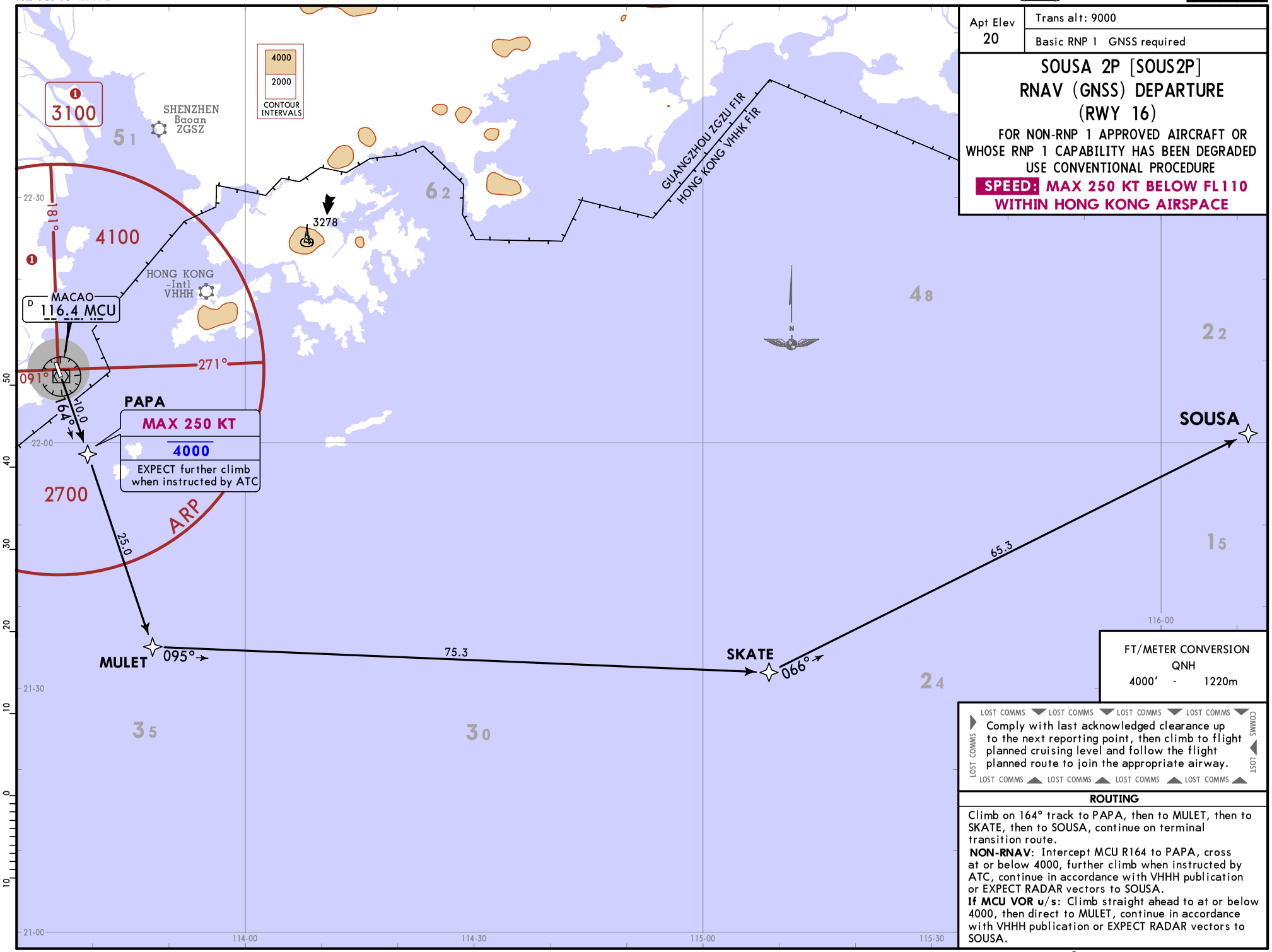


FT/METER CONVERSION		
QNH		
2000′	-	610m
5900′	-	1800m
7900′	-	2400m

FL CONVERSION		
FL148	-	FL4500m

CHANGES: MSA.

JEPPESEN MACAO, PR OF CHINA
9 FEB 24 (10-3P) Eff 22 Feb
RNAV SID



Apt Elev	Trans alt: 9000
20	Basic RNP 1 GNSS required

SOUSA 2P [SOUS2P]
RNAV (GNSS) DEPARTURE
(RWY 16)

FOR NON-RNP 1 APPROVED AIRCRAFT OR WHOSE RNP 1 CAPABILITY HAS BEEN DEGRADED USE CONVENTIONAL PROCEDURE

SPEED: MAX 250 KT BELOW FL110 WITHIN HONG KONG AIRSPACE

FT/METER CONVERSION
QNH
4000' - 1220m

LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS

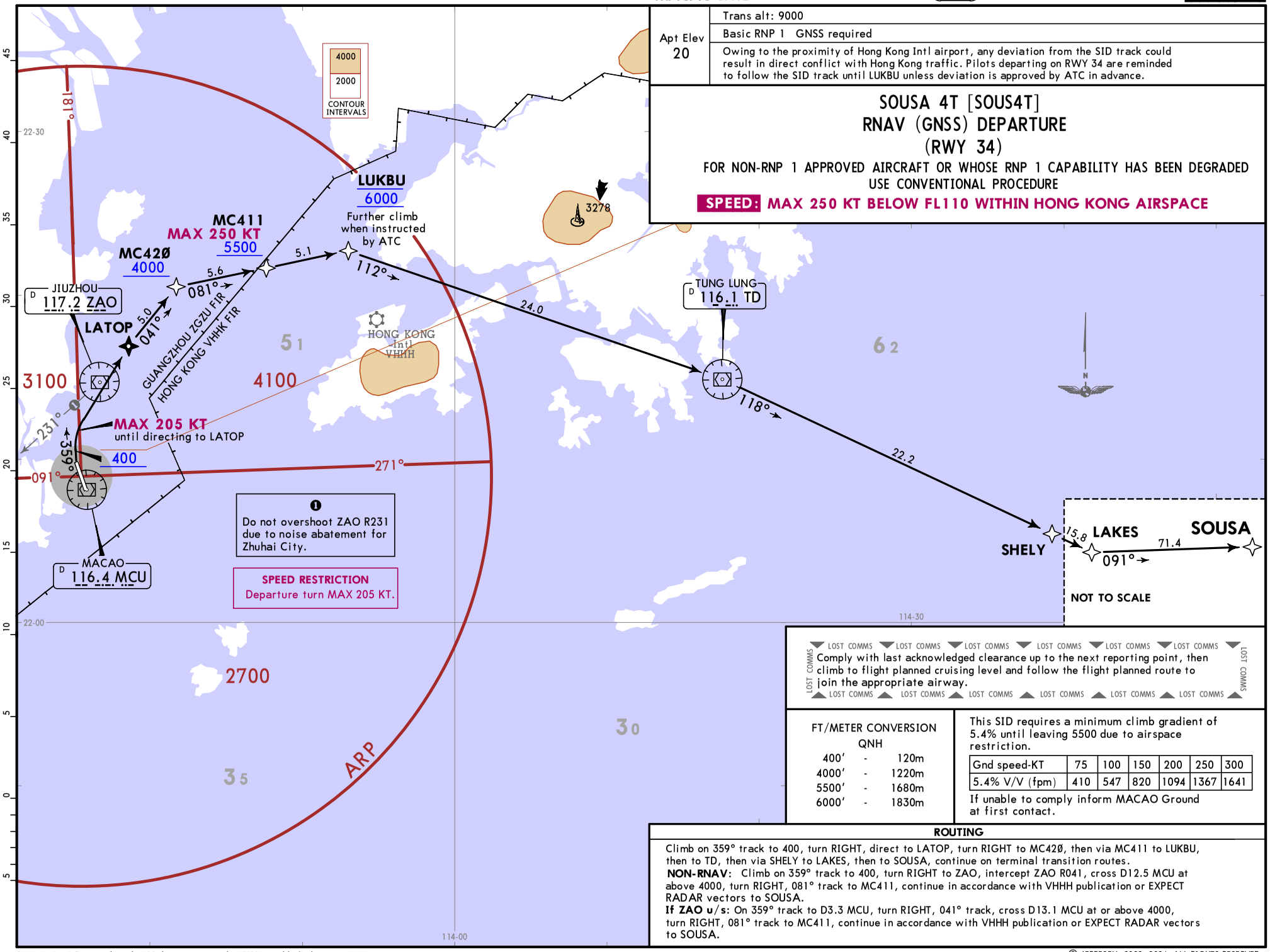
Comply with last acknowledged clearance up to the next reporting point, then climb to flight planned cruising level and follow the flight planned route to join the appropriate airway.

LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS

ROUTING

Climb on 164° track to PAPA, then to MULET, then to SKATE, then to SOUSA, continue on terminal transition route.
NON-RNAV: Intercept MCU R164 to PAPA, cross at or below 4000, further climb when instructed by ATC, continue in accordance with VHHH publication or EXPECT RADAR vectors to SOUSA.
If MCU VOR u/s: Climb straight ahead to at or below 4000, then direct to MULET, continue in accordance with VHHH publication or EXPECT RADAR vectors to SOUSA.

CHANGES: MSA.



Trans alt: 9000

Apt Elev 20

Basic RNP 1 GNSS required

Owing to the proximity of Hong Kong Intl airport, any deviation from the SID track could result in direct conflict with Hong Kong traffic. Pilots departing on RWY 34 are reminded to follow the SID track until LUKBU unless deviation is approved by ATC in advance.

SOUSA 4T [SOUS4T]
RNAV (GNSS) DEPARTURE
(RWY 34)

FOR NON-RNP 1 APPROVED AIRCRAFT OR WHOSE RNP 1 CAPABILITY HAS BEEN DEGRADED USE CONVENTIONAL PROCEDURE

SPEED: MAX 250 KT BELOW FL110 WITHIN HONG KONG AIRSPACE

LOST COMMS: Comply with last acknowledged clearance up to the next reporting point, then climb to flight planned cruising level and follow the flight planned route to join the appropriate airway.

FT/METER CONVERSION
QNH

400′	-	120m
4000′	-	1220m
5500′	-	1680m
6000′	-	1830m

This SID requires a minimum climb gradient of 5.4% until leaving 5500 due to airspace restriction.

Gnd speed-KT	75	100	150	200	250	300
5.4% V/V (fpm)	410	547	820	1094	1367	1641

If unable to comply inform MACAO Ground at first contact.

ROUTING

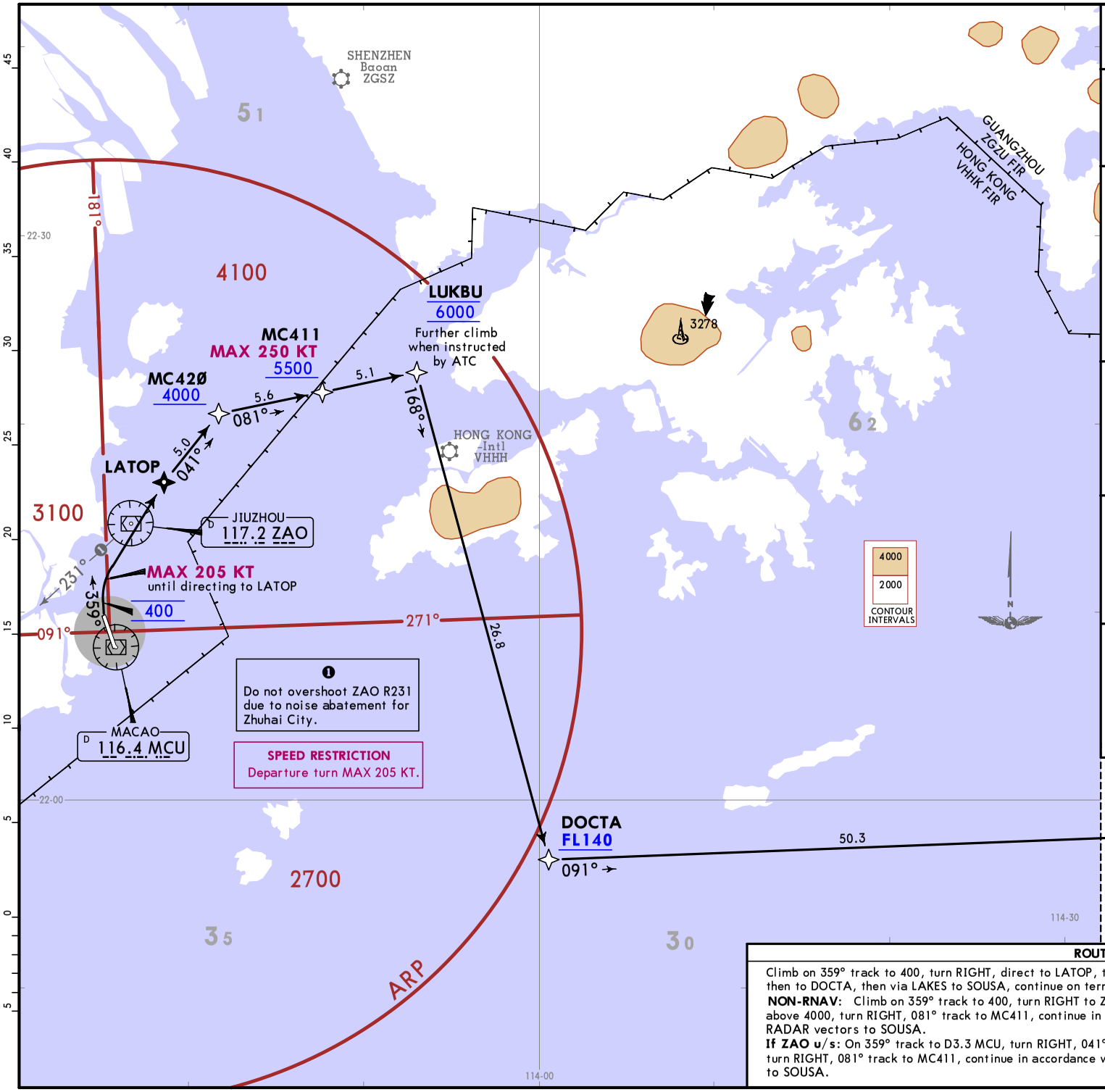
Climb on 359° track to 400, turn RIGHT, direct to LATOP, turn RIGHT to MC42Ø, then via MC411 to LUKBU, then to TD, then via SHELY to LAKES, then to SOUSA, continue on terminal transition routes.

NON-RNAV: Climb on 359° track to 400, turn RIGHT to ZAO, intercept ZAO R041, cross D12.5 MCU at above 4000, turn RIGHT, 081° track to MC411, continue in accordance with VHHH publication or EXPECT RADAR vectors to SOUSA.

If ZAO u/s: On 359° track to D3.3 MCU, turn RIGHT, 041° track, cross D13.1 MCU at or above 4000, turn RIGHT, 081° track to MC411, continue in accordance with VHHH publication or EXPECT RADAR vectors to SOUSA.

CHANGES: SID renumbered, LKC decommissioned, LUKBU established, notes, MSA.

JEPPESEN MACAO, PR OF CHINA
23 FEB 24 (10-3S)
RNAV SID



Apt Elev	Trans alt: 9000
20	Basic RNP 1 GNSS required

Owing to the proximity of Hong Kong Intl airport, any deviation from the SID track could result in direct conflict with Hong Kong traffic. Pilots departing on RWY 34 are reminded to follow the SID track until LUKBU unless deviation is approved by ATC in advance.

SOUSA 4U [SOUS4U]
RNAV (GNSS) DEPARTURE
(RWY 34)

FOR NON-RNP 1 APPROVED AIRCRAFT OR WHOSE RNP 1 CAPABILITY HAS BEEN DEGRADED USE CONVENTIONAL PROCEDURE

SPEED: MAX 250 KT BELOW FL110 WITHIN HONG KONG AIRSPACE

LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS

Comply with last acknowledged clearance up to the next reporting point, then climb to flight planned cruising level and follow the flight planned route to join the appropriate airway.

LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS

This SID requires a minimum climb gradient of 5.4% until leaving 5500 due to airspace restriction.

Gnd speed-KT	75	100	150	200	250	300
5.4% V/V (fpm)	410	547	820	1094	1367	1641

If unable to comply inform MACAO Ground at first contact.

FT/METER CONVERSION
QNH

400'	-	120m
4000'	-	1220m
5500'	-	1680m
6000'	-	1830m

NOT TO SCALE

ROUTING

Climb on 359° track to 400, turn RIGHT, direct to LATOP, turn RIGHT to MC42Ø, then via MC411 to LUKBU, then to DOCTA, then via LAKES to SOUSA, continue on terminal transition routes.

NON-RNAV: Climb on 359° track to 400, turn RIGHT to ZAO, intercept ZAO R041, cross D12.5 MCU at above 4000, turn RIGHT, 081° track to MC411, continue in accordance with VHHH publication or EXPECT RADAR vectors to SOUSA.

If ZAO u/s: On 359° track to D3.3 MCU, turn RIGHT, 041° track, cross D13.1 MCU at or above 4000, turn RIGHT, 081° track to MC411, continue in accordance with VHHH publication or EXPECT RADAR vectors to SOUSA.

CHANGES: Speed at MC411 added.

ROUTING

Climb on 359° track to 400, turn RIGHT to ZAO, ZAO R041 to LATOP, turn LEFT, intercept SMT R275, at NLG R215 turn LEFT, intercept NLG R220 to KIBAS, turn RIGHT, intercept ZUH R250 via BOKAT to BIGRO.
If ZAO u/s: Climb on 359°, turn RIGHT at D3.3 MCU on track 041°, at D9.0 MCU turn LEFT to intercept SMT R275 at or above 3940. Then join original procedure.

This SID requires a minimum climb gradient of
4.8% until leaving 5910.

Gnd speed-KT	75	100	150	200	250	300
4.8% V/V (fpm)	365	486	729	972	1215	1458

If unable to comply inform MACAO Ground at first contact.

FT/METER CONVERSION
QNH
400′ - 120m
3940′ - 1200m
5910′ - 1800m
8900′ - 2700m

FL CONVERSION
FL118 - FL3600m

NANLANG D 117.7 NLG

SPEED RESTRICTION
Departure turn MAX 205 KT.

4100

3940
then continue to climb

D14.0 NLG
5910

[SMT3Ø]

220°
215°
275°
SMT 114.8
181°

3100

LATOP

JIUZHOU D 117.2 ZAO

LIANSHENGWEI D 116.7 ZUH

MAX 205 KT until directed to LATOP

231°
041°
2.7

400

359°

271°

Do not overshoot ZAO R231 due to noise abatement for Zhuhai City.

KIBAS
8900

D29.5
D14.0
250°
091°
16.6

ARP

MACAO D 116.4 MCU

GUANGZHOU ZGZU FIR
HONG KONG VHHK FIR

2700

BOKAT
FL118

D28.0
14.7
71.3

BIGRO

NOT TO SCALE

4000
2000
CONTOUR INTERVALS

3190

6 1
5 1
4 7
3 5

22-30
22-00
113-30
113-00

Apt Elev	Trans alt: 9000
20	

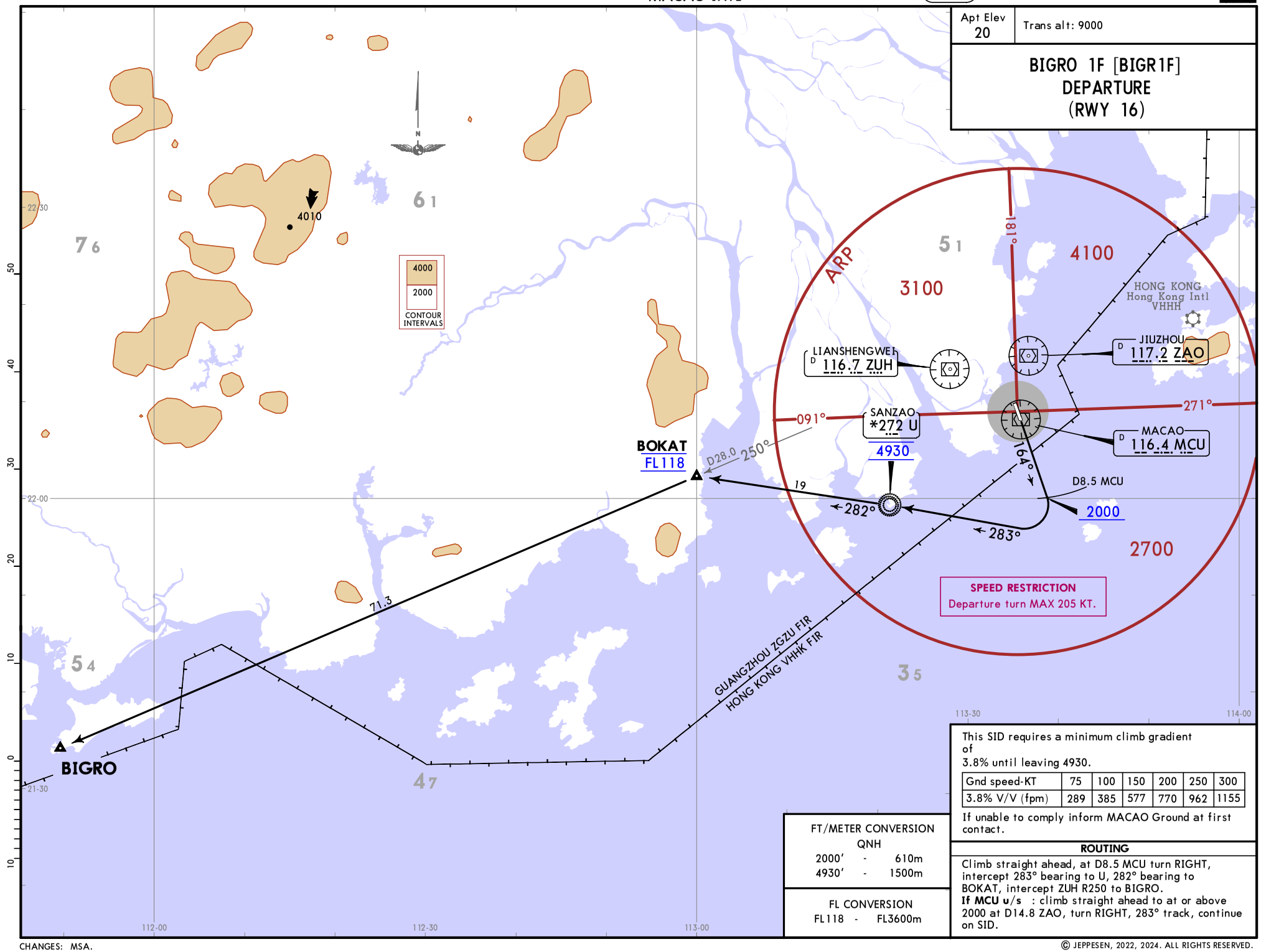
Owing to the proximity of Hong Kong Intl airport, any deviation from the SID track could result in direct conflict with Hong Kong traffic. Pilots departing on RWY 34 are reminded to follow the SID track until LATOP unless deviation is approved by ATC in advance.

BIGRO 1E [BIGR1E] DEPARTURE (RWY 34)

CHANGES: Note, MSA.

Apt Elev	Trans alt: 9000
20	

BIGRO 1F [BIGR1F]
DEPARTURE
(RWY 16)



This SID requires a minimum climb gradient of 3.8% until leaving 4930.

Gnd speed-KT	75	100	150	200	250	300
3.8% V/V (fpm)	289	385	577	770	962	1155

If unable to comply inform MACAO Ground at first contact.

ROUTING

Climb straight ahead, at D8.5 MCU turn RIGHT, intercept 283° bearing to U, 282° bearing to BOKAT, intercept ZUH R250 to BIGRO.
If MCU u/s : climb straight ahead to at or above 2000 at D14.8 ZAO, turn RIGHT, 283° track, continue on SID.

FT/METER CONVERSION QNH		
2000′	-	610m
4930′	-	1500m

FL CONVERSION		
FL118	-	FL3600m

CHANGES: MSA.

CHANGES: Note, MSA, chart reindexed.

Apt Elev
20

Trans alt: 9000
MIPAG 2E, NLG 1E: Owing to the proximity of Hong Kong Intl airport, any deviation from the SID track could result in direct conflict with Hong Kong traffic. Pilots departing on RWY 34 are reminded to follow the SID track until LATOP unless deviation is approved by ATC in advance.

MIPAG 2E [MIPA2E], MIPAG 2F [MIPA2F]
NLG 1E [NLG1E], NLG 1F [NLG1F]
DEPARTURES
(ALL RWYS)

These SIDs require minimum climb gradients of
MIPAG 2E: 4.8% until reaching FL148.
NLG 1E: 4.8% until reaching 4930.
3.8% until reaching 7880.

Gnd speed-KT	75	100	150	200	250	300
4.8% V/V (fpm)	365	486	729	972	1215	1458
3.8% V/V (fpm)	289	385	577	770	962	1155

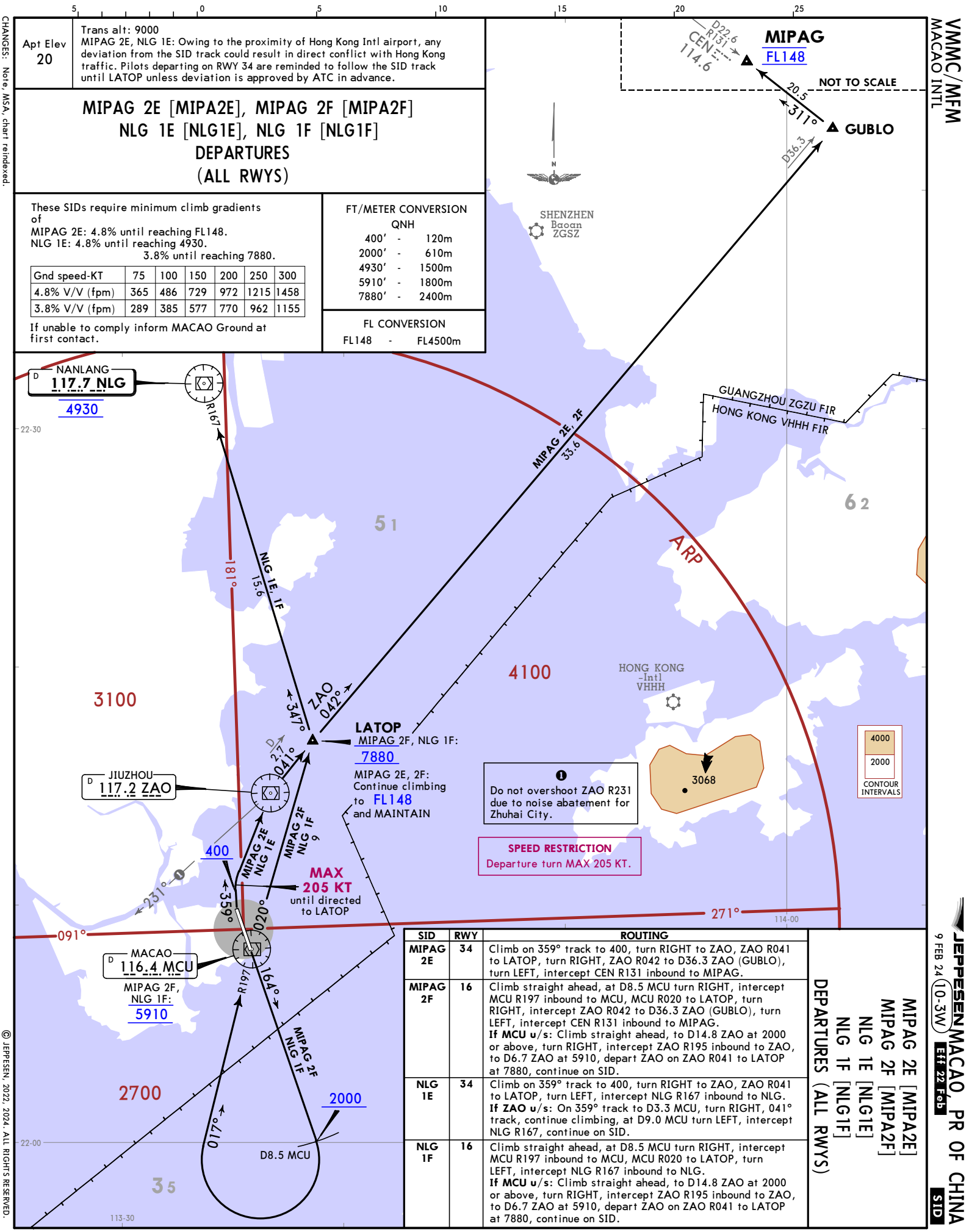
If unable to comply inform MACAO Ground at first contact.

FT/METER CONVERSION
QNH

400′	-	120m
2000′	-	610m
4930′	-	1500m
5910′	-	1800m
7880′	-	2400m

FL CONVERSION

FL148	-	FL4500m



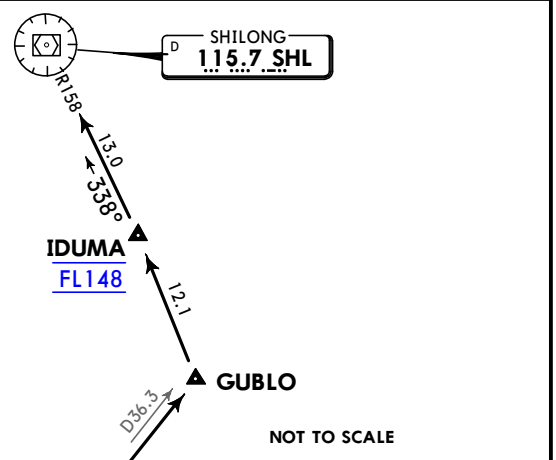
SID	RWY	ROUTING
MIPAG 2E	34	Climb on 359° track to 400, turn RIGHT to ZAO, ZAO R041 to LATOP, turn RIGHT, ZAO R042 to D36.3 ZAO (GUBLO), turn LEFT, intercept CEN R131 inbound to MIPAG.
MIPAG 2F	16	Climb straight ahead, at D8.5 MCU turn RIGHT, intercept MCU R197 inbound to MCU, MCU R020 to LATOP, turn RIGHT, intercept ZAO R042 to D36.3 ZAO (GUBLO), turn LEFT, intercept CEN R131 inbound to MIPAG. **If MCU u/s:** Climb straight ahead, to D14.8 ZAO at 2000 or above, turn RIGHT, intercept ZAO R195 inbound to ZAO, to D6.7 ZAO at 5910, depart ZAO on ZAO R041 to LATOP at 7880, continue on SID.
NLG 1E	34	Climb on 359° track to 400, turn RIGHT to ZAO, ZAO R041 to LATOP, turn LEFT, intercept NLG R167 inbound to NLG. **If ZAO u/s:** On 359° track to D3.3 MCU, turn RIGHT, 041° track, continue climbing, at D9.0 MCU turn LEFT, intercept NLG R167, continue on SID.
NLG 1F	16	Climb straight ahead, at D8.5 MCU turn RIGHT, intercept MCU R197 inbound to MCU, MCU R020 to LATOP, turn LEFT, intercept NLG R167 inbound to NLG. **If MCU u/s:** Climb straight ahead, to D14.8 ZAO at 2000 or above, turn RIGHT, intercept ZAO R195 inbound to ZAO, to D6.7 ZAO at 5910, depart ZAO on ZAO R041 to LATOP at 7880, continue on SID.

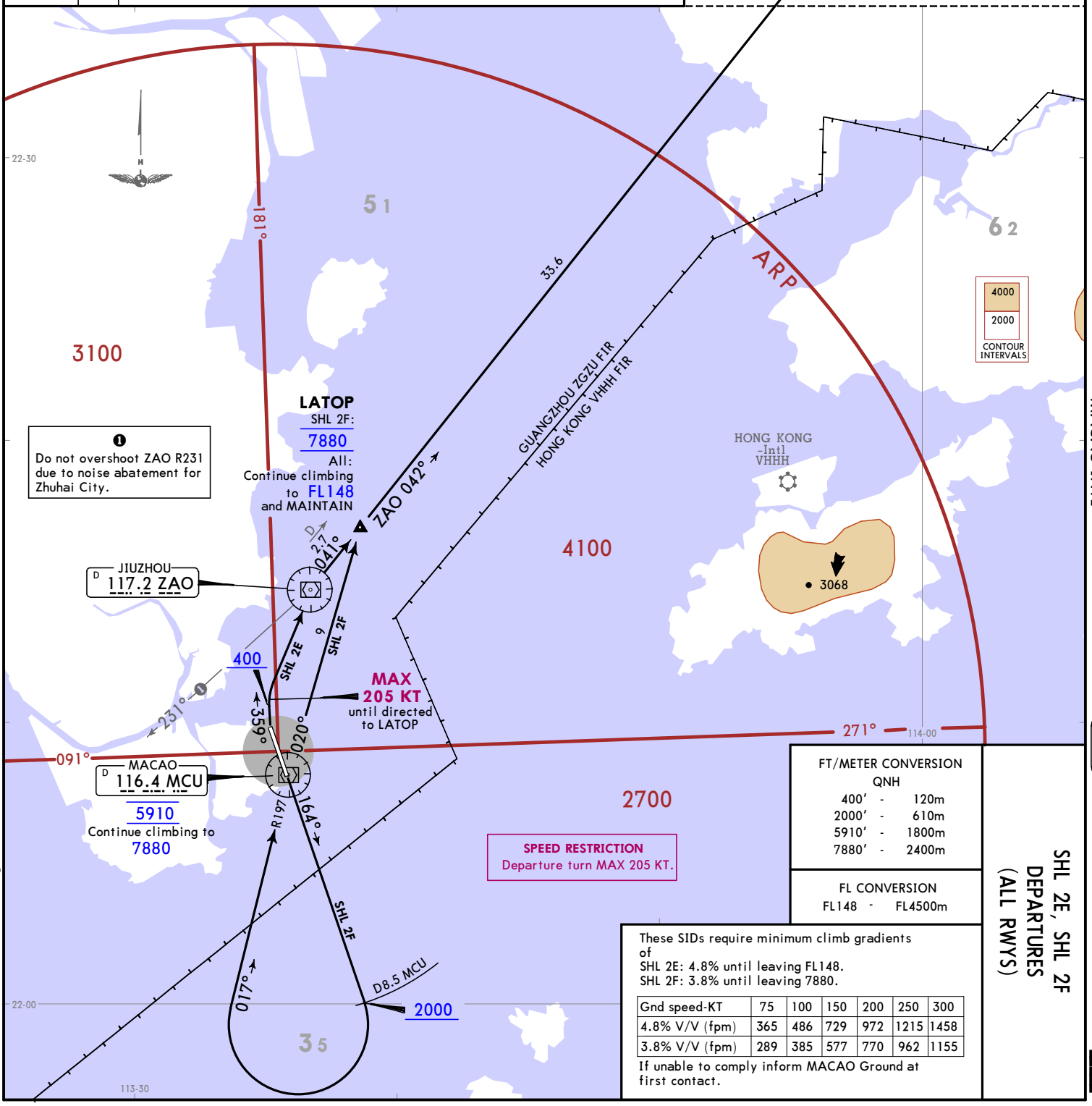
MIPAG 2E [MIPA2E]
MIPAG 2F [MIPA2F]
NLG 1E [NLG1E]
NLG 1F [NLG1F]
DEPARTURES (ALL RWYS)

Apt Elev	
20	Trans alt: 9000 SHL 2E: Owing to the proximity of Hong Kong Intl airport, any deviation from the SID track could result in direct conflict with Hong Kong traffic. Pilots departing on RWY 34 are reminded to follow the SID track until LATOP unless deviation is approved by ATC in advance.

SHL 2E, SHL 2F DEPARTURES (ALL RWYS)

SID	RWY	ROUTING
SHL 2E	34	Climb on 359° track to 400, turn RIGHT to ZAO, ZAO R041 to LATOP, turn RIGHT, ZAO R042 to D36.3 ZAO (GUBLO), turn LEFT, 341° track to IDUMA, turn LEFT, intercept SHL R158 inbound to SHL.
SHL 2F	16	Climb straight ahead, at D8.5 MCU turn RIGHT, intercept MCU R197 inbound to MCU, MCU R020 to LATOP, turn RIGHT, intercept ZAO R042 to D36.3 ZAO (GUBLO), turn LEFT, 341° track to IDUMA, turn LEFT, intercept SHL R158 inbound to SHL. **If MCU u/s:** Climb straight ahead to D14.8 ZAO at 2000 or above, turn RIGHT, intercept ZAO R195 inbound to ZAO, to D6.7 ZAO at 5910, depart ZAO on ZAO R041 to LATOP at 7880, continue on SID.





Do not overshoot ZAO R231 due to noise abatement for Zhuhai City.

FT/METER CONVERSION QNH		
400′	-	120m
2000′	-	610m
5910′	-	1800m
7880′	-	2400m

FL CONVERSION		
FL148	-	FL4500m

These SIDs require minimum climb gradients of
SHL 2E: 4.8% until leaving FL148.
SHL 2F: 3.8% until leaving 7880.

Gnd speed-KT	75	100	150	200	250	300
4.8% V/V (fpm)	365	486	729	972	1215	1458
3.8% V/V (fpm)	289	385	577	770	962	1155

If unable to comply inform MACAO Ground at first contact.

SHL 2E, SHL 2F DEPARTURES (ALL RWYS)

VMMC/MFM MACAO INTL

JEPPESEN 9 FEB 24 (10-3X) Eff 22 Feb

MACAO, PR OF CHINA

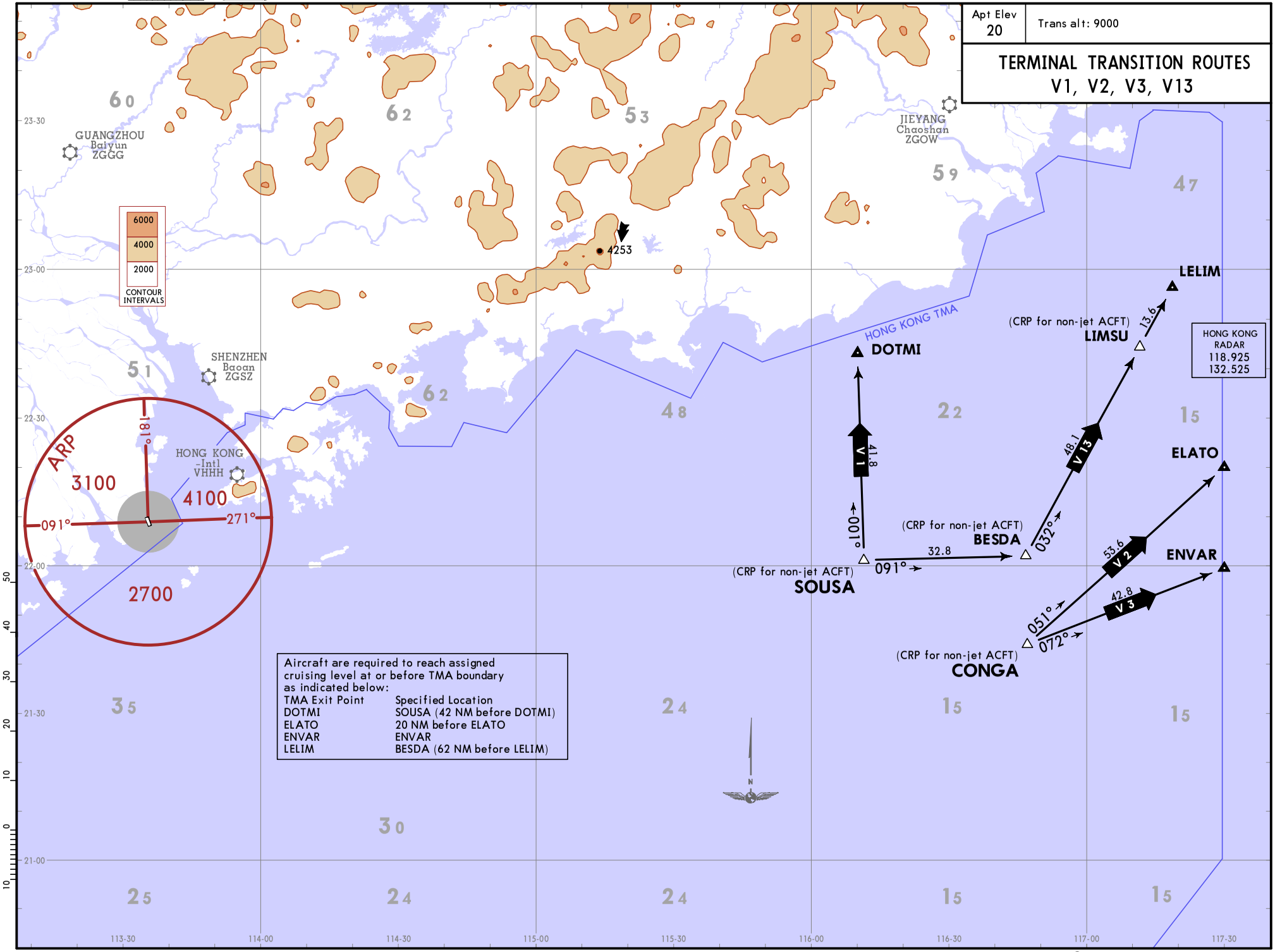
SID

MACAO, PR OF CHINA

TERMINAL TRANSITION ROUTE

Apt Elev	Trans alt: 9000
20	

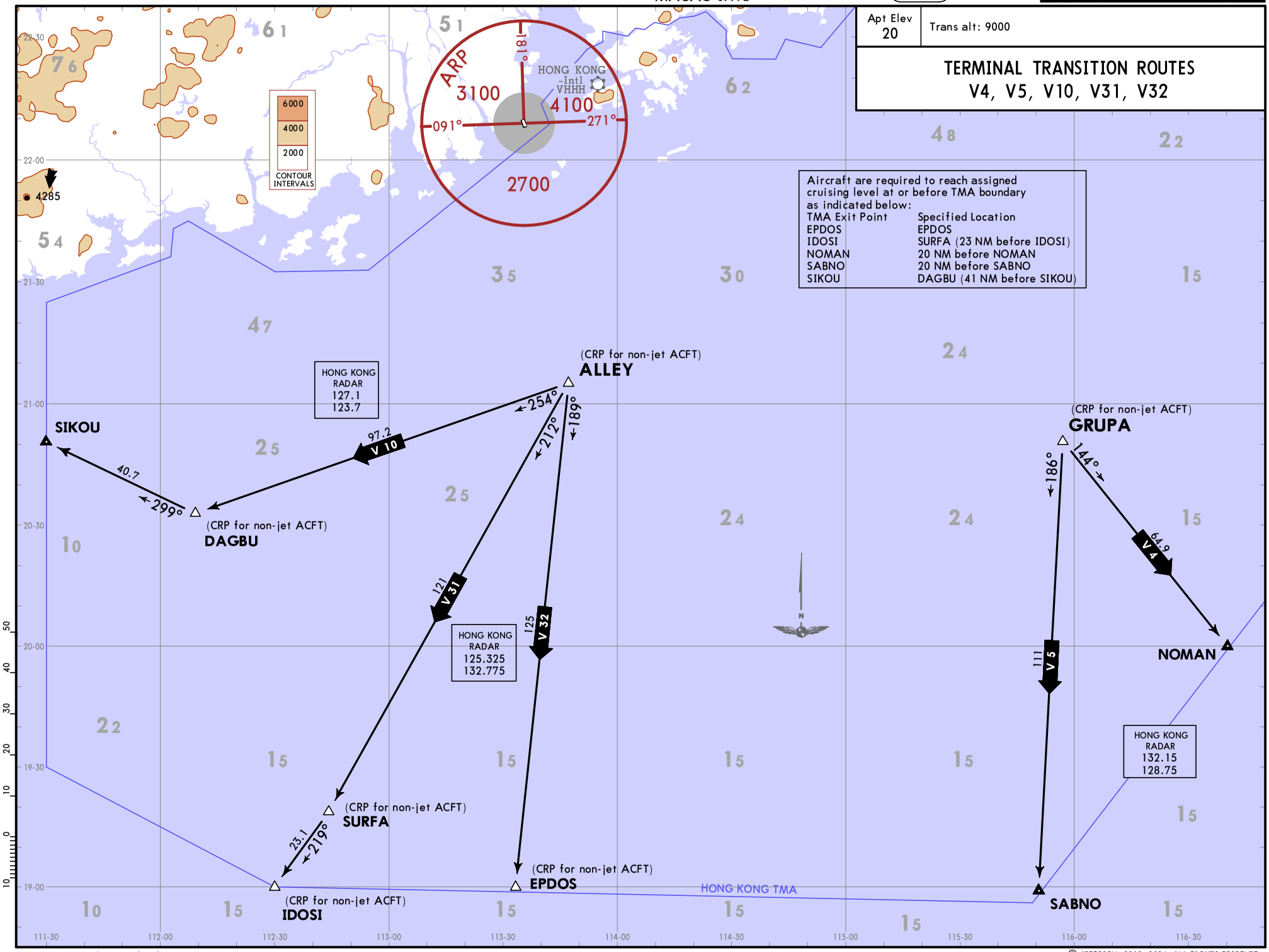
TERMINAL TRANSITION ROUTES
V1, V2, V3, V13



CHANGES: MSA, chart reindexed.

Apt Elev	Trans alt: 9000
20	

TERMINAL TRANSITION ROUTES
V4, V5, V10, V31, V32



CHANGES: MSA, chart reindexed.

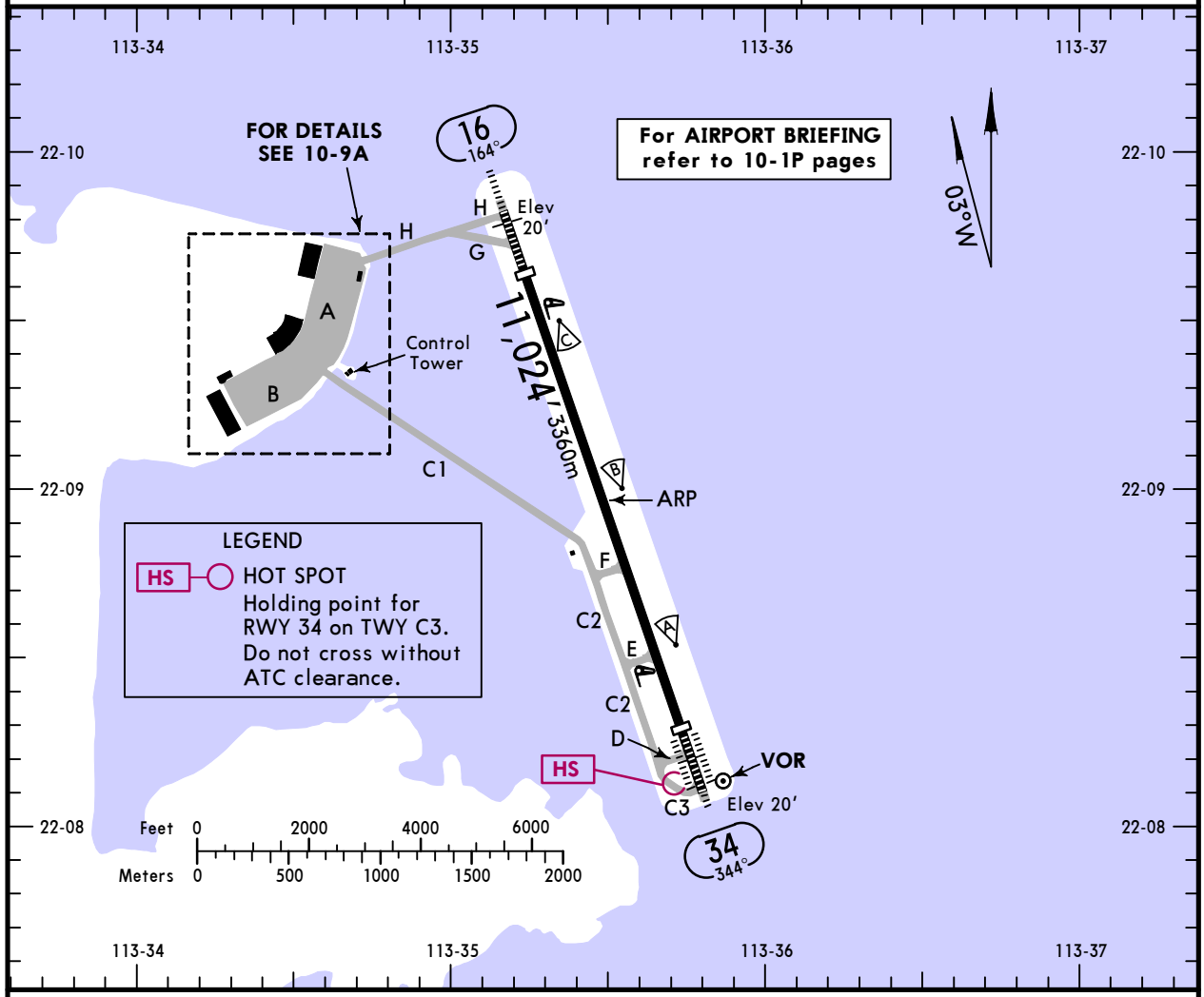
VMMC/MFM

Apt Elev 20′
N22 09.0 E113 35.5

JEPPESEN
27 JAN 23 (10-9)

MACAO, PR OF CHINA
MACAO INTL

ATIS	MACAO Ground	Tower
126.4	121.725	118.0



ADDITIONAL RUNWAY INFORMATION

RWY		USABLE LENGTHS LANDING BEYOND Threshold	Glide Slope	TAKE-OFF	WIDTH
16	HIRL ❶ ❷CL ❸HIALS PAPI (3.0°) RVR	9843′ 3000m ❹		❻❼	148′ 45m
34	HIRL ❶ ❷CL ❸HIALS SFL TDZ PAPI-R (3.0°) RVR	9810′ 2990m ❺	8580′ 2615m		

❶ spacing 60m.
❷ REIL.
❸ spacing 30m.
❹ LDA 9400′ 2865m
❺ LDA 9613′ 2930m
❻ TAKE-OFF RUN AVAILABLE

RWY 16:
From rwy head 10,581′ (3225m)
twy G int 10,105′ (3080m)

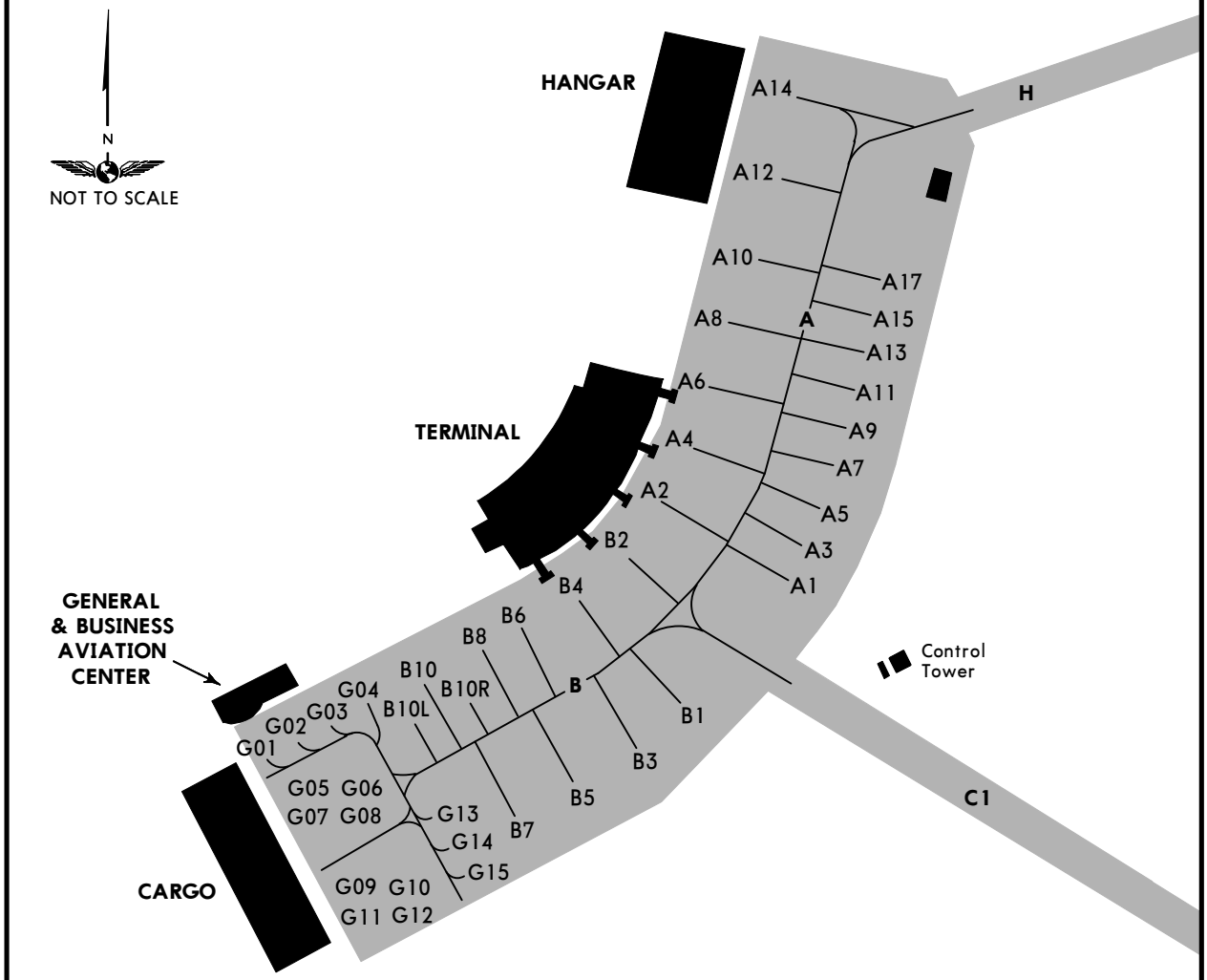
RWY 34:
From rwy head 10,827′ (3300m)
twy D int 10,171′ (3100m)
twy E int 8301′ (2530m)
twy F int 6611′ (2015m)

❼ Additional 197′/60m available as stopway.

Std TAKE-OFF

RL & CL & relevant RVR	RL & CL	RL & RCLM	RL or CL	RL or RCLM	Adequate Vis Ref	
		DAY	NIGHT	DAY	DAY	NIGHT
TDZ R175m Mid R175m Rollout R175m	R200m	R300m		R400m	R/V500m	NA

CHANGES: None.



INS COORDINATES

STAND No.	COORDINATES	STAND No.	COORDINATES
A1	N22 09.4 E113 34.6	B5	N22 09.3 E113 34.5
A2	N22 09.5 E113 34.5	B6	N22 09.4 E113 34.4
A3	N22 09.4 E113 34.7	B7	N22 09.2 E113 34.5
A4	N22 09.5 E113 34.6	B8 thru B10	N22 09.4 E113 34.4
A5	N22 09.4 E113 34.7	G01 thru G08	N22 09.3 E113 34.3
A6	N22 09.5 E113 34.6	G09	N22 09.2 E113 34.3
A7	N22 09.5 E113 34.7	G10 thru G12	N22 09.2 E113 34.4
A8	N22 09.6 E113 34.6	G13	N22 09.3 E113 34.4
A9	N22 09.5 E113 34.7	G14, G15	N22 09.2 E113 34.4
A10	N22 09.6 E113 34.6		
A11	N22 09.5 E113 34.7		
A12	N22 09.7 E113 34.6		
A13	N22 09.5 E113 34.7		
A14	N22 09.7 E113 34.6		
A15	N22 09.5 E113 34.7		
A17	N22 09.6 E113 34.7		
B1	N22 09.3 E113 34.6		
B2	N22 09.4 E113 34.5		
B3	N22 09.3 E113 34.5		
B4	N22 09.4 E113 34.5		

CHANGES: B10L and B10R available.

ADVANCED VISUAL DOCKING GUIDANCE SYSTEM (AVDGS)

1. START-OF-DOCKING
The system is started by pressing one of the aircraft type buttons on the operator panel. When the button has been pressed, "WAIT" will be displayed.

2. CAPTURE
The floating arrows indicate that the system is activated and in capture mode, searching for an approaching aircraft.
It shall be checked that the correct aircraft type is displayed. The lead-in line shall be followed.
THE PILOT MUST NOT PROCEED BEYOND THE BRIDGE, UNLESS THE ARROWS HAVE BEEN SUPERSEDED BY THE CLOSING RATE BAR.

3. TRACKING
When the aircraft has been caught by the laser, the floating arrow is replaced by the yellow centerline indicator.
A flashing red arrow indicates the direction to turn.
The vertical yellow arrow shows position in relation to the centerline. This indicator gives correct position and azimuth guidance.

4. CLOSING RATE
The closing rate is the final countdown from a specific distance to the stop position. A yellow vertical closing rate bar/centerline indicator appears with or without a digital countdown, depending on the configuration.
The closing rate bar represents the distance from stop, it consists of a number of rows representing 2'/0.5m per row. Each row turns off as the aircraft approaches stop (reducing the length of the bar, bottom upwards) and as the last row turns off, less than the interval for one row remains until "STOP" appears.
A digital countdown shows the distance to stop numerically, starting from 98'/30m.
The digital countdown also uses different decrements during the closing rate process.
Metric digital count starting with 3'/1m decrements from 98'/30m down to 7'/2m followed by 1'/0.2m decrements from 7'/2m down to 1'/0.2m and then followed by "STOP".
The pictures illustrate aircraft in the closing rate distance from stop position, slightly left of the center line. The red arrow indicates the direction to steer.

5. ALIGNED TO CENTER
The aircraft is at the displayed distance from the stop position. The absence of any direction arrow indicates an aircraft on the centerline.

6. SLOW DOWN (DECREASE SPEED)
AVDGS is configured with a slowdown active zone (distances set from the stop position, between 20'/6m to 79'/24m) according to an acceptable docking speed (max allowed speed, 7'/2m/s).
Note: When 7'/2m/s is rounded down to a single digit, it is approximately 7 km/h, 4 mph or 3 knots.
If the aircraft is approaching faster than the accepted speed, the system will show "SLOW" or "SLOW DOWN" as a warning to the pilots.

7. AZIMUTH GUIDANCE
The aircraft is at the displayed distance from the stop-position. The yellow arrow indicates an aircraft to the right of the centerline, and the red flashing arrow indicates the direction to turn.

8. STOP POSITION REACHED
When the correct stop-position is reached, the display will show "STOP" with a red border or with red lights.

9. DOCKING COMPLETED
When the aircraft has parked, "OK" will be displayed.

10. CHOCK ON
"CHOCK ON" will be displayed, when the ground staff has put the chocks in front of the nose wheel and press the Chocks On button on the Operator Panel.

11. STOP SHORT
If the aircraft is found standing still but has not reached the intended stop position, the message "STOP OK" will be shown after a pre-configured time.

12. WAIT
If some object is blocking the view toward the approaching aircraft or the detected aircraft is lost during docking close to "STOP", the display will show "WAIT".
The docking will continue as soon as the blocking object has disappeared or the system detects the aircraft again.
THE PILOT MUST NOT PROCEED BEYOND THE BRIDGE, UNLESS THE "WAIT" MESSAGE HAS BEEN SUPERSEDED BY THE CLOSING RATE BAR.

CHANGES: New visual docking guidance system.

13. SLOW (IN ABNORMAL SITUATIONS)

This display can be shown for two reasons:

A) BAD WEATHER CONDITION

During heavy fog, rain or snow, the visibility for the docking system can be reduced. When the system is activated and in capture mode, the display will disable the floating arrows and display "SLOW" and the aircraft Type.

As soon as the system detects the approaching aircraft, the vertical closing rate bar will appear.

If the system has been configured in this mode to make a shortened ID verification (check of engine position excluded), the aircraft symbol will blink to give attention.

B) AIRCRAFT LOST DURING DOCKING

If the aircraft is lost during docking far out from the bridge or PBB area, the display will show "SLOW". As soon as the system detects the approaching aircraft, the vertical closing rate bar will re-appear.

THE PILOT MUST NOT PROCEED BEYOND THE BRIDGE, UNLESS THE CLOSING RATE BAR IS SHOWN.

14. AIRCRAFT VERIFICATION FAILURE

During entry into the stand, the aircraft geometry is being checked.

If, for any reason, aircraft verification is not made 39'/12m before the stop-position, the display will first show "WAIT" and make a second verification check. If this fails "STOP" and "ID FAIL" will be displayed.

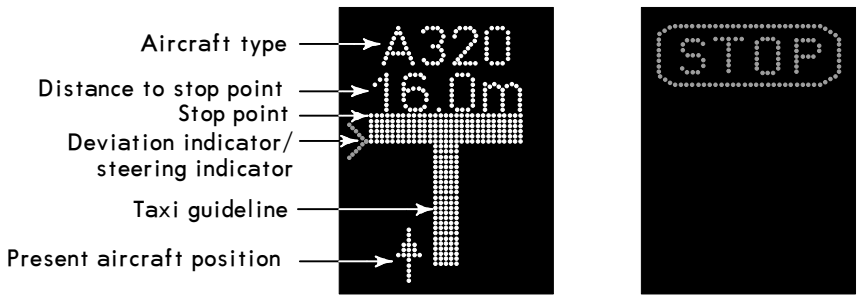
THE PILOT MUST NOT PROCEED BEYOND THE BRIDGE WITHOUT MANUAL GUIDANCE, UNLESS THE WAIT MESSAGE HAS BEEN SUPERSEDED BY THE CLOSING RATE BAR.

15. TOO FAST

If the aircraft approaches with a speed higher than the docking system can handle, the message "STOP TOO FAST" will be displayed. The docking system must be re-started or the docking procedure completed by manual guidance.

DISPLAY OF IMAGES AND FUNCTIONS ON THE PANEL

Examples:



Depending on the system type, displays can be slightly different or additional.

CHANGES: New page.

COLOR-CODED PUSHBACK PROCEDURES

STAND NUMBER	RWY 16/34 DEPARTURE	
	Normal pushback and start-up	Pushback after engine start-up
A1 thru A15, A17, B1 thru B6, B8	BLUE	BLUE
B7, B10, B10L, B10R	GREEN	GREEN/PINK
G01 thru G15	FOLLOW BREAKAWAY POINT X, Y OR Z	NOT AUTHORIZED

COLOR CODE	DETAILED DESCRIPTION
BLUE	Aircraft pushback facing South or North depending on Runway-in-use. If necessary, special instruction will be issued by Control Tower. Startup can be commenced after the engines cross the white taxi line protection.
GREEN	Pushback of aircraft with wingspan less than 118′/36m on B7, B10, B10L, B10R shall be done by pushing the aircraft tail towards GAP and then towed forward until breakaway point 1. This applies in normal situation or if aircraft with APU problem requires starting up engine on stand while no aircraft is parked on G05 to G08. Pushback of aircraft with wingspan equal to or greater than 118′/36m on B7, B10 shall be done by pushing the aircraft tail towards GAP and then towed forward until breakaway point 2. This applies in normal situation or if aircraft with APU problem requires starting up engine on stand while no aircraft is parked on G05 to G08. **Except for startup on stands due to APU problem, other startup can only be commenced when the push-back finishes at breakaway point.**
PINK	The pink procedure requires pushing the aircraft tail towards North until either the beginning of Taxiway C1 for Rwy 16 departure or taxiway A for Rwy 34 departure. Except for startup on stands due to APU problem, other startup can only be commenced when the pushback finishes. The procedure applies for pushback of aircraft with APU problem, which requires to start up engine on stand B7, B10, B10L or B10R while aircraft is parked on G05 thru G08.

Remarks

-For aircraft parked on stands B1 and B3, no simultaneous pushback is allowed.

-For aircraft start-up on the stand, coordination shall be done in advance among ATC, Pilot and AOCC (for follow-me to inspect the surrounding area of the aircraft involved) in order to guarantee ground safety.

-The breakaway point 1 mentioned above is the one at B7 and break-away point 2 is the one between B5 and B7.

-For blue procedure, the color code may be omitted in the air-ground communication between ATC and pilot.

G01 thru G15 PUSHBACK/TOW PROCEDURES

AIRCRAFT STAND	After pushback/towing nose wheel on breakaway point
G01 thru G06	X
G07 thru G10	Y
G11 thru G15	Z

Remarks

-All GA arrivals will be guided by follow-me to the designated aircraft stands.

-The breakaway points are located on the taxilane centre line: X behind G03, Y ahead of G10 and Z behind G13.

-NO simultaneous pushback/tow operations on breakaway points Y and Z are allowed.

-NO engine start up on stand before pushback/tow is allowed. Exception can be considered for aircraft parked on G06, G08, G10 or G13 with coordination made in advance among AOCC, Groung Handling Agent (GHA), pilot and ATC.

MACAO, PR OF CHINA

MACAO INTL

STRAIGHT-IN RWY		A	B	C	D
16	❶ LOC DME	**720**′(700′) R/V3600m	**720**′(700′) R/V3600m	**720**′(700′) R/V3600m	**720**′(700′) R/V3600m
	❷ RNP Z (AR) **RNP 0.2**	**270**′(250′) R/V900m	**270**′(250′) R/V900m	**270**′(250′) R/V900m	**280**′(260′) R/V1000m
	ALS out	R/V1300m	R/V1300m	R/V1300m	R/V1300m
	❸ RNP Z (AR) **RNP 0.2**	**270**′(250′) R/V900m	**270**′(250′) R/V900m	**280**′(260′) R/V1000m	**300**′(280′) R/V1100m
	ALS out	R/V1300m	R/V1300m	R/V1300m	R/V1300m
	❷ RNP Z (AR) **RNP 0.3**	**300**′(280′) R/V1100m	**310**′(290′) R/V1100m	**330**′(310′) R/V1300m	**350**′(330′) R/V1400m
	ALS out	R/V1300m	R/V1400m	R/V1400m	R/V1500m
	❸ RNP Z (AR) **RNP 0.3**	**310**′(290′) R/V1100m	**330**′(310′) R/V1300m	**350**′(330′) R/V1400m	**370**′(350′) R/V1500m
	ALS out	R/V1400m	R/V1400m	R/V1500m	R/V1600m
	❶ RNP Y **LNAV**	**970**′(950′) R/V5000m	**970**′(950′) R/V5000m	**970**′(950′) R/V5000m	**970**′(950′) R/V5000m
34	CAT 2 ILS	**120**′(100′) **RA100**′ R350m	**120**′(100′) **RA100**′ R350m	**120**′(100′) **RA100**′ R350m	**120**′(100′) **RA100**′ R350m
	ILS	**220**′(200′) R800m	**220**′(200′) R800m	**220**′(200′) R800m	**220**′(200′) R800m
	ALS out	R1200m	R1200m	R1200m	R1200m
	❶ LOC	**340**′(320′) R/V1500m	**340**′(320′) R/V1500m	**340**′(320′) R/V1500m	**340**′(320′) R/V1600m
	RNP **LNAV/VNAV**	**540**′(520′) R/V2700m	**540**′(520′) R/V2700m	**540**′(520′) R/V2700m	**540**′(520′) R/V2700m
	❶ RNP **LNAV**	**570**′(550′) R/V2900m	**570**′(550′) R/V2900m	**570**′(550′) R/V2900m	**570**′(550′) R/V2900m
	❶ VOR DME	**550**′(530′) R/V2000m	**550**′(530′) R/V2000m	**550**′(530′) R/V2400m	**550**′(530′) R/V3200m

❶ Continuous Descent Final Approach.
❷ Missed apch climb gradient MIN 3.0%.
❸ Missed apch climb gradient MIN 2.5%.

CIRCLE-TO-LAND ❹	100 KT	135 KT	160 KT	D
WITH PRESCRIBED FLIGHT TRACKS TO RWY 16	**660**′(640′) ceil1500′ V6000m	**770**′(750′) ceil1500′ V6000m	**870**′(850′) ceil1500′ V6000m	NOT APPLICABLE

❹ After apch to rwy 16: NOT APPLICABLE.

TAKE-OFF

Low Visibility Procedures required			RCLM or RL or CL	RL or CL	Adequate Vis Ref	
Approval for Low Visibility Take-off required						
RCLM & RL & CL & RVR	RCLM & RL & RVR	RCLM & RVR & RL or CL				
	DAY	NIGHT	DAY	NIGHT	DAY	NIGHT
R175m	R300m		R/V400m		R/V500m	NA

CHANGES: LOC Rwy 34 minimums, new EASA concept.

VMMC/MFM
MACAO INTL

JEPPESEN
16 FEB 24 (11-1) Eff 22 Feb

MACAO, PR OF CHINA
LOC DME Z Rwy 16

ATIS	*HONG KONG Radar	*ZHUHAI Approach	MACAO Tower	Ground
126.4	126.3	120.35	118.0	121.725

BRIEFING STRIP

LOC MCS	Final Apch Crs	D6.0 MCS	MDA(H)	Apt Elev 20′
111.7	218°	1800′(1780′)	720′(700′)	

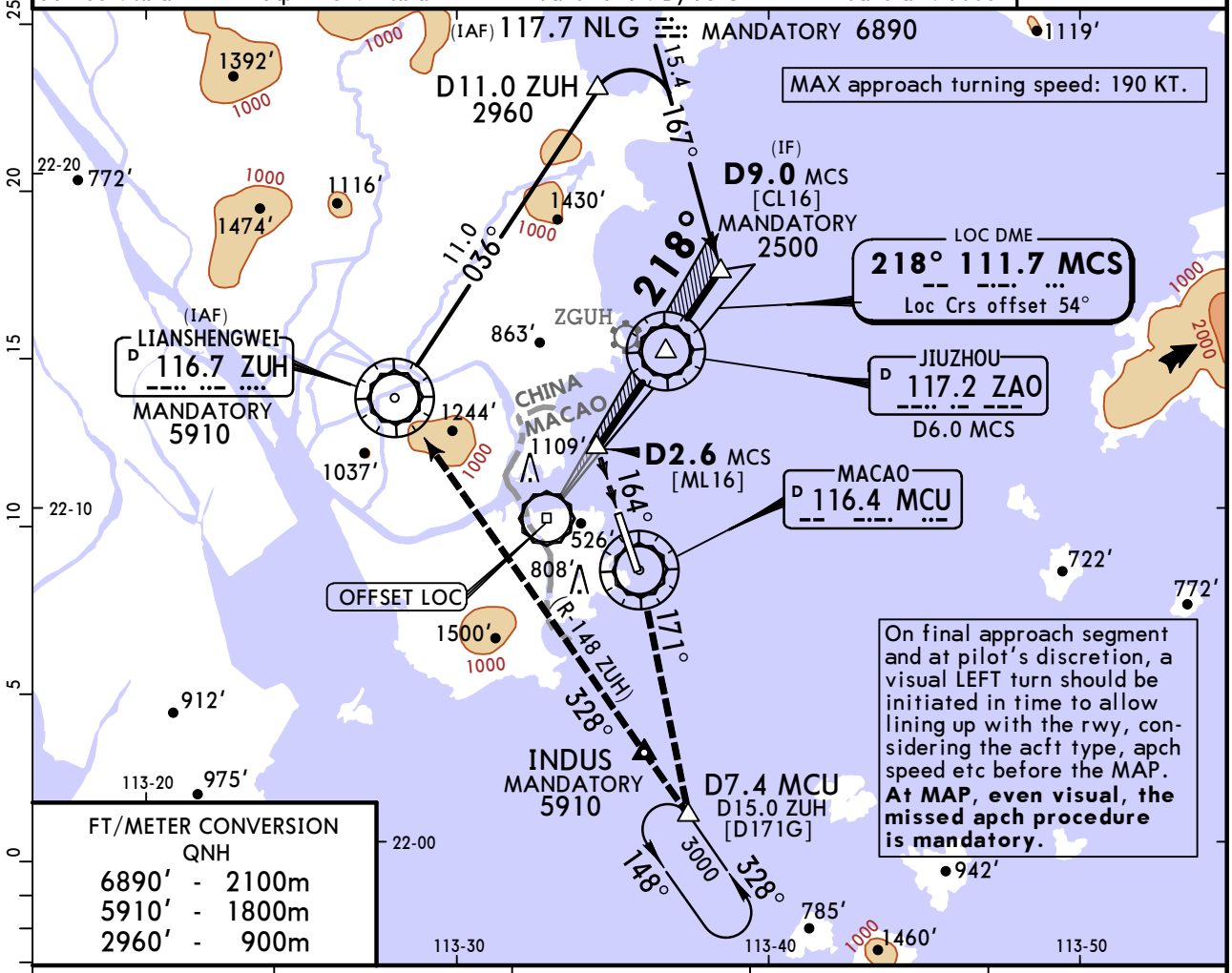
MISSED APCH: Initial climb on R-344 inbound MCU VOR to 4000′. At MCU VOR track on R-171 to D7.4 MCU. Expect further instruction from Hong Kong Radar to cross INDUS and establish inbound on R-148 ZUH VOR. Cross ZUH VOR at 5910′ or as directed.

When required, join holding at D7.4/R-171 MCU (D15.0/R-148 ZUH) at or above 3000′, or as directed. MAX 185 KT during turns.

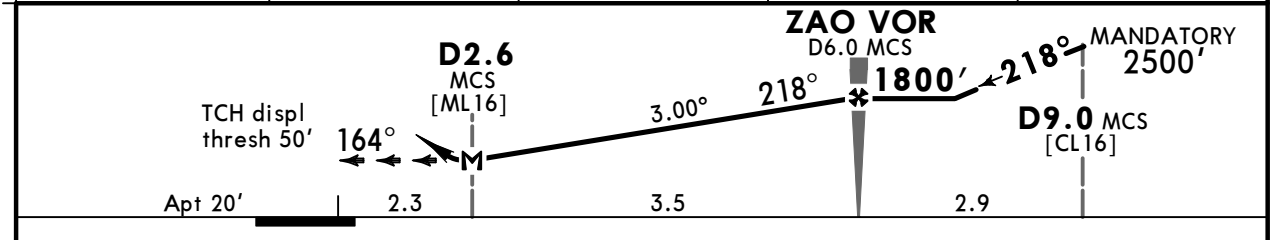
MIN climb gradient 3.3% (201′/NM) required until D7.4 MCU.

MSA ARP: 181° 3100 4100 091° 271° 2700

Alt Set: hPa | Apt Elev: 1 hPa | Trans level: By ATC | Trans alt: 9000′



MCS DME	3.0	4.0	5.0	6.0
ALTITUDE	845′	1163′	1482′	1800′



Gnd speed-Kts	70	90	100	120	140	160
Descent Angle 3.00°	372	478	531	637	743	849
MAP at D2.6 MCS						

HIALS
REIL PAPI PAPI

185 KT MAX LT

4000′ on inbound MCU 116.4 R-344

MCU 116.4

State	LANDING	CIRCLE-TO-LAND
	MDA(H) 720′(700′)	
	ALS out	

PANS OPS

A	V3600m	A	NOT APPLICABLE
B		B	
C		C	
D		D	

CHANGES: MSA, missed apch.

VMMC/MFM
MACAO INTL

JEPPESEN
16 FEB 24 (11-2) Eff 22 Feb

MACAO, PR OF CHINA
LOC DME Y Rwy 16

ATIS	*HONG KONG Radar	*ZHUHAI Approach	MACAO Tower	Ground
126.4	126.3	120.35	118.0	121.725

BRIEFING STRIP TM

LOC MCS	Final Apch Crs	D6.0 MCS	MDA(H)	Apt Elev 20′
111.7	218°	1800′(1780′)	720′(700′)	

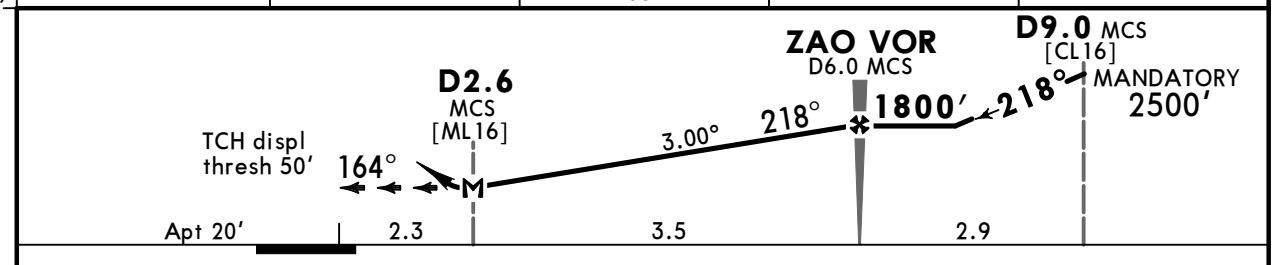
MISSED APCH: Turn LEFT and initial climb to 4000′ on R-181 ZAO VOR to D13.8 ZAO and expect further instruction from Hong Kong Radar to cross INDUS and establish on R-148 inbound to ZUH VOR. Cross ZUH VOR at 5910′ or as directed.
When required, join holding at D15.0/R-148 ZUH at or above 3000′, or as directed.
MAX 185 KT during turns.
MIN climb gradient 3.3% (201′/NM) required until D13.8 ZAO.

Alt Set: hPa | Apt Elev: 1 hPa | Trans level: By ATC | Trans alt: 9000′

MSA ARP
181°
3100 4100
091° 271°
2700

(IAF) 117.7 NLG
MANDATORY 6890
MAX approach turning speed: 190 KT.
Procedure is used when MCU VOR DME u/s.
D11.0 ZUH
2960
15.4
167°
11.0
036°
218°
(IF)
D9.0 MCS
[CL16]
MANDATORY
2500
(IAF)
LIANSHENGWEI
D 116.7 ZUH
MANDATORY
5910
ZGUH
JIUZHOU
D 117.2 ZAO
D6.0 MCS
CHINA
MACAO
D2.6 MCS
[ML16]
LOC DME
218° 111.7 MCS
Loc Crs offset 54°
164°
OFFSET LOC
(R-148 ZUH)
181°
328°
INDUS
MANDATORY
5910
D15.0 ZUH
D13.8 ZAO
[D181N]
3000
148°
328°
On final approach segment and at pilot's discretion, a visual LEFT turn should be initiated in time to allow lining up with the rwy, considering the acft type, apch speed etc before the MAP. **At MAP, even visual, the missed apch procedure is mandatory.**
FT/METER CONVERSION
QNH
6890′ - 2100m
5910′ - 1800m
2960′ - 900m
22-20
22-10
22-00
113-20
113-30
113-40
113-50
1392′
772′
1474′
1116′
1430′
863′
558′
1119′
1244′
1037′
1109′
526′
808′
1500′
912′
975′
722′
772′
942′
785′
1460′
1000
2000

MCS DME	3.0	4.0	5.0	6.0
ALTITUDE	845′	1163′	1482′	1800′



Gnd speed-Kts		70	90	100	120	140	160
Descent Angle	3.00°	372	478	531	637	743	849
MAP at D2.6 MCS							

HIALS
REIL PAPI PAPI
185 KT MAX
LT
4000′ on ZAO 117.2 R-181

State	LANDING	CIRCLE-TO-LAND
	MDA(H) 720′(700′)	
	ALS out	

PANS OPS

	LANDING	CIRCLE-TO-LAND
A	V3600m	NOT APPLICABLE
B		
C		
D		

CHANGES: MSA, missed apch.

VMMC/MFM
MACAO INTL

JEPPESEN
16 FEB 24
Eff 22 Feb
11-3

MACAO, PR OF CHINA
RNAV LOC DME X Rwy 16

ATIS	*HONG KONG Radar	*ZHUHAI Approach	MACAO Tower	Ground
126.4	126.3	120.35	118.0	121.725

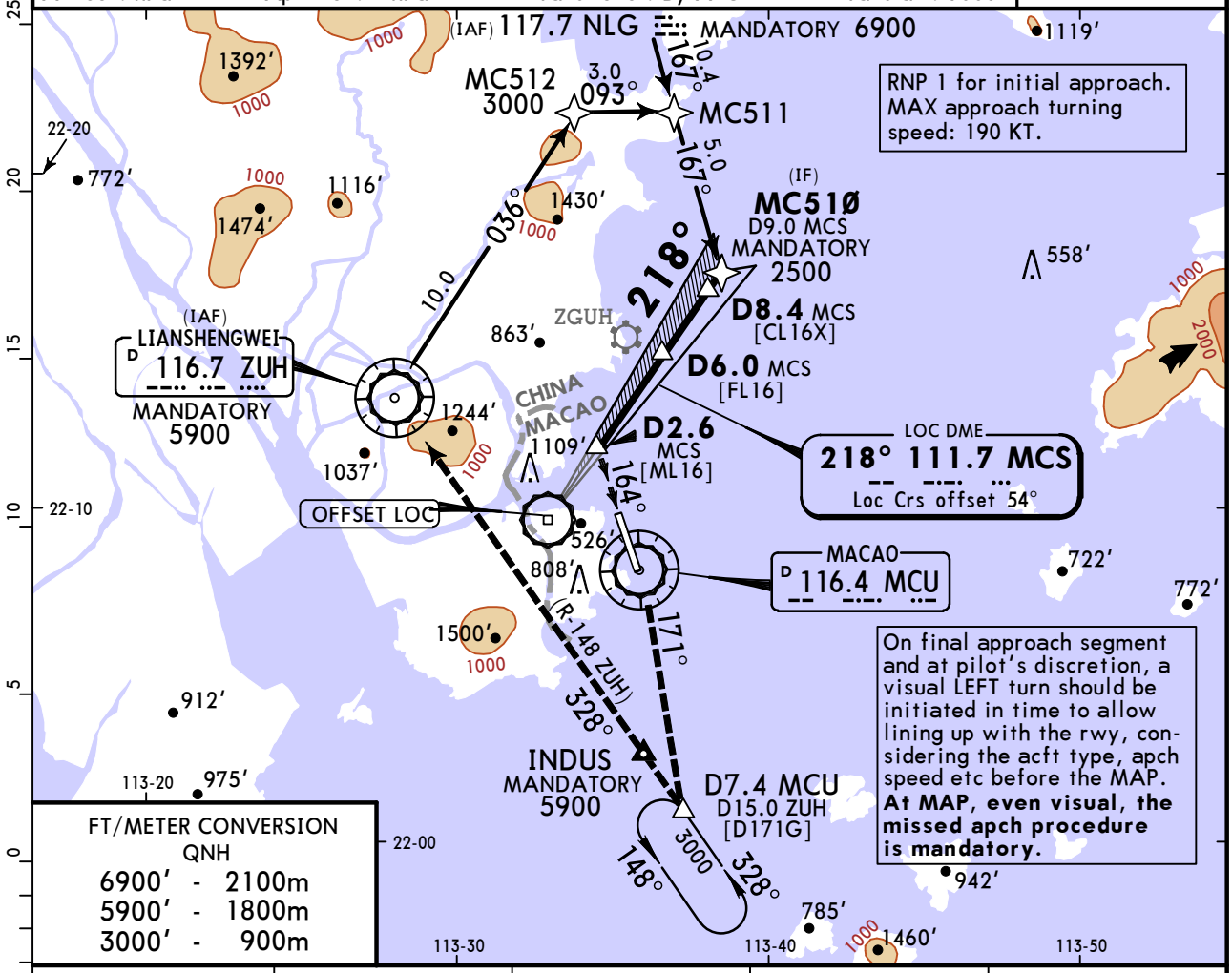
BRIEFING STRIP

LOC MCS	Final Apch Crs	D6.0 MCS	MDA(H)	Apt Elev 20′
111.7	218°	1800′(1780′)	720′(700′)	

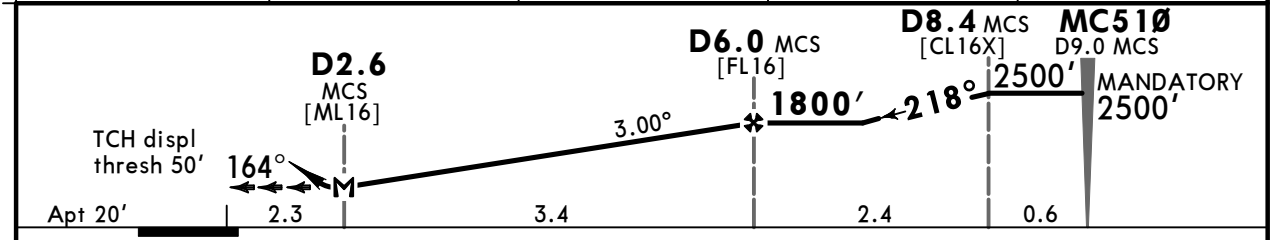
MISSED APCH: Initial climb on R-344 inbound MCU VOR to 4000′. At MCU VOR track on R-171 to D7.4 MCU. Expect further instruction from Hong Kong Radar to cross INDUS and establish inbound on R-148 ZUH VOR. Cross ZUH VOR at 5900′ or as directed.
When required, join holding at D7.4/R-171 MCU (D15.0/R-148 ZUH) at or above 3000′, or as directed. MAX 185 KT during turns.

MSA ARP: 181° 3100 4100 091° 271° 2700

Alt Set: hPa | Apt Elev: 1 hPa | Trans level: By ATC | Trans alt: 9000′



MCS DME	3.0	4.0	5.0	6.0
ALTITUDE	845′	1163′	1482′	1800′



Gnd speed-Kts		70	90	100	120	140	160
Descent Angle	3.00°	372	478	531	637	743	849
MAP at D2.6 MCS							

HIALS
REIL PAPI PAPI

185 KT MAX
LT

4000′ on inbound MCU 116.4 R-344

MCU 116.4

State	LANDING	CIRCLE-TO-LAND
	MDA(H) 720′(700′)	
	ALS out	
A	V3600m	NOT APPLICABLE
B		
C		
D		

PANS OPS

CHANGES: MSA, missed apch, note added.

VMMC/MFM
MACAO INTL

JEPPESEN
16 FEB 24 (11-4) Eff 22 Feb

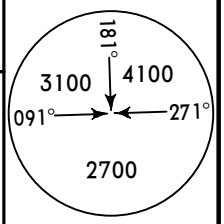
MACAO, PR OF CHINA
RNAV ILS Z Rwy 34

ATIS	*HONG KONG Radar	*ZHUHAI Approach	MACAO Tower	Ground
126.4	126.3	120.35	118.0	121.725

BRIEFING STRIP ™

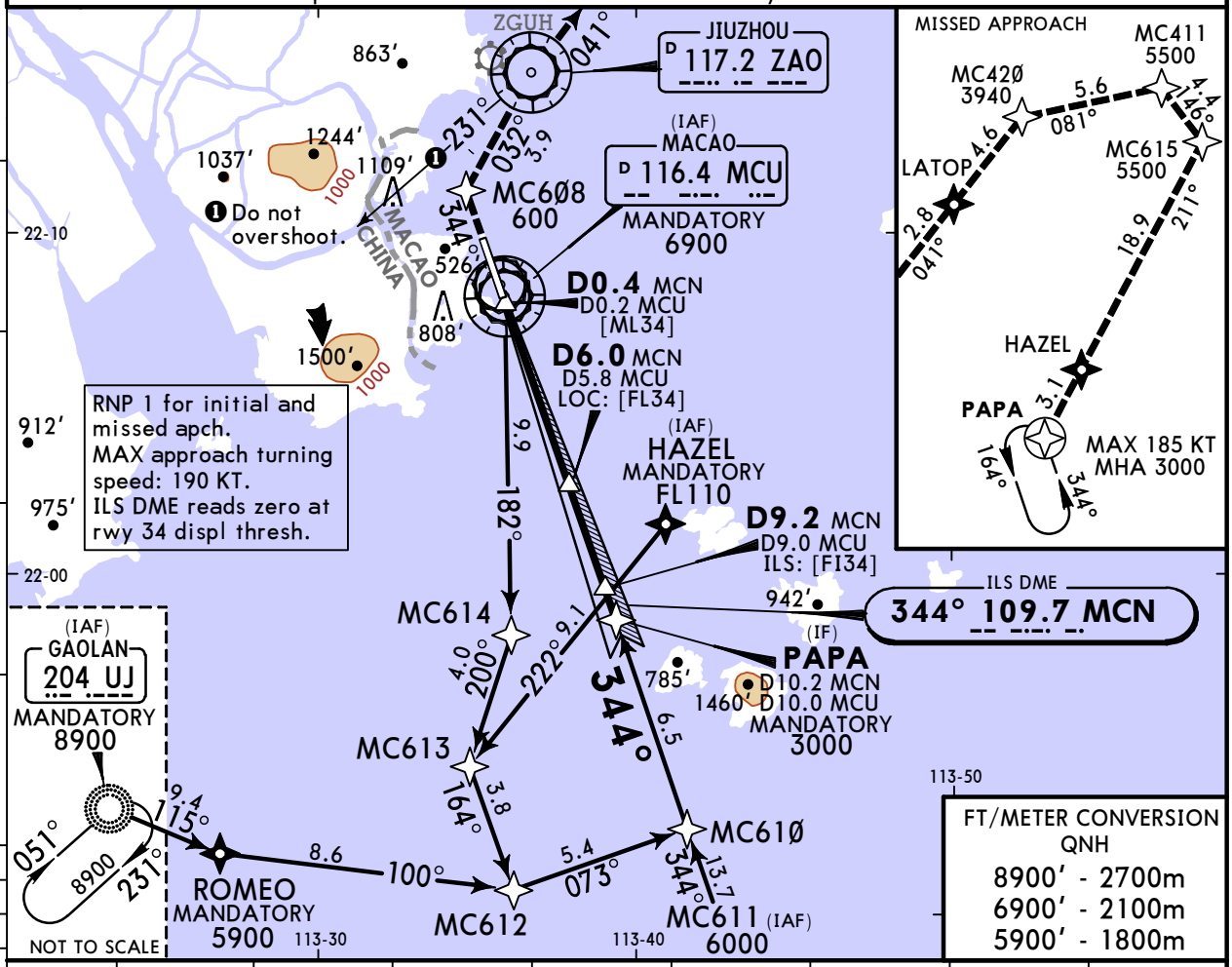
LOC MCN	Final Apch Crs	D9.2 MCN	ILS DA(H)	Apt Elev
109.7	344°	3000′(2980′)	220′(200′)	20′

MISSED APCH: Climb to MC6Ø8 at 600′ or above, turn RIGHT to ZAO, LATOP, MC42Ø at or above 3940′. Then to MC411 at or above 5500′ and continue climb to 6000′ or as instructed. Then fly by MC615 on track 211° to HAZEL, PAPA.
When requested, join holding at PAPA at 3000′ or above, or as directed.
If unable RNP 1 during missed apch, continue on published missed apch track, climb and pass MSA 4100′ as soon as practicable.
MAX 185 KT during turns. MIN climb gradient 5.4% (329′/NM) until passing 5500′.

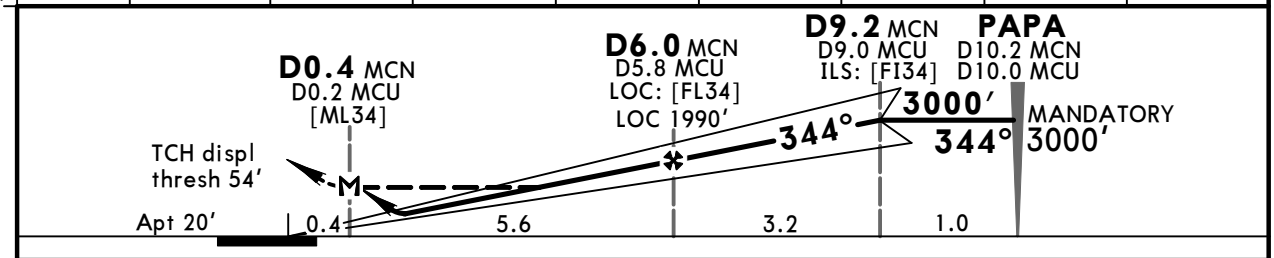


MSA ARP

Alt Set: hPa | Apt Elev: 1 hPa | Trans level: By ATC | Trans alt: 9000′



LOC (GS out)	MCN DME	1.0	2.0	3.0	4.0	5.0	6.0	7.0
	ALTITUDE	392′	711′	1029′	1348′	1666′	1985′	2303′



Gnd speed-Kts		70	90	100	120	140	160
ILS GS or LOC Descent Angle	3.00°	372	478	531	637	743	849
MAP at D0.4 MCN/D0.2 MCU							

HIALS-II
REIL
PAPI
MC6Ø8 at 600′ or above

PANS OPS

State	STRAIGHT-IN LANDING ILS DA(H) 220′(200′) ALS out	STRAIGHT-IN LANDING LOC (GS out) MDA(H) 340′(320′) ALS out	CIRCLE-TO-LAND
A/B	R800m	R1200m	V1500m	For Circle-to-land procedure with prescribed flight tracks see 19-10.
C			
D			V1600m	

CHANGES: Chart index and title, MSA, missed apch, note, minimums.

VMMC/MFM
MACAO INTL

16 FEB 24
Eff 22 Feb

JEPPESEN 11-4A

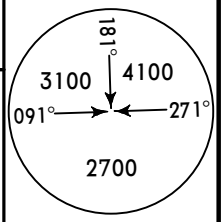
MACAO, PR OF CHINA
CAT II RNAV ILS Z Rwy 34

ATIS	*HONG KONG Radar	*ZHUHAI Approach	MACAO Tower	Ground
126.4	126.3	120.35	118.0	121.725

BRIEFING STRIP

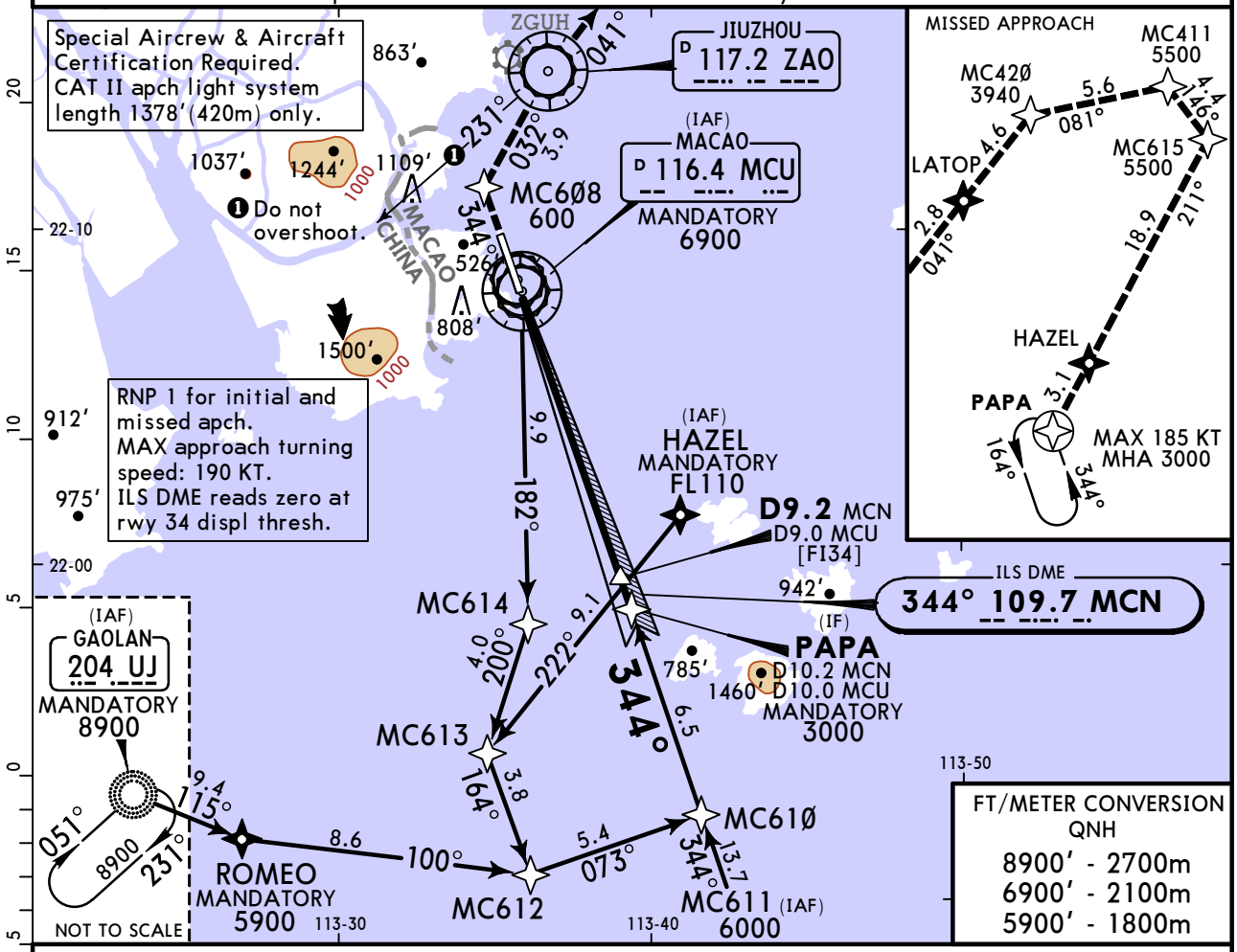
LOC MCN	Final Apch Crs	D9.2 MCN	CAT II ILS	Apt Elev 20′
109.7	344°	3000′(2980′)	RA 100′ DA(H) 120′(100′)	

MISSED APCH: Climb to MC6Ø8 at 600′ or above, turn RIGHT to ZAO, LATOP, MC42Ø at or above 3940′. Then to MC411 at or above 5500′ and continue climb to 6000′ or as instructed. Then fly by MC615 on track 211° to HAZEL, PAPA.
When requested, join holding at PAPA at 3000′ or above, or as directed.
If unable RNP 1 during missed apch, continue on published missed apch track, climb and pass MSA 4100′ as soon as practicable.
MAX 185 KT during turns. MIN climb gradient 5.4% (329′/NM) until passing 5500′.

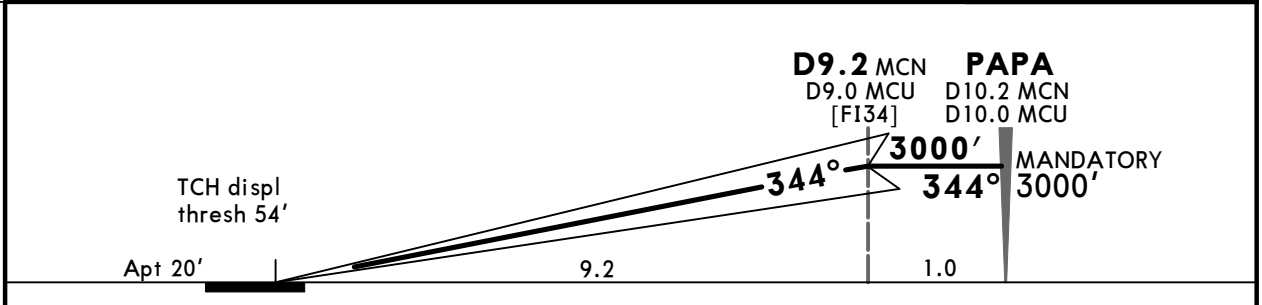


MSA ARP

Alt Set: hPa | Apt Elev: 1 hPa | Trans level: By ATC | Trans alt: 9000′



FT/METER CONVERSION
QNH
8900′ - 2700m
6900′ - 2100m
5900′ - 1800m



Gnd speed-Kts		70	90	100	120	140	160
GS	3.00°	372	478	531	637	743	849

HIALS-II
REIL
PAPI
MC6Ø8 at 600′ or above

State

STRAIGHT-IN LANDING
CAT II ILS
RA 100′
DA(H) **120′** (100′)

PANS OPS

R350m

CHANGES: Chart index and title, MSA, missed apch, note.

VMMC/MFM
MACAO INTL

JEPPESEN
16 FEB 24 (11-5) Eff 22 Feb

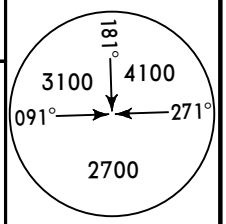
MACAO, PR OF CHINA
ILS Y Rwy 34

ATIS	*HONG KONG Radar	*ZHUHAI Approach	MACAO Tower	Ground
126.4	126.3	120.35	118.0	121.725

BRIEFING STRIP ™

LOC MCN	Final Apch Crs	D9.2 MCN	ILS DA(H)	Apt Elev 20′
109.7	344°	3000′(2980′)	220′(200′)	

MISSED APCH:
❶ With ZAO VOR: Climb on rwy hdg to 600′. At or before D3.3 MCU turn RIGHT to ZAO VOR. Leave ZAO VOR on R-041. Cross D12.6 MCU at or above 3940′ and turn RIGHT to 080°, continue climbing to 6000′. Expect radar vectors by Hong Kong ATC to HAZEL.
❷ W/o ZAO VOR: Climb on rwy hdg. At D3.3 MCU turn RIGHT on 041°. Cross D13.1 MCU at or above 3940′ and turn RIGHT to 080°, continue climbing to 6000′. Expect radar vectors by Hong Kong ATC to HAZEL.
MAX 185 KT during turns. MIN climb gradient 5.4% (329′/NM) until passing 5500′.



MSA ARP

Alt Set: hPa | Apt Elev: 1 hPa | Trans level: By ATC | Trans alt: 9000′

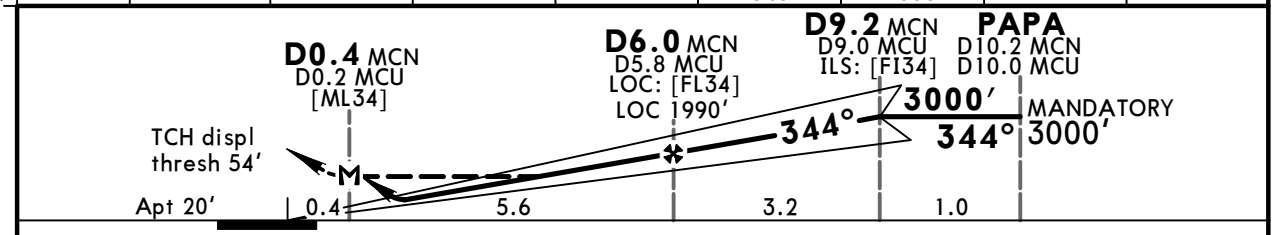
MAX approach turning speed: 190 KT.
ILS DME reads zero at rwy 34 displ thresh.

ZGUH
JIUZHOU
D 117.2 ZAO
041°
231°
(IAF)
MACAO
D 116.4 MCU
MANDATORY
6890
D3.3 MCU
344°
❸ Do not overshoot.
MACAO CHINA
D0.4 MCN
D0.2 MCU
[ML34]
D6.0 MCN
D5.8 MCU
LOC: [FL34]
5.0
11.0
182°
(IAF)
HAZEL
MANDATORY
FL110
344°
D5.0 MCU
[D182E]
MANDATORY
6890
D9.2 MCN
D9.0 MCU
ILS: [FI34]
ILS DME
344° 109.7 MCN
(IF)
PAPA
D10.2 MCN
D10.0 MCU
MANDATORY
3000
164°
211°
11.0
3000
029°
344°
20.1
D16.0 MCU
[D182P]
MCU VOR
178°
D16.4 MCU
7000
9.4
115°
100°
051°
231°
8860
ROMEO
MANDATORY
5910
(IAF)
GAOLAN
204 UJ
MANDATORY
8860
D30.1/R-164 MCU
[MCU3Ø]
6000
NOT TO SCALE
1244′
1037′
1109′
1000
526′
808′
1500′
863′
912′
975′
722′
942′
785′
1460′
22-10
22-00
113-30
113-40
113-50

MISSED APPROACH
080°
041°
❶ D12.6 MCU
❷ D13.1 MCU
3940
HAZEL

FT/METER CONVERSION
QNH
8860′ - 2700m
6890′ - 2100m
5910′ - 1800m

LOC (GS out)	MCN DME	1.0	2.0	3.0	4.0	5.0	6.0	7.0
	ALTITUDE	392′	711′	1029′	1348′	1666′	1985′	2303′



Gnd speed-Kts		70	90	100	120	140	160
ILS GS or LOC Descent Angle	3.00°	372	478	531	637	743	849
MAP at D0.4 MCN/D0.2 MCU							

HIALS-II
REIL
PAPI

Refer to Missed Apch above

PANS OPS

State	STRAIGHT-IN LANDING ILS DA(H) 220′(200′) ALS out	STRAIGHT-IN LANDING LOC (GS out) MDA(H) 340′(320′) ALS out	CIRCLE-TO-LAND
A/B	R800m	R1200m	V1500m	For Circle-to-land procedure with prescribed flight tracks see 19-10.
C			
D			V1600m	

CHANGES: Chart index and title, MSA, procedure, minimums.

VMMC/MFM
MACAO INTL

16 FEB 24
Eff 22 Feb

JEPPESEN
11-5A

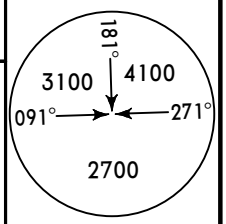
MACAO, PR OF CHINA
CAT II ILS Y Rwy 34

ATIS	*HONG KONG Radar	*ZHUHAI Approach	MACAO Tower	Ground
126.4	126.3	120.35	118.0	121.725

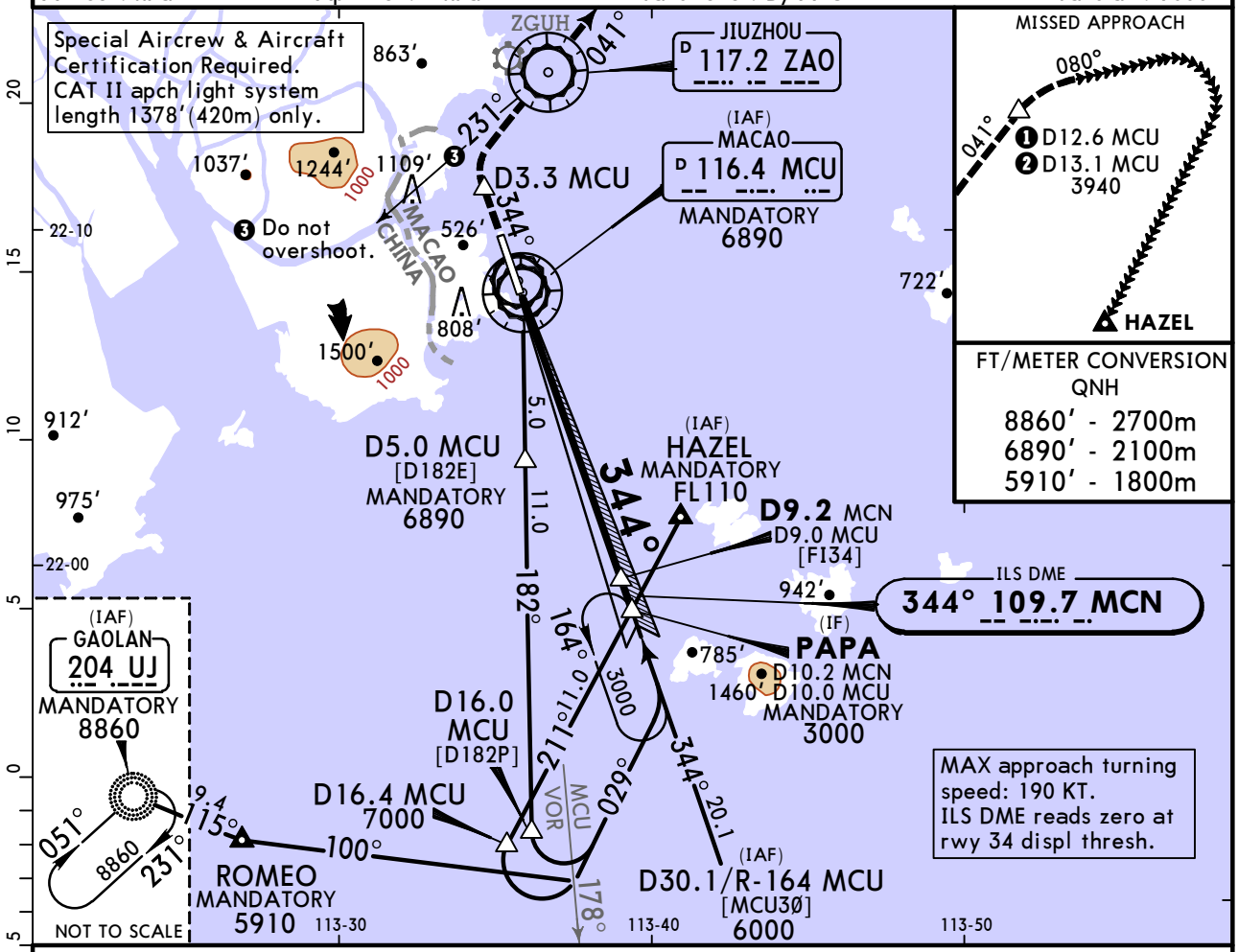
BRIEFING STRIP ™

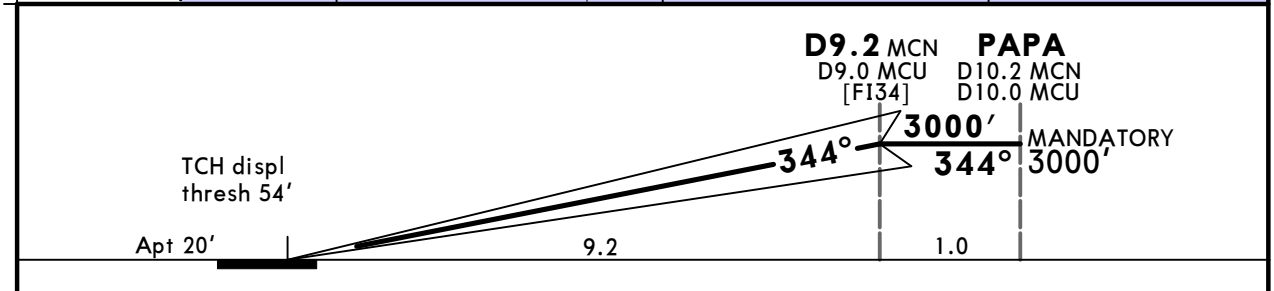
LOC MCN	Final Apch Crs	D9.2 MCN	CAT II ILS	Apt Elev 20′
109.7	**344°**	**3000′**(2980′)	**RA 100′** DA(H) 120′(100′)	

MISSED APCH:
❶ With ZAO VOR: Climb on rwy hdg to 600′. At or before D3.3 MCU turn RIGHT to ZAO VOR. Leave ZAO VOR on R-041. Cross D12.6 MCU at or above 3940′ and turn RIGHT to 080°, continue climbing to 6000′. Expect radar vectors by Hong Kong ATC to HAZEL.
❷ W/o ZAO VOR: Climb on rwy hdg. At D3.3 MCU turn RIGHT on 041°. Cross D13.1 MCU at or above 3940′ and turn RIGHT to 080°, continue climbing to 6000′. Expect radar vectors by Hong Kong ATC to HAZEL.
MAX 185 KT during turns. MIN climb gradient 5.4% (329′/NM) until passing 5500′.



Alt Set: hPa | Apt Elev: 1 hPa | Trans level: By ATC | Trans alt: 9000′





Gnd speed-Kts		70	90	100	120	140	160
GS	3.00°	372	478	531	637	743	849

HIALS-II
REIL
PAPI

Refer to Missed Apch above

PANS OPS

State

STRAIGHT-IN LANDING
CAT II ILS
RA 100′
DA(H) **120′**(100′)

R350m

CHANGES: Chart index and title, MSA, procedure.

VMMC/MFM
MACAO INTL

JEPPESEN 16 FEB 24 (11-6) Eff 22 Feb

MACAO, PR OF CHINA
ILS X Rwy 34

ATIS	*HONG KONG Radar	*ZHUHAI Approach	MACAO Tower	Ground
126.4	126.3	120.35	118.0	121.725

BRIEFING STRIP ™

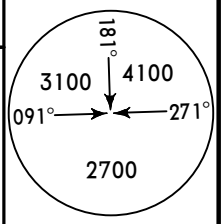
LOC MCN	Final Apch Crs	D9.2 MCN	ILS DA(H)	Apt Elev
109.7	344°	3000′(2980′)	220′(200′)	20′

MISSED APCH: Climb on rwy hdg to 600′, turn RIGHT to ZAO VOR and leave ZAO VOR on R-041. Cross D6.4 ZAO at or above 3940′ and turn RIGHT to 080°. Continue climbing to 6000′. Expect radar vectors by Hong Kong ATC to HAZEL.

MAX 185 KT during turns. MIN climb gradient 5.4% (329′/NM) until passing 5500′.

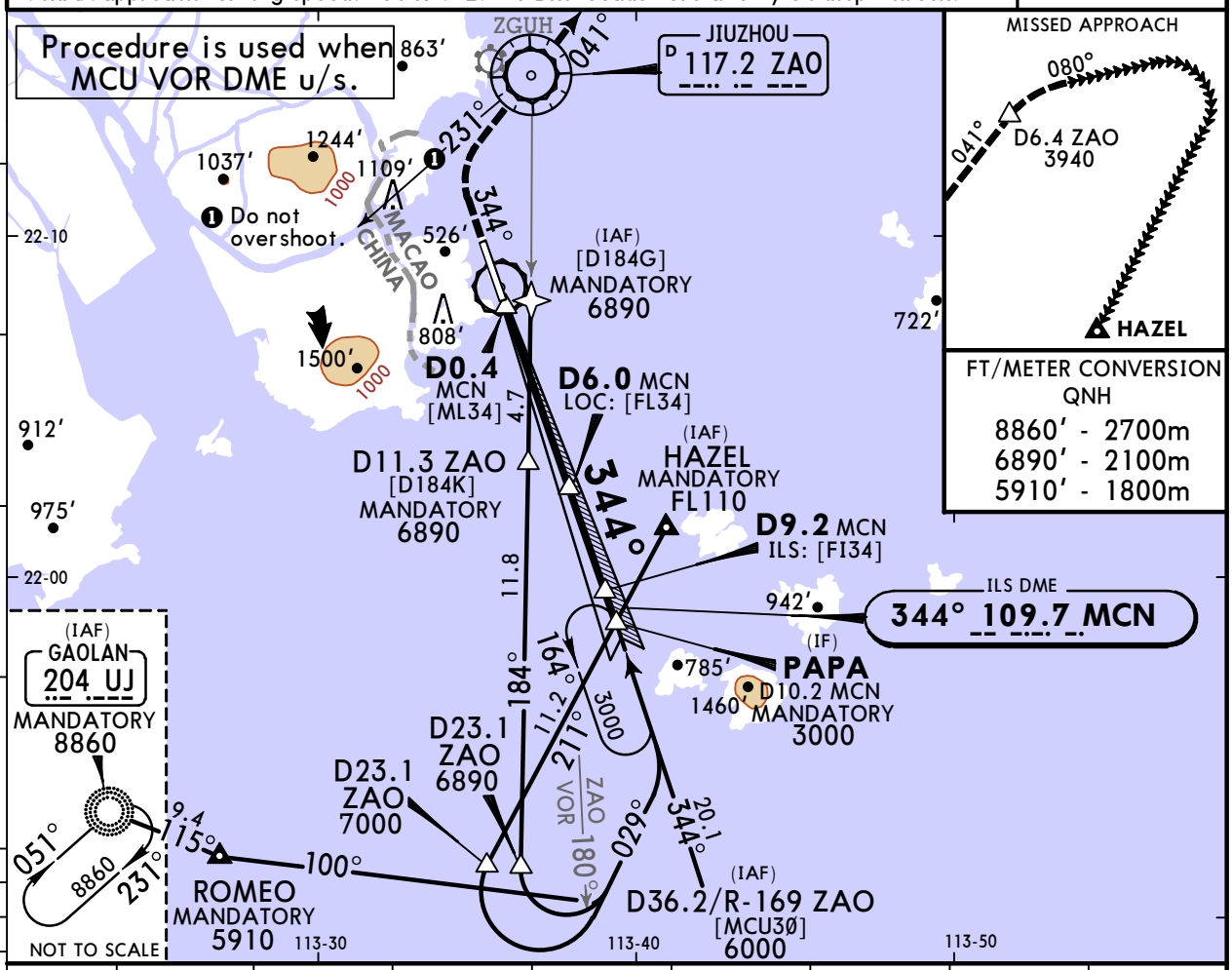
Alt Set: hPa | Apt Elev: 1 hPa | Trans level: By ATC | Trans alt: 9000′

1. MAX approach turning speed: 190 KT. 2. ILS DME reads zero at rwy 34 displ thresh.



MSA ARP

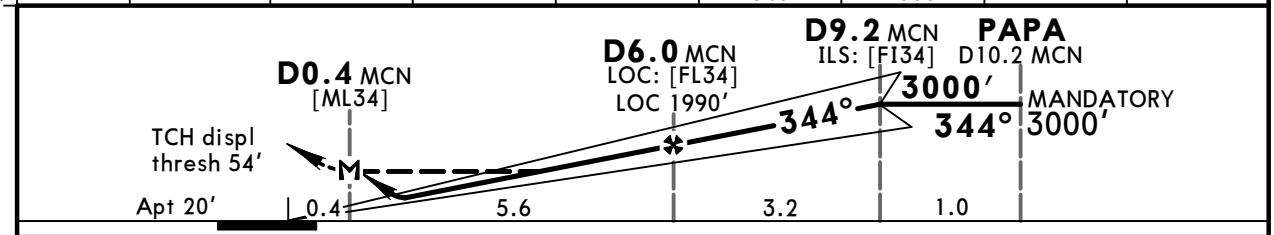
Procedure is used when MCU VOR DME u/s.



MISSED APPROACH

FT/METER CONVERSION
QNH
8860′ - 2700m
6890′ - 2100m
5910′ - 1800m

LOC (GS out)	MCN DME	1.0	2.0	3.0	4.0	5.0	6.0	7.0
	ALTITUDE	392′	711′	1029′	1348′	1666′	1985′	2303′



Gnd speed-Kts		70	90	100	120	140	160
ILS GS or LOC Desc Angle	3.00°	372	478	531	637	743	849
MAP at D0.4 MCN							

HIALS-II REIL PAPI | 600′ | 185 KT MAX RT | ZAO 117.2

State	STRAIGHT-IN LANDING ILS DA(H) 220′(200′)		STRAIGHT-IN LANDING LOC (GS out) MDA(H) 340′(320′)		CIRCLE-TO-LAND
		ALS out		ALS out	
A/B	R800m	R1200m	V1500m		For Circle-to-land procedure with prescribed flight tracks see 19-10.
C					
D			V1600m		

PANS OPS

CHANGES: Chart index and title, MSA, procedure, minimums.

VMMC/MFM
MACAO INTL

16 FEB 24
Eff 22 Feb

JEPPESEN
11-6A

MACAO, PR OF CHINA
CAT II ILS X Rwy 34

ATIS	*HONG KONG Radar	*ZHUHAI Approach	MACAO Tower	Ground
126.4	126.3	120.35	118.0	121.725

BRIEFING STRIP ™

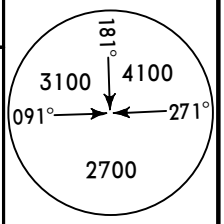
LOC MCN	Final Apch Crs	D9.2 MCN	CAT II ILS	Apt Elev 20′
109.7	**344°**	**3000′**(2980′)	**RA 100′** DA(H) 120′(100′)	

MISSED APCH: Climb on rwy hdg to 600′, turn RIGHT to ZAO VOR and leave ZAO VOR on R-041. Cross D6.4 ZAO at or above 3940′ and turn RIGHT to 080°. Continue climbing to 6000′. Expect radar vectors by Hong Kong ATC to HAZEL.

MAX 185 KT during turns. MIN climb gradient 5.4% (329′/NM) until passing 5500′.

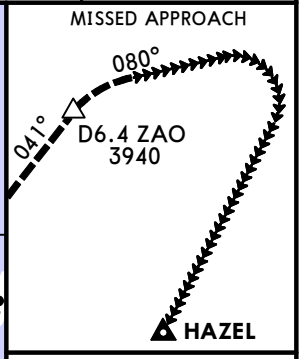
Alt Set: hPa | Apt Elev: 1 hPa | Trans level: By ATC | Trans alt: 9000′

1. MAX approach turning speed: 190 KT. 2. ILS DME reads zero at rwy 34 displ thresh.

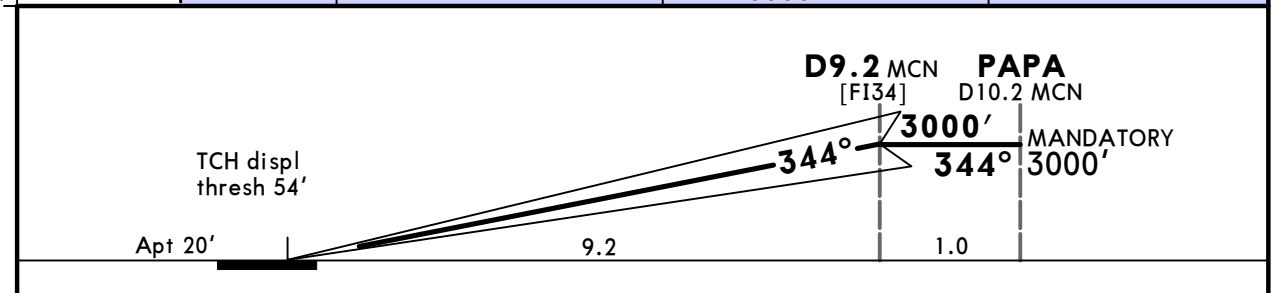


MSA ARP

Procedure is used when MCU VOR DME u/s.



FT/METER CONVERSION
QNH
8860′ - 2700m
6890′ - 2100m
5910′ - 1800m



Gnd speed-Kts		70	90	100	120	140	160
GS	3.00°	372	478	531	637	743	849

HIALS-II
REIL
PAPI

600′

185 KT MAX RT

ZAO 117.2

State

STRAIGHT-IN LANDING

CAT II ILS

RA 100′

DA(H) **120′**(100′)

PANS OPS

R350m

CHANGES: Chart index and title, MSA, procedure.

VMMC/MFM
MACAO INTL

JEPPESEN
16 FEB 24 (12-1) Eff 22 Feb

MACAO, PR OF CHINA
RNP Y Rwy 16

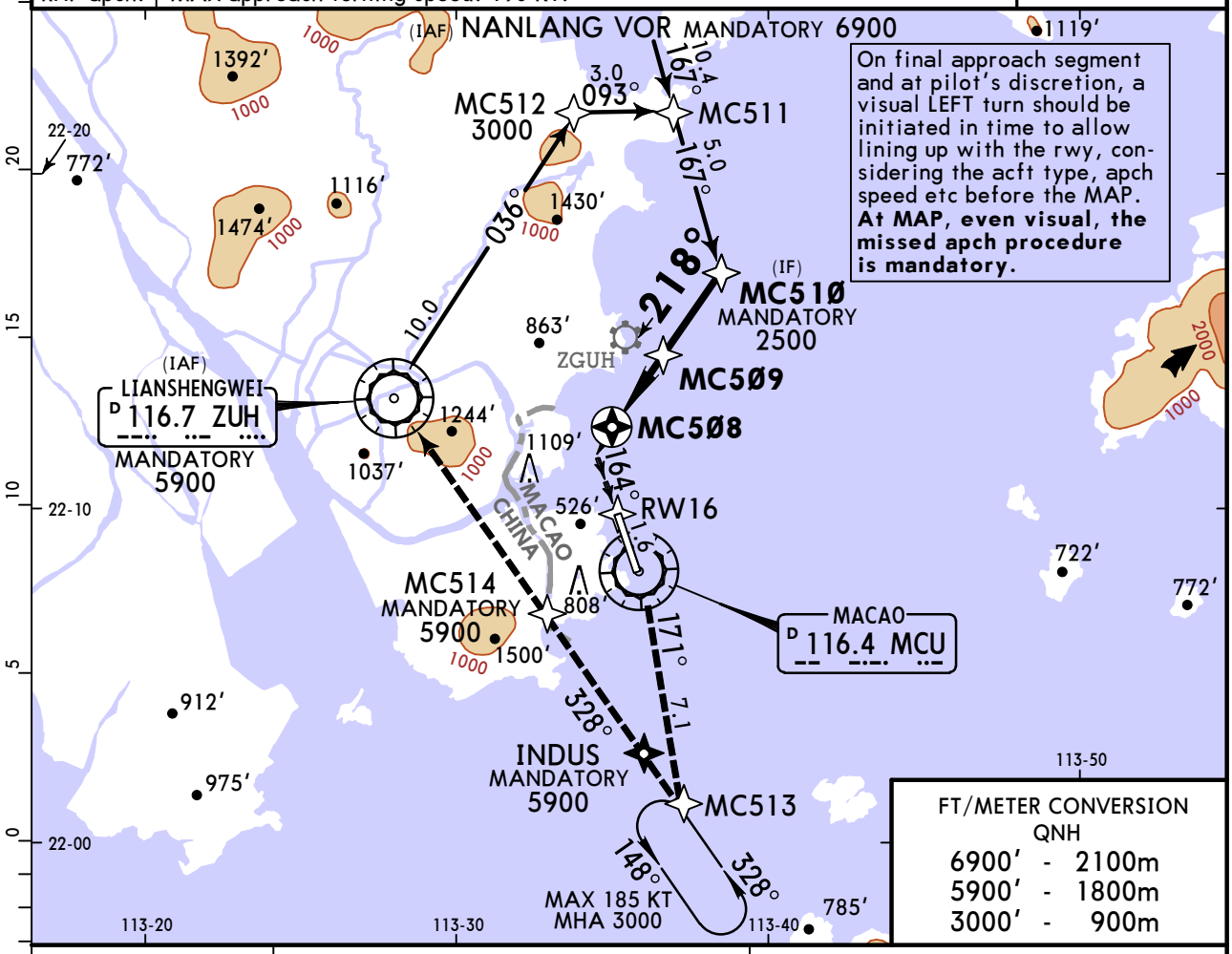
ATIS	*HONG KONG Radar	*ZHUHAI Approach	MACAO Tower	Ground
126.4	126.3	120.35	118.0	121.725

BRIEFING STRIP

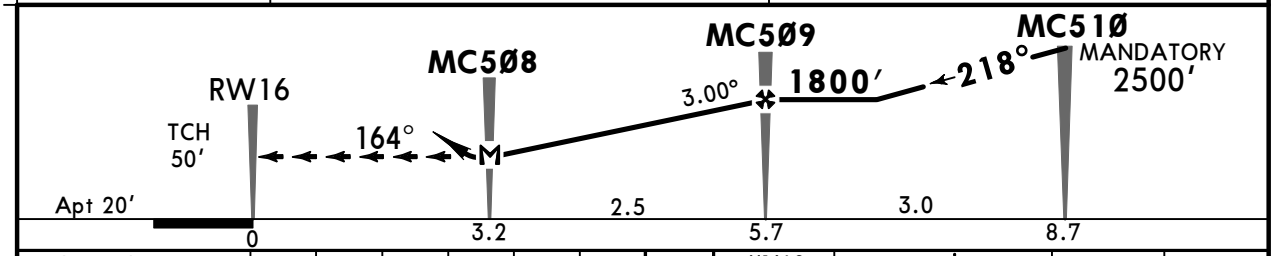
RNAV	Final Apch Crs	MC5Ø9	LNAV MDA(H)	Apt Elev 20′
	218°	1800′(1780′)	970′(950′)	

MISSED APCH: Turn Left and climb on 164° to RW16, then to MCU VOR and MC513. Initial climb to 4000′ and expect further instruction from Hong Kong Radar to cross INDUS. Then to MC514 and ZUH VOR. Cross ZUH VOR at 5900′ or as directed.
When required, join holding at MC513 at or above 3000′, or as directed.
MAX 185 KT during turns. MIN climb grad 3.0% (183′/NM) required until passing 5500′.

Alt Set: hPa	Apt Elev: 1 hPa	Trans level: By ATC	Trans alt: 9000′
RNP apch.	MAX approach turning speed: 190 KT.		



DIST to MC5Ø8	1.0	2.0
ALTITUDE	1290′	1610′



Gnd speed-Kts	70	90	100	120	140	160
Descent Angle 3.00°	372	478	531	637	743	849
MAP at MC5Ø8						

HIALS
REIL PAPI PAPI

185 KT MAX LT on 164° RW16 MCU 116.4

State	LANDING	CIRCLE-TO-LAND
	LNAV	
	MDA(H) 970′(950′)	
	ALS out	

PANS OPS

A	V5000m	A	NOT APPLICABLE
B		B	
C		C	
D		D	

CHANGES: MSA, missed apch.

VMMC/MFM
MACAO INTL

JEPPESEN
16 FEB 24 (12-2) Eff 22 Feb

MACAO, PR OF CHINA
RNP Rwy 34

ATIS	*HONG KONG Radar	*ZHUHAI Approach	MACAO Tower	Ground
126.4	126.3	120.35	118.0	121.725

RNAV	Final Apch Crs	MC6Ø9 MANDATORY	LNAV/VNAV DA(H)	Apt Elev 20′
	344°	1990′(1970′)	540′(520′)	

MISSED APCH: Climb to MC6Ø8 at 600′ or above, turn RIGHT to ZAO, LATOP, MC42Ø at or above 3940′. Then to MC411 at or above 5500′ and continue climb to 6000′ or as instructed. Then fly by MC615 on track 211° to HAZEL, PAPA.

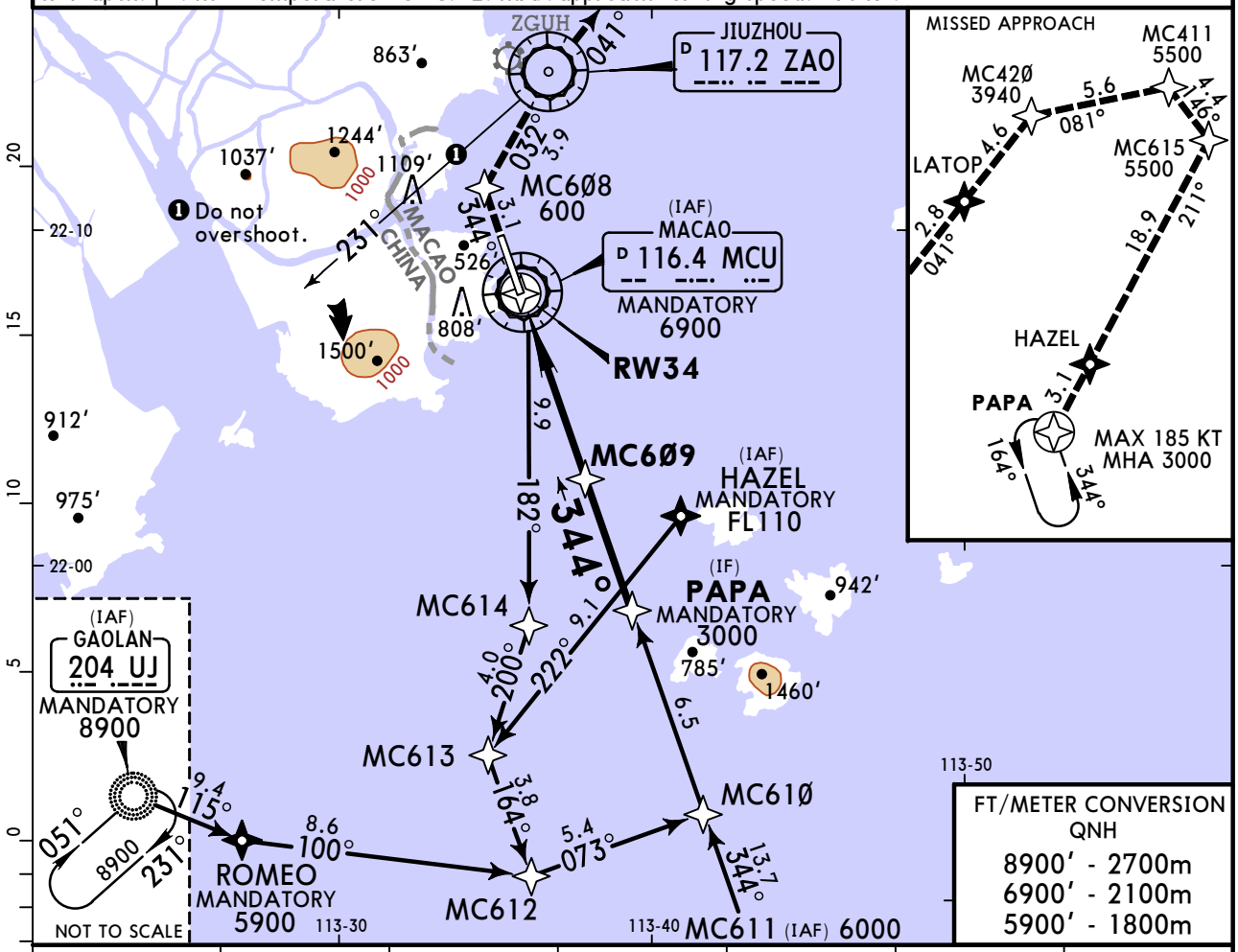
When requested, join holding at PAPA at 3000′ or above, or as directed.
MAX 185 KT during turns. MIN climb gradient 5.4% (329′/NM) until passing 5500′.

MSA ARP: 181° 3100 4100 091° 271° 2700

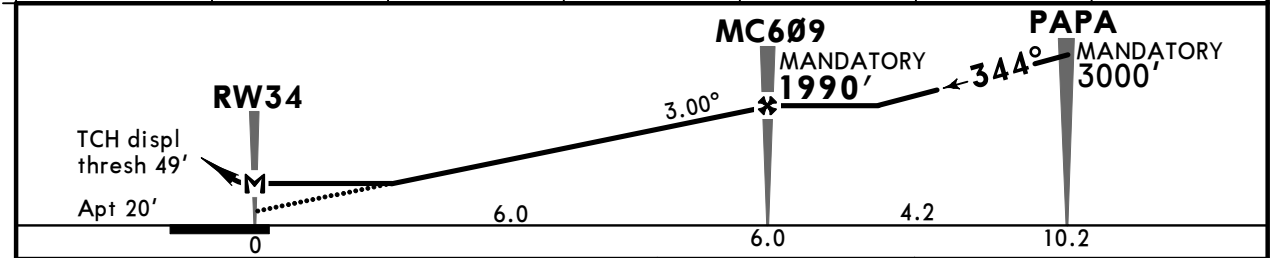
Alt Set: hPa | Apt Elev: 1 hPa | Trans level: By ATC | Trans alt: 9000′

RNP apch. | 1. MIN temperature +5° C. 2. MAX approach turning speed: 190 KT.

BRIEFING STRIP ™



DIST to RW34	1.0	2.0	3.0	4.0	5.0	6.0
ALTITUDE	390′	710′	1030′	1350′	1670′	1990′



Gnd speed-Kts		70	90	100	120	140	160
Descent Angle	3.00°	372	478	531	637	743	849
MAP at RW34							

HIALS-II
REIL
PAPI
MC6Ø8 at 600′ or above

State	STRAIGHT-IN LANDING		CIRCLE-TO-LAND
	LNAV/VNAV	LNAV	
	DA(H) 540′(520′)	MDA(H) 570′(550′)	
	ALS out	ALS out	
A/B	V2700m	V2900m	For Circle-to-land procedure with prescribed flight tracks see 19-10.
C			
D			

PANS OPS

CHANGES: MSA, missed apch.

VMMC/MFM
MACAO INTL

JEPPESEN 16 FEB 24 (12-20) Eff 22 Feb

MACAO, PR OF CHINA
RNP Z Rwy 16 (AR)

ATIS	*HONG KONG Radar	*ZHUHAI Approach	MACAO Tower	Ground
126.4	126.3	120.35	118.0	121.725

BRIEFING STRIP™

RNAV	Final Apch Crs **164°**	**MC8Ø8** MANDATORY **1800′** (1780′)	RNP 0.20 DA(H) Refer to Minimums	Apt Elev 20′

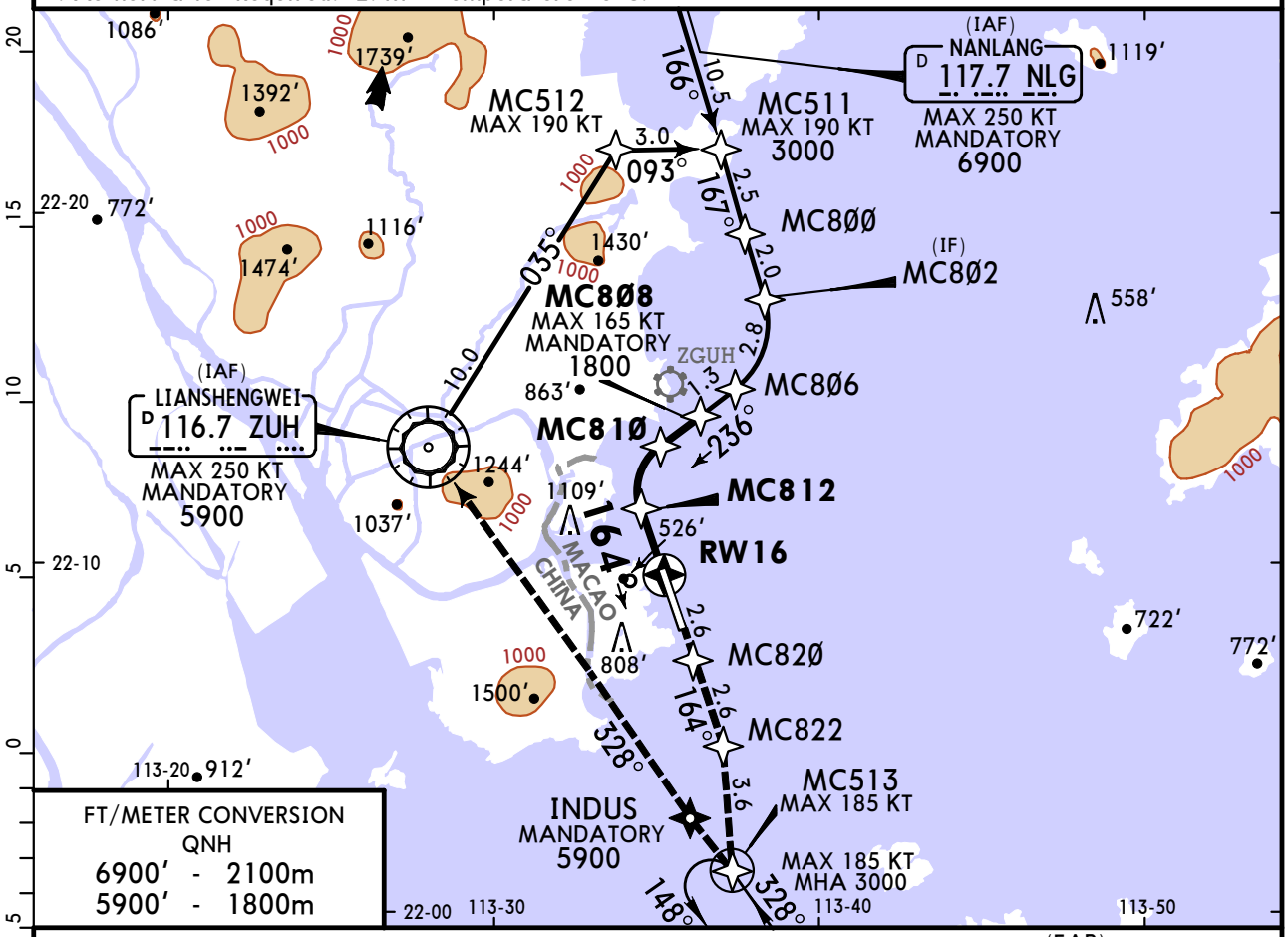
MISSED APCH: Initial climb to 4000′ via missed apch track to MC513 and expect further instruction from Hong Kong Radar to cross INDUS. Then to ZUH VOR at 5900′ or as directed.
When required, join holding at MC513 at or above 3000′, or as directed.
Refer to minimums for missed apch climb gradient.

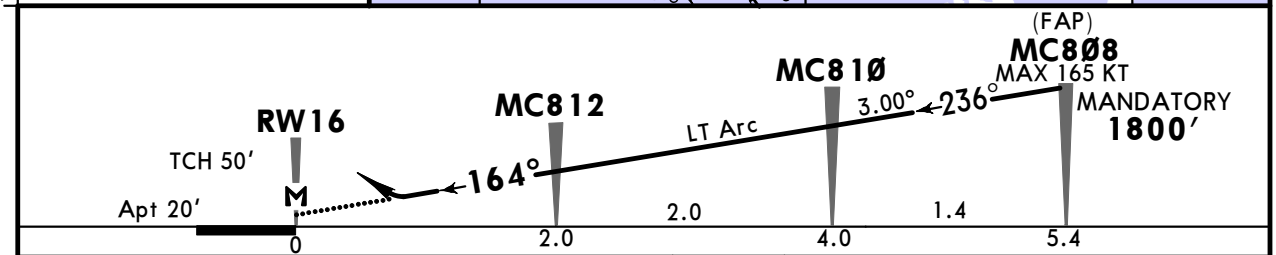
MSA ARP: 181° 3100 4100 091° 271° 2700

Alt Set: hPa | Apt Elev: 1 hPa | Trans level: By ATC | Trans alt: 9000′

RF required. RNP 0.2 or 0.3 required from MC8ØØ to RW16.

1. Authorization Required. 2. MIN temperature +5°C.





Gnd speed-Kts	70	90	100	120	140	160
Glide Path Angle 3.00°	372	478	531	637	743	849
MAP at RW16						

HIALS REIL PAPI PAPI

4000′ MC82Ø MC822

State STRAIGHT-IN LANDING

	RNP 0.20 (required until RW16) Missed apch climb gradient MIN 3.0%		RNP 0.20 (required until RW16) Missed apch climb gradient MIN 2.5%		RNP 0.30 (required until RW16) Missed apch climb gradient MIN 3.0%		RNP 0.30 (required until RW16) Missed apch climb gradient MIN 2.5%	
	DA(H)	ALS out	DA(H)	ALS out	DA(H)	ALS out	DA(H)	ALS out
A	ABC: **270′** (250′)		AB: **270′** (250′)		A:**300′** (280′) C:**330′** (310′)		A:**310′** (290′) C:**350′** (330′)	
B		V900m		V900m		V1100m		V1100m
C	D: **280′** (260′)		C:**280′** (260′) D:**300′** (280′)		B:**310′** (290′) D:**350′** (330′)		B:**330′** (310′) D:**370′** (350′)	
D	V1000m	V1300m	V1000m	V1300m	V1400m	V1500m	V1400m	V1500m
			V1100m				V1500m	V1600m

PANS OPS

CHANGES: MSA, missed apch.

VMMC/MFM
MACAO INTL

JEPPESEN
16 FEB 24 (13-1) Eff 22 Feb

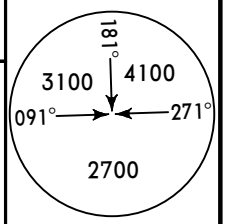
MACAO, PR OF CHINA
VOR DME Rwy 34

ATIS	*HONG KONG Radar	*ZHUHAI Approach	MACAO Tower	Ground
126.4	126.3	120.35	118.0	121.725

BRIEFING STRIP ™

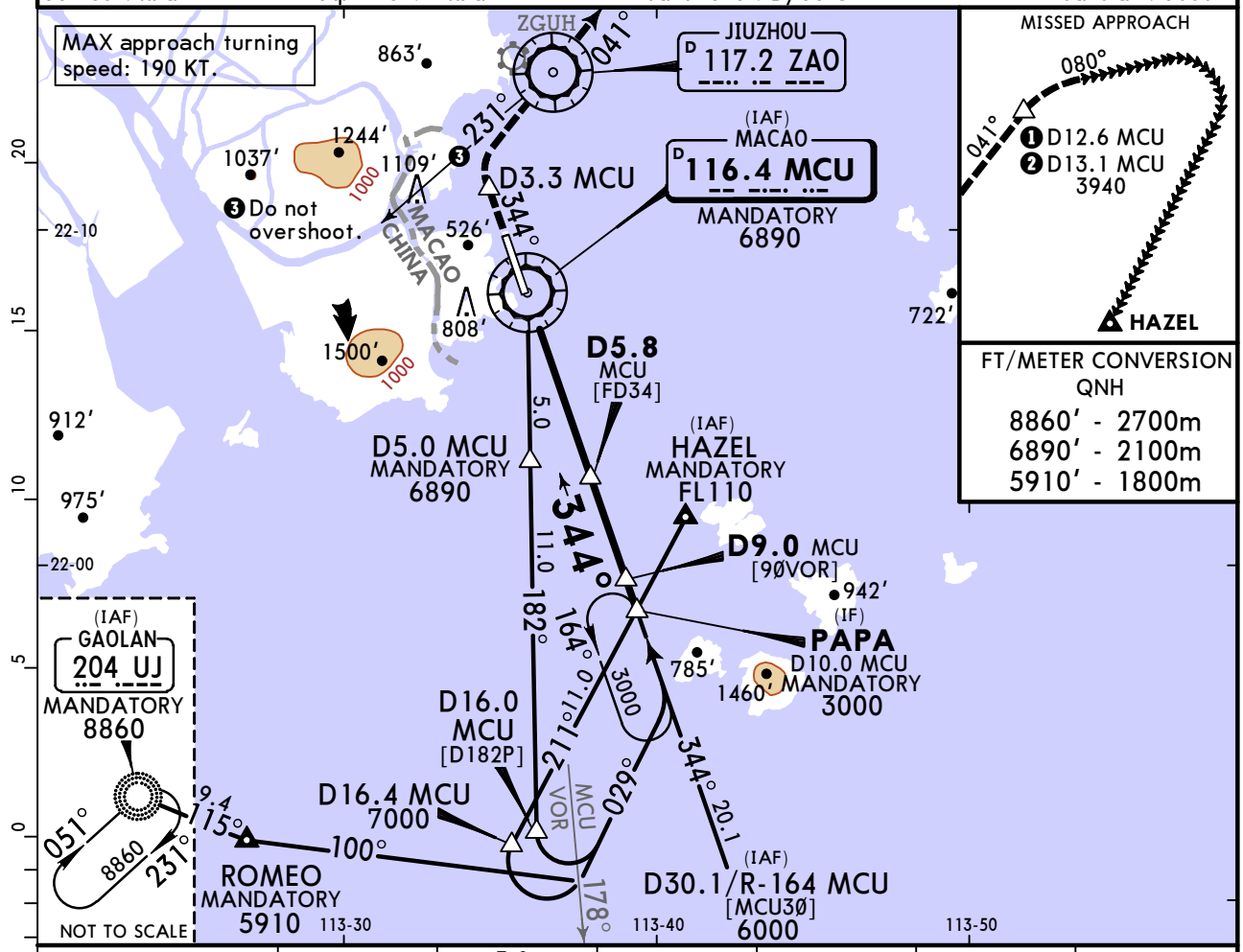
VOR MCU	Final Apch Crs	D5.8 MCU	MDA(H)	Apt Elev 20′
116.4	344°	1990′(1970′)	550′(530′)	

MISSED APCH:
❶ With ZAO VOR: Climb on rwy hdg to 600′. At or before D3.3 MCU turn RIGHT to ZAO VOR. Leave ZAO VOR on R-041. Cross D12.6 MCU at or above 3940′ and turn RIGHT to 080°, continue climbing to 6000′. Expect radar vectors by Hong Kong ATC to HAZEL.
❷ W/o ZAO VOR: Climb on rwy hdg. At D3.3 MCU turn RIGHT on 041°. Cross D13.1 MCU at or above 3940′ and turn RIGHT to 080°, continue climbing to 6000′. Expect radar vectors by Hong Kong ATC to HAZEL.
MAX 185 KT during turns. MIN climb gradient 5.4% (329′/NM) until passing 5500′.

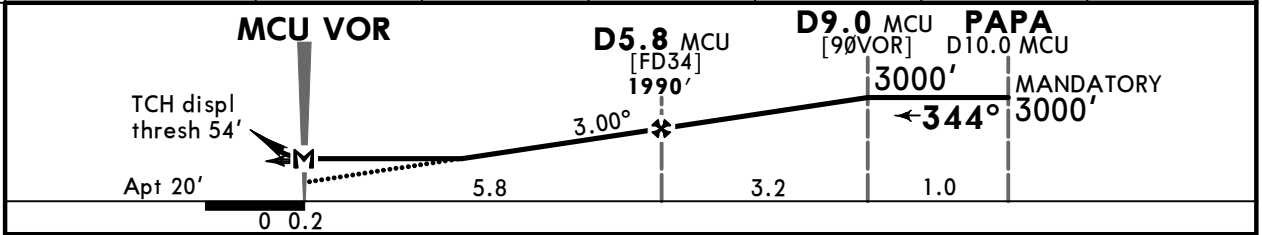


MSA ARP

Alt Set: hPa | Apt Elev: 1 hPa | Trans level: By ATC | Trans alt: 9000′



MCU DME	2.0	3.0	4.0	5.0	6.0	7.0
ALTITUDE	770′	1088′	1407′	1725′	2044′	2362′



Gnd speed-Kts		70	90	100	120	140	160
Descent Angle	3.00°	372	478	531	637	743	849
MAP at MCU VOR							

HIALS-II
REIL
PAPI

Refer to Missed Apch above

PANS OPS

State	STRAIGHT-IN LANDING		CIRCLE-TO-LAND
	MDA(H) 550′(530′)		
		ALS out	
A/B	V2000m	V2400m	For Circle-to-land procedure with prescribed flight tracks see 19-10.
C	V2400m		
D	V3200m		

CHANGES: MSA, procedure.

VMMC/MFM

JEPPESEN

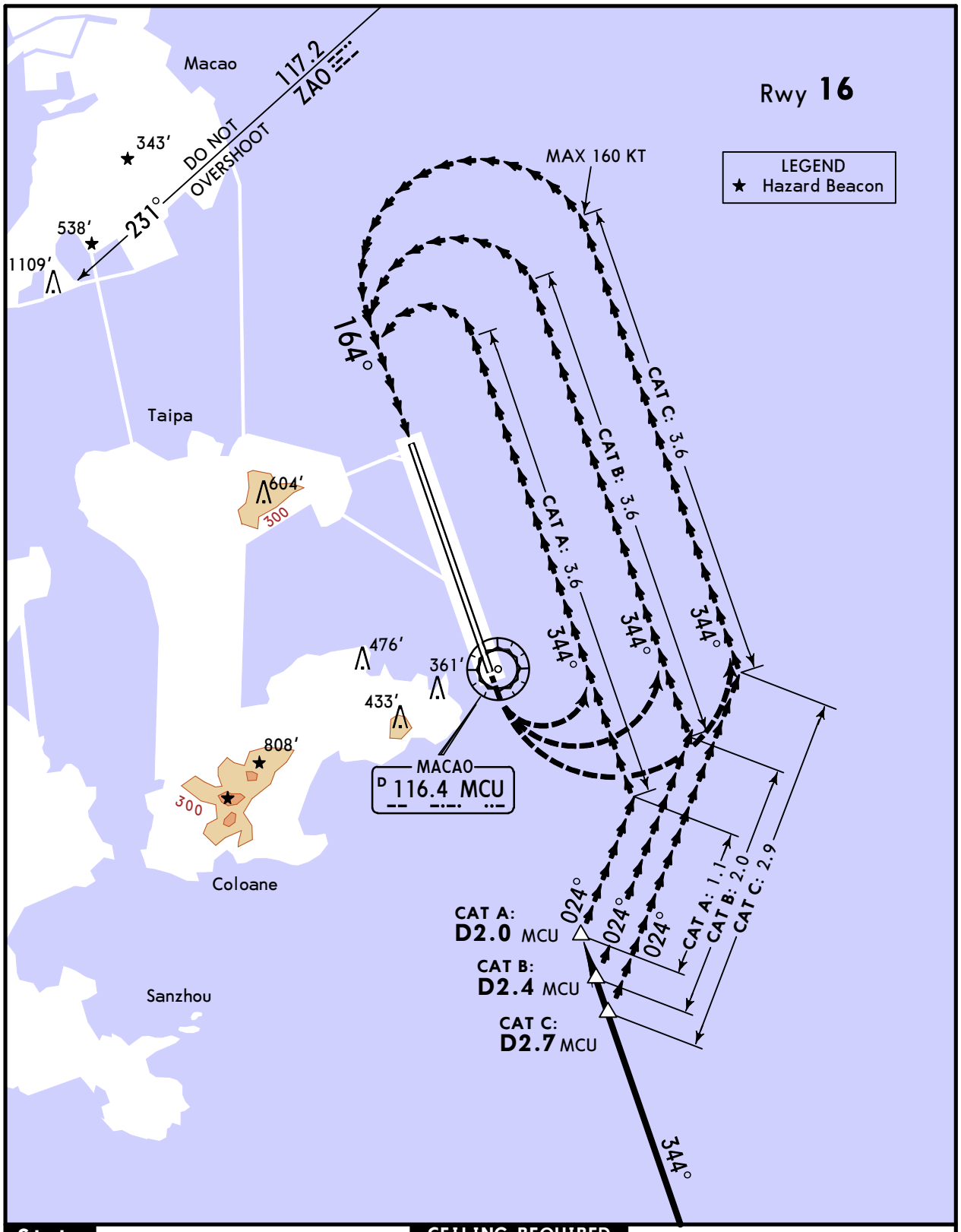
MACAO, PR OF CHINA

16 FEB 24 (19-10) **Eff 22 Feb**

MACAO INTL

CIRCLE-TO-LAND
WITH PRESCRIBED FLIGHT TRACKS

Apt Elev **20′**



State — **CEILING REQUIRED**

	Max Kts	MDA(H)	
A	100	660′ (640′)	1500′ - V6000m
B	135	770′ (750′)	1500′ - V6000m
C	160	870′ (850′)	1500′ - V6000m
D		NOT APPLICABLE	

CHANGES: None.

Chart changes since cycle 10-2024

ADD = added chart, REV = revised chart, DEL = deleted chart.

ACT	PROCEDURE IDENT	INDEX	REV DATE	EFF DATE

MACAO, (MACAO INTL - VMMC)

TERMINAL CHART CHANGE NOTICES

No Chart Change Notices for Airport VMMC