

Contact

Post:

AERONAUTICAL
INFORMATION SERVICES
Civil Aviation Authority of
Singapore,
Singapore Changi Airport,
P. O. Box 1
Singapore 918141

Tel: (65) 64227036

Fax: (65) 64410221

Email: caas_singaporeais@caas.gov.sg

AMDT
05/2024
Effective date
05 SEP 2024
Publication date
05 SEP 2024

wp-AMDT-2024-05**1. Significant information and changes****1.1 Singapore FIR**

- a. Updated ENR 4.4 – Name Code Designations for Significant Points – inserted waypoint URKET and removed waypoints BUNTO, OBGET and OMLIV.
- b. Updated ENR 1.8, sub-section 7 – Air Traffic Management Contingency Plan, paragraph 7.10.1.1, primary and secondary frequencies used by Singapore ATC.
- c. Incorporated AIRAC AIP SUP 115/2024 – Implementation of Direct Routing Operations (DRO) on Specified Segments of ATS Route G579.
- d. Incorporated AIRAC AIP SUP 118/2024 – Changes to Departure Procedures for Runways 02L, 02C and 02R.

1.2 Singapore Changi Airport

- a. Incorporated AIP Supplement 082/2024 – Singapore Changi Airport – New Taxiways Between Taxiway B and Taxiway D.
- b. Updated WSSS AD 2.22, paragraph 9.1 and 9.2 on assignment of Flight Levels to Aircraft Departing from Singapore Changi Airport.
- c. Updated WSSS – AD-2-WSSS-ADC-2, T2 central apron markings and airfield lights.
- d. Incorporated AIRAC AIP SUP 117/2024 – WSSS AD 2.12 Runway Physical Characteristics.

1.3 Seletar Airport

- a. Updated WSSL AD 2.20, sub-section 1, paragraph 1.2 – Circuit heights.

2. This amendment incorporates information contained in the listed AIP Supplements and NOTAMs which are hereby superseded:

AIP Supplements

082/2024 dated 02/05/2024

115/2024 dated 07/06/2024

117/2024 dated 25/07/2024

118/2024 dated 25/07/2024

NOTAMs

A2203/2024 dated 28/06/2024

A2405/2024 dated 23/07/2024

A2774/2024 dated 21/08/2024

Amended Pages

GEN 0.2-3: : *replace.*
GEN 0.3-1/2: : *replace.*
GEN 0.3-3/4: : *replace.*
GEN 0.3-5/6: : *replace.*
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ENR 4.3-1: : *replace.*
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AD 2.WSSS-3/4: : *replace.*
AD 2.WSSS-17/18: : *replace.*
AD 2.WSSS-23/24: : *replace.*
AD 2.WSSS-37/38: : *replace.*
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AD-2-WSSS-AOC-2: : *replace.*
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AIP AMENDMENT

NR/Year	Publication date	Date inserted	Inserted by
02/2023	20 APR 2023	20 APR 2023	
03/2023	15 JUN 2023	15 JUN 2023	
04/2023	10 AUG 2023	10 AUG 2023	
05/2023	05 OCT 2023	05 OCT 2023	
06/2023	30 NOV 2023	30 NOV 2023	
01/2024	25 JAN 2024	25 JAN 2024	
02/2024	21 MAR 2024	21 MAR 2024	
03/2024	16 MAY 2024	16 MAY 2024	
04/2024	11 JUL 2024	11 JUL 2024	
05/2024	05 SEP 2024	05 SEP 2024	

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GEN 0.3 RECORD OF CURRENT AIP SUPPLEMENTS

NR/Year	Subject	AIP section(s) affected	Period of validity (from/to)	Cancellation record
021/2020	Singapore Changi Airport - Long term closure of aircraft stand E5 at Terminal 2, Singapore Changi Airport	AD	30 MAR 2020 / 30 DEC 2024	
059/2020	Singapore Changi Airport - Long term closure of aircraft stand E20 at Terminal 2, Singapore Changi Airport	AD	25 AUG 2020 / 30 DEC 2026	
161/2021	Singapore Changi Airport - Steel Frame	AD	17 JAN 2022 / 17 DEC 2024	
065/2023	Paya Lebar Airport - Luffing Tower Crane	AD	11 MAY 2023 / 31 DEC 2024	
068/2023	Paya Lebar Airport - Cranes	AD	11 MAY 2023 / 31 DEC 2024	
075/2023	Paya Lebar Airport - Topless Crane	AD	08 JUN 2023 / 30 DEC 2024	
076/2023	Paya Lebar Airport - Luffing Cranes	AD	08 JUN 2023 / 30 DEC 2024	
079/2023	Paya Lebar Airport - Mobile Crane	AD	08 JUN 2023 / 31 DEC 2024	
080/2023	Paya Lebar Airport - Mobile Cranes	AD	08 JUN 2023 / 31 DEC 2024	
083/2023	Paya Lebar Airport - Luffing Crane	AD	08 JUN 2023 / 31 DEC 2024	
092/2023	Paya Lebar Airport - Luffer Tower Crane	AD	13 JUL 2023 / 31 DEC 2024	
114/2023	Paya Lebar Airport - Cranes	AD	10 AUG 2023 / 31 DEC 2024	
117/2023	Paya Lebar Airport - Mobile Crane	AD	07 SEP 2023 / 10 SEP 2024	
121/2023	Paya Lebar Airport - Crawler Cranes	AD	07 SEP 2023 / 31 DEC 2024	
127/2023	Singapore Changi Airport - Closure of aircraft stand 604 at East Cargo Apron	AD	02 NOV 2023 / 30 MAY 2025	
129/2023	Seletar Airport - Closure of Helicopter Landing Area	AD	28 SEP 2023 / 30 SEP 2024	
130/2023	Paya Lebar Airport - Mobile Crane	AD	12 OCT 2023 / 06 OCT 2024	
131/2023	Paya Lebar Airport - Flat-Top Cranes	AD	12 OCT 2023 / 31 OCT 2024	
132/2023	Paya Lebar Airport - Topless Cranes	AD	12 OCT 2023 / 30 SEP 2024	
133/2023	Paya Lebar Airport - Mobile Cranes	AD	12 OCT 2023 / 12 SEP 2024	
134/2023	Paya Lebar Airport - Mobile Crane	AD	12 OCT 2023 / 30 OCT 2024	
135/2023	Paya Lebar Airport - Cranes	AD	12 OCT 2023 / 10 SEP 2024	
139/2023	Singapore Changi Airport - Steel and Frangible Frames and Frangible Posts	AD	30 NOV 2023 / 28 FEB 2025	
141/2023	Singapore Changi Airport - Apply minimum thrust at East Cargo Apron	AD	23 OCT 2023 / 30 MAY 2025	
143/2023	Paya Lebar Airport - Luffing Cranes	AD	09 NOV 2023 / 31 DEC 2024	
144/2023	Paya Lebar Airport - Mobile Cranes	AD	09 NOV 2023 / 20 OCT 2024	
145/2023	Paya Lebar Airport - Mobile Crane	AD	09 NOV 2023 / 21 OCT 2024	

NR/Year	Subject	AIP section(s) affected	Period of validity (from/to)	Cancellation record
146/2023	Paya Lebar Airport - Tower Luffer Cranes	AD	09 NOV 2023 / 31 DEC 2024	
147/2023	Paya Lebar Airport - Tower Cranes	AD	09 NOV 2023 / 31 DEC 2024	
149/2023	Paya Lebar Airport - Topless Cranes	AD	09 NOV 2023 / 31 OCT 2024	
151/2023	Paya Lebar Airport - Cranes	AD	09 NOV 2023 / 08 OCT 2024	
153/2023	Paya Lebar Airport - Tower Cranes	AD	09 DEC 2023 / 08 DEC 2024	
154/2023	Paya Lebar Airport - Topless Cranes	AD	07 DEC 2023 / 01 DEC 2024	
155/2023	Paya Lebar Airport - Luffing Cranes	AD	07 DEC 2023 / 01 DEC 2024	
159/2023	Paya Lebar Airport - Cranes	AD	07 DEC 2023 / 30 NOV 2024	
160/2023	Paya Lebar Airport - Tower Cranes	AD	08 DEC 2023 / 08 DEC 2024	
161/2023	Paya Lebar Airport - Cranes	AD	07 DEC 2023 / 30 NOV 2024	
162/2023	Paya Lebar Airport - Luffing Tower Crane	AD	07 DEC 2023 / 30 NOV 2024	
001/2024	Paya Lebar Airport - Tower Cranes	AD	11 JAN 2024 / 31 DEC 2024	
002/2024	Paya Lebar Airport - Tower Cranes	AD	11 JAN 2024 / 31 DEC 2024	
003/2024	Paya Lebar Airport - Luffing Cranes	AD	11 JAN 2024 / 31 DEC 2024	
004/2024	Paya Lebar Airport - Crawler Cranes	AD	11 JAN 2024 / 31 DEC 2024	
005/2024	Paya Lebar Airport - Flat-Top Cranes	AD	11 JAN 2024 / 31 DEC 2024	
006/2024	Paya Lebar Airport - Cranes	AD	11 JAN 2024 / 31 DEC 2025	
007/2024	Paya Lebar Airport - Luffing Cranes	AD	11 JAN 2024 / 31 DEC 2025	
009/2024	Paya Lebar Airport - Luffing Crane	AD	11 JAN 2024 / 31 DEC 2024	
011/2024	Paya Lebar Airport - Tower Cranes	AD	11 JAN 2024 / 31 DEC 2024	
012/2024	Paya Lebar Airport - Mobile Crane	AD	11 JAN 2024 / 31 DEC 2024	
013/2024	Paya Lebar Airport - Flat-Top Cranes	AD	11 JAN 2024 / 31 DEC 2024	
014/2024	Paya Lebar Airport - Luffing Crane	AD	11 JAN 2024 / 31 DEC 2024	
015/2024	Paya Lebar Airport - Cranes	AD	11 JAN 2024 / 30 DEC 2024	
016/2024	Paya Lebar Airport - Luffer Crane	AD	11 JAN 2024 / 31 DEC 2024	
017/2024	Singapore Changi Airport - Closure of aircraft stand 504 at West Cargo Apron	AD	22 FEB 2024 / 31 OCT 2025	
020/2024	Paya Lebar Airport - Saddle Cranes	AD	08 FEB 2024 / 31 DEC 2025	
022/2024	Paya Lebar Airport - Topless Cranes	AD	08 FEB 2024 / 30 NOV 2024	
023/2024	Paya Lebar Airport - Luffing Tower Crane	AD	08 FEB 2024 / 30 JUN 2025	
024/2024	Paya Lebar Airport - Luffing Crane	AD	08 FEB 2024 / 29 JAN 2025	

NR/Year	Subject	AIP section(s) affected	Period of validity (from/to)	Cancellation record
027/2024	Paya Lebar Airport - Topless Tower Cranes	AD	08 FEB 2024 / 25 JAN 2025	
028/2024	Paya Lebar Airport - Crawler Crane	AD	08 FEB 2024 / 27 NOV 2024	
031/2024	Paya Lebar Airport - Tower Cranes	AD	08 FEB 2024 / 19 DEC 2024	
032/2024	Paya Lebar Airport - Topless Cranes	AD	08 FEB 2024 / 31 DEC 2024	
035/2024	Paya Lebar Airport - Cranes	AD	08 FEB 2024 / 31 DEC 2024	
036/2024	Paya Lebar Airport - Cranes	AD	08 FEB 2024 / 17 JUN 2025	
037/2024	Paya Lebar Airport - Tower Crane	AD	08 FEB 2024 / 31 DEC 2024	
038/2024	Paya Lebar Airport - Luffer Cranes	AD	08 FEB 2024 / 17 JUN 2025	
039/2024	Paya Lebar Airport - Cranes	AD	08 FEB 2024 / 31 DEC 2024	
040/2024	Paya Lebar Airport - Luffing Cranes	AD	08 FEB 2024 / 16 JAN 2025	
041/2024	Paya Lebar Airport - Cranes	AD	08 FEB 2024 / 31 DEC 2024	
042/2024	Paya Lebar Airport - Topless Cranes	AD	08 FEB 2024 / 16 JAN 2025	
043/2024	Paya Lebar Airport - Crawler Tower Cranes	AD	08 FEB 2024 / 16 FEB 2025	
044/2024	Paya Lebar Airport - Luffer Cranes	AD	08 FEB 2024 / 31 AUG 2025	
045/2024	Paya Lebar Airport - Mobile Crane	AD	08 FEB 2024 / 16 JAN 2025	
046/2024	Paya Lebar Airport - Tower Cranes	AD	08 FEB 2024 / 16 FEB 2025	
047/2024	Paya Lebar Airport - Luffing Cranes	AD	08 FEB 2024 / 30 DEC 2025	
048/2024	Paya Lebar Airport - Cranes	AD	08 FEB 2024 / 31 DEC 2025	
049/2024	Paya Lebar Airport - Luffer Tower Crane	AD	08 FEB 2024 / 10 JAN 2025	
050/2024	Paya Lebar Airport - Topless Cranes	AD	08 FEB 2024 / 10 JAN 2025	
051/2024	Paya Lebar Airport - Luffing Tower Crane	AD	08 FEB 2024 / 10 JAN 2025	
052/2024	Paya Lebar Airport - Luffing Cranes	AD	08 FEB 2024 / 10 JAN 2025	
053/2024	Paya Lebar Airport - Topless Cranes	AD	08 FEB 2024 / 16 FEB 2025	
056/2024	Singapore Changi Airport - Updated closure schedules for Runway 02L/20R and Runway 02C/20C	AD	31 MAR 2024 / 30 SEP 2025	
058/2024	Paya Lebar Airport - Mobile Cranes	AD	07 MAR 2024 / 29 SEP 2024	
059/2024	Paya Lebar Airport - Mobile Crane	AD	07 MAR 2024 / 29 SEP 2024	
060/2024	Paya Lebar Airport - Mobile Cranes	AD	07 MAR 2024 / 31 DEC 2024	
061/2024	Paya Lebar Airport - Mobile Cranes	AD	07 MAR 2024 / 30 SEP 2024	
063/2024	Paya Lebar Airport - Cranes	AD	07 MAR 2024 / 31 OCT 2024	

NR/Year	Subject	AIP section(s) affected	Period of validity (from/to)	Cancellation record
064/2024	Paya Lebar Airport - Obstacles	AD	07 MAR 2024 / 04 FEB 2025	
065/2024	Paya Lebar Airport - Obstacles	AD	07 MAR 2024 / 31 DEC 2024	
069/2024	Area of collection, formula of Route Air Navigation Services (RANS) charges, and other changes	GEN	21 MAR 2024 PERM	
070/2024	Paya Lebar Airport - Crawler Tower Cranes	AD	21 MAR 2024 / 31 MAR 2025	
072/2024	Singapore Changi Airport - Closure of Runway 02R/20L, Taxiway closures and restrictions	AD	16 MAY 2024 / 31 OCT 2024	
074/2024	Paya Lebar Airport - Cranes	AD	11 APR 2024 / 25 APR 2025	
075/2024	Paya Lebar Airport - Mobile Cranes	AD	11 APR 2024 / 01 APR 2025	
077/2024	Paya Lebar Airport - Cranes	AD	11 APR 2024 / 31 DEC 2024	
079/2024	Paya Lebar Airport - Mobile Crane	AD	11 APR 2024 / 20 SEP 2024	
083/2024	Singapore Changi Airport - Decommissioning of aircraft stands E1 and F30 and temporary closure of taxilanes R1, R2, R3 and aircraft stands E2, E3, E4, F31, F32, F33 and F34 due to construction work activities at Terminal 2	AD	09 MAY 2024 / 03 JAN 2028	
084/2024	Paya Lebar Airport - Cranes	AD	09 MAY 2024 / 31 DEC 2024	
085/2024	Paya Lebar Airport - Mobile Crane	AD	09 MAY 2024 / 30 OCT 2024	
086/2024	Paya Lebar Airport - Cranes	AD	09 MAY 2024 / 01 MAY 2025	
087/2024	Paya Lebar Airport - Cranes	AD	09 MAY 2024 / 25 APR 2025	
088/2024	Paya Lebar Airport - Mobile Crane	AD	09 MAY 2024 / 31 DEC 2024	
089/2024	Paya Lebar Airport - Mobile Cranes	AD	09 MAY 2024 / 15 APR 2025	
090/2024	Paya Lebar Airport - Mobile Crane	AD	09 MAY 2024 / 31 DEC 2024	
091/2024	Paya Lebar Airport - Topless Cranes	AD	09 MAY 2024 / 15 APR 2025	
093/2024	Paya Lebar Airport - Flat-Top Crane	AD	09 MAY 2024 / 10 APR 2025	
094/2024	Paya Lebar Airport - Crawler Crane	AD	09 MAY 2024 / 30 SEP 2025	
095/2024	Paya Lebar Airport - Topless Tower Cranes	AD	06 JUN 2024 / 02 JUN 2025	
097/2024	Paya Lebar Airport - Cranes	AD	06 JUN 2024 / 19 MAY 2025	
098/2024	Paya Lebar Airport - Mobile Cranes	AD	06 JUN 2024 / 31 DEC 2024	
099/2024	Paya Lebar Airport - Cranes	AD	06 JUN 2024 / 14 MAY 2025	
100/2024	Paya Lebar Airport - Luffer Cranes	AD	06 JUN 2024 / 15 MAY 2025	
101/2024	Paya Lebar Airport - Luffing Crane	AD	06 JUN 2024 / 16 MAY 2025	
102/2024	Paya Lebar Airport - Mobile Crane	AD	06 JUN 2024 / 10 OCT 2024	

NR/Year	Subject	AIP section(s) affected	Period of validity (from/to)	Cancellation record
103/2024	Paya Lebar Airport - Mobile Crane	AD	06 JUN 2024 / 10 SEP 2024	
104/2024	Paya Lebar Airport - Mobile Cranes	AD	25 JUL 2024 / 02 JUL 2025	
105/2024	Paya Lebar Airport - Mobile Crane	AD	25 JUL 2024 / 02 JUL 2025	
106/2024	Paya Lebar Airport - Flat-Top Cranes	AD	25 JUL 2024 / 01 JUL 2025	
107/2024	Paya Lebar Airport - Mobile Crane	AD	25 JUL 2024 / 07 JUL 2025	
108/2024	Paya Lebar Airport - Mobile Crane	AD	25 JUL 2024 / 31 JUL 2025	
109/2024	Paya Lebar Airport - Mobile Crane	AD	25 JUL 2024 / 09 JUL 2025	
110/2024	Paya Lebar Airport - Telescopic Crawler Crane	AD	25 JUL 2024 / 01 JUL 2025	
111/2024	Paya Lebar Airport - Mobile Crane	AD	25 JUL 2024 / 31 AUG 2025	
112/2024	Paya Lebar Airport - Luffing Cranes	AD	25 JUL 2024 / 17 JUN 2025	
113/2024	Paya Lebar Airport - Luffer Crane	AD	25 JUL 2024 / 14 JUN 2025	
114/2024	Paya Lebar Airport - Tower Crane	AD	25 JUL 2024 / 16 JUN 2025	
116/2024	Singapore Changi Airport - Changes to aircraft stand E10 lead in line	AD	05 SEP 2024 PERM	
119/2024	Paya Lebar Airport - Mobile Cranes	AD	15 AUG 2024 / 28 JAN 2025	
120/2024	Paya Lebar Airport - Cranes	AD	15 AUG 2024 / 31 JUL 2025	
121/2024	Paya Lebar Airport - Topless Cranes	AD	15 AUG 2024 / 22 JUL 2025	
122/2024	Paya Lebar Airport - Mobile Crane	AD	15 AUG 2024 / 03 AUG 2025	
123/2024	Paya Lebar Airport - Cranes	AD	15 AUG 2024 / 15 JUL 2025	
124/2024	Paya Lebar Airport - Luffing Tower Crane	AD	15 AUG 2024 / 14 JUL 2025	
125/2024	Paya Lebar Airport - Mobile Crane	AD	15 AUG 2024 / 30 JUL 2025	
126/2024	Paya Lebar Airport - Luffing Cranes	AD	15 AUG 2024 / 10 JAN 2025	
127/2024	Paya Lebar Airport - Topless Tower Cranes	AD	15 AUG 2024 / 08 JUL 2025	
128/2024	Paya Lebar Airport - Mobile Cranes	AD	15 AUG 2024 / 08 JUL 2025	
129/2024	Singapore Changi Airport - Use of construction lasers, locations of automatic total station and concrete blocks to support construction activities at Terminal 2	AD	29 AUG 2024 / 05 OCT 2026	
130/2024	Amendment to contingency route arrangement between Manila FIR and Singapore FIR	ENR	03 OCT 2024 PERM	
131/2024	Airspace closure Kuala Lumpur and Singapore FIRs Exercise Bersama Lima 2024 070001UTC to 161100UTC October 2024	AD/ENR	07 OCT 2024 / 16 OCT 2024	
132/2024	Singapore Changi Airport - Updated information and data for Runway 02R/20L	AD	03 OCT 2024 / 30 SEP 2026	
133/2024	Singapore Changi Airport - Closure of Taxiways associated with Runway 02R/20L	AD	03 OCT 2024 / 22 DEC 2027	

NR/Year	Subject	AIP section(s) affected	Period of validity (from/to)	Cancellation record
134/2024	Singapore Changi Airport - Temporary closure of Taxiway N4 behind aircraft stand 604 and downgrade of aircraft stand 603 to Code C	AD	30 AUG 2024 / 02 OCT 2025	

GEN 0.4 CHECKLIST OF AIP PAGES

Part 1 – General (GEN)							
GEN 0		GEN 3.1-2	21 MAR 2024	ENR 1.6-5	25 JAN 2024		
GEN 0.1-1	26 MAR 2020	GEN 3.1-3	02 DEC 2021	ENR 1.6-6	25 JAN 2024		
GEN 0.1-2	05 OCT 2023	GEN 3.1-4	19 MAY 2022	ENR 1.6-7	25 JAN 2024		
GEN 0.1-3	19 MAY 2022	GEN 3.2-1	19 MAY 2022	ENR 1.6-8	21 MAR 2024		
GEN 0.2-1	13 SEP 2018	GEN 3.2-2	31 MAR 2016	ENR 1.6-9	25 JAN 2024		
GEN 0.2-2	23 FEB 2023	GEN 3.2-3	31 MAR 2016	ENR 1.6-10	21 MAR 2024		
GEN 0.2-3	05 SEP 2024	GEN 3.2-4	05 SEP 2024	ENR 1.7-1	21 MAR 2024		
GEN 0.3-1	05 SEP 2024	GEN 3.2-5	11 JUL 2024	ENR 1.7-2	16 MAY 2024		
GEN 0.3-2	05 SEP 2024	GEN 3.2-6	19 MAY 2022	ENR 1.7-3	16 MAY 2024		
GEN 0.3-3	05 SEP 2024	GEN 3.3-1	19 MAY 2022	ENR 1.7-4	11 JUL 2024		
GEN 0.3-4	05 SEP 2024	GEN 3.3-2	05 SEP 2024	ENR 1.7-5	16 MAY 2024		
GEN 0.3-5	05 SEP 2024	GEN 3.4-1	16 MAY 2024	ENR 1.7-6	16 MAY 2024		
GEN 0.3-6	05 SEP 2024	GEN 3.4-2	16 MAY 2024	ENR 1.7-7	16 MAY 2024		
GEN 0.4-1	05 SEP 2024	GEN 3.4-3	10 SEP 2020	ENR 1.8-1	16 MAY 2024		
GEN 0.4-2	05 SEP 2024	GEN 3.4-4	19 MAY 2022	ENR 1.8-2	16 MAY 2024		
GEN 0.4-3	05 SEP 2024	GEN 3.4-5	21 MAR 2024	ENR 1.8-3	16 MAY 2024		
GEN 0.5-1	30 JAN 2020	GEN 3.4-7	10 SEP 2020	ENR 1.8-4	16 MAY 2024		
GEN 0.6-1	16 MAY 2024	GEN 3.4-9	21 MAR 2024	ENR 1.8-5	16 MAY 2024		
GEN 0.6-2	11 JUL 2024	GEN 3.5-1	21 MAR 2024	ENR 1.8-6	16 MAY 2024		
GEN 0.6-3	21 MAR 2024	GEN 3.5-2	21 MAR 2024	ENR 1.8-7	16 MAY 2024		
GEN 1		GEN 3.5-3	21 MAR 2024	ENR 1.8-8	16 MAY 2024		
GEN 1.1-1	16 MAY 2024	GEN 3.5-4	21 MAR 2024	ENR 1.8-9	16 MAY 2024		
GEN 1.1-2	05 SEP 2024	GEN 3.5-5	21 MAR 2024	ENR 1.8-10	16 MAY 2024		
GEN 1.2-1	21 MAR 2024	GEN 3.5-6	21 MAR 2024	ENR 1.8-11	16 MAY 2024		
GEN 1.2-2	30 NOV 2023	GEN 3.5-7	21 MAR 2024	ENR 1.8-12	16 MAY 2024		
GEN 1.2-3	25 JAN 2024	GEN 3.5-8	21 MAR 2024	ENR 1.8-13	16 MAY 2024		
GEN 1.2-4	25 JAN 2024	GEN 3.5-9	21 MAR 2024	ENR 1.8-14	16 MAY 2024		
GEN 1.2-5	25 JAN 2024	GEN 3.6-1	16 MAY 2024	ENR 1.8-15	16 MAY 2024		
GEN 1.2-6	21 MAR 2024	GEN 3.6-2	21 MAR 2024	ENR 1.8-16	16 MAY 2024		
GEN 1.2-7	21 MAR 2024	GEN 3.6-3	07 OCT 2021	ENR 1.8-17	16 MAY 2024		
GEN 1.3-1	16 MAY 2024	GEN 3.6-4	21 MAR 2024	ENR 1.8-18	05 SEP 2024		
GEN 1.3-2	05 SEP 2024	GEN 3.6-5	21 MAR 2024	ENR 1.8-19	05 SEP 2024		
GEN 1.3-3	05 SEP 2024	GEN 4		ENR 1.8-20	05 SEP 2024		
GEN 1.3-4	05 SEP 2024	GEN 4.1-1	14 JUL 2022	ENR 1.8-21	05 SEP 2024		
GEN 1.3-5	05 SEP 2024	GEN 4.2-1	24 MAY 2018	ENR 1.8-22	05 SEP 2024		
GEN 1.3-6	16 MAY 2024	GEN 4.2-2	12 NOV 2015	ENR 1.8-23	05 SEP 2024		
GEN-1.3/ARR PAX FLOW	25 APR 2019	GEN 4.2-3	12 NOV 2015	ENR 1.8-24	05 SEP 2024		
GEN-1.3/DEP PAX FLOW 1	25 APR 2019	GEN 4.2-4	12 NOV 2015	ENR 1.8-25	05 SEP 2024		
GEN-1.3/DEP PAX FLOW 2	25 APR 2019	GEN 4.2-5	12 NOV 2015	ENR 1.8-26	05 SEP 2024		
GEN 1.4-1	05 SEP 2024	GEN 4.2-6	12 NOV 2015	ENR 1.8-27	05 SEP 2024		
GEN 1.4-2	05 SEP 2024	Part 2 – EN-ROUTE (ENR)		ENR 1.8-28	05 SEP 2024		
GEN 1.4-3	05 SEP 2024	ENR 0		ENR 1.8-29	05 SEP 2024		
GEN 1.5-1	21 MAR 2024	ENR 0.6-1	16 MAY 2024	ENR 1.9-1	16 MAY 2024		
GEN 1.6-1	21 MAR 2024	ENR 0.6-2	16 MAY 2024	ENR 1.9-2	16 MAY 2024		
GEN 1.6-2	11 JUL 2024	ENR 0.6-3	16 MAY 2024	ENR 1.9-3	16 MAY 2024		
GEN 1.6-3	11 JUL 2024	ENR 0.6-4	05 SEP 2024	ENR 1.9-4	16 MAY 2024		
GEN 1.6-4	11 JUL 2024	ENR 0.6-5	16 MAY 2024	ENR 1.9-5	16 MAY 2024		
GEN 1.6-5	11 JUL 2024	ENR 0.6-6	05 SEP 2024	ENR 1.10-1	16 MAY 2024		
GEN 1.7-1	08 SEP 2022	ENR 1		ENR 1.10-2	16 MAY 2024		
GEN 1.7-2	23 FEB 2023	ENR 1.1-1	16 MAY 2024	ENR 1.10-3	21 MAR 2024		
GEN 1.7-3	23 FEB 2023	ENR 1.1-2	16 MAY 2024	ENR 1.11-1	21 MAR 2024		
GEN 1.7-4	25 JAN 2024	ENR 1.1-3	16 MAY 2024	ENR 1.12-1	12 NOV 2015		
GEN 2		ENR 1.1-4	16 MAY 2024	ENR 1.12-2	12 NOV 2015		
GEN 2.1-1	24 MAR 2022	ENR 1.1-5	16 MAY 2024	ENR 1.12-3	12 NOV 2015		
GEN 2.1-2	05 OCT 2023	ENR 1.1-6	16 MAY 2024	ENR 1.12-4	12 NOV 2015		
GEN 2.2-1	02 MAR 2017	ENR 1.1-7	16 MAY 2024	ENR 1.13-1	12 NOV 2015		
GEN 2.2-2	02 MAR 2017	ENR 1.1-8	16 MAY 2024	ENR 1.14-1	16 MAY 2024		
GEN 2.2-3	21 MAR 2024	ENR 1.1-9	16 MAY 2024	ENR 1.14-2	16 MAY 2024		
GEN 2.2-4	21 MAR 2024	ENR 1.1-10	16 MAY 2024	ENR-1.14-3 to ENR-1.14-4	15 SEP 2016		
GEN 2.2-5	21 MAR 2024	ENR 1.1-11	16 MAY 2024	ENR-1.14-5 to ENR-1.14-6	15 SEP 2016		
GEN 2.3-1	12 NOV 2015	ENR 1.1-12	16 MAY 2024	ENR-1.14-7 to ENR-1.14-8	15 AUG 2019		
GEN 2.3-2	12 NOV 2015	ENR 1.1-13	16 MAY 2024	ENR 2			
GEN 2.3-3	12 NOV 2015	ENR 1.2-1	21 MAR 2024	ENR 2.1-1	05 SEP 2024		
GEN 2.4-1	21 MAR 2024	ENR 1.3-1	05 SEP 2024	ENR 2.1-2	05 SEP 2024		
GEN 2.5-1	21 MAR 2024	ENR 1.4-1	21 MAR 2024	ENR 2.1-3	16 MAY 2024		
GEN 2.5-3	21 MAR 2024	ENR 1.5-1	21 MAR 2024	ENR 2.1-4	16 MAY 2024		
GEN 2.6-1	12 NOV 2015	ENR 1.5-2	05 SEP 2024	ENR 2.1-5	16 MAY 2024		
GEN 2.6-2	12 NOV 2015	ENR 1.5-3	05 SEP 2024	ENR-2.1-7	21 MAR 2024		
GEN 2.7-1	05 DEC 2019	ENR 1.5-4	16 MAY 2024	ENR-2.1-9	05 SEP 2024		
GEN 3		ENR 1.6-1	25 JAN 2024	ENR-2.1-11A	21 JUL 2016		
GEN 3.1-1	16 MAY 2024	ENR 1.6-2	25 JAN 2024	ENR-2.1-11B	08 SEP 2022		
		ENR 1.6-3	25 JAN 2024	ENR-2.1-13	21 JUL 2016		
		ENR 1.6-4	25 JAN 2024	ENR-2.1-14	21 MAR 2024		
				ENR 3			
				ENR 3.1-1	21 MAR 2024		

ENR 3.1-2	21 MAR 2024	ENR 4.1-1	11 JUL 2024	AD 2.WSSS-23	05 SEP 2024	
ENR 3.1-3	21 MAR 2024	ENR 4.3-1	05 SEP 2024	AD 2.WSSS-24	21 MAR 2024	
ENR 3.1-4	21 MAR 2024	ENR 4.4-1	16 MAY 2024	AD 2.WSSS-25	16 MAY 2024	
ENR 3.1-5	21 MAR 2024	ENR 4.4-2	05 SEP 2024	AD 2.WSSS-26	21 MAR 2024	
ENR 3.1-6	21 MAR 2024	ENR 4.4-3	05 SEP 2024	AD 2.WSSS-27	21 MAR 2024	
ENR 3.1-7	21 MAR 2024	ENR 4.4-4	05 SEP 2024	AD 2.WSSS-28	21 MAR 2024	
ENR 3.1-8	21 MAR 2024	ENR 4.4-5	05 SEP 2024	AD 2.WSSS-29	21 MAR 2024	
ENR 3.1-9	21 MAR 2024	ENR 4.4-6	05 SEP 2024	AD 2.WSSS-30	21 MAR 2024	
ENR 3.1-10	21 MAR 2024	ENR 4.4-7	05 SEP 2024	AD 2.WSSS-31	21 MAR 2024	
ENR 3.1-11	05 SEP 2024	ENR 4.5-1	25 JAN 2024	AD 2.WSSS-32	21 MAR 2024	
ENR 3.1-12	21 MAR 2024	ENR 5			AD 2.WSSS-33	21 MAR 2024
ENR 3.1-13	21 MAR 2024			AD 2.WSSS-34	21 MAR 2024	
ENR 3.1-14	21 MAR 2024	ENR 5.1-1	30 JAN 2020	AD 2.WSSS-35	21 MAR 2024	
ENR 3.1-15	21 MAR 2024	ENR 5.1-2	08 SEP 2022	AD 2.WSSS-36	21 MAR 2024	
ENR 3.1-16	21 MAR 2024	ENR 5.1-3	14 JUL 2022	AD 2.WSSS-37	05 SEP 2024	
ENR 3.1-17	21 MAR 2024	ENR 5.1-4	14 JUL 2022	AD 2.WSSS-38	21 MAR 2024	
ENR 3.1-18	21 MAR 2024	ENR 5.1-5	14 JUL 2022	AD 2.WSSS-39	21 MAR 2024	
ENR 3.1-19	21 MAR 2024	ENR 5.1-7	05 SEP 2024	AD 2.WSSS-40	21 MAR 2024	
ENR 3.1-20	21 MAR 2024	ENR 5.1-9	21 MAR 2024	AD 2.WSSS-41	16 MAY 2024	
ENR 3.1-21	21 MAR 2024	ENR 5.2-1	21 MAR 2024	AD 2.WSSS-42	16 MAY 2024	
ENR 3.2-1	16 MAY 2024	ENR 5.2-2	03 JAN 2019	AD 2.WSSS-43	16 MAY 2024	
ENR 3.2-2	16 MAY 2024	ENR 5.2-3	03 JAN 2019	AD 2.WSSS-44	16 MAY 2024	
ENR 3.2-3	16 MAY 2024	ENR 5.3-1	15 JUN 2023	AD 2.WSSS-45	16 MAY 2024	
ENR 3.2-4	16 MAY 2024	ENR 5.4-1	12 NOV 2015	AD 2.WSSS-46	16 MAY 2024	
ENR 3.2-5	05 SEP 2024	ENR 5.5-1	05 SEP 2024	AD 2.WSSS-47	21 MAR 2024	
ENR 3.2-6	05 SEP 2024	ENR 5.6-1	21 MAY 2020	AD 2.WSSS-48	21 MAR 2024	
ENR 3.2-7	16 MAY 2024	ENR 5.6-2	12 NOV 2015	AD-2.WSSS-ADC-1	25 JAN 2024	
ENR 3.2-8	16 MAY 2024	ENR 6			AD-2.WSSS-ADC-2 to 2.1	05 SEP 2024
ENR 3.2-9	16 MAY 2024			AD-2.WSSS-ADC-3	05 SEP 2024	
ENR 3.2-10	16 MAY 2024	ENR 6-1	15 SEP 2016	AD-2.WSSS-AOC-1	08 SEP 2022	
ENR 3.2-11	16 MAY 2024	ERC-6-1 En-Route Chart	05 SEP 2024	AD-2.WSSS-AOC-2	05 SEP 2024	
ENR 3.2-12	16 MAY 2024	WAC-2860-Singapore-Island	21 MAR 2024	AD-2.WSSS-AOC-3	21 MAR 2024	
ENR 3.2-13	05 SEP 2024	Part 3 – AERODROMES (AD)			AD-2.WSSS-AOC-4	08 SEP 2022
ENR 3.2-14	16 MAY 2024	AD 0			AD-2.WSSS-PATC-1	10 OCT 2019
ENR 3.2-15	16 MAY 2024			AD-2.WSSS-PATC-2	11 JUL 2024	
ENR 3.2-16	16 MAY 2024			AD-2.WSSS-PATC-3	31 DEC 2020	
ENR 3.2-17	16 MAY 2024	AD 0.6-1	25 JAN 2024	AD-2.WSSS-PATC-4	31 DEC 2020	
ENR 3.2-18	16 MAY 2024	AD 0.6-2	21 MAR 2024	AD-2.WSSS-PATC-5	11 JUL 2024	
ENR 3.2-19	16 MAY 2024	AD 0.6-3	05 SEP 2024	AD-2.WSSS-SID-1 to 1.1	21 MAR 2024	
ENR 3.2-20	16 MAY 2024	AD 0.6-4	21 MAR 2024	AD-2.WSSS-SID-2 to 2.1	21 MAR 2024	
ENR 3.2-21	05 SEP 2024	AD 0.6-5	21 MAR 2024	AD-2.WSSS-SID-3 to 3.1	21 MAR 2024	
ENR 3.2-22	16 MAY 2024	AD 0.6-6	21 MAR 2024	AD-2.WSSS-SID-4 to 4.1	16 MAY 2024	
ENR 3.2-23	16 MAY 2024	AD 0.6-7	21 MAR 2024	AD-2.WSSS-SID-5 to 5.1	21 MAR 2024	
ENR 3.2-24	05 SEP 2024	AD 0.6-8	21 MAR 2024	AD-2.WSSS-SID-6 to 6.1	21 MAR 2024	
ENR 3.2-25	16 MAY 2024	AD 1			AD-2.WSSS-SID-7 to 7.1	21 MAR 2024
ENR 3.2-26	16 MAY 2024			AD-2.WSSS-SID-8 to 8.1	21 MAR 2024	
ENR 3.2-27	16 MAY 2024	AD 1.1-1	12 NOV 2015	AD-2.WSSS-SID-9 to 9.1	21 MAR 2024	
ENR 3.2-28	05 SEP 2024	AD 1.1-2	12 NOV 2015	AD-2.WSSS-SID-10 to 10.1	21 MAR 2024	
ENR 3.2-29	05 SEP 2024	AD 1.1-3	15 AUG 2019	AD-2.WSSS-SID-11 to 11.1	21 MAR 2024	
ENR 3.2-30	16 MAY 2024	AD 1.1-4	02 DEC 2021	AD-2.WSSS-SID-12 to 12.1	21 MAR 2024	
ENR 3.2-31	05 SEP 2024	AD 1.1-5	02 DEC 2021	AD-2.WSSS-SID-13 to 13.1	21 MAR 2024	
ENR 3.2-32	05 SEP 2024	AD 1.2-1	12 NOV 2015	AD-2.WSSS-SID-14 to 14.1	21 MAR 2024	
ENR 3.2-33	05 SEP 2024	AD 1.3-1	12 NOV 2015	AD-2.WSSS-SID-15 to 15.1	21 MAR 2024	
ENR 3.2-34	16 MAY 2024	AD-1.3-3	21 MAR 2024	AD-2.WSSS-SID-16 to 16.1	21 MAR 2024	
ENR 3.2-35	16 MAY 2024	AD 1.4-1	12 NOV 2015	AD-2.WSSS-SID-17 to 17.1	21 MAR 2024	
ENR 3.2-36	16 MAY 2024	AD 1.5-1	11 JUL 2024	AD-2.WSSS-SID-18 to 18.1	21 MAR 2024	
ENR 3.2-37	16 MAY 2024	AD 2			AD-2.WSSS-SID-19 to 19.1	21 MAR 2024
ENR 3.2-38	16 MAY 2024			AD-2.WSSS-SID-20 to 20.1	16 MAY 2024	
ENR 3.2-39	16 MAY 2024	AD 2.WSSS-1	31 DEC 2020	AD-2.WSSS-SID-21 to 21.1	21 MAR 2024	
ENR 3.2-40	16 MAY 2024	AD 2.WSSS-2	31 DEC 2020	AD-2.WSSS-SID-22 to 22.1	16 MAY 2024	
ENR 3.2-41	16 MAY 2024	AD 2.WSSS-3	31 DEC 2020	AD-2.WSSS-SID-23 to 23.1	21 MAR 2024	
ENR 3.2-42	16 MAY 2024	AD 2.WSSS-4	05 SEP 2024	AD-2.WSSS-SID-24 to 24.1	16 MAY 2024	
ENR 3.2-43	16 MAY 2024	AD 2.WSSS-5	11 JUL 2024	AD-2.WSSS-SID-25 to 25.1	21 MAR 2024	
ENR 3.2-44	16 MAY 2024	AD 2.WSSS-6	25 JAN 2024	AD-2.WSSS-SID-26 to 26.1	21 MAR 2024	
ENR 3.2-45	16 MAY 2024	AD 2.WSSS-7	25 JAN 2024	AD-2.WSSS-SID-27 to 27.1	21 MAR 2024	
ENR 3.2-46	16 MAY 2024	AD 2.WSSS-8	25 JAN 2024	AD-2.WSSS-SID-28 to 28.1	16 MAY 2024	
ENR 3.2-47	16 MAY 2024	AD 2.WSSS-9	25 JAN 2024	AD-2.WSSS-SID-29 to 29.1	21 MAR 2024	
ENR 3.4-1	21 MAR 2024	AD 2.WSSS-10	25 JAN 2024	AD-2.WSSS-SID-30 to 30.1	21 MAR 2024	
ENR 3.4-2	21 MAR 2024	AD 2.WSSS-11	25 JAN 2024	AD-2.WSSS-SID-31 to 31.1	21 MAR 2024	
ENR 3.4-3	16 MAY 2024	AD 2.WSSS-12	25 JAN 2024	AD-2.WSSS-SID-32 to 32.1	21 MAR 2024	
ENR-3.4-5	21 MAR 2024	AD 2.WSSS-13	25 JAN 2024	AD-2.WSSS-SID-33 to 33.1	21 MAR 2024	
ENR-3.4-7	21 JUL 2016	AD 2.WSSS-14	25 JAN 2024	AD-2.WSSS-SID-34 to 34.1	21 MAR 2024	
ENR 3.5-1	02 MAR 2017	AD 2.WSSS-15	25 JAN 2024	AD-2.WSSS-SID-35 to 35.1	11 JUL 2024	
ENR 3.5-2	02 MAR 2017	AD 2.WSSS-16	25 JAN 2024	AD-2.WSSS-SID-36 to 36.1	21 MAR 2024	
ENR-3.5-3	25 JAN 2024	AD 2.WSSS-17	05 SEP 2024	AD-2.WSSS-SID-37 to 37.1	21 MAR 2024	
ENR 3.6-1	21 MAR 2024	AD 2.WSSS-18	25 JAN 2024	AD-2.WSSS-SID-38 to 38.1	21 MAR 2024	
ENR 3.6-2	21 MAR 2024	AD 2.WSSS-19	25 JAN 2024	AD-2.WSSS-SID-39 to 39.1	21 MAR 2024	
ENR-3.6-3 to 3.1	05 SEP 2024	AD 2.WSSS-20	25 JAN 2024	AD-2.WSSS-SID-40 to 40.1	21 MAR 2024	
ENR-3.6-5 to 5.1	05 SEP 2024	AD 2.WSSS-21	11 JUL 2024	AD-2.WSSS-SID-41 to 41.1	21 MAR 2024	
ENR 4		AD 2.WSSS-22	25 JAN 2024	AD-2.WSSS-SID-42 to 42.1	21 MAR 2024	

AD-2-WSSS-SID-43 to 43.1	21 MAR 2024	AD 2.WSSL-17	05 SEP 2024
AD-2-WSSS-SID-44 to 44.1	21 MAR 2024	AD 2.WSSL-18	05 SEP 2024
AD-2-WSSS-SID-45 to 45.1	21 MAR 2024	AD 2.WSSL-19	05 SEP 2024
AD-2-WSSS-SID-46 to 46.1	21 MAR 2024	AD 2.WSSL-20	21 MAR 2024
AD-2-WSSS-SID-47 to 47.1	21 MAR 2024	AD-2-WSSL-ADC-1 to 1.1	16 MAY 2024
AD-2-WSSS-SID-48 to 48.1	21 MAR 2024	AD-2-WSSL-ADC-2	21 MAR 2024
AD-2-WSSS-SID-49 to 49.1	21 MAR 2024	AD-2-WSSL-ADC-3	03 NOV 2022
AD-2-WSSS-SID-50 to 50.1	21 MAR 2024	AD-2-WSSL-AOC-1	16 JUL 2020
AD-2-WSSS-SID-51 to 51.1	21 MAR 2024	AD-2-WSSL-AOC-2	16 JUL 2020
AD-2-WSSS-SID-52 to 52.1	21 MAR 2024	AD-2-WSSL-VAC-1	05 SEP 2024
AD-2-WSSS-SID-53 to 53.1	21 MAR 2024	AD-2-WSSL-VAC-2	05 SEP 2024
AD-2-WSSS-SID-54 to 54.1	21 MAR 2024	AD-2-WSSL-VAC-3	05 SEP 2024
AD-2-WSSS-SID-55 to 55.1	21 MAR 2024	AD-2-WSSL-VAC-4	05 SEP 2024
AD-2-WSSS-SID-56 to 56.1	21 MAR 2024	AD-2-WSSL-VDC-1 to 1.1	05 SEP 2024
AD-2-WSSS-SID-57 to 57.1	21 MAR 2024	AD-2-WSSL-VDC-2 to 2.1	05 SEP 2024
AD-2-WSSS-SID-58 to 58.1	21 MAR 2024	AD-2-WSSL-VFR-1	21 MAR 2024
AD-2-WSSS-SID-59 to 59.1	21 MAR 2024	AD-2-WSSL-IFR-1	21 MAR 2024
AD-2-WSSS-SID-60 to 60.1	21 MAR 2024	AD-2-WSSL-IFR-2	05 SEP 2024
AD-2-WSSS-SID-61 to 61.1	21 MAR 2024	AD 2.WSAP-1	16 JUL 2020
AD-2-WSSS-SID-62 to 62.1	21 MAR 2024	AD 2.WSAP-2	19 JUL 2018
AD-2-WSSS-SID-63 to 63.1	21 MAR 2024	AD 2.WSAP-3	10 OCT 2019
AD-2-WSSS-SID-64 to 64.1	21 MAR 2024	AD 2.WSAP-4	19 JUL 2018
AD-2-WSSS-STAR-1 to 1.1	21 MAR 2024	AD 2.WSAP-5	10 OCT 2019
AD-2-WSSS-STAR-2 to 2.1	21 MAR 2024	AD 2.WSAP-6	12 OCT 2017
AD-2-WSSS-STAR-3 to 3.1	21 MAR 2024	AD 2.WSAP-7	19 JUL 2018
AD-2-WSSS-STAR-4 to 4.1	21 MAR 2024	AD 2.WSAP-8	16 MAY 2024
AD-2-WSSS-STAR-5 to 5.1	21 MAR 2024	AD 2.WSAP-9	21 MAR 2024
AD-2-WSSS-STAR-6 to 6.1	21 MAR 2024	AD 2.WSAP-10	21 MAR 2024
AD-2-WSSS-STAR-7 to 7.1	21 MAR 2024	AD 2.WSAP-11	21 MAR 2024
AD-2-WSSS-STAR-8 to 8.1	21 MAR 2024	AD-2-WSAP-ADC-1	16 JUL 2020
AD-2-WSSS-STAR-9 to 9.1	16 MAY 2024	AD-2-WSAP-ADC-2	16 JUL 2020
AD-2-WSSS-STAR-10 to 10.1	16 MAY 2024	AD-2-WSAP-AOC-1	24 MAR 2022
AD-2-WSSS-STAR-11 to 11.1	21 MAR 2024	AD-2-WSAP-IAC-1	05 SEP 2024
AD-2-WSSS-STAR-12 to 12.1	21 MAR 2024	AD-2-WSAP-IAC-2	16 MAY 2024
AD-2-WSSS-STAR-13 to 13.1	21 MAR 2024	AD-2-WSAP-IAC-3	05 SEP 2024
AD-2-WSSS-STAR-14 to 14.1	21 MAR 2024	AD-2-WSAP-IAC-4	16 MAY 2024
AD-2-WSSS-STAR-15 to 15.1	21 MAR 2024	AD-2-WSAP-IAC-5	05 SEP 2024
AD-2-WSSS-STAR-16 to 16.1	21 MAR 2024	AD-2-WSAP-IAC-6	05 SEP 2024
AD-2-WSSS-STAR-17 to 17.1	21 MAR 2024	AD 2.WSAT-1	16 JUL 2020
AD-2-WSSS-STAR-18 to 18.1	21 MAR 2024	AD 2.WSAT-2	26 MAR 2020
AD-2-WSSS-STAR-19 to 19.1	21 MAR 2024	AD 2.WSAT-3	25 FEB 2021
AD-2-WSSS-IAC-1	05 SEP 2024	AD 2.WSAT-4	25 FEB 2021
AD-2-WSSS-IAC-2	05 SEP 2024	AD 2.WSAT-5	16 MAY 2024
AD-2-WSSS-IAC-3	05 SEP 2024	AD 2.WSAT-6	21 MAR 2024
AD-2-WSSS-IAC-5	05 SEP 2024	AD 2.WSAT-7	21 MAR 2024
AD-2-WSSS-IAC-6	05 SEP 2024	AD-2-WSAT-ADC-1	17 JUN 2021
AD-2-WSSS-IAC-7	05 SEP 2024	AD 2.WSAG-1	25 JAN 2024
AD-2-WSSS-IAC-9 to 9.1	05 SEP 2024	AD 2.WSAG-2	25 JAN 2024
AD-2-WSSS-IAC-10 to 10.1	05 SEP 2024	AD 2.WSAG-3	21 MAR 2024
AD-2-WSSS-IAC-11 to 11.1	05 SEP 2024	AD 2.WMKJ-1	12 NOV 2015
AD-2-WSSS-IAC-12 to 12.1	05 SEP 2024	AD 2.WIDD-1	21 MAR 2024
AD-2-WSSS-IAC-13 to 13.1	05 SEP 2024	AD 2.WIDN-1	21 MAR 2024
AD-2-WSSS-IAC-14 to 14.1	05 SEP 2024	AD 2.WIDN-2	21 MAR 2024
AD-2-WSSS-VAC-1 to 1.1	05 SEP 2024	AD 2.WIDT-1	21 MAR 2024
AD 2.WSSL-1	10 SEP 2020		
AD 2.WSSL-2	30 NOV 2023		
AD 2.WSSL-3	30 NOV 2023		
AD 2.WSSL-4	05 DEC 2019		
AD 2.WSSL-5	30 NOV 2023		
AD 2.WSSL-6	25 JAN 2024		
AD 2.WSSL-7	21 MAR 2024		
AD 2.WSSL-8	08 SEP 2022		
AD 2.WSSL-9	25 JAN 2024		
AD 2.WSSL-10	05 SEP 2024		
AD 2.WSSL-11	21 MAR 2024		
AD 2.WSSL-12	21 MAR 2024		
AD 2.WSSL-13	21 MAR 2024		
AD 2.WSSL-14	05 SEP 2024		
AD 2.WSSL-15	21 MAR 2024		
AD 2.WSSL-16	05 SEP 2024		

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GEN 1 NATIONAL REGULATIONS AND REQUIREMENTS

GEN 1.1 DESIGNATED AUTHORITIES

The authority responsible for civil aviation in Singapore is the Civil Aviation Authority of Singapore under the Ministry of Transport. The addresses of the designated authorities concerned with facilitation of international air navigation are as follows:

1 CIVIL AVIATION

Post:

CIVIL AVATION AUTHORITY OF SINGAPORE
SINGAPORE CHANGI AIRPORT, P.O. BOX 1
SINGAPORE 918141

Tel: (65) 65421122

Fax: (65) 65421231

AFS: WSSSYAYX

URL: www.caas.gov.sg

2 METEOROLOGY

Post:

DIRECTOR-GENERAL METEOROLOGICAL SERVICE SINGAPORE
Singapore Changi Airport, P.O. Box 8
SINGAPORE 918141

Tel: (65) 65457190

Fax: (65) 65457192

AFS: WSSSYMYX

URL: www.weather.gov.sg

3 CUSTOMS

Post:

SINGAPORE CUSTOMS
55 Newton Road #07-01, Revenue House
SINGAPORE 307987

Tel: (65) 63552000

Fax: (65) 62508663

URL: www.customs.gov.sg

4 IMMIGRATION

Post:

IMMIGRATION & CHECKPOINTS AUTHORITY
10 Kallang Road, #08-00 ICA Building
SINGAPORE 208718

Tel: (65) 63916100

URL: www.ica.gov.sg

5 HEALTH

Post:

MINISTRY OF HEALTH
16 College Road, College of Medicine Building
SINGAPORE 169854

Tel: (65) 63259220

URL: www.moh.gov.sg

6 ENROUTE AND AERODROME CHARGES

Post:
CIVIL AVIATION AUTHORITY OF SINGAPORE
Singapore Changi Airport P.O. Box 1
SINGAPORE 918141

Tel: (65) 65421122
Fax: (65) 65421231
AFS: WSSSYAYX

Post:
CHANGI AIRPORT GROUP (S) PTE LTD
SELETAR AIRPORT
21 Seletar Aerospace Road 1 #02-01
SINGAPORE 797405

Tel: (65)64815077 Airside Operations
Fax: (65)64831754

7 AGRICULTURE QUARANTINE

Post:
Head Office: ANIMAL & VETERINARY SERVICE
JEM Office Tower Level 9, 52 Jurong Gateway Road
SINGAPORE 608550

Email: animals_feedback@nparks.gov.sg
URL: www.nparks.gov.sg/avs

Post:
CHANGI ANIMAL AND PLANT QUARANTINE STATION
Gate C7, Airport Cargo Road Changi Airfreight Centre
SINGAPORE 918104

Tel: (65) 65457523

8 TRANSPORT SAFETY INVESTIGATION BUREAU

Post:
Director (TSIB)
MINISTRY OF TRANSPORT
c/o Changi Airport Post Office P.O. Box 1005
SINGAPORE 918155

Tel: (65) 65412797
Fax: (65) 65422394
URL: www.mot.gov.sg

GEN 1.3 ENTRY, TRANSIT AND DEPARTURE OF PASSENGERS AND CREW**1 CUSTOMS REQUIREMENTS**

1.1 The Red and Green Channel system is operated at the Airport to expedite customs clearance of arriving air passengers. All arriving passengers and crew members shall present themselves personally with their baggage and make oral declarations at the Red Channel if they have any prohibited or controlled goods or goods exceeding their duty-free concession and Goods and Services Tax (GST) import relief. If they do not have any of such goods, they may leave the Arrival Hall through the Green Channel. However, as part of our multi-layered security checks, some travellers going through the Green Channel may be subjected to further checks. Departing passengers are not subject to Customs formalities unless required to do so. Baggage may be examined in such manner as deemed necessary and it shall be the duty of the person in charge of the baggage to produce, open, unpack and repack such baggage.

1.2 **Dutiable Goods.** All dutiable goods brought into Singapore are subject to customs duty and/or excise duty and GST. There are 4 categories of dutiable goods: Intoxicating liquors; tobacco products; motor vehicles; and motor fuel. Please refer to the Singapore Customs' website for the latest list of dutiable goods and their respective duty rates. There is no customs duty on goods exported from Singapore.

1.3 **Duty-Free Allowance.** Please note that each arriving traveller is allowed to bring in a maximum of 10 litres of liquor products, subject to the payment of duty and GST. A traveller arriving with more than 10 litres of liquor products must present a valid Customs import permit for clearance at our checkpoints. Travellers are entitled to duty-free concession for liquors if they meet all the following conditions:

- Is 18 years of age and above;
- Have spent 48 hours or more outside Singapore immediately before arrival;
- Not arriving from Malaysia;
- The liquor is for personal consumption; and
- The liquor is not prohibited from import into Singapore.

Travellers will be given duty-free concession for liquors on one of the following options:

Option	Spirits	Wine	Beer
A	1 Litre	1 Litre	-
B	1 Litre	-	1 Litre
C	-	1 Litre	1 Litre
D	-	2 Litres	-
E	-	-	2 Litres

Bona-fide crew members are granted duty-free concession on 0.25 litre of spirits and 1 litre of wine or 1 litre of beer.

1.4 **GST Taxable Goods.** All goods brought into Singapore are subject to GST, at the prevailing rate of 9 percent of the goods' Cost, Insurance and Freight (CIF) value and applicable duty (for dutiable goods only). This is inclusive of all other charges, costs and expenses incidental to the sale and delivery of the goods into Singapore.

1.5 **GST Import Relief.** Travellers (excluding crew members and holders of a work permit, employment pass, student pass, dependent pass or long-term pass issued by the Singapore Government), are granted GST import relief on new articles, souvenirs, gifts and food preparations brought into Singapore. These goods must be intended for traveller's personal use or consumption and not for sale. The GST import relief amount is based on the number of hours the traveller has spent outside Singapore, as specified in the table below:

Time spent outside Singapore	Value of goods granted GST relief
48 hours and above	Up to S\$500
Less than 48 hours	Up to S\$100

There is no GST import relief and duty-free concession on intoxicating liquor and tobacco products, as well as goods imported for commercial purposes.

For more information on duty-free concession and GST import relief, please visit Singapore Customs' website.

1.6 **Declaration and Payment of Duty and/or GST.** Arriving travellers are required to declare and pay the duty and GST to bring in dutiable and taxable goods exceeding their duty-free concession and GST import relief. For convenience, you are encouraged to make an advance declaration and payment of duties and GST prior to your arrival through our Customs@SG web portal. Once tax payment is successful, the Customs@SG web portal will create an e-receipt in your mobile device and you may exit the Arrival Hall via the Green Channel. If you are stopped for checks, you can show the e-receipt stored in your mobile device as proof of payment to the officers. Please visit Singapore Customs' website for more information on the Customs@SG mobile app and web portal. Alternatively, you may proceed directly to the Customs Tax Payment Office or the Red Channel upon arrival to declare your goods. Please present supporting documents such as invoices or receipts indicating the value of your goods to facilitate declaration and payment (if necessary).

1.7 **Goods Requiring a Customs Import Permit.** A valid Customs import permit is required for clearance if travellers are carrying (but not limited to):

- More than 0.4 kilogrammes of cigarettes or other tobacco products;
- More than 10 litres of liquor products;
- More than 0.5 kilogrammes of investment precious metals for personal use;
- More than 10 litres of motor fuel;
- Goods for trade, commercial or business purposes in which the GST on which exceeds S\$300; or
- Goods clearly marked as trade samples (excluding liquors and tobacco products) the value of which exceeds S\$400

1.8 **Prohibited Goods.** The following items are NOT allowed to be imported into Singapore. Some examples of prohibited goods include (but not limited to):

- Chewing gum (except approved oral dental and medicated gum by Singapore's Health Sciences Authority)
- Chewing tobacco and imitation tobacco products (e.g. electronic cigarettes, etc)
- Nasal snuff
- Oral snuff (including snus and dipping tobacco)
- Gutkha, Khaini and Zarda
- Shisha
- Smokeless cigars, smokeless cigarillos or smokeless cigarettes
- Dissolvable tobacco or nicotine. Any product containing nicotine or tobacco that may be used topically for application, by implant or injected into any parts of the body
- Any solution or substance, of which tobacco or nicotine is a constituent, that is intended to be used with an electronic nicotine delivery system or vaporizers
- Concealed weapon, cigarette lighters of pistol or revolver shape
- Cross Bow
- Firecrackers, including tube sparklers and "pop-pop"
- Flick knife, Gravity Knife, Wasp Knife, Throwing knife
- Knuckleduster, Ninja Star, Catapult / Slingshot
- Controlled drugs and psychotropic substances
- Endangered species of wildlife and their by-products
- Firecrackers
- Obscene articles, publications, video tapes/discs and software
- Reproduction of copyright publications, video tapes, video compact discs, laser discs, records or cassettes
- Seditious and treasonable materials

It is an offence to attempt to bring prohibited goods into Singapore.

1.9 **Controlled Goods.** You are required to obtain an import permit or authorisation form from the relevant Competent Authorities before you can bring controlled goods into Singapore. Please produce the goods and the import permit or authorisation form to the checking officer at the Red Channel on your arrival. Some examples of controlled goods include (but not limited to):

- Animals and animal products (including veterinary biologics, pet food and fertilizers containing animal products), birds, ornamental fish, plants, CITES-listed animals and plants, including their parts and derivatives
- Endangered species of wildlife
- Ornamental fish
- Plants and propagatable plant parts including cuttings, seeds and bulbs with or without potting medium, organic fertilisers of plant origin, live insects and microorganisms
- Fish and seafood products
- Fruit and vegetables
- Meat and meat products
- CDs-roms and video games
- Films, videotapes, videodiscs, and laser discs
- Newspapers, books and magazines
- Pre-recorded cartridges and cassettes

- Telecommunication and radio communication equipment
- Toy walkie-talkies
- Arms and explosives
- Bulletproof clothing
- Toy guns, pistols, and revolvers
- Weapons, kris, spears and swords
- Medicines and pharmaceutical products
- Poisons
- Dangerous Cargo
- Ionising Radiation (IR) irradiating apparatus & Radioactive material (e.g. x-ray equipment)
- Non-ionising Radiation (IR) irradiating apparatus (e.g. ultraviolet sunlamps)
- Telecommunication and radio communication equipment

Please visit the Immigration & Checkpoints Authority (ICA) website for more information on controlled and prohibited goods .

2 IMMIGRATION REQUIREMENTS

2.1 All passengers are required to present themselves with their travel documents, and endorsements (if necessary).

All travellers, including Singapore Citizens, Permanent Residents, Long-Term Pass holders and foreign visitors, are required to electronically submit their pre-trip health and travel history declarations to the Immigration & Checkpoints Authority (ICA) via the SG Arrival Card (SGAC) e-Service, before arriving in Singapore. This does not apply to those transiting/transferring through Singapore without seeking immigration clearance.

All travellers seeking entry into Singapore are required to comply with Singapore's border control requirements, which can be found at [ICA | Entering, Transiting and Departing](#).

2.2 Any person entering Singapore from a place outside Singapore, or is leaving Singapore for a place outside Singapore (including aircrew entering or leaving Singapore on functional check flights) shall present to an immigration officer at an authorised airport, a valid passport or a valid travel document recognised by the Government of Singapore (in the case of an alien, a visa for Singapore where such a visa is required) with the exception of the following persons:

- a. A member of the Singapore Armed Forces travelling on duty;
- b. A member of such Visiting Forces as the Minister may determine;
- c. Any child or person who is included in the passport or other travel document of a parent of the child, or of a spouse or other relative of the person and is accompanying that parent, spouse or relative (as the case may be) when travelling to and leaving from Singapore.

2.3 Nationals of the following countries require visas for the purpose of social visits in Singapore (with exception of an aircrew who is an airline crew member that, in the course of a journey on duty from a place outside Singapore to Singapore, or from a place outside Singapore to a place outside Singapore, calls at an authorised airport):

- Afghanistan
- Algeria
- Bangladesh*
- Commonwealth of Independent States**
- Democratic People's Republic of Korea (North Korea)
- Egypt
- Georgia*
- India*
- Iran
- Iraq
- Jordan*
- Kosovo
- Lebanon
- Libya
- Mali
- Morocco*
- Nigeria*
- People's Republic of China*
- Pakistan
- Somalia
- South Sudan^
- Sudan

- Syria
- Tunisia*
- Turkmenistan*
- Ukraine*
- Yemen
- Holders of Alien's passport

Visitors holding Hong Kong Document of Identity, Macao Special Administrative Region (MSAR) Travel Permit, Palestinian Authority Passport, Refugee Travel Document** and Temporary Passport issued by United Arab Emirates will also require a visa to enter Singapore.

^ South Sudan has been recognised as a sovereign state, with AL2 visa to be imposed. Only the ordinary and official South Sudan TDs has been assessed to be recognised for entry.

* Commonwealth of Independent States (CIS): Armenia, Azerbaijan, Belarus, Kazakhstan, Kryrgyzstan, Moldova, Russia, Tajikistan, and Uzbekistan.

** Refugee Travel Documents are subjected to assessment of recognition for entry into Singapore.

Nationals of Commonwealth of Independent States (Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, and Uzbekistan), Georgia, Turkmenistan, and Ukraine may qualify for the 96-hour visa free transit facility (VFTF) provided that:

- a. the person is in transit to a third country;
- b. the person holds a valid passport, confirmed onward air-ticket, entry facilities (including visa) to the third country and have sufficient funds for the period of stay in Singapore;
- c. the person continues his journey to the third country within 96 hours visa free period granted; and
- d. the person satisfies Singapore's entry requirements.

Nationals of India and the PRC may qualify for the 96-hour VFTF provided that:

- a. the person is in transit to or from a third country via Singapore by any mode of transport and will depart via air or sea;
- b. the person holds a valid passport and confirmed onward air/ferry/cruise ticket for departure from Singapore within 96 hours;
- c. the person has a valid visa*/long-term pass (with a validity of at least 1 month from the date of entry into Singapore under the VFTF) issued by any of the following countries:
 - Australia
 - Canada
 - Germany
 - Japan
 - New Zealand
 - Switzerland
 - United Kingdom
 - United States of America

* A visa is considered valid so long as it is issued by/ good for entry into one of the eight countries listed above. Travellers with Single Journey Visas (SJV) may still be granted VFTF on the return leg of their journey (i.e. after the SJV is used and no longer valid), but:

- the person must travel directly from the country that issued the SJV, en route through Singapore, back to their home country
- the person must not have returned to their home country since they last used the SJV.

- 2.4 Visitors must satisfy the following basic entry requirements before they are allowed to enter Singapore:
- They are in possession of entry approval letters issued by the Singapore Government and passports with at least 6 months' validity with assurance of their re-entry into their countries of residence or origin;
 - They have sufficient funds to last for the intended period of stay in Singapore;
 - They hold confirmed onward/return tickets and entry facilities (including visas) to their onward destinations;
 - Short-term travellers holding a passport of travel document from a visa-required country/ region must apply for a Visa; and
 - They must fulfil all prevailing public health requirements.

The granting of social visit passes to all visitors is determined by the Immigration & Checkpoints Authority (ICA) officers at the point of entry.

3 PUBLIC HEALTH REQUIREMENTS

- 3.1 Strict compliance with the provisions of the International Health Regulations, 2005, of the World Health Organisation, and Singapore's Infectious Diseases Act is required.
- 3.2 The pilot-in-command of an aircraft landing at Airports in Singapore shall furnish the Airport Health Officer with one copy of the General Declaration form (see ICAO Annex 9 Appendix 1) and one copy of the Passenger Manifest (see ICAO Annex 9 Appendix 2) signed by the pilot-in-command.
- 3.3 Vaccination Certificate Requirements for entry into Singapore are as follows:

← A valid International Certificate of Vaccination for yellow fever is required from all travellers, including Singapore Residents, with travel history to countries with risk of yellow fever transmission (regardless of area, city or region) in the six days prior to arrival in Singapore. The certificate is valid for life, beginning from 10 days after the date of vaccination (this applies to existing and new certificates). Travellers without a valid International Certificate of Vaccination for yellow fever (e.g. unvaccinated individuals, including those who are ineligible to receive the vaccination, and travellers whose certificate has yet to become valid), are liable to be quarantined under Section 31 of the Infectious Diseases Act. For more details on public health requirements related to yellow fever, please refer to Singapore's Ministry of Health website (<https://www.moh.gov.sg/diseases-updates/yellow-fever>) and Immigration & Checkpoints Authority website (<https://www.ica.gov.sg/enter-transit-depart/entering-singapore/yellow-fever-vaccination-certificate>).

- 3.4 For more details on public health requirements related to COVID-19, please refer to <https://www.caas.gov.sg/legislation-regulations/covid-19-publications/>.

4 FLYING LICENCES AND RATINGS

4.1 VISITING PILOTS - HOLDERS OF NON-SINGAPORE PILOT LICENCES

- 4.1.1 When a holder of a non-Singapore pilot's licence wishes to fly on a Singapore registered aircraft in a private capacity in Singapore, he will be required to apply for a Certificate of Validation for his foreign licence. The Certificate of Validation, if approved, will be issued for this purpose only and for a limited period. The applicant would also be required to fulfil certain conditions. Pilots who wish to apply for a Certificate of Validation should contact the Personnel Licensing Section of the Civil Aviation Authority of Singapore (see address in paragraph 4.2.2 below)

4.2 CONVERSION OF FOREIGN LICENCE TO SINGAPORE LICENCE

- 4.2.1 Pilots holding valid licences, including an instrument rating and/or flying instructor's rating issued by ICAO Contracting States, may be considered for the conversion of their licences under the following conditions:
- The pilot must demonstrate formal prospective employment by a Singapore air operator, approved training organisation or flying club to operate on Singapore registered aircraft.
(This requirement will not be applicable for the conversion of a foreign licence to a Singapore PPL.)
 - The pilot's foreign licence and its associated ratings must be valid from the time of application to the time of issue of a Singapore licence and its associated ratings.
 - The pilot must fulfil all conversion terms as specified by CAAS within a period of 6 months preceding the issue of a Singapore licence and its associated ratings.

4.2.2 Further details on the conversion of a foreign licence can be obtained from:

Safety Policy and Planning Division
Personnel Licensing Section
Civil Aviation Authority of Singapore
Singapore Changi Airport Terminal 2
South Finger Pier Level 3
Unit No. 038-039
Singapore 819643

TEL: (65) 65412482
FAX: (65) 65434941

4.3 *PILOTS WHO HAVE ATTAINED THE AGE OF 65*

4.3.1 Any pilot who has attained his 65th birthday shall not be permitted to act as pilot-in-command or co-pilot of an aircraft engaged in scheduled or non-scheduled international commercial air transport operations within Singapore airspace.

GEN 1.4 ENTRY, TRANSIT AND DEPARTURE OF CARGO

1 CUSTOMS REQUIREMENTS CONCERNING CARGO AND OTHER ARTICLES

- 1.1 The following supporting documents: Airway Bill, Commercial Invoice, Packing List together with Customs Permits [for all goods including controlled goods, dutiable goods and goods subject to Goods and Services Tax (GST)] are to be produced if they are required for checks by Immigration and Checkpoints Authority officers at the checkpoint.
- 1.2 The following are applicable to the Free Trade Zone (FTZ):
- a. Transshipment within the same FTZ (In Through Airway Bill cases), no Customs documentation is required if the items are not controlled by the Competent Authorities (CAs);
 - b. Transshipment of controlled goods within the same FTZ (In Through Airway Bill cases), a transshipment (Through transshipment within the same FTZ) permit is required;
 - c. Import for re-export within the same FTZ (In Non-Through Airway Bill cases) without storage, an import for re-export permit is required for the importation and exportation of the goods; and
 - d. For the temporary storage of imported goods (excluding liquors and tobacco) in the Free Trade Zones, pending re-export to another destination or pending local release, an import permit is required. Subsequently for exportation, an export permit is required to be taken up.
- 1.3 Under the Strategic Goods (Control) Act (SGCA), goods in transshipment or transit are subject to controls under the full control list. No clearance documents are required for strategic goods in transshipment or transit which are taken into a FTZ immediately after they have been brought into Singapore and stay in the FTZ for not more than 45-days (for sea) / 21-days (for air) except for certain categories of goods. For transshipment and transit of certain sensitive strategic goods (listed under the Fourth and Fifth Schedule of the SGCR) and goods that are intended or likely to be used for nuclear, chemical or biological weapon purposes, or missiles capable of delivering such weapons (i.e. catch-all for WMD purposes), a strategic good permit is still required. Depending on the conditions stated in the permits, these goods may be required to be presented for Customs clearance at the checkpoint
- 1.4 For the exportation of dutiable goods from a Licensed Warehouse, or non-dutiable goods from a Zero-GST Warehouse, Customs outward permits and goods are to be presented for checkpoint inspection and clearance.
- 1.5 For the importation and exportation of controlled goods, depending on the Competent Authorities' (CA) requirements, these goods may be required to be presented for Customs clearance at the checkpoint. For more information on the list of Controlled and Prohibited Goods for the importation and exportation of goods, please visit the respective pages on the Singapore Customs website. You may also refer to the Strategic Goods and the United Nations Security Council Sanctions webpages for more information on the relevant topics.

2 REQUIREMENTS FOR ANIMALS, BIRDS, PLANTS, VETERINARY BIOLOGICS, ORNAMENTAL FISH, CITES AND THEIR PRODUCTS

- 2.1 Prior permission of the Singapore Food Agency (SFA) is required for import, export or transshipment of:
- a. Animals, birds for the purpose of rearing and slaughter for human consumption, animal feed for food producing animals, eggs and egg products, meat and meat products (including canned or processed meat).
 - b. Fish and aquatic animals (for rearing as food and for human consumption, fisheries products (in all forms).
 - c. Fruits and vegetables.
 - d. Processed food products and food contact articles.
- 2.2 Prior permission of the Animal & Veterinary Service (AVS) is required for import, export or transshipment of:
- a. Animals and animal products (including veterinary biologics, pet food and fertilizers containing animal products), birds, plants, ornamental fish.
- ← 2.3 Prior permission of the Animal & Veterinary Service (AVS) is also required for export of:
- ← a. Animals and birds
 - ← b. Ornamental fish

- 2.4 Prior permission of the National Parks Board (NParks) is required for the import of:
- a. Plants and propagatable plant parts including cuttings, seeds and bulbs with or without potting medium, organic fertilisers of plant origin, live insects and microorganisms.

2.5 In the case of live animals, prior permission is also required for animals in transit. No prior permission required for transshipment of plants and plant products.

← 2.6 Prior permission of the Animal and Veterinary Service (AVS) is required for the import, export and re-export of all species of animals and plants, including their parts or derivatives protected under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

3 REQUIREMENTS RELATING TO ARMS AND EXPLOSIVES

3.1 Arms, explosives and explosives precursors are items regulated under the Arms & Explosives Act, Chapter 13. Under the said Act, any import or export of any of these items will require a licence from the Police Licensing & Regulatory Department (PLRD). For avoidance of any doubt, any transshipment (i.e. import of goods into Singapore on one conveyance and moved to another conveyance for the sole purpose of export to any place outside of Singapore) would similarly require an import and export licence respectively.

3.2 Application for the necessary licences can be submitted via Singapore Custom's TradeNet website (for traders) or GoBusiness website (<https://www.gobusiness.gov.sg>). More information can be obtained from PLRD's website at <https://www.police.gov.sg/licence> or email: spf_licensing_feedback@spf.gov.sg.

4 REQUIREMENTS FOR THE CARRIAGE OF DANGEROUS GOODS IN AIRCRAFT

4.1 DANGEROUS GOODS

4.1.1 Regulation 5(1) of Air Navigation (92-Carriage of Dangerous Goods) Regulations 2022 states that an operator of an aircraft must not load or carry any dangerous goods as cargo on its aircraft unless the operator of the aircraft has been granted a dangerous permit by CAAS and in accordance with any conditions which CAAS may impose. This requirement applies to all aircraft operated for the purpose of commercial air transport flying to or from the Republic of Singapore, and without an authorisation granted under regulation 14 of Air Navigation (121-Commercial Air Transport by Large Aeroplanes) Regulations 2018 or regulation 14 of Air Navigation (135-Commercial Air Transport by Helicopters and Small Aeroplanes) Regulations 2018.

4.1.2 Where an operator of an aircraft has diplomatic clearance from the Government of Singapore to land the aircraft in Singapore, the operator is not required, for the period of time that the diplomatic clearance is valid, to obtain a dangerous goods permit.

4.1.3 A dangerous goods permit, if granted, is subject to compliance with Annex 18 to the Convention on International Civil Aviation and the latest edition of the ICAO Technical Instructions relating to the Safe Transport of Dangerous Goods by Air.

4.1.4 Operators of aircraft that wish to carry dangerous goods as cargo should submit their online application for a dangerous goods permit via the Enterprise Safety Oversight Management System (eSOMS) at <https://esoms.caas.gov.sg/esoms/landingpage.html>. Applications should be submitted at least 7 working days prior to the intended date of carriage of the dangerous goods cargo. New applicants may write to Dangerous Goods Section, Flight Standards Division, CAAS (email: CAAS_dangerousgoods@caas.gov.sg), to request for an eSOMS account.

5 REPORTING OF DANGEROUS GOODS ACCIDENT/INCIDENT

5.1 Regulation 24(1) of Air Navigation (92-Carriage of Dangerous Goods) Regulations 2022 requires the operator of an aircraft to report to the Director-General of Civil Aviation:

- a. any dangerous goods accident or incident involving any aircraft that lands in or departs from Singapore; or
- b. the finding of undeclared or misdeclared dangerous goods in cargo, mail or passenger's baggage that originate from or destined for Singapore, or are in transit in Singapore.

Operators are required to submit this report to CAAS in the quickest available means within 24 hours of the occurrence coming to the knowledge of the person making the report.

-
- 5.2 All dangerous goods occurrence reports will be administered through the CAAS' reporting system known as the Singapore Aviation Accident / Incident Reporting System (SAIRS). Such reports are to be made using CAAS AW139 form, also known as the SAIRS Form. For the reporting of dangerous goods occurrences, only Part 4 of CAAS AW139 form needs to be completed. The form is available on the CAAS website and can be downloaded at the following link:
<https://www.caas.gov.sg/operations-safety/safety-reporting/singapore-aviation-accident-incident-reporting-system>
- 5.3 All written reports using Part 4 of CAAS AW139 form should be made by the air operator or it's agent and submitted via email to caas_dfirs@caas.gov.sg.
- 5.4 For more information on the reporting of dangerous goods occurrences, air operators may refer to the CAAS Advisory Circular, **AC 92-3-2 – Reporting of Dangerous Goods Occurrences**, in the following link:
[https://www.caas.gov.sg/docs/default-source/docs---srg/ac-92-3-2-\(rev-0\)--reporting-of-dangerous-goods-occurrences.pdf](https://www.caas.gov.sg/docs/default-source/docs---srg/ac-92-3-2-(rev-0)--reporting-of-dangerous-goods-occurrences.pdf)

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k. Visual Approach Chart - ICAO

This chart is produced for aerodromes used by civil aviation where:

- * only limited navigation facilities are available; or
- * radio communication facilities are not available; or
- * no adequate aeronautical charts of the aerodrome and its surroundings at 1:500 000 or greater scale are available; or
- * visual approach procedures have been established

The aeronautical data shown include information on aerodromes obstacles, designated airspace, visual approach information, radio navigation aids and communication facilities, as appropriate.

3.2.5 LIST OF AERONAUTICAL CHARTS AVAILABLE

GEN 3.2.5 LIST OF AERONAUTICAL CHARTS AVAILABLE					
<i>Title of Chart Series</i>	<i>Scale</i>	<i>Name and/or number</i>		<i>Price (\$)</i>	<i>Date</i>
World Aeronautical Chart ICAO (WAC)	1:1 000 000	WAC 2860		In AIP	21 MAR 24
← Enroute Chart ICAO (ENRC)		ERC 6-1		In AIP	05 SEP 24
Instrument Approach Chart ICAO (IAC)		Singapore Changi			
↑	1:400 000	RWY 02L - ICW ILS/DME	AD-2-WSSS-IAC-1	In AIP	05 SEP 24
↑	1:400 000	RWY 02C - ICE ILS/DME	AD-2-WSSS-IAC-2	In AIP	05 SEP 24
↑	1:400 000	RWY 02R - ICX ILS/DME	AD-2-WSSS-IAC-3	In AIP	05 SEP 24
↑	1:400 000	RWY 20R - ICH ILS/DME	AD-2-WSSS-IAC-5	In AIP	05 SEP 24
↑	1:400 000	RWY 20C - ICC ILS/DME	AD-2-WSSS-IAC-6	In AIP	05 SEP 24
↑	1:400 000	RWY 20C - VTK DVOR/DME	AD-2-WSSS-IAC-7	In AIP	05 SEP 24
↑	1:400 000	RWY 02L - RNP	AD-2-WSSS-IAC-9	In AIP	05 SEP 24
↑	1:400 000	RWY 02C - RNP	AD-2-WSSS-IAC-10	In AIP	05 SEP 24
↑	1:400 000	RWY 20R - RNP	AD-2-WSSS-IAC-11	In AIP	05 SEP 24
↑	1:400 000	RWY 20C - RNP	AD-2-WSSS-IAC-12	In AIP	05 SEP 24
↑	1:400 000	RWY 02R - RNP	AD-2-WSSS-IAC-13	In AIP	05 SEP 24
↑	1:400 000	RWY 20L - RNP	AD-2-WSSS-IAC-14	In AIP	05 SEP 24
		Paya Lebar			
←	1:400 000	RWY 20 - PU DVOR/DME	AD-2-WSAP-IAC-1	In AIP	05 SEP 24
	1:400 000	RWY 02 - PU DVOR/DME	AD-2-WSAP-IAC-2	In AIP	16 MAY 24
←	1:400 000	RWY 20 - IPS ILS/DME	AD-2-WSAP-IAC-3	In AIP	05 SEP 24
	1:400 000	RWY 02 - IPN ILS/DME	AD-2-WSAP-IAC-4	In AIP	16 MAY 24
←	1:400 000	RWY 02 - RNP	AD-2-WSAP-IAC-5	In AIP	05 SEP 24
←	1:400 000	RWY 20 - RNP	AD-2-WSAP-IAC-6	In AIP	05 SEP 24
←	1:400 000	Singapore Changi	AD-2-WSSS-VAC-1	In AIP	05 SEP 24
		Seletar			
←	1:100 000	RWY 03	AD-2-WSSL-VAC-1	In AIP	05 SEP 24
←	1:100 000	RWY 21	AD-2-WSSL-VAC-2	In AIP	05 SEP 24
←	1:100 000	RWY 03	AD-2-WSSL-VAC-3	In AIP	05 SEP 24
←	1:100 000	RWY 21	AD-2-WSSL-VAC-4	In AIP	05 SEP 24
Visual Departure Chart		Seletar			
←	1:100 000	RWY 03	AD-2-WSSL-VDC-1	In AIP	05 SEP 24
←	1:100 000	RWY 21	AD-2-WSSL-VDC-2	In AIP	05 SEP 24
←		Singapore Changi			
		Seletar			
		Paya Lebar			
			AD-2-WSSS-ADC-2	In AIP	05 SEP 24
			AD-2-WSSL-ADC-1	In AIP	16 MAY 24
			AD-2-WSAP-ADC-1	In AIP	16 JUL 20
Aerodrome Obstacle Chart ICAO TYPE A (AOC)		Singapore Changi			
←	1:10 000	RWY 20R/02L	AD-2-WSSS-AOC-1	In AIP	08 SEP 22
	1:10 000	RWY 20C/02C	AD-2-WSSS-AOC-2	In AIP	05 SEP 24
	1:10 000	RWY 02R/20L	AD-2-WSSS-AOC-4	In AIP	08 SEP 22
		Seletar			
	1:10 000	RWY 03/21	AD-2-WSSL-AOC-1	In AIP	16 JUL 20
		Paya Lebar			
	1:20 000	RWY 20/02	AD-2-WSAP-AOC-1	In AIP	24 MAR 22
Aerodrome Obstacle Chart ICAO TYPE B (AOC)		Singapore Changi			
	1:20 000	RWY 02L/20R, 02C/20C and RWY 02R/20L	AD-2-WSSS-AOC-3	In AIP	21 MAR 24
		Seletar			
	1:20 000	RWY 03/21	AD-2-WSSL-AOC-2	In AIP	16 JUL 20

GEN 3.3 AIR TRAFFIC SERVICES

3.3.1 RESPONSIBLE SERVICE

- 1.1 The Director of the Air Traffic Services Division of the Civil Aviation Authority of Singapore (CAAS) acting under the authority of the Director-General of Civil Aviation is the authority responsible for the overall administration of air traffic services within the Singapore FIR.

Post: Director (Air Traffic Services)
Air Traffic Services Division
Civil Aviation Authority of Singapore
Singapore Changi Airport
P. O. Box 1, Singapore 918141

Tel: (65) 65412669
Fax: (65) 6441 0221
AFS: WSJCZQZX

- 1.2 The services are provided in accordance with the provisions contained in the following ICAO documents:
Annex 2 – Rules of the Air
Annex 11 – Air Traffic Services
Doc 4444 – Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM)
Doc 8168 – Procedures for Air Navigation Services - Aircraft Operations (PANS-OPS)
Doc 7030 – Regional Supplementary Procedures

- 1.3 Differences to these provisions are detailed in subsection GEN 1.7.

3.3.2 AREA OF RESPONSIBILITY

- 2.1 Air traffic services are provided for the entire territory of Singapore, including its territorial waters as well as the airspace over the high seas within the Singapore FIR.
- 2.2 In some cases, in accordance with the regional air navigation agreement, air traffic services are provided, under the delegated authority, in the airspace within another bordering FIR. Details of such services are provided in section ENR 2.

3.3.3 TYPES OF SERVICES

- 3.1 The following types of services are provided:
- Flight Information Service (FIS) and Alerting Service (ALRS);
 - Area Control (ACC); and
 - Radar
- 3.2 With the exception of services provided at military air bases, the following types of services are provided at aerodromes:
- Aerodrome Control (TWR);
 - Aerodrome Flight Information Service (AFIS); and
 - Automatic Terminal Information Service (ATIS) at certain aerodromes
- 3.3 Air Traffic Control is exercised:
- a. on airways covering the main ATS routes;
 - b. within the Singapore/Johor Airspace Complex and in control zones at controlled aerodromes equipped with approach and/or landing aids.
- 3.4 Flight information service and alerting service within the Singapore FIR and air traffic control services in control areas are provided by one centre (ACC Singapore). There is no distinction between upper and lower controlled airspace. The axis of each airway is constituted by a line connecting reference points identified normally by radio navigational facilities.
- 3.5 Air traffic control, flight information and alerting services are provided by:
- a. ACC Singapore along the airways including those parts of the airways traversing the Singapore/Johor Airspace Complex;
 - b. the relevant aerodrome control tower in coordination with ACC Singapore as necessary, for arriving and departing aircraft.

- 3.6 Radar service is an integral part of the ATS system. A description of radar services and procedures is provided in subsection ENR 1.6. Additional procedures applicable within the Singapore/Johor Airspace Complex are contained in sub-section ENR 1.1.
- 3.7 The description of the airspace designated for air traffic services purpose is found in several tables, all forming part of sub-section ENR 2.1.
- 3.8 In general, the air traffic rules and procedures in force and the organisation of air traffic services are in conformity with ICAO Standards, Recommended Practices and Procedures. The regional supplementary procedures and altimeter setting procedures are set out in full. Differences between the national and international rules and procedures are given in sub-section GEN 1.7.
- 3.9 A few prohibited areas, restricted areas and danger areas are established within the Singapore/Johor Airspace Complex. These areas are shown in sub-section ENR 5.1. Activation of areas subject to intermittent activity is notified well in advance by NOTAM, giving reference to the area only by its identification.
- 3.10 4D/15 service is provided to the following category of aircraft:
 - a. Aircraft operating within areas of Singapore FIR where radar services is provided by ATC;
 - b. ADS-B equipped aircraft operating in ADS-B airspace; and
 - c. ADS-C equipped aircraft logged on to WSJC on routes providing ADS/CPDLC service.

3.3.4 COORDINATION BETWEEN THE OPERATOR AND ATS

- 4.1 Coordination between the operator and air traffic services is effected in accordance with Chapter 2, paragraph 2.17 of ICAO Annex 11 - Air Traffic Services and Chapter 11, paragraphs 11.2.1.1.2, 11.2.1.1.4 and 11.2.1.1.5 ICAO Doc 4444 - Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM).

3.3.5 MINIMUM FLIGHT ALTITUDE

- 5.1 The minimum flight altitudes on the ATS routes listed in section ENR 3, have been determined to ensure at least 1,000ft (300m) vertical clearance above the highest known obstacle within the lateral limits of the route within Singapore FIR and the adjacent areas of adjoining FIRs.

3.3.6 ATS UNITS ADDRESS LIST

<i>Unit Name</i>	<i>Postal Address</i>	<i>Telephone Nr</i>	<i>Telefax Nr</i>	<i>Telex Nr</i>	<i>AFS Address</i>
1	2	3	4	5	6
SINGAPORE ACC / APP	Singapore Air Traffic Control Centre (SATCC) 60, Biggin Hill Road Singapore 509950	(65) 65412668 (ACC) (65) 65227002 (APP)	(65) 65457526 (ACC) (65) 65461790 (APP)	-	WSJCZQZX
SINGAPORE TOWER	Singapore Changi Control Tower Civil Aviation Authority of Singapore P.O Box 1, Singapore Changi Airport Singapore 918141	(65) 65956057 (65) 64227633	(65) 65459568 (65) 65456224	-	Nil
SELETAR TOWER	Seletar Control Tower Civil Aviation Authority of Singapore 60, Seletar Aerospace View Singapore 797561	(65) 64812893	(65) 64813510	-	WSSLZTZX

4.4	QUADRANTAL CRUISING LEVELS FOR FLIGHTS BELOW FL200 OPERATING IN UNCONTROLLED AIRSPACE PART OF AIRSPACE WITHIN THE JAKARTA FIR WHERE ATS IS PROVIDED BY SINGAPORE (SEE ENR 2.1) BETWEEN PANGKALPINANG TMA AND PEKANBARU TMA	ENR 1.7-4
4.5	TRANSIT PROCEDURES	ENR 1.7-4
4.6	CHANGING LEVELS	ENR 1.7-5
4.7	UNIDIRECTIONAL ATS ROUTES LEVEL ASSIGNMENTS - SINGAPORE/JAKARTA SECTOR	ENR 1.7-5
4.8	POSITION REPORTS	ENR 1.7-5
4.9	HOLDING	ENR 1.7-6
4.10	FLIGHT IN CONTROLLED AIRSPACES	ENR 1.7-7
4.11	TRANSFER OF COMMUNICATIONS	ENR 1.7-7
4.12	ALERTING SERVICE	ENR 1.7-7
ENR 1.8	REGIONAL SUPPLEMENTARY PROCEDURES	ENR 1.8-1
1	RVSM PROCEDURES IN THE SINGAPORE FIR AND AIRSPACE WHERE ATS IS PROVIDED BY SINGAPORE (SEE ENR 2.1)	ENR 1.8-1
1.1	IMPLEMENTATION OF FLOS (FLIGHT LEVEL ORIENTATION SCHEME) AND FLAS (FLIGHT LEVEL ALLOCATION SCHEME) IN THE WESTERN PACIFIC/SOUTH CHINA SEA AREA	ENR 1.8-1
1.2	RVSM OPERATIONAL APPROVAL AND MONITORING	ENR 1.8-1
1.3	ACAS II AND TRANSPONDER EQUIPAGE	ENR 1.8-1
1.4	IN-FLIGHT PROCEDURES WITHIN RVSM AIRSPACE	ENR 1.8-2
1.5	SPECIAL PROCEDURES FOR IN-FLIGHT CONTINGENCIES IN OCEANIC AIRSPACE	ENR 1.8-2
1.6	PROCEDURES TO MITIGATE WAKE TURBULENCE ENCOUNTERS AND DISTRACTING AIRCRAFT SYSTEM ALERTS IN THE OCEANIC AIRSPACE OF SINGAPORE FIR	ENR 1.8-4
1.7	FLIGHT PLANNING REQUIREMENTS	ENR 1.8-5
1.8	PROCEDURES FOR OPERATION OF NON-RVSM COMPLIANT AIRCRAFT IN RVSM AIRSPACE	ENR 1.8-5
1.9	DELIVERY FLIGHTS FOR AIRCRAFT THAT ARE RVSM COMPLIANT ON DELIVERY	ENR 1.8-5
1.10	PROCEDURES FOR SUSPENSION OF RVSM	ENR 1.8-5
1.11	GUIDANCE FOR PILOTS AND CONTROLLERS FOR ACTIONS IN THE EVENT OF AIRCRAFT SYSTEM MALFUNCTION OR TURBULENCE GREATER THAN MODERATE	ENR 1.8-6
1.12	PROCEDURES FOR AIR-GROUND COMMUNICATION FAILURE	ENR 1.8-6
2	MACH NUMBER TECHNIQUE (MNT) AND AREA NAVIGATION (RNAV)	ENR 1.8-12
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2.2	MACH NUMBER IN A FLIGHT PLAN	ENR 1.8-12
2.3	ATC CLEARANCE	ENR 1.8-12
2.4	MAINTENANCE/CHANGE OF MACH NUMBER	ENR 1.8-12
2.5	LONGITUDINAL SEPARATION ON ATS ROUTES M758 AND M761	ENR 1.8-13
2.6	LONGITUDINAL SEPARATION ON ATS ROUTES A464, A576, B338, B469, B470, G579, G580, L625, L642, L644, L649, L762, M630, M635, M646, M751, M753, M758, M761, M767, M768, M771, M772, M774, N502, N875, N884, N891, N892, P501, R469, T21, T22, T23, T24, T25, W22, W24 AND W26	ENR 1.8-13
3	PERFORMANCE-BASED NAVIGATION ON RNAV ROUTES WITHIN SINGAPORE FIR AND AIRSPACE WHERE ATS IS PROVIDED BY SINGAPORE (SEE ENR 2.1)	ENR 1.8-15
3.1	INTRODUCTION	ENR 1.8-15
3.2	OPERATIONS BY AIRCRAFT NOT MEETING RNP 10	ENR 1.8-15
3.3	SAFETY ASSESSMENT CRITERIA	ENR 1.8-15
3.4	MONITORING OF AIRCRAFT NAVIGATION PERFORMANCE	ENR 1.8-16
3.5	SEPARATION MINIMA	ENR 1.8-16
3.6	OPERATORS' PROCEDURES	ENR 1.8-16

3.7	CONTINGENCY PROCEDURES (including WEATHER DEVIATION)	ENR 1.8-16
4	NO-PRE-DEPARTURE CO-ORDINATION (NO PDC) PROCEDURES	ENR 1.8-17
4.1	INTRODUCTION	ENR 1.8-17
4.2	NO PDC FLIGHT LEVEL ALLOCATION	ENR 1.8-17
5	STRATEGIC LATERAL OFFSET PROCEDURES	ENR 1.8-18
5.1	INTRODUCTION	ENR 1.8-18
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6	WEATHER DEVIATION PROCEDURES IN THE SINGAPORE FIR AND AIRSPACE WHERE ATS IS PROVIDED BY SINGAPORE (SEE ENR 2.1)	ENR 1.8-19
6.1	GENERAL	ENR 1.8-19
6.2	OBTAINING ATC PRIORITY WHEN WEATHER DEVIATION IS REQUIRED	ENR 1.8-19
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7.8	PILOT AND OPERATOR PROCEDURES	ENR 1.8-22
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4	SINGAPORE ATFMU CONTACT INFORMATION AND WEB CONFERENCE	ENR 1.9-2
5	BAY OF BENGAL COOPERATIVE ATFM (BOBCAT)	ENR 1.9-2
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5.8	COORDINATION BETWEEN AIRCRAFT OPERATOR / PILOT-IN-COMMAND, ANSPs AND BANGKOK ATFMU	ENR 1.9-4
5.9	BASIC COMPUTER REQUIREMENT	ENR 1.9-5
5.10	ATFM USERS HANDBOOK	ENR 1.9-5
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3	HORSBURGH LIGHTHOUSE	ENR 3.5-2
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*Note: The following sections in this chapter are intentionally left blank:
ENR 0.1, ENR 0.2, ENR 0.3, ENR 0.4, ENR 0.5.*

ENR 1.3 INSTRUMENT FLIGHT RULES

1 GENERAL

1.1 In instrument meteorological conditions pilots shall operate in accordance with the instrument flight rules except that within a control zone, a special VFR flight may be authorised.

2 APPLICABLE INSTRUMENT FLIGHT RULES

2.1 Flights shall be conducted in accordance with the Instrument Flight Rules (even when not operating in instrument meteorological conditions) when operated:

- a. More than 185km (100NM) seaward from the shoreline within controlled airspace; or
- b. During the hours between sunset and sunrise; or
- c. Above FL200.

3 DIRECT ROUTING OPERATIONS (DRO) – GENERAL PROCEDURES

3.1 APPLICABLE ROUTES AND FLIGHT PLANNING PROCEDURES

← 3.1.1 Direct routes are available on specified segments of ATS routes. Flights operating at FL290 to FL460 (both inclusive) should flight plan using the direct routes listed in the table below where applicable:

Flight planning on ATS routes	Flight planning for DRO (24-hours)	Remarks	Reduction in distance flown (NM)
VMR L642 ENREP M753 IPRIX	VMR L642 EGOLO DCT IPRIX	Applicable to northbound flights	1.1
IPRIX M753 ENREP L642 VMR	IPRIX DCT EGOLO L642 VMR	Applicable to southbound flights	1.1
PARDI G579 SJ B469 PU	PARDI DCT PU	Applicable to flights operating at FL290 to FL600 (both inclusive)	1.9
DUDIS L644 LIGVU	DUDIS DCT LIGVU	NIL	2.2
MELAS N892 MABAL	MELAS DCT MABAL	Applicable to Changi arrivals joining MABAL STAR and flights on ATS route N892	2.3
ESPOB L642 EGOLO	ESPOB DCT EGOLO	NIL	4.6
ESPOB Q801 ESBUM Q802 ELALO	ESPOB DCT ELALO	Applicable to Changi arrivals joining ELALO STAR	5.4

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ENR 1.5 HOLDING, APPROACH AND DEPARTURE PROCEDURES

1.5.1 GENERAL

1.1 The arrival, holding, approach and departure procedures in use throughout the Singapore FIR and airspace within the Jakarta FIR where ATS is provided by Singapore (see ENR 2.1) are developed in accordance with the criteria contained in ICAO DOC 8168-OPS/611: Procedures for Air Navigation Services - Operations (PANS-OPS).

1.1.1 To ensure conformity with associated procedures, this section should be read in conjunction with section ENR 3.6.

1.1.2 An aircraft approaching an aerodrome under IFR for the purpose of making a landing shall conform to the holding and instrument approach procedures for the radio navigational aid employed as prescribed in the appropriate Instrument Approach Charts in WSSS AD 2.24.

1.1.3 Pilots will be expected to know the correct holding, approach and departure procedures.

Note: Due to military operations above, below and adjacent to controlled airspace within the Singapore/Johor Airspace Complex, pilots unable to remain within 500ft of the vertical limits, or within the lateral limits of the controlled airspace are required to advise ATC immediately.

1.2 STANDARD INSTRUMENT DEPARTURE (SID) AND STANDARD INSTRUMENT ARRIVAL (STAR)

Pilots departing from and landing at Singapore Changi Airport should refer to the procedure charts in WSSS AD 2.24.

1.5.2 ARRIVING FLIGHTS

2.1 INSTRUMENT APPROACH PROCEDURES

2.1.1 Pilots making instrument approaches to Singapore Changi Airport should refer to the procedures in WSSS AD 2.24.

2.2 CATEGORY I ILS APPROACHES

2.2.1 Category I ILS approaches are generally available on RWY 02L/20R, RWY 02C/20C and RWY 02R at Singapore Changi Airport. Pilots making Category I ILS approaches to Singapore Changi Airport should refer to the procedures in WSSS AD 2.24.

2.3 CATEGORY II ILS APPROACHES

(refer to WSSS AD 2-22 for details)

2.4 VISUAL APPROACH PROCEDURES

2.4.1 An IFR flight operating into Singapore Changi Airport may be cleared for a visual approach subject to the following conditions:

- a. the pilot has the aerodrome in sight and can conduct his approach with visual reference to terrain;
- b. the flight will not cause delay to other traffic;
- c. there is no conflicting tall vessel movement;
- d. the cloud ceiling at the aerodrome is 4,000ft or more for landing on RWY 20 and 3,000ft or more for landing on RWY 02; and
- e. the visibility at the aerodrome is 5km or more.

2.4.2 Notwithstanding paragraphs 2.4.1(d) and 2.4.1(e), if the pilot reports that he has the aerodrome in sight and can conduct his approach with visual reference to terrain, the flight may be cleared for a visual approach.

2.4.3 Pilots may expect radar vectoring for separation and sequencing with other traffic prior to being cleared for a visual approach.

2.5 VESSEL MOVEMENT AFFECTING INSTRUMENT APPROACHES ON RUNWAY 02 AND 20

2.5.1 There are possible tall vessel movements in waters around Singapore Changi Airport. As these mobile vessels vary in height and location, they are only indicated as "possible vessel" obstacles in the instrument approach charts.

2.5.2 Information on the heights of these tall vessels are relayed to ATC by the Maritime and Port Authority of Singapore. ATC will advise arriving aircraft of any restrictions on the types of instrument approaches and landing runway.

1.5.3 DEPARTING FLIGHTS

3.1 INTRODUCTION

- a. The Instrument Departure Procedures are only applicable for aircraft with all engines operating. It remains the responsibility of the operator to develop contingency procedures for the individual type of aeroplane and to conduct the necessary examination of obstacles throughout the areas concerned in relation to the certificated performance of the individual aeroplane type. It is also the responsibility of the operator to ensure that contingency procedures comply fully with the aeroplane performance requirements of ICAO Annex 6.
- b. The specific routes to be followed are depicted in SID charts AD-2-WSSS-SID-1 to AD-2-WSSS-SID-64. Altitude restrictions at fixes and/or DME specify ATC/airspace requirements.
- c. Minimum climb gradient specifies obstacle clearance requirements as well as for the purpose of air traffic management.
- d. If the departing aircraft is unable to comply with the minimum climb gradient required, the pilot-in-command shall inform ATC. Delays can be expected.

3.2 RUNWAY 02L

- a. Except for paragraph 3.2b, departing aircraft on Runway 02L, regardless whether on SID or vectors, shall be on a minimum climb gradient of 5% until reaching or passing 2500ft, thereafter the minimum climb gradient shall be 3.3%.
- b. ATC will inform pilots of departing aircraft when ATC receives information on vessels with height above 35m AMSL. Upon receipt of such information, the pilot-in-command shall calculate the climb gradient in accordance with paragraph 3.6.
- c. If the departing aircraft is unable to comply with the minimum climb gradient as stated in paragraph 3.2a, the pilot-in-command shall inform ATC before reaching the holding point for departure. Delays can be expected.

3.3 RUNWAY 02C

- a. Except for paragraph 3.3b, departing aircraft on Runway 02C, regardless whether on SID or vectors, shall be on a minimum climb gradient of 5% until reaching or passing 2500ft, thereafter the minimum climb gradient shall be 3.3%.
- b. ATC will inform pilots of departing aircraft when ATC receives information on vessels with height above 70m AMSL. Upon receipt of such information, the pilot-in-command shall calculate the climb gradient in accordance with paragraph 3.6.
- c. If the departing aircraft is unable to comply with the minimum climb gradient as stated in paragraph 3.3a, the pilot-in-command shall inform ATC before reaching the holding point for departure. Delays can be expected.

3.4 RUNWAY 02R

- ← a. Except for paragraph 3.4b, departing aircraft on Runway 02R, regardless whether on SID or vectors, shall be on a minimum climb gradient of 5% until reaching or passing 2,500ft, thereafter the minimum climb gradient shall be 3.3%.
- ← b. ATC will inform pilots of departing aircraft when ATC receives information on vessels with height above 65m AMSL. Upon receipt of such information, the pilot-in-command shall calculate the climb gradient in accordance with paragraph 3.6.
- ← c. If the departing aircraft is unable to comply with the minimum climb gradient as stated in paragraph 3.4a, the pilot-in-command shall inform ATC before reaching the holding point for departure. Delays can be expected.

3.5 RUNWAYS 20L, 20C AND 20R

- 3.5.1 All aircraft departures on Runway 20C, regardless of on SID or vectors, shall be on a minimum climb gradient of 7% until reaching or passing 2,500ft. Thereafter, the minimum climb gradient shall be 3.3%.
- 3.5.2 All aircraft departures on Runway 20R, regardless of on SID or vectors, shall be on a minimum climb gradient of 6% until reaching or passing 2,500ft. Thereafter, the minimum climb gradient shall be 3.3%.
- 3.5.3 All aircraft departures on Runway 20L, regardless of on SID or vectors, shall be on a minimum climb gradient of 9% until reaching or passing 2,500ft. Thereafter, the minimum climb gradient shall be 3.3%.
- 3.5.4 The minimum climb gradient restrictions stated above for Runway 20C/20R/20L are for the purpose of air traffic management. If the climb gradient restriction cannot be complied with, the pilot-in-command of an aircraft departure shall inform ATC during the time when the aircraft commences taxiing to the holding point for departure. Delays can be expected as coordination is required.

(Please also refer to charts AD-2-WSSS-SID-1 to AD-2-WSSS-SID-64: Standard Instrument Departures for Runway 20L, Runway 20C and Runway 20R).

3.6 DETERMINATION OF CLIMB GRADIENT BY OPERATORS

- 3.6.1 Aircraft operators shall calculate their own climb gradients based on actual lift off point to ensure enough clearance with the vessels crossing the northern shipping channel. The calculation will have to ensure the following:
- i. The most penalising obstacle is taken into account under both all engines operating procedures as well as one engine out procedures; and
 - ii. The required minimum obstacle clearance (MOC) is met under all engines operating procedures.

Note: The calculated climb gradient shall not be lower than the procedure climb gradient for departures.

- 3.6.2 For the above calculations, operators shall use the distance information for the various departure runways as follows:

DEP RWY	02L	02C	02R
Distance d	1 100m	2 590m	2 130m

Note: The distance for departure Runways 02L, 02C and 02R are measured from the DER to the shipping channel north of Changi.

1.5.4 OTHER RELEVANT INFORMATION AND PROCEDURES

4.1 HOLDING PROCEDURES

Initial approach tracks and holding patterns associated with Singapore Airports are detailed in ENR 3.6 Area Charts. Holding patterns for other airfields are indicated on the applicable approach charts.

4.1.1 LOW LEVEL HOLDING AREAS

4.1.1.1 The holding areas for procedural traffic landing at Singapore Changi Airport or Seletar Airport depend on the runway in use at Singapore Changi Airport and are as follows:

- a. RWY 02L/02C/02R - SAMKO Holding Area (SHA).
- b. RWY 20R/20C/20L - NYLON Holding Area (NHA).
- c. Details of these holding areas and those mentioned in paragraphs 4.1.1.2 and 4.1.1.3 are given in ENR 3.6. They are also shown in ENR 3.6 Area Charts.

4.1.1.2 An intermediate holding area - HOSBA Holding Area (HHA) - is also established.

4.1.1.3 A bad weather holding area - SINJON Holding Area - is established for Seletar bound commercial traffic.

4.1.2 HIGH LEVEL HOLDING AREAS

4.1.2.1 High Level Holding Areas are also established at NHA, SHA and HHA. Details of these areas are given in ENR 3.6.

4.1.3 HOLDING SPEEDS

4.1.3.1 The maximum holding speeds for all holding areas are detailed in ENR 3.6.

4.1.3.2 During conditions of turbulence, pilots could request ATC clearance to hold at speeds up to 280kt for both high and low level holding areas.

4 NO-PRE-DEPARTURE CO-ORDINATION (NO PDC) PROCEDURES**4.1 INTRODUCTION**

- 4.1.1 No Pre-Departure Co-ordination (No PDC) procedures apply to flights departing from airports within Bangkok, Hanoi, Ho Chi Minh, Hong Kong, Jakarta, Kota Kinabalu, Kuala Lumpur, Manila, Phnom Penh, Sanya, Singapore, Taipei, Ujung Pandang and Vientiane FIRs operating on RNAV and ATS routes over the South China Sea.
- 4.1.2 No Pre-Departure Co-ordination (No PDC) levels and FPL route shall be omitted in content of ATC clearance for departures from Singapore Changi Airport on ATS routes A457, B466 and B469/M751 to destinations in Peninsular Malaysia and Thailand, as well as to Medan Polonia.

4.2 NO PDC FLIGHT LEVEL ALLOCATION

- 4.2.1 Flight Level Allocation Scheme (FLAS) for Western Pacific / South China Sea Area:

ATS Route	No-PDC Flight Levels (Other levels available with prior approval)	Remarks
G334	Eastbound - FL250, FL270 Westbound - FL260, FL280	
G580	Eastbound - FL270, FL290, FL330 Westbound - FL280, FL300, FL340	
L517	FL280, FL300, FL340	
L625	FL310, FL320, FL350, FL360, FL390, FL400	
L642	FL310, FL320, FL350, FL360, FL390, FL400	
L644	Southbound - FL330, FL410	
B469 / M751	FL280, FL300, FL320, FL340, FL360, FL380, FL400	For flights to/from airports within Bangkok FIR
M753	Northbound - FL260, FL300, FL380 Southbound - FL270, FL330	
M754	Northbound - FL300, FL340, FL380 Southbound - FL290, FL330, FL370, FL410	
M758	Eastbound - FL270, FL290, FL330 Westbound - FL280, FL300, FL340	
M761	Eastbound - FL270, FL290, FL330 Westbound - FL280, FL300, FL340	
M767	FL310, FL320, FL350, FL360, FL390, FL400	
M768	Eastbound - FL270, FL330, FL410 Westbound - FL300, FL380	
M771	FL310, FL320, FL350, FL360, FL390, FL400	
M772	Northbound - FL300, FL380	
N875	Eastbound - FL290, FL330, FL370 Westbound - FL300, FL340, FL380	
N884	FL310, FL320, FL350, FL360, FL390, FL400	
N891	Northbound - FL260, FL300, FL380 Southbound - FL330	
N892	FL310, FL320, FL350, FL360, FL390, FL400	

4.2.2 FLAS for Large Scale Weather Deviations (LSWD) in Western Pacific / South China Sea Area as applicable by Singapore ACC:

Flight Level Allocation (LSWD)	ATS Route and Direction of Flight					
	L642	M771	N892	L625	N884	M767
	SW	NE	SW	NE	NE	SW
410						
400	400		400			400
390		390		390	390	
380						
370						
360	360		360			360
350		350		350	350	
340						
330						
320	320		320			320
310		310		310	310	
300						
290						

← 4.2.3 Aircraft requesting FL280, FL300 and FL320 on ATS routes L510, L759, L515/M770, N571, N571/N877, P628 and P574 will be assigned No-PDC FL280. Succeeding aircraft on the same route will be assigned FL280 with 10 minutes longitudinal separation provided there is no closing speed with the preceding aircraft. Additional longitudinal separation as appropriate shall be provided by ATC for the faster aircraft following a slower aircraft on the same route.

4.2.4 For aircraft operating on ATS routes L510, N571, P574 and P628, which are equipped with Automatic Dependent Surveillance – Contract (ADS-C) and Controller-Pilot Data Link Communication (CPDLC), 7 minutes longitudinal separation will be applied between pair(s) of suitably equipped aircraft on the same route provided there is no closing speed with the preceding aircraft.

4.2.5 For aircraft on N571 or N571/ N877, the first aircraft from Singapore or Kuala Lumpur to be over GUNIP can expect its requested flight level.

4.2.6 For aircraft on M770, the first aircraft from Singapore or Kuala Lumpur to be over the Kuala Lumpur / Bangkok FIR boundary can expect its requested flight level.

4.2.7 For aircraft on L759, the first aircraft from Singapore or Kuala Lumpur to be over the Kuala Lumpur / Bangkok FIR boundary can expect its requested flight level.

4.2.8 For aircraft on P628, the first aircraft from Singapore or Kuala Lumpur to be over VPL can expect its requested flight level.

4.2.9 For aircraft going beyond Medan on ATS route L762, FL280 and FL300 may be assigned. Succeeding aircraft on the same route will be cleared to FL280 or FL300 with 10 minutes longitudinal separation provided there is no closing speed with the preceding aircraft. Additional longitudinal separation as appropriate shall be provided by ATC for the faster aircraft following a slower aircraft on the same route.

5 STRATEGIC LATERAL OFFSET PROCEDURES

5.1 INTRODUCTION

5.1.1 Studies and safety analyses conducted by the ICAO Separation and Airspace Safety Panel (SASP) have shown that the application of a strategic lateral offset by aircraft from route centre line would result in an overall increase in safety of operations in remote and oceanic airspace.

5.2 STRATEGIC LATERAL OFFSETS IN EN-ROUTE AIRSPACE

5.2.1 Offsets may only be applied outside surveillance cover in en-route airspace within the Singapore FIR.

5.2.2 Offsets may only be applied by aircraft with automatic offset tracking capability.

5.2.3 The following requirements may apply to the use of the offset:

- a. The decision to apply a strategic lateral offset is the responsibility of the flight crew;
- b. The offset shall be established at a distance of one or two nautical miles to the right of the centre line relative to the direction of flight. Offsets are not to exceed two nautical miles right of centre line;

- c. The strategic lateral offset procedure has been designed to include offsets to mitigate the effects of wake turbulence of preceding aircraft. If wake turbulence needs to be avoided, offsets to the right of the centreline relative to the direction of flight in tenths of a nautical mile up to a maximum of 3.7km (2nm) shall be used.

Pilots may contact other aircraft on the air to air frequency, 123.45MHz, as necessary, to coordinate the best wake turbulence offset option. As noted below, it is not necessary to notify air traffic control of approved offsets;

- d. In airspace where the use of lateral offsets has been authorized, ATC clearance is not required for this procedure and pilots are not required to inform ATC that an offset is being applied;
- e. Position reports are based on the current ATC clearance and not the exact coordinates of the offset position.

An example of a position report made by a pilot when passing reporting point TODAM while being offset from track is:

“Singapore Radio, Singapore 871, position TODAM 0930 Flight Level 380, estimate.....etc”.

6 WEATHER DEVIATION PROCEDURES IN THE SINGAPORE FIR AND AIRSPACE WHERE ATS IS PROVIDED BY SINGAPORE (SEE ENR 2.1)

6.1 GENERAL

Note.- The following procedures are intended for deviations around adverse meteorological conditions.

- 6.1.1 Modern ATC radar equipment are normally designed to suppress weather clutter and ATC may not always be aware of its presence.
- 6.1.2 ATC may pass observed weather information that appears likely to affect the pilot's flight and advise if a detour will result in the aircraft leaving controlled airspace. The pilot will be responsible for deciding whether to accept a detour into uncontrolled airspace.
- 6.1.3 If the pilot intends to detour a storm centre observed on his radar display, the pilot shall, obtain clearance from ATC for his proposed action. This is to ensure that separation which ATC may be providing to other aircraft is not prejudiced.
- 6.1.4 The following procedures are intended to enhance ICAO Regional Supplementary Procedures (DOC 7030). However, it must be recognised that all possible circumstances cannot be covered. The pilot's judgement shall ultimately determine the sequence of actions taken and ATC shall render all possible assistance.

6.2 OBTAINING ATC PRIORITY WHEN WEATHER DEVIATION IS REQUIRED

- 6.2.1 When weather deviation is required, the pilot should initiate communications with ATC via voice or CPDLC. A rapid response may be obtained by either:
- stating “WEATHER DEVIATION REQUIRED” to indicate that priority is desired on the frequency and for ATC response; or
 - requesting a weather deviation using a CPDLC lateral downlink message.
- 6.2.2 When necessary, the pilot should initiate the communications using the urgency call “PAN PAN” (preferably spoken three times) or by using a CPDLC urgency downlink message to alert all listening parties of a special handling condition which requires ATC priority for issuance of a clearance or assistance.

6.3 ACTIONS TO BE TAKEN WHEN CONTROLLER-PILOT COMMUNICATIONS ARE ESTABLISHED

- 6.3.1 When two-way pilot-controller communications are in effect, the pilot should notify ATC and request clearance to deviate from track or ATS route, advising, when possible, the extent of the deviation requested. The flight crew will use whatever means are appropriate (i.e. voice and/or CPDLC) to communicate during a weather deviation.

Note.- Pilots are advised to contact ATC as soon as possible with requests for clearance in order to provide adequate time for the request to be assessed and acted upon.

- 6.3.2 After communicating with ATC, ATC will take one of the following actions:
- a. if there is no conflicting traffic in the lateral dimension, ATC shall issue clearance to deviate from track;
 - b. if there is conflicting traffic in the lateral dimension, ATC shall separate aircraft by establishing vertical separation and issue a clearance to deviate from track;
 - c. if there is conflicting traffic in the lateral dimension, and ATC is unable to establish vertical separation, ATC shall advise the pilot and provide information on all other aircraft with which the aircraft could potentially conflict.

- ← 6.3.3 The pilot shall either:
- a. comply with the ATC clearance issued; or
 - b. if ATC is unable to issue a revised clearance, the pilot shall evaluate the circumstances of the situation and advise ATC of intentions before executing the procedures detailed in paragraph 6.4. ATC will issue essential traffic information to all affected aircraft.

6.4 ACTIONS TO BE TAKEN IF A REVISED ATC CLEARANCE CANNOT BE OBTAINED

- 6.4.1 If the aircraft is required to deviate from track or ATS route to avoid adverse meteorological conditions and a revised ATC clearance cannot be obtained, the pilot shall take the following actions:
- a. if possible, deviate away from an organized track or ATS route system;
 - b. establish communications with and alert nearby aircraft by broadcasting on 121.5MHz, at suitable intervals: (or, on 123.45MHz as a backup inter-pilot air-to-air frequency);
 - i. aircraft identification;
 - ii. flight level;
 - iii. position (including ATS route designator or the track code); and
 - iv. intentions.
 - c. watch for conflicting traffic both visually and by reference to ACAS (such as TCAS, if equipped);
 - d. turn on all aircraft exterior lights (commensurate with appropriate operating limitations);
 - e. for deviations of less than 5.0 NM from the originally cleared track or ATS route, remain at a level assigned by ATC;
 - f. for deviations greater than, or equal to 5.0 NM from the originally cleared track or ATS route, when the aircraft is approximately 5.0 NM from track, initiate a level change in accordance with the following table:

Originally cleared track or ATS route centreline	Deviations greater than 5NM	Level change
EAST (000-179 magnetic)	LEFT RIGHT	DESCEND 300ft CLIMB 300ft
WEST (180-359 magnetic)	LEFT RIGHT	CLIMB 300ft DESCEND 300ft

- g. if the pilot receives clearance to deviate from cleared track or ATS route for a specified distance and, subsequently, requests, but cannot obtain a clearance to deviate beyond that distance, the pilot should apply an altitude offset in accordance with the table above before deviating beyond the cleared distance; and
- h. when returning to track or ATS route, be at its assigned flight level when the aircraft is within approximately 5.0 NM of the centreline.

Note. - If, as a result of actions taken under the provisions of 6.4.1, the pilot determines that there is another aircraft at or near the same flight level with which a conflict may occur, then the pilot is expected to adjust the path of the aircraft, as necessary, to avoid conflict.

- 6.4.2 If contact was not established prior to deviating, continue to attempt to contact ATC to obtain a clearance. If contact was established, continue to keep ATC advised of intentions and obtain essential traffic information.
- 6.4.3 The pilot shall inform ATC when weather deviation is no longer required, or when a weather deviation has been completed and the aircraft has returned to its cleared route.

7 AIR TRAFFIC MANAGEMENT CONTINGENCY PLAN

7.1 INTRODUCTION

7.1.1 The Air Traffic Management (ATM) Contingency Plan for Singapore FIR and airspace where ATS is provided by Singapore (see ENR 2.1) has been developed to fulfil the requirements of the ICAO Standards and Recommended Practices contained in Annex 11 and the Regional Supplementary Procedures (Doc 7030). In the event of partial or total disruption to the provision of Air Traffic Services (ATS) and / or the related support services in Singapore FIR and airspace where ATS is provided by Singapore (see ENR 2.1), the ATM Contingency Plan referred to in this section shall be activated to ensure the continued safety of air navigation of aircraft operating through the affected airspace.

7.1.2 However, this contingency plan does not address arrangements for aircraft arriving and departing at Singapore airports. Aircraft departing or landing at Changi operating within 60NM from Singapore will be subjected to contingency procedures stated in ENR 1.8 paragraphs 1.5, 1.6, 1.7 and 1.8.

← 7.1.3 This ATM Contingency Plan provides:

- a. the contingency routes structure using existing published airways to enable transit through the Singapore FIR and airspace where ATS is provided by Singapore (see ENR 2.1) and
- b. the associated Air Traffic Control (ATC) procedures to support the contingency plan.

7.1.4 As and where dictated by circumstances, aircraft planning to operate through Singapore FIR and airspace where ATS is provided by Singapore (see ENR 2.1) that have not yet departed may be temporarily suspended until a full assessment of the prevailing conditions has been determined and sufficient air traffic services restored.

7.1.5 Long-haul international aircraft and special operations (e.g. Search and Rescue (SAR), State aircraft, humanitarian flights, etc.) shall be afforded priority for levels at FL290 and above. Aircraft operators that operate domestic and regional flights should plan on the basis that FL290 and above may not be available.

7.1.6 Aircraft operators may elect to avoid the Singapore FIR and airspace where ATS is provided by Singapore (see ENR 2.1) by using ATS routes outside of Singapore FIR and airspace where ATS is provided by Singapore (see ENR 2.1).

7.2 REDUCED ATS AND PROVISION OF FLIGHT INFORMATION SERVICES (FIS)

7.2.1 During the period where the contingency arrangements are in place, ATS including ATC services may not be available, a NOTAM will be issued providing the relevant information. The contingency plan provides for limited flight information and alerting services to be provided by Singapore ACC.

7.2.2 FIS and flight monitoring will be provided by the designated ATS authorities for the adjacent FIRs on the contingency routes that enter their respective FIRs.

7.2.3 During the early stages of a contingency event, ATC may be overloaded and tactical action may be taken to re-clear aircraft on alternative routes not included in this Plan.

7.2.4 In the event that ATS cannot be provided in the Singapore FIR and airspace where ATS is provided by Singapore (see ENR 2.1) a NOTAM shall be issued indicating the following:

- a. time and date on the commencement of the contingency measures;
- b. airspace available for aircraft operations and airspace to be avoided;
- c. details of the facilities and services available or not available and any limits on ATS provision, including an expected date of restoration of services if available;
- d. information on the provisions made for alternative services;
- e. applicable ATS routes, AIP-published contingency routes, or tactically defined contingency routes;
- f. any special procedures to be complied by neighbouring ATS units not covered by this Plan;
- g. any special procedures to be complied by pilots; and
- h. any other details that aircraft operators may find useful with respect to the disruption and actions taken.

7.2.5 In the event that the Singapore International NOTAM Office is unable to issue the NOTAM, the alternate International NOTAM Office will take action to issue the contingency NOTAM upon notification by CAAS.

7.3 AIRCRAFT SEPARATION AND SPACING

- 7.3.1 Aircraft separation criteria, where applicable, will be in accordance with the ICAO Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM, Doc 4444) and the Regional Supplementary Procedures (Doc 7030).
- 7.3.2 The longitudinal separation / spacing will be 15 minutes. However, this may be reduced to 10 minutes in conjunction with application of the Mach number technique where authorized by CAAS and the agreed ATS coordination with the adjacent ATS authority.
- 7.3.3 The contingency route structure provides for lateral separation / spacing of 100NM. In cases where the lateral spacing of contingency routes is less than 100NM, a minimum vertical separation of 1000 feet will be applicable.

7.4 PRIORITY FOR FLIGHT LEVELS

- 7.4.1 Where possible, aircraft on long-haul international flights shall be afforded priority for cruising levels assigned in accordance with the flight level allocation scheme as specified in paragraph 7.10.

7.5 AIRSPACE CLASSIFICATIONS

- 7.5.1 Depending on the degree of disruption, airspace classifications may be changed to reflect the reduced level of services. Changes to airspace classification will be notified via NOTAM.

← 7.6 AIRCRAFT POSITION REPORTING

- 7.6.1 Beyond VHF coverage, Automatic Dependent Surveillance - Contract (ADS-C) shall replace any requirement for voice position reporting to ATC for suitably equipped aircraft and in this case Controller-Pilot Data Link Communications (CPDLC) or HF will be the secondary means of communication. When CPDLC has been authorised for use by the relevant ATC authority, this will become the primary means of communication while HF will act as the secondary means of communication. If means of communication (i.e. ADS-C, CPDLC, HF, VHF) are not available, aircraft operators shall comply with the communications procedures as stated in paragraph 7.9.
- 7.6.2 In the event that communication with the appropriate ATS authority could not be established, aircraft operators may apply Traffic Information Broadcast by Aircraft (TIBA) procedures in the Singapore FIR and airspace where ATS is provided by Singapore (see ENR 2.1) as outline in paragraph 7.11 on 121.5MHz.

7.7 EXCLUSIONS

- 7.7.1 VFR flights shall not operate in the Singapore FIR and airspace where ATS is provided by Singapore (see ENR 2.1) during contingency operations, except for State aircraft, Medevac flights, and any other aircraft as authorised by CAAS.

7.8 PILOT AND OPERATOR PROCEDURES

7.8.1 Filing of flight plans

- 7.8.1.1 Flight planning requirements detailed in AIP Singapore continue to apply during contingency operations, except where modified by the contingency ATS routes and flight level allocation scheme specified by ATC and / or in NOTAM.
- 7.8.1.2 Airspace users are expected to familiarize themselves with the Contingency Plan of the Singapore FIR and airspace where ATS is provided by Singapore (see ENR 2.1) and the activation times. For aircraft intending to operate in areas during periods when the Contingency Plan is activated, the operators shall plan the flight to conform to the requirements of Contingency Plan.
- 7.8.1.3 The flight planning requirements during contingency periods will be in accordance to ICAO Annex 2 Chapter 3 and DOC 4444 Chapter 4 and Appendix 2. Additional information, will, however, be required, to indicate that the aircraft will operate in airspace where the Contingency Plan is active.

7.8.2 Overflight approval

- 7.8.2.1 Airspace users must obtain overflight approval from CAAS prior to operating aircraft through the Singapore FIR and airspace where ATS is provided by Singapore (see ENR 2.1). During the period of activation of this Contingency Plan, the adjacent ATS authority will provide normal ATC clearances for aircraft to enter Singapore FIR and airspace where ATS is provided by Singapore (see ENR 2.1). The adjacent ATS authority is not responsible for coordination or provision of overflight clearances for Singapore FIR and airspace where ATS is provided by Singapore (see ENR 2.1). The airspace users must ensure any required overflight approval has been obtained.

7.8.3 Pilot operating procedures

7.8.3.1 Pilots will continue to make or broadcast routine position reports in line with normal ATC procedures.

7.8.3.2 Pilots of aircraft operating in the Singapore FIR and airspace where ATS is provided by Singapore (see ENR 2.1) during contingency operations shall comply with the following procedures:

- a. all aircraft proceeding along the ATS routes established in this Contingency Plan will comply with the instrument flight rules (IFR) and will be assigned a flight level in accordance with the flight level allocation scheme applicable to the route(s) being flown as specified in paragraph 7.10;
- b. aircraft are to flight plan using the Contingency Routes specified in paragraph 7.10, according to their airport of origin and destination;
- c. aircraft are to operate as close as possible to the centre line of the assigned contingency route;
- d. a continuous communications watch shall be maintained on the specified contingency frequency as specified in paragraph 7.10;
- e. aircraft position reports and other information as necessary shall be broadcast in accordance with TIBA procedures defined in paragraph 7.11;
- f. aircraft navigation and anti-collision lights shall be displayed;
- g. except in cases of emergency or for reasons of flight safety, pilots are to maintain the last assigned flight level, MACH number and SSR transponder code during their entire flight within Singapore FIR and airspace where ATS is provided by Singapore (see ENR 2.1). If no transponder code has been assigned, aircraft shall squawk Code 2000.
- h. aircraft are to reach the flight level last assigned by the responsible ACC at least 10 minutes before entering the Singapore FIR and airspace where ATS is provided by Singapore (see ENR 2.1) or as otherwise instructed by the ATC unit acting in accordance with the Operational Contingency Arrangement;
- i. pilots are to contact the next adjacent ACC as soon as possible, and in any event not less than ten (10) minutes before the estimated time of arrival over the relevant exit point from the Singapore FIR and airspace where ATS is provided by Singapore (see ENR 2.1);
- j. pilots are to strictly adhere to the ICAO Traffic Information Broadcasts by Aircraft (TIBA) procedures, reproduced in paragraph 7.11, on the specified VHF and HF frequencies listed in paragraph 7.10. When necessitated by emergency conditions or flight safety requirements, pilots are to transmit blind on these frequencies, their current circumstances and the commencement and completion of any climb and descent or deviation from the cleared contingency route;
- k. whenever emergencies and / or flight safety reasons make it impossible to maintain the flight level assigned for transit of Singapore FIR and airspace where ATS is provided by Singapore (see ENR 2.1), pilots are to comply with the special procedures for in-flight contingencies set out in ENR 1.8 paragraph 1.5. If the deviation brings the aircraft out of Singapore FIR and airspace where ATS is provided by Singapore (see ENR 2.1), pilots are to immediately inform the ACC unit responsible for that airspace. Pilots are to broadcast details of any level change including aircraft identification, aircraft position and route, vacated flight level, intended flight level; flight level passed and cruising flight level on 121.5MHz;
- l. pilots are to maintain own longitudinal separation of 15 minutes from preceding aircraft at the same cruising level. However, this may be reduced to 10 minutes in conjunction with application of the Mach number technique where authorized by CAAS and the agreed ATS coordination with the adjacent ATS authority; and
- m. not all operational circumstances can be addressed by this Contingency Plan and pilots are to maintain a high level of alertness when operating in the contingency airspace and take appropriate action to ensure safety of aircraft.

7.8.4 Interception of civil aircraft

7.8.4.1 Aircraft operators must be familiar with international intercept procedures contained in ICAO Annex 2 - Rules of the Air, paragraph 3.8 and Appendix 2, Sections 2 and 3.

7.8.4.2 Pilots are to comply with instructions given by the pilot of the intercepting aircraft. In such circumstances, the pilot of the aircraft being intercepted shall broadcast information on the situation.

7.8.4.3 If circumstances leading to the closure of the Singapore FIR and airspace where ATS is provided by Singapore (see ENR 2.1) where no contingency routes are available, aircraft will be required to keep clear of Singapore FIR and airspace where ATS is provided by Singapore (see ENR 2.1). As much warning as possible will be provided by the appropriate ATS authorities in the event of the complete closure of airspace.

7.8.4.4 Pilots shall continuously guard the VHF emergency frequency 121.5MHz and shall operate their transponder at all times during flight, regardless of whether the aircraft is within or outside airspace where secondary surveillance radar (SSR) is used for ATS purposes. Transponder should be set on the last discrete code assigned by ATC or select Code 2000 if no code was assigned.

7.9 COMMUNICATION PROCEDURES

7.9.1 Degradation of Communication - Pilot Radio Procedures

7.9.1.1 When operating within the contingency airspace, pilots should use normal radio communication procedures where ATS services are available. Where limited or no ATS is available, communications shall be conducted in accordance with the procedures in this Plan or as otherwise notified by NOTAM.

7.9.1.2 If communications are lost unexpectedly on the normal ATS frequencies, pilots shall try the next applicable frequency, e.g. if en-route contact is lost, pilots shall try the next appropriate frequency (the next normal handover frequency). Pilots should also consider attempting to contact ATC on the last frequency where two-way communication had been established. In the absence of communication with ATC, the pilot shall continue to make routine position reports on the assigned frequency, and also broadcast positions in accordance with the TIBA procedures in paragraph 7.11.

7.9.2 Communication frequencies

7.9.2.1 A list of frequencies to be used for the contingency routes and the ATS units providing FIS and air-ground communication monitoring for the Singapore FIR and airspace where ATS is provided by Singapore (see ENR 2.1) is detailed in paragraph 7.10.

7.10 CONTINGENCY ROUTES**7.10.1 Between Singapore and Manila FIR**

7.10.1.1 The following table shows the Contingency Routes (CR) Structure, Flight Level Allocation Scheme (FLAS) and Transfer of Control and Communication (TOC) between Singapore and Manila FIR.

CR	ATS Route	Direction	FLAS	ACC	Transfer of Communication (TOC)	Remarks
CRS-3	N884 (075400N 1122000E - LAXOR)	East	FL310 FL350	Manila ACC	At 075400N 1122000E, contact Manila ACC: - ADS/CPDLC: Logon RPHI - HF: 5655 / 8942 - VHF : 118.9 (LAXOR)	Aircraft operators may choose to avoid the Singapore FIR by using alternate ATS routes in other FIRs.
CRM-3	N884 (LAXOR - CAB)	East	FL310 FL350 FL390	Kobe ACC	At CAB, contact Tokyo Radio: - HF: 8903 / 4666 - VHF: 123.9 (LEBIX)	Aircraft operators may choose to avoid the Manila FIR by using alternate ATS routes in other FIRs.
CRM-4	M767 (JOM - TEGID)	West	FL320 FL360 FL400	Singapore ACC	At JOM, contact Singapore ATC: - ADS/CPDLC: Logon WSJC - HF: 5655 / 8942	Aircraft operators may choose to avoid the Manila FIR by using alternate ATS routes in other FIRs.
N/A	M772	N/A	N/A	N/A	Not applicable. M772 will be suspended. No flight planning is allowed.	N/A

7.10.2 Between Singapore and Ho Chi Minh FIR

7.10.2.1 The following table shows the Contingency Routes (CR) Structure, Flight Level Allocation Scheme (FLAS) and Transfer of Control and Communication (TOC) between Singapore and Ho Chi Minh FIR.

CR	ATS Route	Direction	FLAS	ACC	Transfer of Communication (TOC)	Remarks
CRS-1	L642 (ESPOB - 060000N 1045600E)	West	FL360 FL400	Ho Chi Minh ACC	At 060000N 1045600E, contact Kuala Lumpur ATC: - VHF: 132.6 - HF: 5655 / 8942	International operators may choose to avoid the Singapore FIR by using alternate ATS routes in other FIRs.
← CRS-2	M771 (060000N 1060900E - DUDIS)	East	FL350 FL390	Ho Chi Minh ACC	At 060000N 1060900E, contact Ho Chi Minh ATC: - ADS / CPDLC: Logon VVHM - VHF: 133.05 / 119.35 - HF: 5655 / 8942	International operators may choose to avoid the Singapore FIR by using alternate ATS routes in other FIRs.
CRS-3	N884 (060000N 1095600E - 075400N 1122000E)	East	FL310 FL350	Ho Chi Minh ACC	At 060000N 1095600E, contact Ho Chi Minh ATC: - ADS / CPDLC: Logon VVHM - VHF: 133.05 / 120.7 - HF: 5655 / 8942 At 075400N 1122000E, contact Manila ATC: - ADS / CPDLC: Logon RPHI - VHF: 118.9 (LAXOR) - HF: 5655 / 8942	International operators may choose to avoid the Singapore FIR by using alternate ATS routes in other FIRs.

CR	ATS Route	Direction	FLAS	ACC	Transfer of Communication (TOC)	Remarks
CRS-4	M768 (064600N 1121500E - AKMON)	East	FL330	Ho Chi Minh ACC	At 064600N 1121500E, contact Kota Kinabalu ATC: - ADS / CPDLC: Logon WBFC - VHF: 126.1	International operators may choose to avoid the Singapore FIR by using alternate ATS routes in other FIRs.
		West	FL380	Ho Chi Minh ACC	At 064600N 1121500E, contact Ho Chi Minh ATC: - ADS / CPDLC: Logon VVHM - VHF: 133.05 / 119.35	
CRH-1	N891 (XONAN - IGARI)	North	FL300	Hanoi ACC	At IGARI, contact Hanoi ACC: - VHF: 120.9 / 133.85	International operators may choose to avoid the Ho Chi Minh FIR by using alternate ATS routes in other FIRs.
		South	FL330	Hanoi ACC	At IGARI, contact Singapore ATC: - ADS / CPDLC: Logon WSJC - VHF: 134.9 / 134.35 - HF: 6556 / 8942	
CRH-2	M753 (OSOTA - IPRIX)	North	FL270	Hanoi ACC	At IPRIX, contact Hanoi ACC: - VHF: 120.9	International operators may choose to avoid the Ho Chi Minh FIR by using alternate ATS routes in other FIRs.
		South	FL260	Hanoi ACC	At IPRIX, contact Singapore ATC: - ADS / CPDLC: Logon WSJC - VHF: 134.9 / 134.35 - HF: 6556 / 8942	
CRH-3	R468 / M768 (SAPEN - TSH - AKMON)	East	FL270	Hanoi ACC	At AKMON, contact Singapore ATC: - ADS / CPDLC: Logon WSJC - HF: 6556 / 8942	International operators may choose to avoid the Ho Chi Minh FIR by using alternate ATS routes in other FIRs.
		West	FL380	Hanoi ACC	At AKMON, contact Hanoi ACC: - VHF: 133.05 / 119.35 - HF: 5655 / 8942	
CRH-4	L642 (EXOTO - ESPOB)	West	FL310 FL320 FL390 FL400	Hanoi ACC	At ESPOB, contact Singapore ATC: - ADS / CPDLC: Logon WSJC - VHF: 134.9 / 134.35 - HF: 6556 / 8942	International operators may choose to avoid the Ho Chi Minh FIR by using alternate ATS routes in other FIRs.
CRH-5	M771 (DUDIS - DONDA)	East	FL310 FL320 FL390 FL400	Hanoi ACC	At DUDIS, contact Hanoi ACC: - VHF: 133.05 / 119.35 - HF: 5655 / 8942	International operators may choose to avoid the Ho Chi Minh FIR by using alternate ATS routes in other FIRs.
CRH-6	N892 (MIGUG - MELAS)	West	FL310 FL320 FL390 FL400	Hanoi ACC	At MELAS, contact Singapore ATC: - ADS / CPDLC: Logon WSJC - VHF: 134.9 / 134.35 - HF: 6556 / 8942	International operators may choose to avoid the Ho Chi Minh FIR by using alternate ATS routes in other FIRs.
CRH-7	L625 (AKMON - ARES)	East	FL310 FL320 FL390 FL400	Hanoi ACC	At AKMON, contact Hanoi ACC: - VHF: 133.05 / 119.35 - HF: 5655 / 8942	International operators may choose to avoid the Ho Chi Minh FIR by using alternate ATS routes in other FIRs.

7.10.3 Between Singapore and Kota Kinabalu FIR

7.10.3.1 To be developed

7.10.4 Between Singapore and Kuala Lumpur FIR

7.10.4.1 To be developed

7.11 TRAFFIC INFORMATION BROADCASTS BY AIRCRAFT (TIBA)**7.11.1 Introduction and applicability of broadcasts**

7.11.1.1 Traffic information broadcasts by aircraft are intended to permit reports and relevant supplementary information of an advisory nature to be transmitted by pilots on a designated VHF radiotelephone (RTF) frequency for the information of pilots of other aircraft in the vicinity.

7.11.1.2 TIBAs shall be introduced only when necessary and as a temporary measure.

7.11.1.3 The broadcast procedures shall be applied in designated airspace where:

- a. there is a need to supplement collision hazard information provided by air traffic services outside controlled airspace; or
- b. there is a temporary disruption of normal air traffic services.

7.11.1.4 Such airspaces shall be identified by the States responsible for provision of air traffic services within these airspaces, if necessary with the assistance of the appropriate ICAO Regional Office(s), and duly promulgated in aeronautical information publications or NOTAM, together with the VHF RTF frequency, the message formats and the procedures to be used. Where, in the case of paragraph 7.11.1.3 a., more than one State is involved, the airspace should be designated on the basis of regional air navigation agreements and promulgated in Doc 7030.

7.11.1.5 When establishing a designated airspace, dates for the review of its applicability at intervals not exceeding 12 months should be agreed by the appropriate ATS authority(ies).

7.11.2 Details of broadcastsVHF RTF frequency to be used

7.11.2.1 The VHF RTF frequency to be used shall be determined and promulgated on a regional basis. However, in the case of temporary disruption occurring in controlled airspace, the States responsible may promulgate, as the VHF RTF frequency to be used within the limits of that airspace, a frequency used normally for the provision of air traffic control service within that airspace.

7.11.2.2 Where VHF is used for air-ground communications with ATS and an aircraft has only two serviceable VHF sets, one should be tuned to the appropriate ATS frequency and the other to the TIBA frequency.

Listening watch

7.11.2.3 A listening watch shall be maintained on the TIBA frequency 10 minutes before entering the designated airspace until leaving this airspace. For an aircraft taking off from an aerodrome located within the lateral limits of the designated airspace, listening watch should start as soon as appropriate after take-off and be maintained until leaving the airspace.

Time of broadcasts

7.11.2.4 A broadcast shall be made:

- a. 10 minutes before entering the designated airspace or, for a pilot taking off from an aerodrome located within the lateral limits of the designated airspace, as soon as appropriate after take-off;
- b. 10 minutes prior to crossing a reporting point;
- c. 10 minutes prior to crossing or joining an ATS route;
- d. at 20-minute intervals between distant reporting points;
- e. 2 to 5 minutes, where possible, before a change in flight level;
- f. at the time of a change in flight level; and
- g. at any other time considered necessary by the pilot.

Forms of broadcast

7.11.2.5 The broadcasts other than those indicating changes in flight level, i.e. the broadcasts referred to in paragraph 7.11.2.4 a., b., c., d. and g., should be in the following form:

ALL STATIONS (necessary to identify a traffic information broadcast)

(call sign)

FLIGHT LEVEL (number) (or CLIMBING* TO FLIGHT LEVEL (number))

(direction)

(ATS route) (or DIRECT FROM (position) TO (position))

POSITION (position**) AT (time)

ESTIMATING (next reporting point, or the point of crossing or joining a designated ATS route) AT (time)

(call sign)

FLIGHT LEVEL (number) (direction)

Fictitious example:

"ALL STATIONS WINDAR 671 FLIGHT LEVEL 350 NORTHWEST BOUND DIRECT FROM PUNTA SAGA TO PAMPA POSITION 5040 SOUTH 2010 EAST AT 2358 ESTIMATING CROSSING ROUTE LIMA THREE ONE AT 4930 SOUTH 1920 EAST AT 0012 WINDAR 671 FLIGHT LEVEL 350 NORTHWEST BOUND OUT"

7.11.2.6 Before a change in flight level, the broadcast (referred to in paragraph 7.11.2.4 e.) should be in the following form:

ALL STATIONS

(call sign)

(direction)

(ATS route) (or DIRECT FROM (position) TO (position))

LEAVING FLIGHT LEVEL (number) FOR FLIGHT LEVEL (number) AT (position and time)

7.11.2.7 Except as provided in paragraph 7.11.2.8, the broadcast at the time of a change in flight level (referred to in paragraph 7.11.2.4 f.) should be in the following form:

ALL STATIONS

(call sign)

(direction)

(ATS route) (or DIRECT FROM (position) TO (position))

LEAVING FLIGHT LEVEL (number) NOW FOR FLIGHT LEVEL (number)
followed by:

ALL STATIONS

(call sign)

MAINTAINING FLIGHT LEVEL (number)

7.11.2.8 Broadcasts reporting a temporary flight level change to avoid an imminent collision risk should be in the following form:

ALL STATIONS

(call sign)

LEAVING FLIGHT LEVEL (number) NOW FOR FLIGHT LEVEL (number)
followed as soon as practicable by:

ALL STATIONS

(call sign)

RETURNING TO FLIGHT LEVEL (number) NOW

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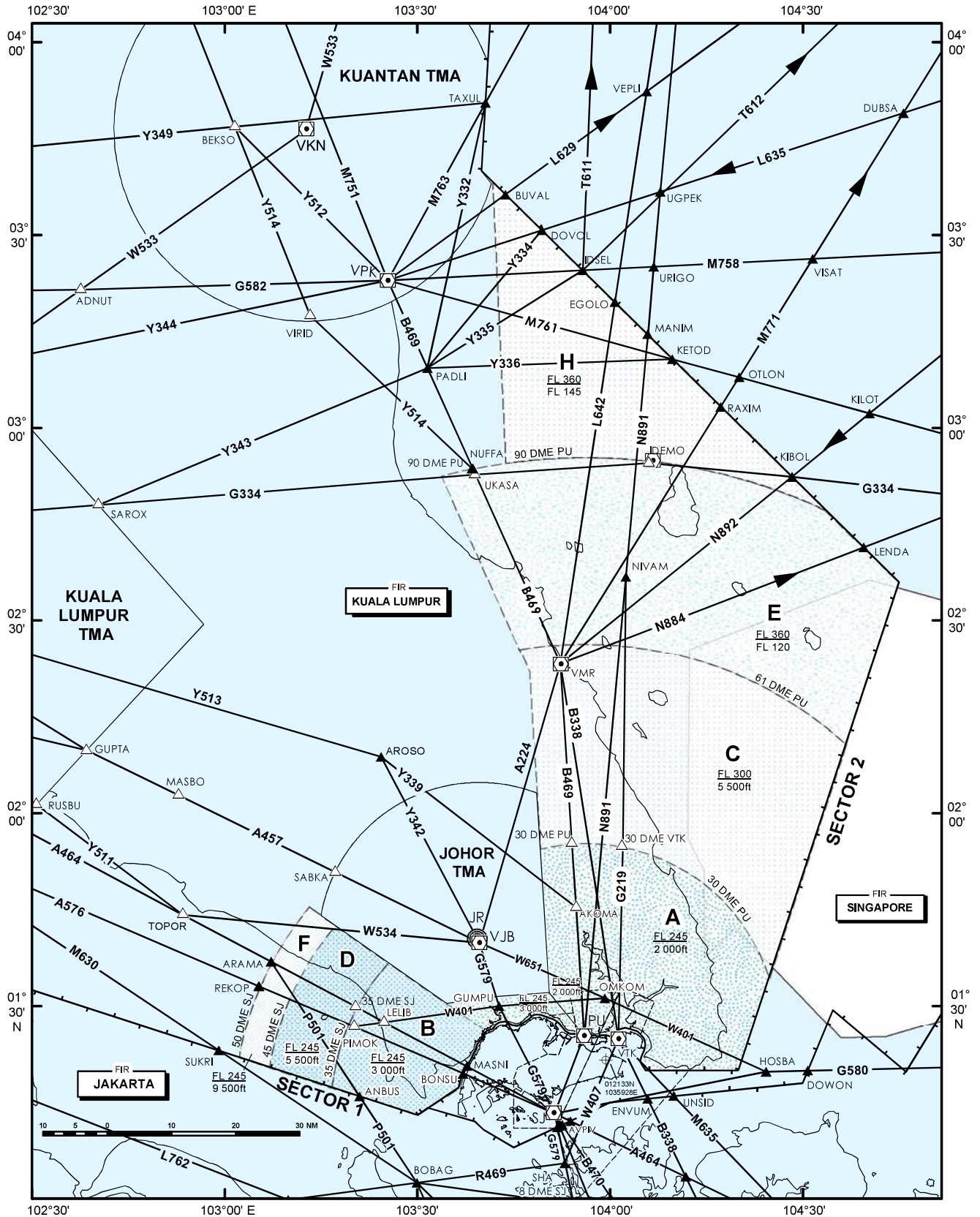
ENR 2 AIR TRAFFIC SERVICES AIRSPACE

ENR 2.1 FIR, UIR, TMA

Name Lateral limits Upper limit/Lower limit Class of airspace	Unit providing service	Call sign Languages Area and conditions of use Hr of ser	Frequency /Purpose	Remarks
1	2	3	4	5
SINGAPORE FIR				
082500N 1163000E 025050N 1091629E 045700N 1081619E 050012N 1080132E 045904N 1075525E 045203N 1074625E 043820N 1073315E 041312N 1071743E 033045N 1055130E 031727N 1052959E 031453N 1052619E 025010N 1051210E 024348N 1050854E 023641N 1051311E 021838N 1052205E 011947N 1044606E 012921N 1043441E 011800N 1043000E 011500N 1040000E 010800N 1034500E 011046N 1034015E 011200N 1033900E 011408N 1033142E 011700N 1033600E thence east along the national boundary of Singapore/Malaysia, thence along 012000N to 012000N 1042000E 023600N 1044500E 034000N 1034000E 045000N 1034400E 064500N 1024000E 070000N 1030000E 070000N 1080000E 103000N 1140000E 082500N 1163000E UNL SFC	SINGAPORE ACC	SINGAPORE RADAR English H24	255.4MHz <u>Primary</u> 123.7 MHz 133.25MHz 134.4MHz 133.8MHz 134.2MHz 134.9 MHz 134.7 MHz <u>Secondary</u> 127.3 MHz 135.8MHz 128.1MHz 133.35MHz 134.35 MHz 134.15 MHz <u>SEA 1</u> 6556kHz 11297kHz <u>SEA 2</u> 5655kHz 8942kHz 11396kHz <u>SEA 3</u> 6556kHz	The responsibility for providing air traffic services to flights within the following portions of the Singapore FIR is vested in the Kuala Lumpur ACC: The airspace between a line from 023600N 1044500E to 022715N 1051750E 023641N 1051311E 024348N 1050854E 025010N 1051210E 031453N 1052619E 031727N 1052959E 033045N 1055130E 041312N 1071743E 043820N 1073315E 045203N 1074625E 045904N 1075525E 050012N 1080132E 045700N 1081619E 025050N 1091629E, in the south, and a line along 060000N in the north, and from surface level to FL150 west of longitude 105E and from surface level to FL200 east of longitude 105E. SEA 1, SEA 2, SEA 3: SSB Suppressed Carriers.

<i>Name</i> <i>Lateral limits</i> <i>Upper limit/Lower limit</i> <i>Class of airspace</i>	<i>Unit</i> <i>providing</i> <i>service</i>	<i>Call sign</i> <i>Languages</i> <i>Area and conditions</i> <i>of use</i> <i>Hr of ser</i>	<i>Frequency</i> <i>/Purpose</i>	<i>Remarks</i>
1	2	3	4	5
		SINGAPORE CONTROL SOUTH CHINA SEA English H24	AFN <u>LOGON</u> WSJC	Suitably equipped aircraft operating outside radar cover and not in ADS-B exclusive airspace within the Singapore FIR should log on to Singapore's AFN LOGON address at least 10 minutes prior to entering the above-mentioned airspace in Singapore FIR. Area Navigation (RNAV) routes suitable for ADS-C and / or CPDLC logon are described in ENR 3.2.
<p>AREAS WITHIN JAKARTA FIR WHERE PROVISION OF ATS IS DELEGATED TO SINGAPORE</p> <p>The area bounded by 031727N 1052959E 012450N 1061648E 001030N 1045656E 000000N 1050340E 000000N 1044330E thence around the arc of a circle radius 90 NM centred on 011324N 1035124E to 013430N 1022353E 011300N 1033000E 011408N 1033142E 011200N 1033900E 011046N 1034015E 010800N 1034500E 011500N 1040000E 011800N 1043000E 012921N 1043441E 011947N 1044606E 021838N 1052205E 023641N 1051311E 024348N 1050854E 025010N 1051210E 031453N 1052619E 031727N 1052959E</p> <p>Excluding the Tanjungpinang Terminal Control Area and Control Zone</p> <p>FL370 SFC</p>	SINGAPORE ACC	SINGAPORE RADAR English H24	255.4MHz <u>Primary</u> 133.25MHz 134.4MHz 134.2MHz <u>Secondary</u> 135.8MHz 128.1MHz 133.35MHz	

AIRSPACE DIVISION KUALA LUMPUR/SINGAPORE AREAS CONTROL CENTRES



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Route Designator {RNP Type}	[Route Usage Notes]								
	Significant Point Name	Significant Point Coordinates							Remarks
{RNP Type}	Track MAG ↓ ↑	Dist NM	(COP)	Upper limit Lower limit	MNM FLT ALT	Lateral limits NM	Direction of cruising levels ↓ ↑		Controlling unit Frequency {Airspace class} Remarks
1	2	3	4	5	6	7	8	9	10
G579	Route availability: (1) H24								
▲ JOHOR BAHRU DVOR/DME (VJB)	013950N 1033939E								
	162° 342°	10.3NM		FL 460 6500 FT ALT	7000 FT	3	Odd ⁽¹⁾	Even ⁽¹⁾	[Class A – ABV FL150] [Class B – BLW FL150] ⁽⁴⁾
▲ GUMPU	013000N 1034243E								
	152° 332°	4.1NM		FL 460 2000 FT ALT	7000 FT	3	Odd ⁽¹⁾	Even ⁽¹⁾	[Class A – ABV FL150] [Class B – BLW FL150] ^{(2) (4)}
LAPOL	012622N 1034435E								
	153° 333°	6.1NM		FL 460 2000 FT ALT	11000 FT	3	Odd ⁽¹⁾	Even ⁽¹⁾	[Class A – ABV FL150] [Class B – BLW FL150] ⁽⁴⁾
LEGOL	012053N 1034723E								
	152° 332°	8.4NM		FL 460 2000 FT ALT	3000 FT	3	Odd ⁽¹⁾	Even ⁽¹⁾	[Class A – ABV FL150] [Class B – BLW FL150] ⁽⁴⁾
▲ SINJON DVOR/DME (SJ)	011321N 1035115E								
	- 346°	2.2NM		FL 460 2000 FT ALT	4000 FT	10		Even ⁽¹⁾	[Class A – ABV FL150] [Class B – BLW FL150] ^{(4) (5)}
▲ OLNUB (WSJC/WIIF FIR BDRY) (Delegated airspace BDRY)	011110N 1035147E								
	- 348°	12.2NM		FL 600 2000 FT ALT	4000 FT	10		Even ⁽¹⁾	[Class A – ABV FL150] [Class B – BLW FL150] ⁽⁵⁾
▲ EMSIB	005911N 1035419E								
	- 348°	15.8NM		FL 600 2000 FT ALT	5000 FT	10		Even ⁽¹⁾	[Class A – ABV FL150] [Class B – BLW FL150] ⁽⁵⁾
▲ REMES	004342N 1035735E								
	- 349°	10.0NM		FL 600 2000 FT ALT	5000 FT	10		Even ⁽¹⁾	[Class A – ABV FL150] [Class B – BLW FL150] ⁽⁵⁾
▲ UXATI	003348N 1035933E								
	- 349°	17.7NM		FL 600 2000 FT ALT	5000 FT	10		Even ⁽¹⁾	[Class A – ABV FL150] [Class B – BLW FL150] ⁽⁵⁾
▲ REPOV	001623N 1040300E								
	- 348°	51.1NM		FL 600 2000 FT ALT	5000 FT	10		Even ⁽¹⁾	[Class A – ABV FL150] [Class B – BLW FL150] ⁽⁵⁾
▲ PARDI	003400S 1041300E								
<p><u>Route Remarks:</u> Unidirectional route (Northbound) for flights from Jakarta FIR to Singapore FIR and beyond. FL310, FL330, FL350, FL370, FL390, FL410 can be assigned as flight levels for inbound to Singapore.</p> <p><u>Flight Planning Instructions for Direct Routing Operations (DRO):</u> All aircraft operating at FL290 to FL600 (both inclusive) via PARDI should flight plan using the direct route PARDI DCT PU.</p> <p>Singapore ACC FREQ: P134.4MHz S128.1MHz</p> <p><u>Point/Segment Remarks:</u> (2) Kuala Lumpur/Singapore FIR boundary is approximately 2NM south of GUMPU. (3) Flights above FL370 from PARDI to OLNUB, see AIP Indonesia ENR 2.1. (4) Bidirectional route between SJ and VJB. (5) Unidirectional route from PARDI to SJ.</p>									

Route Designator {RNP Type}	[Route Usage Notes]								
Significant Point Name	Significant Point Coordinates								Remarks
{RNP Type}	Track MAG ↓ ↑	Dist NM	(COP)	Upper limit Lower limit	MNM FLT ALT	Lateral limits NM	Direction of cruising levels ↓ ↑		Controlling unit Frequency {Airspace class} Remarks
1	2	3	4	5	6	7	8	9	10
G580	Route availability: (1) H24								
▲ SINJON DVOR/DME (SJ)	011321N 1035115E								
	079° 259°	33.7NM		FL 460 2000 FT ALT	3000 FT	10	Odd ⁽¹⁾	Even ⁽¹⁾	[Class A - ABV FL150] [Class B - BLW FL150]
▲ HOSBA	011948N 1042418E								
	088° 268°	6.5NM		FL 460 6500 FT ALT	7000 FT	10	Odd ⁽¹⁾	Even ⁽¹⁾	[Class A - ABV FL150] [Class B - BLW FL150]
▲ DOWON (WSJC/WIIF FIR BDRY)	011957N 1043048E								
	088° 268°	76.6NM		FL 600 6500 FT ALT	7000 FT	10	Odd ⁽¹⁾	Even ⁽¹⁾	[Class A - ABV FL150] [Class B - BLW FL150]
▲ TOMAN	012147N 1054717E								
	088° 268°	26.8NM		FL 600 6500 FT ALT	7000 FT	10	Odd ⁽¹⁾	Even ⁽¹⁾	[Class A - ABV FL150] [Class B - BLW FL150]
▲ DODSO (Delegated airspace BDRY)	012225N 1061402E								
<u>Route Remarks:</u> Singapore ACC FREQ: P134.2MHz S133.35MHz <u>Point/Segment Remarks:</u> Flights above FL370 between DOWON and DODSO, see AIP Indonesia ENR 2.1.									

Route Designator {RNP Type}		[Route Usage Notes]				
Significant Point Name	Significant Point Coordinates		Remarks			
{RNP Type}	Track MAG	Dist NM	Upper limit Lower limit	Direction of cruising levels		Controlling unit Frequency {Airspace class} Remarks
1	2	3	4	5	6	
L642		Route availability: (1) H24				
▲ ESPOB (VVHM/WSJC FIR BDRY)	070000N 1053318E					(7)
(10)		149.2NM	FL 460 FL 135			[Class A] (2) (3) (4)
▲ ENREP	045224N 1041442E					(8)
(10)		60.4NM	FL 460 FL 135	Odd ⁽¹⁾	Even ⁽¹⁾	[Class A] (5)
▲ VEPLI	035223N 1040542E					(9)
(10)		33.0NM	FL 460 FL 135	Odd ⁽¹⁾	Even ⁽¹⁾	[Class A] (5)
▲ EGOLO (WSJC/MMFC FIR BDRY)	031934N 1040047E					(10)
(10)		25.1NM	FL 460 FL 135	Odd ⁽¹⁾	Even ⁽¹⁾	[Class A] (6)
▲ ROBMO	025440N 1035700E					(11)
(10)		31.6NM	FL 460 FL 135	Odd ⁽¹⁾	Even ⁽¹⁾	[Class A] (6)
▲ MERSING DVOR/DME (VMR)	022318N 1035218E					

← **Route Remarks:**
Lateral Limits:
 10NM either side of line joining VMR DVOR/DME to EGOLO and 25NM either side of line joining EGOLO to ESPOB.
 Bi-directional between VMR and ENREP.
Flight planning for Direct Routing Operations (DRO):
 Arriving aircraft to Singapore Changi Airport operating at FL290 to FL460 (inclusive) and entering Singapore FIR via ESPOB should flight plan using the direct route ESPOB DCT ELALO.
 All other aircraft operating at FL290 to FL460 (inclusive) and entering Singapore FIR via ESPOB should flight plan using the direct route ESPOB DCT EGOLO.

Point/Segment Remarks:
 (2) ADS-C service is available to suitably equipped aircraft operating outside radar cover (between ESPOB and ENREP) and not in the exclusive ADS-B airspace within Singapore FIR.
 (3) Uni-directional for southbound flights from ESPOB to ENREP. No PDC Flight Levels FL310, FL320, FL350, FL360, FL390, FL400 applicable. Other levels available with prior approval.
 (4) Segment from ESPOB to ENREP use:
 P134.9 MHz
 S134.35 MHz
 (5) Segment from ENREP to EGOLO use:
 P123.7 MHz
 S127.3 MHz
 (6) Segment from EGOLO to VMR use:
 P133.8 MHz
 S127.3 MHz
 (7) NIL
 (8) VMR 008°
 150.0NM
 (9) VMR 008°
 89.7NM
 (10) VMR 008°
 56.6NM
 (11) VMR 008°
 31.6NM

Route Designator {RNP Type}		[Route Usage Notes]					
Significant Point Name {RNP Type}		Significant Point Coordinates			Direction of cruising levels		Remarks
		Track MAG ↓ ↑	Dist NM	Upper limit Lower limit	↓	↑	Controlling unit Frequency {Airspace class} Remarks
1		2	3	4	5	6	7
L644		Route availability: (1) H24					
▲ DUDIS (WSJC/VVHM FIR BDRY)	070000N 1064836E						
(10)	$\frac{192^\circ}{-}$	165.8NM	FL 460 FL 240	Odd ⁽¹⁾			[Class A] (2) (3)
▲ MABLI	041717N 1061247E						
(10)	$\frac{169^\circ}{-}$	33.4NM	FL 460 FL 240	Odd ⁽¹⁾			[Class A] (4)
▲ LIGVU (WSJC/WIIF FIR BDRY)	034417N 1061859E						
<p>← <u>Route Remarks:</u> <u>Flight Planning Instructions for Direct Routing Operations (DRO):</u> All aircraft operating at FL290 to FL460 (inclusive) and entering Singapore FIR via DUDIS should flight plan using the direct route DUDIS DCT LIGVU.</p> <p><u>Point/Segment Remarks:</u> (2) ADS-C service is available to suitably equipped aircraft operating outside radar cover (between DUDIS and MABLI) and not in the exclusive ADS-B airspace within Singapore FIR. (3) Segment from DUDIS to MABLI use: P134.9 MHz S134.35 MHz (4) Segment from MABLI to LIGVU use: P134.7 MHz S134.15 MHz</p>							

Route Designator {RNP Type}		[Route Usage Notes]				
Significant Point Name	Significant Point Coordinates			Direction of cruising levels		Remarks
{RNP Type}	Track MAG	Dist NM	Upper limit Lower limit	↓	↑	Controlling unit Frequency {Airspace class} Remarks
1	2	3	4	5	6	7
M753	Route availability: (1) H24					
▲ IPRIX (VVHM/WSJC FIR BDRY)	070000N 1040754E					
		127.2NM	FL 460 FL 155	Odd ⁽¹⁾	Even ⁽¹⁾	[Class A] (2)
▲ ENREP	045224N 1041442E					
<p>← <u>Route Remarks:</u> Singapore ACC FREQ: P134.9 MHz S134.35 MHz</p> <p>ADS-C service is available to suitably equipped aircraft operating outside radar cover and not in the exclusive ADS-B airspace within the Singapore FIR.</p> <p><u>Flight planning for Direct Routing Operations (DRO):</u> Departing aircraft from Singapore operating at FL290 to FL460 (inclusive) and exiting Singapore FIR via IPRIX should flight plan using the direct route EGOLO DCT IPRIX.</p> <p>All other aircraft operating at FL290 to FL460 (inclusive) and entering or exiting Singapore FIR via L642 ENREP M753 IPRIX should flight plan using the direct route EGOLO DCT IPRIX or its reciprocal track.</p> <p>Lateral Limits: 25NM either side of line joining ENREP to IPRIX.</p> <p><u>Point/Segment Remarks:</u> (2) NIL</p>						

Route Designator {RNP Type}		[Route Usage Notes]				
Significant Point Name {RNP Type}	Significant Point Coordinates		Direction of cruising levels		Remarks	
	Track MAG ↓ ↑	Dist NM	Upper limit Lower limit	↓	↑	Controlling unit Frequency {Airspace class} Remarks
1	2	3	4	5	6	7
M754		Route availability: (1) H24				
▲ VINIK (WSJC/RPHI FIR BDRY)	083830N 1161348E					
		37.9NM	FL 460 FL 135	Even ⁽¹⁾	Odd ⁽¹⁾	[Class A-ABV FL150 Class B-BLW FL150] ⁽²⁾
▲ SUMLA (WSJC/WMFC FIR BDRY)	080242N 1160054E					
<p><u>Route Remarks:</u> Lateral Limits: 10NM either side of line joining SUMLA to VINIK.</p> <p>Portion of M754 within the Singapore FIR has been delegated to Kinabalu ACC for provision of ATS.</p> <p>Kinabalu ACC FREQ: 126.1 MHz</p> <p><u>Point/Segment Remarks:</u> (2) BRU 019° 238.9NM</p>						

Route Designator {RNP Type}		[Route Usage Notes]					
{RNP Type}	Significant Point Name	Significant Point Coordinates		Upper limit Lower limit	Direction of cruising levels		Remarks {Controlling unit Frequency {Airspace class} Remarks
		Track MAG ↓ ↑	Dist NM		↓	↑	
1	2	3	4	5	6	7	
M771		Route availability: (1) H24					
▲ DUDIS (WSJC/VVHM FIR BDRY)	070000N 1064836E					(7)	
(10)		156.2NM	FL 460 FL 135			[Class A] (2) (3)	
▲ DOLOX	044841N 1052247E					(8)	
(10)		42.5NM	FL 460 FL 135			[Class A] (4)	
▲ DAMOG	041225N 1050014E					(9)	
(10)		27.5NM	FL 460 FL 135			[Class A] (4)	
▲ DUBSA	034901N 1044540E					(10)	
(10)		26.6NM	FL 460 FL 135			[Class A] (5)	
▲ VISAT	032620N 1043134E					(11)	
(10)		21.7NM	FL 460 FL 135			[Class A] (5)	
▲ OTLON	030752N 1042006E					(12)	
(10)		5.4NM	FL 460 FL 135			[Class A] (5)	
▲ RAXIM (WMFC/WSJC FIR BDRY)	030318N 1041713E					(13)	
(10)		47.0NM	FL 460 FL 135			[Class A] (6)	
▲ MERSING DVOR/DME (VMR)	022318N 1035218E						

← **Route Remarks:**
Lateral Limits:
 10NM either side of line joining VMR DVOR/DME to RAXIM and 25NM either side of line joining RAXIM to DUDIS.

 Uni-directional for north-east bound flights from VMR to DUDIS. No PDC Flight Levels FL310, FL320, FL350, FL360, FL390, FL400 applicable. Other levels available with prior approval.

Point/Segment Remarks:
 (2) ADS-C service is available to suitably equipped aircraft operating outside radar cover (between DOLOX and DUDIS) and not in exclusive ADS-B airspace within the Singapore FIR.
 (3) Segment from DUDIS to DOLOX use:
 P134.9 MHz
 S134.35 MHz
 (4) Segment from DOLOX to DUBSA use:
 P123.7 MHz
 S127.3 MHz
 (5) Segment from DUBSA to RAXIM use:
 P134.7 MHz
 S134.15 MHz
 (6) Segment from RAXIM to VMR use:
 P133.8 MHz
 S127.3 MHz
 (7) NIL
 (8) VMR 031°
 170.6NM
 (9) VMR 031°
 128.1NM
 (10) VMR 032°
 100.6NM
 (11) VMR 032°
 74.0NM
 (12) VMR 032°
 52.4NM
 (13) VMR 032°
 47.0NM

Route Designator {RNP Type}		[Route Usage Notes]				
Significant Point Name {RNP Type}	Significant Point Coordinates		Direction of cruising levels		Remarks	
	Track MAG ↓ ↑	Dist NM	Upper limit Lower limit	↓	↑	Controlling unit Frequency {Airspace class} Remarks
1	2	3	4	5	6	7
M772		Route availability: (1) H24				
▲ LAXOR (WSJC/RPHI FIR BDRY)	094937N 1144829E				(2)	
(10)	020° -	147.5NM	FL 460 FL 240		Even ⁽¹⁾	[Class A]
▲ BIDAG	073101N 1135544E				(2)	
(10)	020° -	97.9NM	FL 460 FL 240		Even ⁽¹⁾	[Class A]
▲ ASISU (WBFC/WSJC FIR BDRY)	055906N 1132046E				(3)	
<p><u>Route Remarks:</u> Lateral Limits: 25NM either side of line joining ASISU to LAXOR.</p> <p>Available only for flights departing from : - WIII and WIHH to VHHH and airports in People's Republic of China. - WBGB, WBSB, WBG, WBKL, WBGR and WBS to VHHH only.</p> <p>ADS-C and CPDLC services are available to suitably equipped aircraft operating outside radar cover within the Singapore FIR.</p> <p><u>Point/Segment Remarks:</u> (2) NIL (3) BRU 305° 113.3NM</p>						

<i>Route Designator {RNP Type}</i>		<i>[Route Usage Notes]</i>				
<i>Significant Point Name</i>	<i>Significant Point Coordinates</i>					<i>Remarks</i>
<i>{RNP Type}</i>	<i>Track MAG</i> ↓ ↑	<i>Dist NM</i>	<i>Upper limit</i> <i>Lower limit</i>	<i>Direction of cruising levels</i> ↓ ↑		<i>Controlling unit Frequency {Airspace class} Remarks</i>
1	2	3	4	5	6	7
M774		<i>Route availability:</i> (1) H24				
▲ JUNHA	005413N 1043052E					
(10)	101° 281°	61.3NM	FL 600 5500 FT ALT	Odd ⁽¹⁾	Even ⁽¹⁾	[Class A – ABV FL150] [Class B – BLW FL150]
▲ OTLAL (Delegated airspace BDRY)	004209N 1053052E					
(10)	101° 281°	86.8NM	FL 600 5500 FT ALT	Odd ⁽¹⁾	Even ⁽¹⁾	[Class A] [Class B]
▲ OBDOS	002503N 1065551E					
<p><i>Route Remarks:</i> Singapore ACC FREQ: P134.4 MHz S128.1 MHz</p> <p><i>Flight Planning:</i> Flights overflying Singapore to destinations north of Kuala Lumpur and Subang to flight plan via M774 JUNHA IRTAD A464 SJ G579 VJB Y342 AROSO Y513. Flights overflying Singapore to land at Kuala Lumpur and Subang to flight plan via M774 JUNHA IRTAD A464 SJ G579 VJB A457. All departures from Singapore aerodromes joining ATS route M774 to flight plan via HOSBA G580 DODSO T21.</p> <p><i>Point/Segment Remarks:</i> Flights above FL370 between JUNHA and OBDOS, see AIP Indonesia ENR 2.1.</p>						

Route Designator {RNP Type}		[Route Usage Notes]				
Significant Point Name {RNP Type}	Significant Point Coordinates		Direction of cruising levels		Remarks	
	Track MAG ↓ ↑	Dist NM	Upper limit Lower limit	↓	↑	Controlling unit Frequency {Airspace class} Remarks
1	2	3	4	5	6	7
M904	Route availability: (1) H24					
▲ TIDAR (WSJC/VTBB FIR BDRY)	065230N 1025000E					
(10)	144° 324°	19.8NM	FL 460 6500 FT ALT	Odd ⁽¹⁾	Even ⁽¹⁾	[Class A (FL290 and ABV)] (2)
▲ ODONO	063614N 1030129E					
(10)	144° 324°	33.1NM	FL 460 FL 145	Odd ⁽¹⁾	Even ⁽¹⁾	[Class A (FL290 and ABV)] (2)
▲ UPRON	060903N 1032040E					
(10)	144° 324°	93.4NM	FL 460 FL 245	Odd ⁽¹⁾	Even ⁽¹⁾	[Class A (FL290 and ABV)] (2)
▲ ENREP	045224N 1041442E					
<p>← <u>Route Remarks:</u> Singapore ACC FREQ: P134.9 MHz S134.35 MHz</p> <p>ADS-C service is available to suitably equipped aircraft operating outside radar cover and not in the exclusive ADS-B airspace within the Singapore FIR.</p> <p><u>Point/Segment Remarks:</u> (2) NIL</p>						

Route Designator {RNP Type}		[Route Usage Notes]				
Significant Point Name	Significant Point Coordinates		Direction of cruising levels		Remarks	
{RNP Type}	Track MAG	Dist NM	Upper limit Lower limit	↓	↑	Controlling unit Frequency {Airspace class} Remarks
1	2	3	4	5	6	7
N884		Route availability: (1) H24				
▲ LAXOR (WSJC/RPHI FIR BDRY)	094937N 1144829E					
(10)	051° -	246.6NM	FL 460 6500 FT ALT			[Class A] (2)
▲ LAGOT	071632N 1113243E					
(10)	051° -	242.9NM	FL 460 6500 FT ALT			[Class A] (2)
▲ RILRI (WSJC/WIIF FIR BDRY)	044343N 1082239E					
(10)	051° -	111.5NM	FL 600 6500 FT ALT		Odd ⁽¹⁾	[Class A] [Class B] [Class C] (5)
▲ LUSMO	033341N 1065534E					
(10)	069° -	53.0NM	FL 600 6500 FT ALT		Odd ⁽¹⁾	[Class A] [Class B] (5)
▲ LEBIN	031438N 1060604E					
(10)	069° -	32.2NM	FL 600 6500 FT ALT		Odd ⁽¹⁾	[Class A] [Class B] (5)
▲ OLMUT (Delegated airspace BDRY)	030306N 1053558E					
(10)	069° -	22.5NM	FL 600 6500 FT ALT			[Class A – ABV FL150] [Class B – BLW FL150] (3)
▲ VEGLO (WSJC/WIIF FIR BDRY)	025502N 1051457E					
(10)	069° -	3.7NM	FL 460 6500 FT ALT			[Class A] (3)
▲ LIPRO	025342N 1051128E					
(10)	069° -	34.2NM	FL 460 6500 FT ALT			[Class A] (3)
▲ LENDA (WSJC/MMFC FIR BDRY)	024124N 1043932E					
(10)	069° -	50.6NM	FL 460 6500 FT ALT			[Class A] (4)
▲ MERSING DVOR/DME (VMR)	022318N 1035218E					
<p>Route Remarks: Uni-directional for east bound flights from VMR to LAXOR. No PDC Flight Levels FL310, FL320, FL350, FL360, FL390, FL400 applicable. Other levels available with prior approval.</p> <p>Flight planning: Not available for flight planning between VMR and OLMUT. Flight Plan via TOMAN L625.</p> <p>Point/Segment Remarks: (2) ADS-C and CPDLC services are available to suitably equipped aircraft operating outside radar cover (between RILRI and LAXOR) within the Singapore FIR. (3) Segment from OLMUT to LENDA use: P134.7 MHz S134.15 MHz (4) Segment from LENDA to VMR use: P133.8 MHz S127.3 MHz (5) Segment from OLMUT to RILRI to contact Jakarta ACC. (6) Flights above FL370 from VEGLO to OLMUT, see AIP Indonesia ENR 2.1.</p>						

Route Designator {RNP Type}		[Route Usage Notes]					Remarks
Significant Point Name {RNP Type}		Significant Point Coordinates		Upper limit Lower limit	Direction of cruising levels		
		Track MAG ↓ ↑	Dist NM			↓	↑
1		2	3	4	5	6	7
N891		Route availability: (1) H24					
▲ IGARI (WSJC/VVHM FIR BDRY)	065612N 1033506E						(6)
(10)	162° 342°	65.4NM	FL 460 FL 155	Odd ⁽¹⁾	Even ⁽¹⁾	[Class A] (2)	
▲ IKUMI	055338N 1035509E						(6)
(10)	162° 342°	64.0NM	FL 460 FL 155	Odd ⁽¹⁾	Even ⁽¹⁾	[Class A] (2)	
▲ ENREP	045224N 1041442E						
(10)	185° 005°	75.5NM	FL 460 FL 155	Odd ⁽¹⁾	Even ⁽¹⁾	[Class A] (3)	
▲ UGPEK	033647N 1040752E						
(10)	185° 005°	11.7NM	FL 460 FL 155	Even ⁽¹⁾	Odd ⁽¹⁾	[Class A] (3)	
▲ URIGO	032505N 1040647E						
(10)	184° 004°	10.6NM	FL 460 FL 155	Even ⁽¹⁾	Odd ⁽¹⁾	[Class A] (3)	
▲ MANIM (WMFC/WSJC FIR BDRY)	031430N 1040554E						
(10)	185° 005°	2.6NM	FL 460 FL 155	Even ⁽¹⁾	Odd ⁽¹⁾	[Class A] (4)	
▲ OBDAB	031153N 1040538E						
(10)	185° 005°	106.4NM	FL 460 FL 155	Even ⁽¹⁾	Odd ⁽¹⁾	[Class A] (4)	
▲ PAPA UNIFORM DVOR/DME (PU)	012524N 1035600E						(5)

← **Route Remarks:**
ADS-C service is available to suitably equipped aircraft operating outside radar cover and not in the exclusive ADS-B airspace within the Singapore FIR

Point/Segment Remarks:

- (2) Segment from IGARI to ENREP use:
P134.9 MHz
S134.35 MHz
- (3) Segment from ENREP to MANIM use:
P123.7 MHz
S127.3 MHz
- (4) Segment from MANIM to PU use:
P133.8 MHz
S127.3 MHz
- (5) WSJC/WMFC FIR boundary approximately 0.4NM North of PU.
- (6) NIL

Route Designator {RNP Type}		[Route Usage Notes]				
Significant Point Name		Significant Point Coordinates		Remarks		
{RNP Type}	Track MAG	Dist NM	Upper limit Lower limit	Direction of cruising levels		Controlling unit Frequency {Airspace class} Remarks
1	2	3	4	5	6	
N892		Route availability: (1) H24				
▲ MELAS (VVHM/WSJC FIR BDRY)	070518N 1080912E					
(10)		203.6NM	FL 460 FL 135			[Class A] (2) (3)
▲ MABLI	041717N 1061247E					(6)
(10)		52.1NM	FL 460 FL 135			[Class A] (4)
▲ MUMSO	034420N 1053213E					(7)
(10)		25.2NM	FL 460 FL 135			[Class A] (4)
▲ MABAL	032826N 1051236E					(8)
(10)		41.4NM	FL 460 FL 135			[Class A] (4)
▲ KILOT	030217N 1044023E					(9)
(10)		15.7NM	FL 460 FL 135			[Class A] (4)
▲ KIBOL WSJC/WMFC FIR BDRY	025224N 1042818E					(10)
(10)		28.1NM	FL 460 FL 135			[Class A] (5)
▲ PEKLA	023437N 1040618E					(11)
(10)		18.0NM	FL 460 FL 135			[Class A] (5)
▲ MERSING DVOR/DME (VMR)	022318N 1035218E					
<p>← Route Remarks: Lateral Limits: 10NM either side of line joining VMR DVOR/DME to KIBOL and 25NM either side of line joining KIBOL to MELAS.</p> <p>Uni-directional for south-west bound flights from MELAS to VMR. No PDC Flight Levels FL310, FL320, FL350, FL360, FL390, FL400 applicable. Other levels available with prior approval.</p> <p>Flight planning for Direct Routing Operations (DRO): Arriving aircraft into Singapore Changi Airport operating at FL290 to FL460 (inclusive) and entering Singapore FIR via MELAS should flight plan using the direct route MELAS DCT MABAL.</p> <p>All other aircraft operating at FL290 to FL460 (inclusive) and entering Singapore FIR via MELAS should flight plan using the direct route MELAS DCT MABAL.</p> <p>Point/Segment Remarks:</p> (2) ADS-C service is available to suitably equipped aircraft operating outside radar cover (between MELAS and MABLI) and not in the exclusive ADS-B airspace within the Singapore FIR. (3) Segment from MELAS to MABLI use: P134.9 MHz S134.35 MHz (4) Segment from MABLI to KIBOL use: P134.7 MHz S134.15 MHz (5) Segment from KIBOL to VMR use: P133.8 MHz S127.3 MHz (6) VMR 051° 180.6NM (7) VMR 051° 128.4NM (8) VMR 051° 103.2NM (9) VMR 051° 61.8NM (10) VMR 050° 46.1NM (11) VMR 051° 18.0NM						

Route Designator {RNP Type}		[Route Usage Notes]				
Significant Point Name {RNP Type}	Significant Point Coordinates		Direction of cruising levels		Remarks	
	Track MAG ↓ ↑	Dist NM	Upper limit Lower limit	↓	↑	Controlling unit Frequency {Airspace class} Remarks
1	2	3	4	5	6	7
P501	Route availability: (1) H24					
▲ ARAMA (Delegated airspace BDRY)	013654N 1030712E					
(10)	146° -	25.0NM	FL 460 9500 FT ALT	Odd ⁽¹⁾		[Class A - ABV FL150] [Class B - BLW FL150] ⁽²⁾
▲ ANBUS (WMFC/WIIF FIR BDRY) (Delegated airspace BDRY)	011554N 1032100E					
(10)	146° -	16.0NM	FL 600 9500 FT ALT	Odd ⁽¹⁾		[Class A - ABV FL150] [Class B - BLW FL150] ⁽²⁾
▲ BOBAG	010230N 1032954E					
(10)	134° -	41.2NM	FL 600 FL 275	Odd ⁽¹⁾		[Class A] ⁽³⁾
▲ UXATI	003348N 1035933E					
(10)	134° -	19.2NM	FL 600 FL 275	Odd ⁽¹⁾		[Class A] ⁽³⁾
▲ POSOG	002024N 1041323E					
(10)	134° -	53.7NM	FL 600 FL 275	Odd ⁽¹⁾		[Class A] ⁽³⁾
▲ ANITO	001700S 1045200E					
<i>Point/Segment Remarks:</i>						
(2) Segment from ARAMA to BOBAG use: P133.25 MHz S135.8 MHz						
(3) Segment from BOBAG to ANITO use: P134.4 MHz S128.1 MHz						
(4) Flights above FL370 from ANBUS to ANITO, see AIP Indonesia ENR 2.1.						

Route Designator {RNP Type}		[Route Usage Notes]				
Significant Point Name	Significant Point Coordinates		Direction of cruising levels		Remarks	
{RNP Type}	Track MAG	Dist NM	Upper limit Lower limit	↓	↑	Controlling unit Frequency {Airspace class} Remarks
1	2	3	4	5	6	7
Q801	Route availability: (1) H24					
▲ ESPOB (VVHM/WSJC FIR BDRY)	070000N 1053318E					
		143.0NM	FL 460 FL 200			[Class A]
▲ ESBUM	045210N 1042830E					
<p>← <u>Route Remarks:</u> Lateral Limits: 15NM either side of line joining ESPOB TO ESBUM.</p> <p>Flight planning for Direct Routing Operations (DRO): Arriving aircraft into Singapore Changi Airport operating at FL290 to FL460 (inclusive) and entering Singapore FIR via ESPOB should flight plan using the direct route ESPOB DCT ELALO.</p> <p>Uni-directional for southbound flights from ESPOB to ESBUM. No PDC Flight Levels FL310, F320, F350, FL360, FL390, FL400 applicable. Other levels available with prior approval.</p> <p>Singapore ACC FREQ: P134.9 MHz S134.35 MHz</p>						

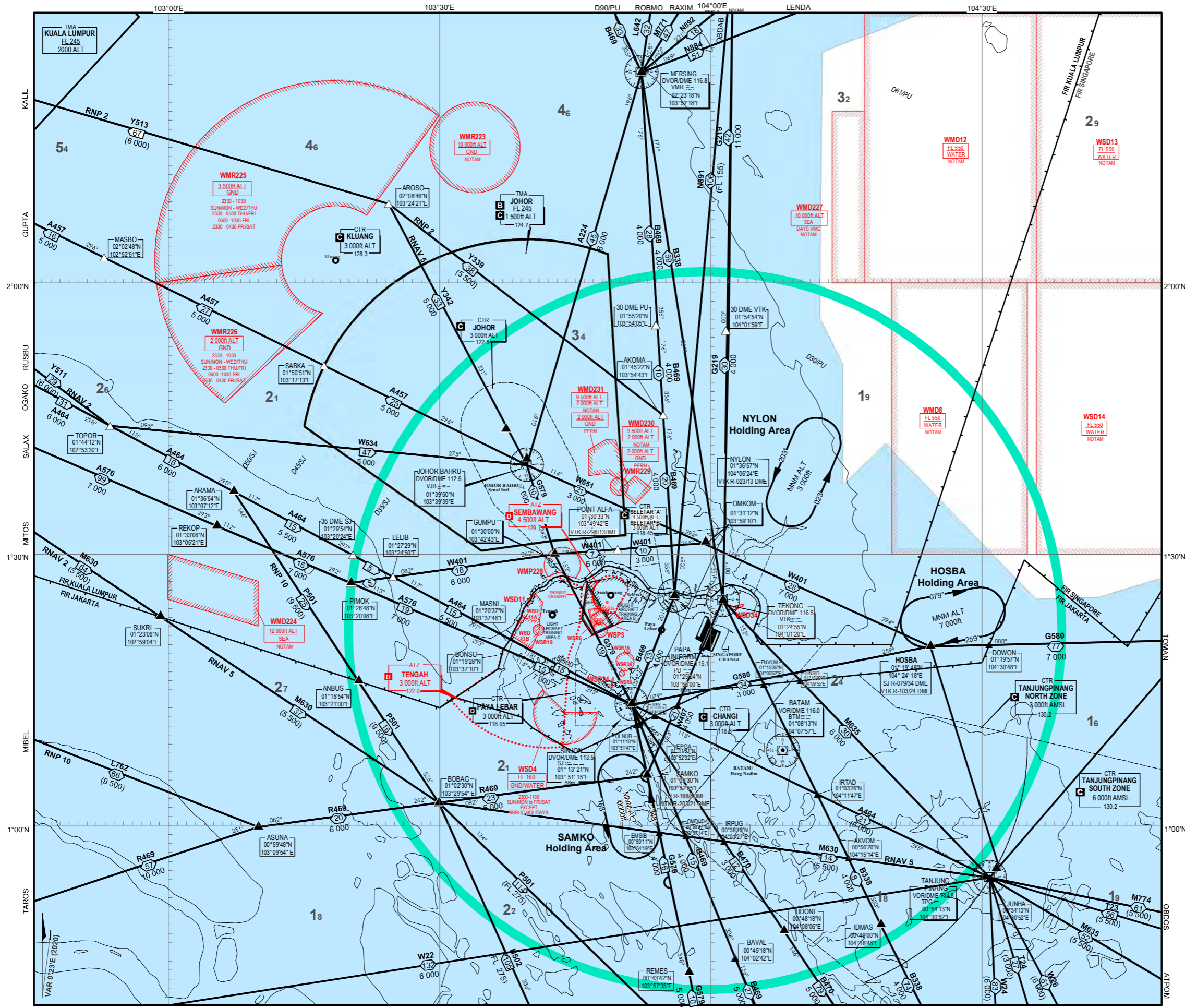
Route Designator {RNP Type}		[Route Usage Notes]				
Significant Point Name {RNP Type}	Significant Point Coordinates		Direction of cruising levels		Remarks	
	Track MAG ↓ ↑	Dist NM	Upper limit Lower limit	↓	↑	Controlling unit Frequency {Airspace class} Remarks
1	2	3	4	5	6	7
Q802	Route availability: (1) H24					
▲ IPRIX (VVHM/WSJC FIR BDRY)	070000N 1040754E					
		130.0NM	FL 460 FL 200	Odd ⁽¹⁾		[Class A]
▲ ESBUM	045210N 1042830E					
		39.0NM	FL 460 FL 200	Odd ⁽¹⁾		[Class A]
▲ ELALO	041240N 1043329E					
<p>← <u>Route Remarks:</u> Lateral Limits: 15NM either side of line joining IPRIX to ELALO</p> <p>Singapore ACC FREQ: P134.9 MHz S134.35 MHz</p>						

Route Designator {RNP Type}		[Route Usage Notes]				
Significant Point Name	Significant Point Coordinates		Direction of cruising levels		Remarks	
{RNP Type}	Track MAG ↓ ↑	Dist NM	Upper limit Lower limit	↓	↑	Controlling unit Frequency {Airspace class} Remarks
1	2	3	4	5	6	7
Q803		Route availability: (1) H24				
▲ UPRON	060903N 1032040E					
		87.0NM	FL 460 FL 240	Odd ⁽¹⁾		[Class A]
▲ IPDOL	045111N 1035920E					
		15.0NM	FL 460 FL 200	Odd ⁽¹⁾		[Class A]
▲ KEXOL	043930N 1040942E					
		36.0NM	FL 460 FL 200	Odd ⁽¹⁾		[Class A]
▲ ELALO	041240N 1043329E					
← Route Remarks: Lateral Limits: 15NM either side of line joining UPRON to ELALO Singapore ACC FREQ: P134.9 MHz S134.35 MHz						

Route Designator {RNP Type}		[Route Usage Notes]				
Significant Point Name {RNP Type}	Significant Point Coordinates		Direction of cruising levels		Remarks	
	Track MAG ↓ ↑	Dist NM	Upper limit Lower limit	↓	↑	Controlling unit Frequency {Airspace class} Remarks
1	2	3	4	5	6	7
T21	Route availability: (1) H24					
▲ JUNHA	005413N 1043052E					
(2)	041° -	34.6NM	FL 600 3000 FT ALT	Odd ⁽¹⁾		[Class A - ABV FL150] [Class B - BLW FL150]
▲ VEBMA	012030N 1045332E					
(2)	088° -	53.8NM	FL 600 3000 FT ALT	Odd ⁽¹⁾		[Class A - ABV FL150] [Class B - BLW FL150]
▲ TOMAN	012147N 1054717E					
(2)	088° -	26.8NM	FL 600 5500 FT ALT	Odd ⁽¹⁾		[Class A - ABV FL150] [Class B - BLW FL150]
▲ DODSO (Delegated airspace BDRY)	012225N 1061402E					
<p><u>Route Remarks:</u> Singapore ACC FREQ: P134.2 MHz S133.35 MHz</p> <p><u>Flight Planning Instructions:</u> All departures from Singapore aerodromes, Batam and Tanjungpinang joining ATS route L504 or M774 to flight plan via DODSO T21.</p> <p><u>Point/Segment Remarks:</u> Flights above FL370 from JUNHA to DODSO, see AIP Indonesia ENR 2.1.</p>						

AREA CHART - ICAO

LOW LEVEL HOLDING AREAS



LEGEND

Terminal Control Area (TMA)	Name of TMA: JOHOR Airspace Classification: B Upper Limit: FL 3000 Lower Limit: 1500M Radio frequency(ies): 124.7
Control Zone (CTR)	Name of CTR: CHANGI Airspace Classification: C Upper Limit: 3000M Radio frequency(ies): 118.6M
Aerodrome Traffic Zone (ATZ)	Name of ATZ: TENGAH Airspace Classification: D Upper Limit: 3000M Radio frequency(ies): 122.0
ATS Routes	Route designator: B469 Distance in nautical miles: 20 Minimum flight altitude (ft)/flight level: 4000/FL 160 Lower limit (ft)/flight level: (4000)/(FL 160)
Reporting Point	Compulsory: ▲ On request: △
DME distance from SJ Navaid	D35/SJ
Radio Navigation Aid	Name: SINGAPORE Identification and frequency: 113.9 Geographical Coordinates: 01°13'21"N 103°51'15"E Elevation of DME site: 58m
Collocated VOR and DME Radio Navigation Aids	Compass rose orientated on the chart to Magnetic North
Restricted Airspace (P - Prohibited, R - Restricted, D - Danger)	Identification of area: WSD13 Nationality letter: W Vertical limits: FL 550 Activation by NOTAM: NOTAM

Area Minimum Altitude (AMA)

Each quadrilateral contains an area minimum altitude (AMA) which represents the lowest altitude which may be used under instrument meteorological conditions (IMC). The AMA provides a minimum clearance of 1 000 feet (300m) above all terrain and obstacles in the quadrilateral. It is represented in thousands and hundreds of feet above mean sea level.

Example : 3 400 feet **34**

NOTE :- In computing the area minimum altitude, a margin of 200 feet (60m) for vegetation has been added for spot elevations.

Speed Control Procedures

Speed control procedures are in force unless notified otherwise by ATC or ATIS.

All arriving turbo-propeller and turbo-jet aircraft are to fly at not faster than indicated air speed 250 knots when within 40nm from Singapore Changi Airport or when at or below 10,000ft except all arriving aircraft into Singapore Changi Airport shall comply with the speed restrictions depicted on the transitions and RNAV STARS. Further speed reductions will be regulated by ATC as necessary.

Pilots who may not be able to comply with the speed limits specified above for reasons of flight safety and/or weather should inform ATC and state the speed(s) acceptable.

AIRSPACE CLASSIFICATION IN THE SINGAPORE FIR

Airspace	Levels	Classification
Controlled airspace	FL150 to FL460	A
	Surface to FL150	B
Controlled airspace more than 100 nm seaward from the shoreline	Lower limit to FL460	A
Control Zone (CTRs)	Changi CTR	C
	Paya Lebar CTR	D
	Seletar CTR	C
ATZs	Surface to upper limit	D
Uncontrolled airspace		G*

* Aircraft operating in the Light Aircraft Training Areas A, B and C (please refer to page ENR 5.2-1) are required to have continuous two-way communications with the appropriate ATIS authority.

SINGAPORE

D-ATIS	DEP	128.6
ARR	128.025	
APP	DEP	120.3
ARR	119.3	
TWR	APP	124.05
		118.6
		118.25

Note :

FOR DEPARTURE AND ARRIVAL ROUTES
REFER TO AD-2-WSSS-SID-1 TO AD-2-WSSS-SID-64 AND
AD-2-WSSS-STAR-1 TO AD-2-WSSS-STAR-19

PROHIBITED, RESTRICTED AND DANGER AREAS

	ACTIVITY	UPPER LIMIT LOWER LIMIT	REMARKS
WSP3	-	750ft ALT GND	Permanently Active as in ENR 5
WSD4	A/G and G/G Firing Range	FL 160 GND/WATER	Permanently Active as in ENR 5
WMD8	Naval Air/Air Firing Range	FL 550 WATER	Activation by NOTAM
WSD11	Small Arm Firing	1 300ft ALT GND	Permanently Active as in ENR 5
WSD11A	Artillery Firing	FL 125 GND	Activation by NOTAM
WSD11B	Artillery Firing	FL 125 GND	Activation by NOTAM
WMD12	Naval Anti-aircraft Firing	FL 550 WATER	Activation by NOTAM
WSD13	Naval Anti-aircraft Firing	FL 550 WATER	Activation by NOTAM
WSD14	Naval Anti-aircraft Firing & Live Air/Air Firing	FL 550 WATER	Activation by NOTAM
WSP24	-	800ft ALT GND/WATER	Permanently Active as in ENR 5
WSR6	Helicopter Operations	200ft ALT GND	Permanently Active as in ENR 5
WSR9	Helicopter Operations	200ft ALT GND	Permanently Active as in ENR 5
WSR16	Helicopter Operations	200ft ALT GND	Permanently Active as in ENR 5
WSD34	Rifle Range	500ft ALT GND	Permanently Active as in ENR 5
WSD35	Rifle Range	900ft ALT GND	Permanently Active as in ENR 5
WSD36	Rifle Range	750ft ALT GND	Permanently Active as in ENR 5
WSR10	-	5 500ft ALT GND	Permanently Active as in ENR 5
WSR38	-	10 000ft ALT GND	Permanently Active as in ENR 5
	Transit Channel	2 000ft ALT GND	Activated only for Military acft crossing
*	Light Aircraft Training Area A	4 500ft ALT GND/*2 000ft	Training & Local Flts in VMC only
*	Light Aircraft Training Area B	10 500ft ALT 4 500ft ALT	High Flying Training Ops in VMC only
*	Light Aircraft Training Area C	10 500ft ALT 4 500ft ALT	High Flying Training Ops in VMC only
WMR223	Parachute Dropping	10 000ft ALT GND	Permanently Active as in ENR 5
WMD224	Firing Range	12 000ft ALT SEA	Activation by NOTAM
WMR225	RMAF Helicopter Training Area	3 500ft ALT GND	Permanently Active as in ENR 5
WMR226	RMAF Helicopter Training Area	2 000ft ALT GND	Permanently Active as in ENR 5
WMD227	Radar Bombing Range	10 000ft ALT SEA	Activation by NOTAM
WMP228	Sultan's Palace	5 000ft ALT GND	Permanently Active as in ENR 5
WMR229	Helicopter Operations	1 500ft ALT GND	Permanently Active as in ENR 5
WMD230	Artillery Firing Range	2 000ft ALT GND	Permanently Active as in ENR 5
WMD231	Artillery Firing Range	2 000ft ALT GND	Permanently Active as in ENR 5

* In Transit Channel

* AEROBATICS IS PROHIBITED IN LIGHT AIRCRAFT TRAINING AREAS A, B and C.

SPECIAL NOTE :-

1. WEATHER BALLOONS

BALLOONS WILL BE RELEASED FOR MET OBSERVATION AT THE CENTRE FOR CLIMATE RESEARCH SINGAPORE, UPPER AIR OBSERVATORY (012025N 1035317E), BEARING 244° MAG AND DISTANCE 1.5NM FROM SOUTHERN END OF PAYA LEBAR RWY 02.

(I) BALLOONS WILL BE RELEASED DAILY AT 2330UTC AND 1040UTC. CUT-OFF TIMINGS FOR THE RELEASE ARE AT 0030UTC AND 1230UTC RESPECTIVELY. RATE OF ASCENT IS 320M PER MIN. MAX HGT OF BALLOON 115 000FT (35 000M). THE BALLOON, UNCOLOURED AND 162CM IN DIAMETER, IS ATTACHED WITH RADIOSONDE EQUIPMENT. IT WILL BURST 1.5 TO 2HRS AFTER RELEASE AND RADIOSONDE EQUIPMENT WILL DECSEND WITHIN 60NM RADIUS.

(II) A BALLOON WILL BE RELEASED BETWEEN 2330UTC AND 0030UTC ON EITHER THE 3rd OR 4th WEEK OF THE MONTH. RATE OF ASCENT IS 320M PER MIN. MAX HGT OF BALLOONS IS 115 000FT (35 000M). THE BALLOON, UNCOLOURED AND 191CM IN DIAMETER, IS ATTACHED WITH OZONESONDE/RADIOSONDE EQUIPMENT AND PARACHUTE. IT WILL BURST 1.5 TO 2HR AFTER RELEASE.

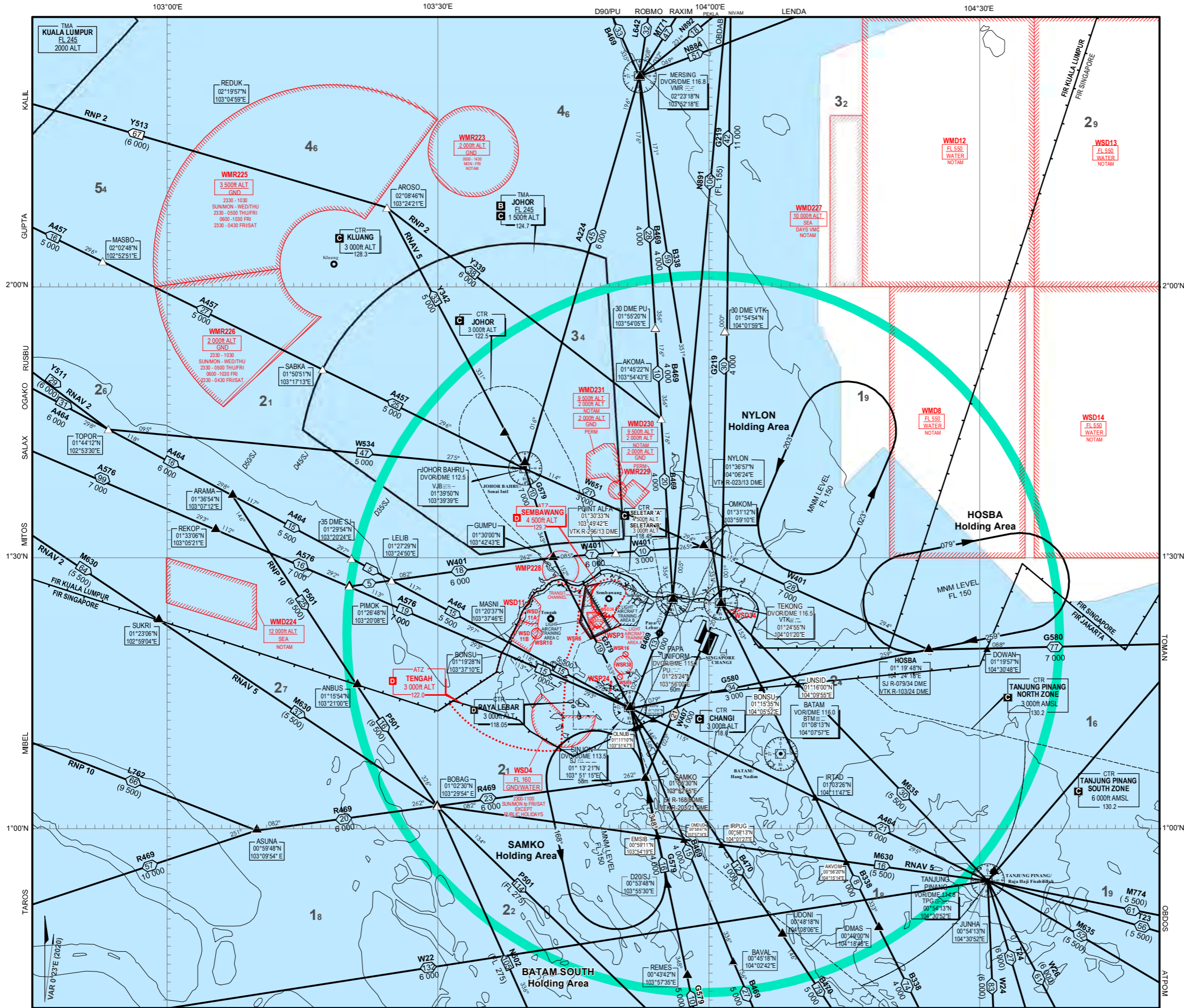
2. AEROMODELLING AND KITE FLYING

(A) GENERAL WARNING

- i) PILOTS FLYING AT LOW ALTITUDES SHOULD WATCH OUT FOR POSSIBLE HAZARDS SUCH AS MODEL AIRCRAFT AND KITES, ESPECIALLY WHEN FLYING NEAR PARKS AND OPEN GROUND.
- ii) THE LOCATION OF SOME OF THE PARKS IN SINGAPORE WHERE KITE AND AERO MODEL FLYING MAY OCCUR ARE SHOWN ON ENR 3.4-5. PILOTS SHOULD NOTE THAT THE CHART AT ENR 3.4-5 DOES NOT SHOW ALL THE PARKS IN SINGAPORE AND THAT HAZARDS SUCH AS KITE FLYING AND AERO MODEL FLYING MAY TAKE PLACE AT PARKS AND OPEN GROUND NOT INDICATED IN ENR 3.4-5.
- iii) ACCORDING TO THE SINGAPORE AIR NAVIGATION ORDER, 1985, KITE FLYING AND AERO MODEL FLYING ARE NOT PERMITTED ABOVE 200ft OR WITHIN 5km OF AN AERODROME. HOWEVER, PILOTS ARE ADVISED TO LOOK OUT FOR SUCH HAZARDS AT ALL TIMES AS MEMBERS OF THE PUBLIC MAY INADVERTENTLY FLY KITES OR AERO MODELS ABOVE THE HGT OF 200ft OR WITHIN 5km OF AN AERODROME.

AREA CHART - ICAO

HIGH LEVEL HOLDING AREAS



LEGEND

Terminal Control Area (TMA)	Name of TMA: JOHOR Airspace Classification: FL 300R Upper Limit: FL 300R Lower Limit: 1 500R Radio frequency(ies): 124.7
Control Zone (CTR)	Name of CTR: CHANGI Airspace Classification: 3 000R Upper Limit: 118.6m Radio frequency(ies): 118.6m
Aerodrome Traffic Zone (ATZ)	Name of ATZ: TENGAH Airspace Classification: 3 000R Upper Limit: 3 000R Radio frequency(ies): 122.0
ATS Routes	Route designator: B469 Distance in nautical miles: 20 Minimum flight altitude (ft)/flight level: 4 000/FL 160 Lower limit (ft)/flight level: (4 000)/(FL 160)
Oceanic Control Area (OCA)	
Reporting Point	Compulsory: ▲ On request: △
DME distance from SJ Navaid	D35/SJ
Radio Navigation Aid	Name: SINJION Identification and frequency: DVOR/DME 113.5 Geographical Coordinates: 01°13'21"N 103°41'E Elevation of DME site: 8m
Collocated VOR and DME Radio Navigation Aids	Compass rose orientated on the chart to Magnetic North
Restricted Airspace (P - Prohibited, R - Restricted, D - Danger)	Identification of area: WSD13 Nationality letter: W Vertical limits: FL 500 Activation by NOTAM: NOTAM
Area Minimum Altitude (AMA)	
Each quadrilateral contains an area minimum altitude (AMA) which represents the lowest altitude which may be used under instrument meteorological conditions (IMC). The AMA provides a minimum clearance of 1 000 feet (300m) above all terrain and obstacles in the quadrilateral. It is represented in thousands and hundreds of feet above mean sea level. Example: 3 400 feet 34	
<i>NOTE: - In computing the area minimum altitude, a margin of 200 feet (60m) for vegetation has been added for spot elevations.</i>	

Speed Control Procedures

Speed control procedures are in force unless notified otherwise by ATC or ATIS.

All arriving turbo-propeller and turbo-jet aircraft are to fly at not faster than indicated air speed 250 knots when within 40nm from Singapore Changi Airport or when at or below 10,000ft except all arriving aircraft into Singapore Changi Airport shall comply with the speed restrictions depicted on the transitions and RNAV STARS. Further speed reductions will be regulated by ATC as necessary.

Pilots who may not be able to comply with the speed limits specified above for reasons of flight safety and/or weather should inform ATC and state the speed(s) acceptable.

AIRSPACE CLASSIFICATION IN THE SINGAPORE FIR

Airspace	Levels	Classification
Controlled airspace	FL150 to FL460	A
	Surface to FL150	B
Controlled airspace more than 100 nm seaward from the shoreline	Lower limit to FL460	A
Control Zone (CTRs)	Changi CTR	C
	Paya Lebar CTR	D
	Seletar CTR	C
ATZs	Surface to upper limit	D
Uncontrolled airspace		G*

* Aircraft operating in the Light Aircraft Training Areas A, B and C (please refer to page ENR 5.2-1) are required to have continuous two-way communications with the appropriate ATS authority.

SINGAPORE

D-ATIS	DEP 128.6
ARR	128.025
APP	DEP 120.3
ARR	119.3
TWR	118.6
	118.25

Note:
FOR DEPARTURE AND ARRIVAL ROUTES
REFER TO AD-2-WSSS-SID-1 TO AD-2-WSSS-SID-64 AND
AD-2-WSSS-STAR-1 TO AD-2-WSSS-STAR-19

PROHIBITED, RESTRICTED AND DANGER AREAS

	ACTIVITY	UPPER LIMIT LOWER LIMIT	REMARKS
WSP3	-	750ft ALT GND	Permanently Active as in ENR 5
WSD4	A/G and G/G Firing Range	FL 160 GND/WATER	Permanently Active as in ENR 5
WMD8	Naval Air/Air Firing Range	FL 550 WATER	Activation by NOTAM
WSD11	Small Arm Firing	1 300ft ALT GND	Permanently Active as in ENR 5
WSD11A	Artillery Firing	FL 125 GND	Activation by NOTAM
WSD11B	Artillery Firing	FL 125 GND	Activation by NOTAM
WMD12	Naval Anti-aircraft Firing	FL 550 WATER	Activation by NOTAM
WSD13	Naval Anti-aircraft Firing	FL 550 WATER	Activation by NOTAM
WSD14	Naval Anti-aircraft Firing & Live Air/Air Firing	FL 550 WATER	Activation by NOTAM
WSP24	-	800ft ALT GND/WATER	Permanently Active as in ENR 5
WSR6	Helicopter Operations	200ft ALT GND	Permanently Active as in ENR 5
WSR9	Helicopter Operations	200ft ALT GND	Permanently Active as in ENR 5
WSR16	Helicopter Operations	200ft ALT GND	Permanently Active as in ENR 5
WSD34	Rifle Range	500ft ALT GND	Permanently Active as in ENR 5
WSD35	Rifle Range	900ft ALT GND	Permanently Active as in ENR 5
WSD36	Rifle Range	750ft ALT GND	Permanently Active as in ENR 5
WSR10	-	5 500ft ALT GND	Permanently Active as in ENR 5
WSR38	-	10 000ft ALT GND	Permanently Active as in ENR 5
	Transit Channel	2 000ft ALT GND	Activated only for Military acft crossing
*	Light Aircraft Training Area A	4 500ft ALT GND/*2 000ft	Training & Local Flts in VMC only
*	Light Aircraft Training Area B	10 500ft ALT 4 500ft ALT	High Flying Training Ops in VMC only
*	Light Aircraft Training Area C	10 500ft ALT 4 500ft ALT	High Flying Training Ops in VMC only
WMR223	Parachute Dropping	10 000ft ALT GND	Permanently Active as in ENR 5
WMD224	Firing Range	12 000ft ALT SEA	Activation by NOTAM
WMR225	RMAF Helicopter Training Area	3 500ft ALT GND	Permanently Active as in ENR 5
WMR226	RMAF Helicopter Training Area	2 000ft ALT GND	Permanently Active as in ENR 5
WMD227	Radar Bombing Range	10 000ft ALT SEA	Activation by NOTAM
WMP228	Sultan's Palace	5 000ft ALT GND	Permanently Active as in ENR 5
WMR229	Helicopter Operations	1 500ft ALT GND	Permanently Active as in ENR 5
WMD230	Artillery Firing Range	2 000ft ALT GND	Permanently Active as in ENR 5
WMD231	Artillery Firing Range	2 000ft ALT GND	Permanently Active as in ENR 5

SPECIAL NOTE :-

1. WEATHER BALLOONS

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* In Transit Channel

* AEROBATICS IS PROHIBITED IN LIGHT AIRCRAFT TRAINING AREAS A, B and C.

ENR 4.3 GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS)

<i>Name of GNSS element</i>	<i>Frequency</i>	<i>Coordinates</i>	<i>Remarks</i>
		<i>Nominal SVC area</i> <i>Coverage area</i>	
1	2	3	4
Nil	Nil	Nil	Nil

←

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ENR 4.4 NAME-CODE DESIGNATIONS FOR SIGNIFICANT POINTS

Name-code designator	Co-ordinates	ATS route or other route	Terminal Area
1	2	3	4
ABVIP	010008N 1035032E		STAR-WSSS
ABVON	012028N 1035827E		IAC-WSSS
ADNIK	011651N 1035655E		IAC-WSSS
ADPON	011203N 1040514E		SID-WSSS
AGROT	010108N 1035808E		STAR-WSSS
AGVAR	014719N 1034145E		SID-WSSS
AKDAT	032923N 1054917E	N875	
AKIPO	011356N 1035542E		IAC-WSSS
AKMET	015355N 1034339E		SID-WSSS
AKMON	081254N 1101306E	L625, M768	
AKOMA	014522N 1035443E	B469, Y339	SID-WSSS, IAC-WSSS
AKVOM	005620N 1041514E	B338, M630	
ANBUS	011554N 1032100E	P501	
ANITO	001700S 1045200E	B338, B470, P501	SID-WSSS
ANUMA	011053N 1035424E		IAC-WSSS
APIPA	010618N 1035228E		IAC-WSSS
ARAMA	013654N 1030712E	A464, P501	STAR-WSSS
AROSO	020846N 1032421E	Y339, Y342	SID-WSSS
ASISU	055906N 1132046E	M768, M772	
ASITI	004906N 1035042E		SID-WSSS
ASOMI	010142N 1040207E		SID-WSSS
ASUNA	005948N 1030954E	R469, L762	STAR-WSSS
ATLEX	010302N 1033331E		SID-WSSS
ATLIR	011120N 1035208E	B469	
ATPOM	002425N 1052114E	M635	
ATRUM	013256N 1040057E		SID-WSSS
AVLUB	003112S 1042501E	T25	
AVPIV	011207N 1035349E	A464	
BAVAL	004518N 1040242E	B469	
BETBA	013302N 1035331E		STAR-WSSS
BIDAG	073101N 1135544E	M772	
BIDUS	013554N 1035755E		IAC-WSSS, STAR-WSSS
BIKTA	024337N 1034308E	B469	
BIMOS	011512N 1035815E		IAC-WSSS
BIPOP	013122N 1041018E		IAC-WSSS, STAR-WSSS

Name-code designator	Co-ordinates	ATS route or other route	Terminal Area
1	2	3	4
BISOV	004229N 1025214E		SID-WSSS
BISUT	011218N 1035701E		IAC-WSSS
BITAM	010813N 1040757E		STAR-WSSS
BOBAG	010230N 1032954E	R469 , M630 , N502 , P501	HLDG ID, SID-WSSS, STAR-WSSS
BOBOB	022206N 1070558E	M767	
BOKIP	010421N 1034353E		SID-WSSS, STAR-WSSS
BONSU	011928N 1033710E	A576	
BOPVA	025303N 1051349E	M761	
← BUVAL	033622N 1034341E	L629	
DAKIX	070854N 1145054E	L649	
DAMOG	041225N 1050014E	M771 , N875	
DODSO	012225N 1061402E	G580 , T21	SID-WSSS
DOLOX	044841N 1052247E	L629 , M771 , T612	
DOVAN	011938N 1041249E		STAR-WSSS
DOVOL	033047N 1034923E	L635 , Y334	
DOWON	011957N 1043048E	G580	
DUBOT	010846N 1040103E		SID-WSSS
DUBSA	034901N 1044540E	L635 , M771	
DUDIS	070000N 1064836E	L644 , M771	
DUMUP	005430N 1035516E		STAR-WSSS
EGOLO	031934N 1040047E	L642	
EGORA	013621N 1040607E		IAC-WSSS
ELALO	041240N 1043329E	Q802 , Q803	HLDG ID, STAR-WSSS
ELALU	013440N 1040524E		IAC-WSSS
ELBEB	012845N 1040254E		IAC-WSSS
ELBEX	013149N 1040314E		IAC-WSSS
ELGAP	012820N 1040146E		IAC-WSSS
ELGOR	033014N 1054818E	M758 , N875	
ELMIN	012550N 1040141E		IAC-WSSS
EMRIX	012606N 1041040E		SID-WSSS
EMSIB	005911N 1035419E	G579 , M630	
EMSUX	024647N 1051026E	G334	
EMTAP	011656N 1035657E		IAC-WSSS
ENLES	010932N 1035350E		IAC-WSSS
ENPUX	002859S 1043434E	B469 , W24	
ENREP	045224N 1041442E	L642 , M753 , M763 , M904 , N875 , N891	
ENSUN	012603N 1040048E		IAC-WSSS

<i>Name-code designator</i>	<i>Co-ordinates</i>	<i>ATS route or other route</i>	<i>Terminal Area</i>
1	2	3	4
ENVUM	011535N 1040552E	B338	
ERVIV	010445N 1041013E		SID-WSSS
ERVOT	011120N 1035436E		IAC-WSSS
ESBIT	012212N 1040009E		IAC-WSSS
ESBUM	045210N 1042830E	Q801, Q802	
ESLUX	011844N 1035840E		IAC-WSSS
ESPOB	070000N 1053318E	L642, Q801	
EXOMO	010425N 1040933E		IAC-WSSS
GIXEM	004920N 1042539E		SID-WSSS
GOTGA	012013N 1044200E		SID-WSSS
GULGU	040141N 1084242E	M758	
GULIB	041714N 1110633E	L517	
GUMPU	013000N 1034243E	G579, W401	STAR-WSSS
GUNUD	011042N 1050618E		STAR-WSSS
GURES	002814N 1043835E	T24	SID-WSSS
GUTUP	045911N 1075603E	L625	
HOSBA	011948N 1042418E	G580, W401	HLDG ID, SID-WSSS
IBASU	005751N 1033410E		STAR-WSSS
IBIVA	011351N 1035637E		SID-WSSS
IBIXU	011621N 1035740E		SID-WSSS
IDBUD	001454N 1050139E	T24	SID-WSSS
IDEMO	025431N 1040603E	G334	
IDKIV	005652N 1041333E		SID-WSSS
IDMAS	004900N 1041848E	B338	
IDSEL	032432N 1035544E	M758, T611, T612, Y335	
IDUNA	012306N 1035934E		IAC-WSSS
IDURO	012640N 1040104E		IAC-WSSS
IDVAS	012935N 1040218E		IAC-WSSS
IGARI	065612N 1033506E	R208, M765, N891	
IGNON	010847N 1041257E		STAR-WSSS
IGOSI	005645N 1040644E		SID-WSSS
IGULA	013232N 1040333E		IAC-WSSS
IGUTU	001331S 1041857E	T25	
IKIRO	000849N 1044420E		SID-WSSS
IKUKO	054512N 1031324E	R208	
IKUMI	055338N 1035509E	N891	
INVUB	002749N 1051530E	M635	

Name-code designator	Co-ordinates	ATS route or other route	Terminal Area
1	2	3	4
IPDOL	045111N 1035920E	Q803 , T611	
IPNAK	013712N 1040531E		IAC-WSSS
IPRIX	070000N 1040754E	M753 , Q802 , T611	
IRPUG	005813N 1040127E	B470 , M630	
IRSAB	024349N 1054359E	G334	
IRTAD	010326N 1041147E	A464 , B338	
ISDEB	024440N 1063011E	L625	
ISGIL	004246N 1031257E		SID-WSSS
ISNOM	010629N 1035826E		SID-WSSS
JUNHA	005413N 1043052E	M630 , M635 , M774 , T21 , T23 , T24	
KAUSA	011703N 1035758E		IAC-WSSS
KANLA	034556N 1043606E		STAR-WSSS
KARTO	011124N 1053343E		HLDG ID, STAR-WSSS,
KASPO	011507N 1035709E		IAC-WSSS
KETOD	031042N 1040942E	M761 , Y336	
KEXAS	011019N 1044818E		HLDG ID, STAR-WSSS
KEXOL	043930N 1040942E	Q803	
KIBOL	025224N 1042818E	G334 , N892	
KILOT	030217N 1044023E	M761 , N892	STAR-WSSS
KIMER	011106N 1035527E		IAC-WSSS
KIRDA	000009N 1045934E	W26	SID-WSSS
LAGOT	071632N 1113243E	M768 , N884	
LAGUS	011915N 1035854E		IAC-WSSS
LAPOL	012622N 1034435E	G579	
LASIN	011538N 1035722E		IAC-WSSS
LAVAX	010950N 1042714E		STAR-WSSS
LAXOR	094937N 1144829E	L649 , M772 , N884	
LEBIN	031438N 1060604E	N884	
LEDOX	011642N 1035651E		SID-WSSS
LEGOL	012053N 1034723E	G579	
LELIB	012729N 1032450E	A464 , W401	SID-WSSS, STAR-WSSS
LELON	011244N 1035609E		IAC-WSSS
LEDA	024124N 1043932E	N884	
LEPNA	010648N 1035339E		IAC-WSSS
LETGO	011411N 1035548E		SID-WSSS
LIDVA	010506N 1035255E		IAC-WSSS
LIGVU	034417N 1061859E	L644	

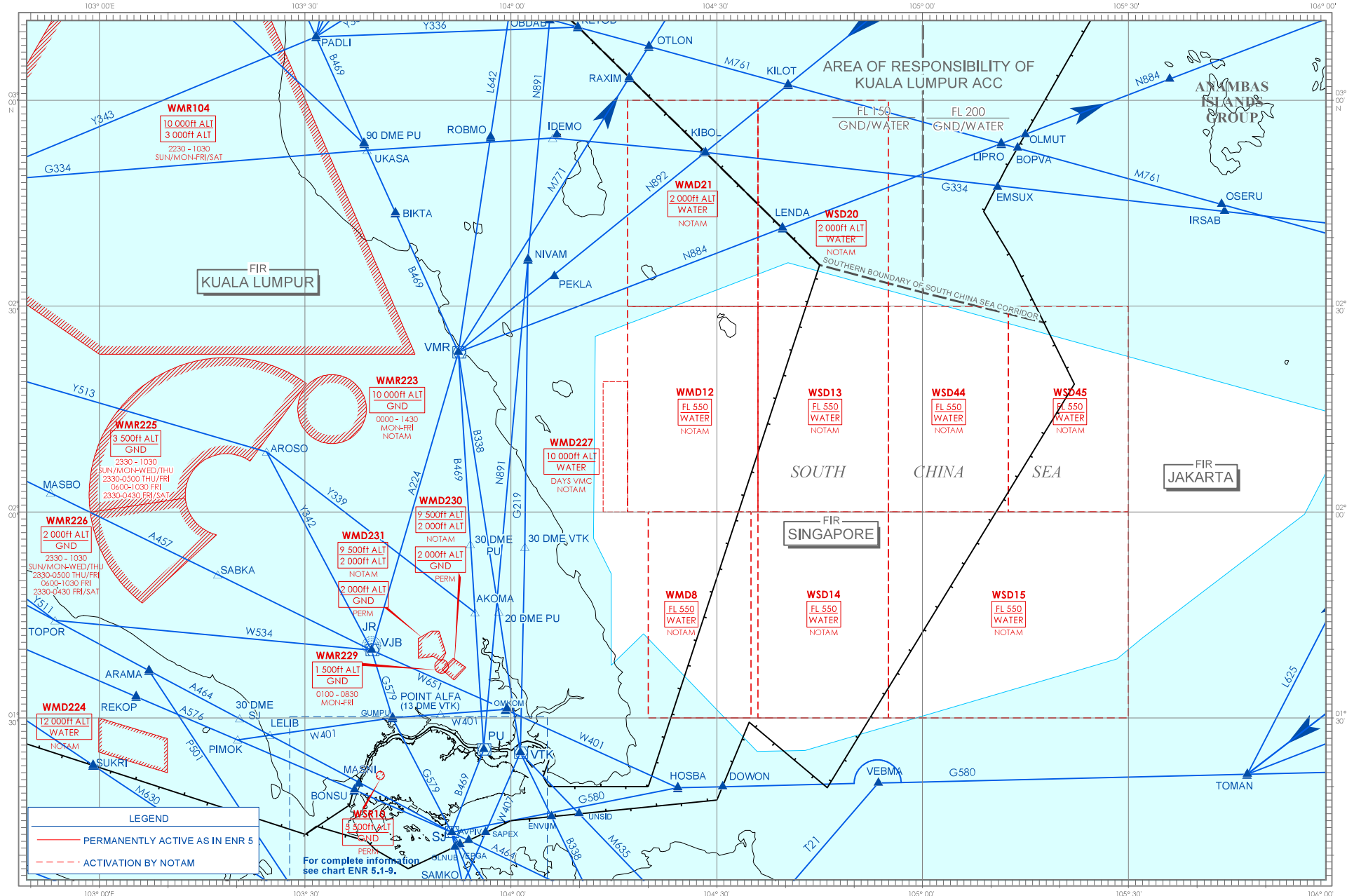
<i>Name-code designator</i>	<i>Co-ordinates</i>	<i>ATS route or other route</i>	<i>Terminal Area</i>
1	2	3	4
LIPRO	025342N 1051128E	M761, N884	
LUSMO	033341N 1065534E	L625, M758, N884	
LUXOL	011803N 1035823E		IAC-WSSS
MABAL	032826N 1051236E	M758, N892	HLDG ID, STAR-WSSS
MABLI	041717N 1061247E	L635, L644, N892	
MANIM	031430N 1040554E	N891	
MASBO	020248N 1025251E	A457	SID-WSSS
MASNI	012037N 1033746E	A464	
MELAS	070518N 1080912E	N892	
MIBEL	012351N 1020816E	L762	SID-WSSS
MOLVO	012955N 1040227E		SID-WSSS
MOXIB	012933N 1040315E		SID-WSSS
MUMDU	010521N 1042714E		SID-WSSS
MUMSO	034420N 1053213E	N875, N892	
NIVAM	023650N 1040228E	G219	
NIXEB	013943N 1061040E	M767	
NODIN	081100N 1161142E	M522	
NOPAT	042313N 1044756E	L629, N875	
NUFFA	025341.40N 1033829.80E	Y514	
NYLON	013657N 1040624E		HLDG ID, IAC-WSSS, SID-WSSS, STAR-WSSS
OBDAB	031153N 1040538E	N891	
OBDOS	002503N 1065551E	M774, T22	
ODONO	063614N 1030129E	M904	
OLKIT	045010N 1115118E	M758	
OLMUT	030306N 1053558E	N884	
OLNUB	011110N 1035147E	G579	
OMDUD	005847N 1035714E	B469, M630	
OMKOM	013112N 1035910E	W401, W651	
OPULA	033155N 1062118E	M758	
OSERU	024450N 1054334E	M761	
OTLAL	004209N 1053052E	M774	
OTLON	030752N 1042006E	M761, M771	
PADLI	030918N 1033133E	B469, Y332, Y334, Y335, Y336	
PALGA	011059N 1034759E		STAR-WSSS
PAMSI	010459N 1034845E		STAR-WSSS
PARDI	003400S 1041300E	G579, N502	
PASPU	015915N 1040618E		STAR-WSSS,

Name-code designator	Co-ordinates	ATS route or other route	Terminal Area
1	2	3	4
PEKLA	023437N 1040618E	N892	
PIBAP	023023N 1040618E		STAR-WSSS
PIMOK	012648N 1032008E	A576, W401	
POSOG	002024N 1041323E	B469, P501	
POSUB	012725N 1040748E		STAR-WSSS
POVEB	011344N 1040130E		SID-WSSS
RAXIM	030318N 1041713E	M771	
REKOP	013306N 1030521E	A576	
REMES	004342N 1035735E	G579	HLDG ID, STAR-WSSS
REPOV	001623N 1040300E	G579	HLDG ID, STAR-WSSS
RILRI	044343N 1082239E	N884	
ROBMO	025440N 1035700E	L642	
SABKA	015051N 1031713E	A457	SID-WSSS
SALRU	011701N 1040802E		SID-WSSS
SAMKO	010530N 1035255E	R469, W407	HLDG ID, STAR-WSSS, SID-WSSS
SANAT	010749N 1035930E		STAR-WSSS
SAPEX	011316N 1035617E	W407	
SEBVO	011258N 1043448E		SID-WSSS
SUKRI	012306N 1025904E	M630	
SUMLA	080242N 1160054E	M754	
SURGA	003657S 1063119E	M635, T23, T24	
SUSAR	035848N 1051547E	L635, N875	
TAROS	004200N 1021612E	R469	SID-WSSS
TAXUL	035035N 1034037E	M763, Y332	
TEBUN	011455N 1031557E		STAR-WSSS
TEGID	085656N 1155143E	M767	
TERIX	041521N 1093456E	L517, M758, M767	
TIDAR	065230N 1025000E	M904	
TODAM	063138N 1123536E	M767, M768	
TOMAN	012147N 1054717E	G580, L625, M646, M767, T21	SID-WSSS, STAR-WSSS
TOPOR	014412N 1025330E	W534	
TUSNU	003403N 1022109E	W22	
TUSPI	003301N 1040959E		HLDG ID
UDONI	004818N 1040806E	B470	
UGEBO	003813N 1052432E	T22, T23	HLDG ID, STAR-WSSS
UGPEK	033647N 1040752E	L635, N891	
UKIBO	011758N 1035924E		SID-WSSS

<i>Name-code designator</i>	<i>Co-ordinates</i>	<i>ATS route or other route</i>	<i>Terminal Area</i>
1	2	3	4
UKLIS	034234N 1085149E	M767	
UNSID	011600N 1040955E	M635	
UPLAM	025043N 1063319E	L625	
UPRON	060903N 1032040E	M904, Q803	
UPTEL	005925N 1040730E		SID-WSSS
UPVUN	033022N 1055053E	M758	
URIGO	032505N 1040647E	M758, N891	
URKET	081130N 1145000E	L649	
UXATI	003348N 1035933E	G579, P501	
UXEDA	015449N 1060423E	L625	
VABRI	013115N 1040358E		IAC-WSSS
VAMPO	005833N 1032525E		HLDG ID, STAR-WSSS
VANBU	010643N 1042740E		SID-WSSS
VASTI	004320N 1043406E		SID-WSSS
VEBMA	012030N 1045332E	T21	SID-WSSS
VEGLO	025502N 1051457E	N884	
VENLI	062848N 1024900E	M765	
VENUN	013206N 1061351E	M646	
VEPGA	011131N 1035232E	B470	
VEPLI	035223N 1040542E	L629, L642	
VERIN	023332N 1062425E	L625	
VEXEL	005904N 1034254E		STAR-WSSS
VIBOG	004310N 1034302E		SID-WSSS
VIGUD	011328N 1035730E		SID-WSSS
VILEV	012729N 1040222E		IAC-WSSS
VIMAL	010942N 1042353E		STAR-WSSS
VINIK	083830N 1161348E	M522, M754	
VIRET	003940N 1043511E		SID-WSSS
VIRID	031728.05N 1031318.04E	Y514	
VISAT	032620N 1043134E	M758, M771	
VOVOS	011123N 1032651E		SID-WSSS

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PROHIBITED, RESTRICTED AND DANGER AREAS - CHART 1



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ENR 5.5 AERIAL SPORTING AND RECREATIONAL ACTIVITIES

1 UNMANNED AIRCRAFT OPERATIONS AND KITE FLYING

1.1 *General Warning*

- 1.1.1 Pilots flying at low altitudes should watch out for possible hazards such as unmanned aircraft and kites, especially when flying near parks and open ground.
- 1.1.2 The location of some of the parks in Singapore where kite and unmanned aircraft operations may occur are shown in chart ENR 3.4-5. Pilots should note that chart ENR 3.4-5 does not show all the parks in Singapore and that hazards such as kite flying and unmanned aircraft operations may take place at parks and open ground not indicated in chart ENR 3.4-5.
- 1.1.3 According to the Singapore Air Navigation Order, kite flying and unmanned aircraft operations are not permitted above 200ft or within 5km of an aerodrome. However, pilots are advised to look out for such hazards at all times as members of the public may inadvertently conduct these activities above the height of 200ft or within 5km of an aerodrome.

2 AIRCRAFT OPERATIONS PROHIBITED OVER THE TERRITORY OF SINGAPORE

- 2.1 Owing to the high concentration of built-up areas, severe airspace limitations and intense low flying aircraft operations, flights by the following aircraft types are prohibited over the territory of Singapore: Aircraft principally designed for the purpose of sports or recreation, commonly referred to as home-built, ultralight, microlight, hang-glider and such others, even though they may have a valid Certificate of Registration or a Certificate of Airworthiness.

3 SEARCHLIGHT DISPLAY / LASER SHOWS - PAYA LEBAR CTR

- 3.1 BTN 1200-1215 and 1300-1315 daily searchlight display and laser shows will take place at 011658N 1035138E (within Paya Lebar CTR). Additional show time will be BTN 1400-1415 on FRI and SAT. Danger Height UNL.

4 UNMANNED AIRCRAFT OPERATIONS - PAYA LEBAR CTR

- ← 4.1 Unmanned aircraft operations may take place up to 200ft AMSL at Paya Lebar CTR and within the following coordinates: 011828N 1034707E, 011832N 1034727E, 011734N 1034758E, 011720N 1034727E, 011754N 1034657E.
- ← 4.2 An Unmanned Aircraft Flying Area (UAFA) has been established at Dover Road within the following coordinates: 011824N 1034642E, 011823N 1034641E, 011818N 1034642E, 011818N 1034644E, 011824N 1034643E, up to 200ft. Pilots to exercise caution.

5 UNMANNED AIRCRAFT OPERATIONS - TENGAH ATZ

- 5.1 An Unmanned Aircraft Flying Area (UAFA) has been established over Pandan Reservoir within the following coordinates: 011905N 1034414E, 011905N 1034427E, 011854N 1034426E, 011854N 1034414E, up to 200ft. Pilots to exercise caution.

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ENROUTE CHART - ICAO

LEGEND

Aerodrome

Flight Information Region (FIR)

Terminal Control Area (TMA)

Control Zone (CTR)

ATS route

ATS route reporting point by-pass

Reporting Point (REP)

ATS/MEI reporting point (MRP)

Restricted Airspace

Collocated VOR and DME navigation aids (VOR/DME)

Identification for radio navigation aids (NAVAID)

COP at mid-point between VOR are not shown

Area Minimum Altitude (AMA)

Waypoint

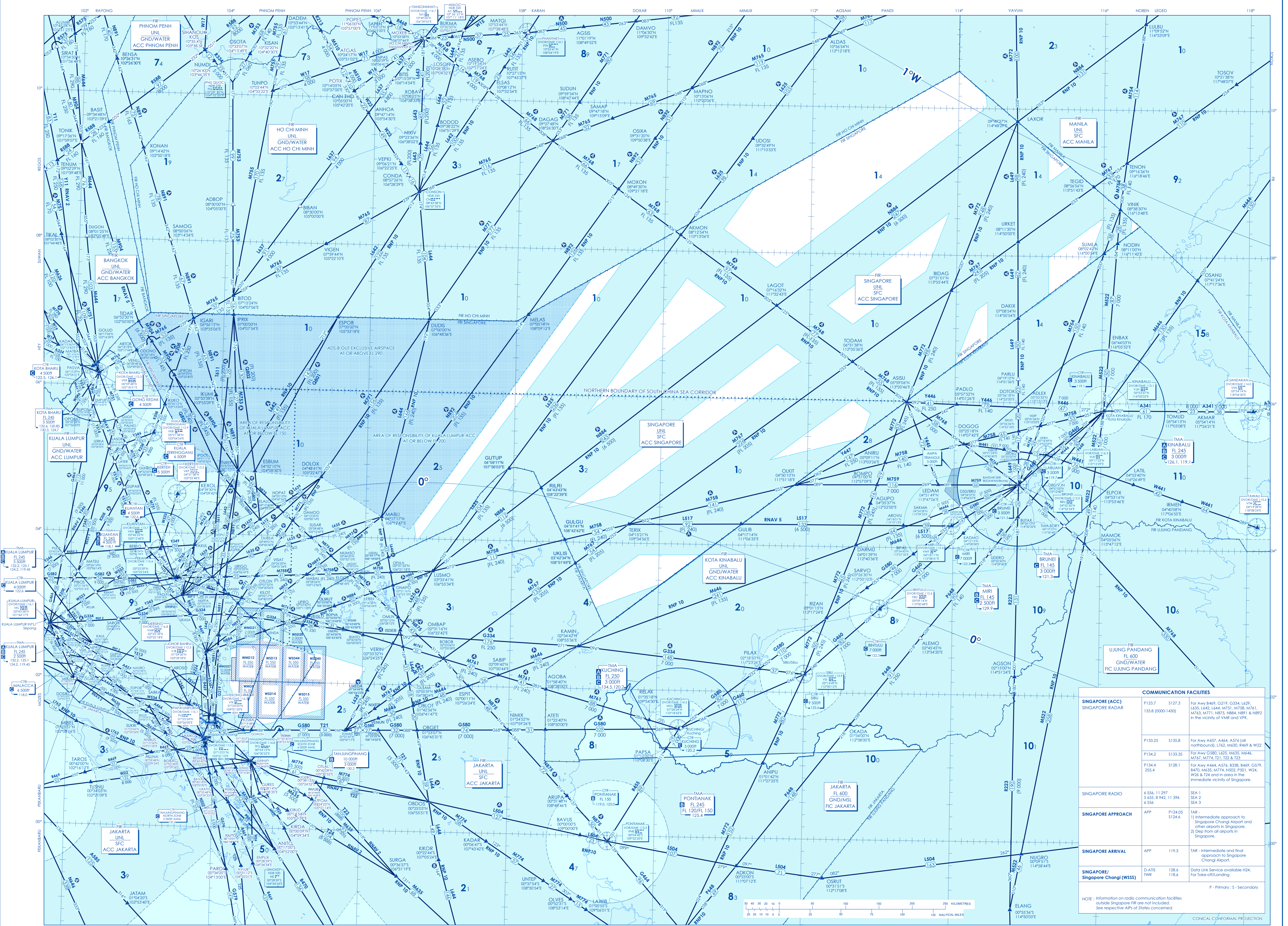
WSJ/CW/MFC FIR BDRY REPORTING POINTS

RVSM SEPARATION AVAILABLE SINGAPORE FIR

AIRSPACE CLASSIFICATION IN THE SINGAPORE FIR

CAUTION

MAGNETIC INFORMATION FOR THE YEAR 2020



COMMUNICATION FACILITIES

SINGAPORE (ACC)	P123.7	S127.3	For Awy B469, G219, G334, L629, L635, L642, L644, M751, M758, M761, M763, M771, N875, N884, N891 & N892 in the vicinity of VNR and VPK.
SINGAPORE RADAR	133.8 (0000-1430)		
	P133.25	S135.8	For Awy A457, A464, A576 (08 northbound), L762, M830, R469 & W22
	P134.2	S133.35	For Awy G580, G625, M835, M846, M762, M774, L21, L22 & L23.
	P134.4	S128.1	For Awy A464, A576, B338, B469, G579, B470, M635, M774, N502, P501, W24, W26 & L24 and in area in the immediate vicinity of Singapore.
SINGAPORE RADIO	6.556, 11.297, 5.658, 9.942, 11.396, 6.556		SEA 1 SEA 2 SEA 3
SINGAPORE APPROACH	APP	P124.05 S124.6	TAR - 1) Intermediate approach to Singapore Changi Airport and other airports in Singapore. 2) Dep from all airports in Singapore.
SINGAPORE ARRIVAL	APP	P119.3	TAR - Intermediate and final approach to Singapore Changi Airport.
SINGAPORE/Singapore Changi (WSSS)	D-ATS TWR	128.6 118.6	Data Link Service available H24. For take-off/landing.

P - Primary ; S - Secondary

NOTE: Information on radio communication facilities outside Singapore FIR are not included. See respective AIPs of States concerned.

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5	SECURITY	AD 2.WSAP-9
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WSAP AD 2.24	CHARTS RELATED TO PAYA LEBAR AIRPORT	AD 2.WSAP-11
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WSAT AD 2.3	OPERATIONAL HOURS	AD 2.WSAT-1
WSAT AD 2.4	HANDLING SERVICES AND FACILITIES	AD 2.WSAT-2
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WSAT AD 2.6	RESCUE AND FIRE FIGHTING SERVICES	AD 2.WSAT-2
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WSAT AD 2.8	APRONS, TAXIWAYS AND CHECK LOCATIONS/POSITIONS DATA	AD 2.WSAT-2
WSAT AD 2.9	[NIL] SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM AND MARKINGS	NIL
WSAT AD 2.10	AERODROME OBSTACLES	AD 2.WSAT-3

WSSS AD 2.5 PASSENGER FACILITIES

1	<i>Hotels</i>	Transit area and adjacent to airport terminal.
2	<i>Restaurants</i>	Transit and public areas of terminal building.
3	<i>Transportation</i>	Buses, taxis, MRT train and car rental service.
4	<i>Medical Facilities</i>	Available at airport.
5	<i>Bank and Post Office</i>	Available at airport.
6	<i>Tourist Office</i>	Available at airport.
7	<i>Remarks</i>	Internet address : http://www.changiairport.com.sg for airport and flight information, shops and restaurants, facilities and services, flight connections and tourist information.

WSSS AD 2.6 RESCUE AND FIRE FIGHTING SERVICES

1	<i>AD category for fire fighting</i>	<u>RWY 02L/20R, RWY 02C/20C and RWY 02R/20L</u> CAT10 (No facilities for foaming of runways)
2	<i>Rescue equipment</i>	Adequately provided as recommended by ICAO.
3	<i>Capability for removal of disabled aircraft</i>	Specialised aircraft recovery equipment available for up to and including A380 size aircraft operation.
4	<i>Remarks</i>	All Airport Emergency Service personnel are trained in rescue and fire-fighting as well as medical first-aid.

WSSS AD 2.7 SEASONAL AVAILABILITY - CLEARING

There is no requirement for clearing. The aerodrome is available throughout the year.	
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WSSS AD 2.8 APRONS, TAXIWAYS AND CHECK LOCATIONS/POSITIONS DATA

1	<i>Apron surface and strength</i>	Concrete surface, strength PCN 86/R/B/W/U
2	<i>Taxiway width, surface and strength</i>	<p>Minimum width 23m for all taxiways</p> <p>TWY W1, W9 – Concrete surface; strength PCN 86/R/B/W/U</p> <p>TWY A (between A1 and A2, and between A11 and A12), A1, A2, A11, A12, TWY B (between B1 and B2, and between B13 and B14), B1, B2, B13, B14 - Concrete surface; strength PCN 90/R/B/W/T</p> <p>TWY T1, T2, T4, T12, T13, T (between T11 and T13), U12, U13, U (between U12 and U13), D1, D2, D13, D14, D (between D1 and D2), D (between D13 and D14), C1, C2, C13, C14, C (between C1 and C2) and L (between C13 and C14) – Concrete surface; strength PCN 102/R/B/W/T</p> <p>TWY P1 (between N and N5), TWY T3, T5, T6, T7, T8, T9, T10, T11, U10, U11, U (between U9 and U12) and all other TWYs A, B, C, D, E, F, G, H, J, K, L - Asphalt surface, strength PCN 82/F/B/X/T</p> <p>All other taxiways – Asphalt surface, strength PCN 72/F/B/W/U</p> <p><u>Note:</u> Open-air drains, demarcated by frangible poles, are installed within non-graded TWY strips at least 30m from the TWY centrelines. 0.5m-high lateral restraint at 30m east of TWY P1 and TXL N5 centreline before the open drain. 0.8m-high lateral restraints, located at 43m from the centreline of TWY G and TWY H, on the taxiway bridges.</p>
3	<i>Altimeter checkpoints location and elevation</i>	See AD-2-WSSS-ADC-2/ Chart (flip side) for coordinates and elevations of aircraft stands.
4	VOR checkpoint location	NIL
5	<i>INS checkpoints position</i>	See AD-2-WSSS-ADC-2/ Chart (flip side) for coordinates and elevations of aircraft stands.
6	<i>Remarks</i>	NIL

WSSS AD 2.12 RUNWAY PHYSICAL CHARACTERISTICS

Designations RWY NR	TRUE BRG	Dimensions of RWY	Strength (PCN) and surface of RWY and SWY	THR coordinates and RWY end coordinates (THR Geoid Undulation)	THR Elevation and highest elevation of TDZ of precision APCH RWY
1	2	3	4	5	6
02L	023.02°	4000m X 60m	72/F/B/W/U Grooved Bituminous Concrete	THR coordinates: 012056.27N 1035838.82E RWY end coordinates: 012256.13N 1035929.42E (10.23m)	6.64m 6.64m
20R (Threshold displaced by 740m southwards)	203.02°	4000m X 60m	72/F/B/W/U Grooved Bituminous Concrete	THR coordinates: 012234.02N 1035920.09E RWY end coordinates: 012056.27N 1035838.82E (10.26m)	3.98m 4.67m
02C	023.01°	4000m X 60m	82/F/B/X/T Grooved Bituminous Concrete	THR coordinates: 011943.51N 1035905.86E RWY end coordinates: 012143.37N 1035956.46E (10.27m)	4.80m 4.80m
20C	203.01°	4000m X 60m	82/F/B/X/T Grooved Bituminous Concrete	THR coordinates: 012143.37N 1035956.46E RWY end coordinates: 011943.51N 1035905.86E (10.30m)	4.80m 4.80m
02R	023.01°	4000m X 60m	82/F/B/X/T Grooved Bituminous concrete	THR coordinates: 011920.59N 1035959.45E RWY end coordinates: 012120.45N 1040050.05E (10.32m)	4.77m 4.77m
20L	203.01°	4000m X 60m	82/F/B/X/T Grooved Bituminous concrete	THR coordinates: 012120.45N 1040050.05E RWY end coordinates: 011920.59N 1035959.45E (10.36m)	4.71m 4.75m

Slope of RWY-SWY Transverse / Longitudinal	SWY Dimensions (m)	CWY Dimensions (m)	STRIP dimensions (m)	Dimensions of RESA (m)	Locations and description of ARST system	OFZ
7	8	9	10	11	12	13
RWY 02L 1.15% / 0.07% SWY 1.44% / 0.23%	60 X 60	270 X 150	4240 X 280	240 X 150	Not Applicable	Yes
RWY 20R 1.15% / 0.07% SWY 0.74% / 0.28%	60 X 60	270 X 150	4240 X 280	240 X 150	Not Applicable	Yes
RWY 02C 1.25% / 0.00% SWY 1.25% / 0.00%	60 X 60	60 X 150	4240 X 280	240 X 150	Not Applicable	Yes
RWY 20C 1.25% / 0.00% SWY 1.25% / 0.00%	60 X 60	60 X 150	4240 X 280	240 X 150	Not Applicable	Yes
RWY 02R 1.25% / 0% SWY 1.21% / 0%	60 X 60	60 X 150	4240 X 280	240 X 150	Not Applicable	Yes

Slope of RWY-SWY Transverse / Longitudinal	SWY Dimensions (m)	CWY Dimensions (m)	STRIP dimensions (m)	Dimensions of RESA (m)	Locations and description of ARST system	OFZ
7	8	9	10	11	12	13
RWY 20L 1.25% / 0% SWY 1.22% / 0%	60 X 60	60 X 150	4240 X 280	240 X 150	Not Applicable	Yes

Remarks
14
<p>1) Open-air drains, demarcated by frangible poles, within the runway strip of RWY 02R/20L.</p> <p>2) Not in use military hookwire system embedded in runway pavement at 490m from RWY 02R and RWY 20L thresholds.</p> <p>3) Frangible End Around Taxiway (EAT) visual screens located at the approach/take-off end of RWY 02C and RWY 20C do not penetrate the obstacle limitation surfaces of RWY 02C/20C. The EAT visual screens are marked in diagonal red-white stripes and installed with additional red obstacle lights. The EAT visual screens are intended to help pilots operating on RWY 02C/20C to differentiate between an aircraft crossing the runway or taxiing on end-around taxiways TWY K and TWY L.</p> <p>4) Scheduled Closure of RWY 02L/20R</p> <p>a. BTN 1700-2100UTC on every SUN and WED of the month (preventive maintenance work). In the event of emergency, RWY will be re-opened within 30 minutes.</p> <p>b. A 5-minute inspection conducted within the periods BTN 0100-0359UTC 0500-0759UTC 0800-1059UTC daily.</p> <p>5) Scheduled Closure of RWY 02C/20C</p> <p>a. BTN 1700-2100UTC on every MON of the month (preventive maintenance work). In the event of emergency, RWY will be re-opened within 30 minutes.</p> <p>b. A 5-minute inspection conducted within the periods BTN 0100-0359UTC 0500-0759UTC 0800-1059UTC daily.</p> <p>6) Scheduled Closure of RWY 02R/20L</p> <p>a. BTN 1700-2100UTC on every TUES and FRI of the month (preventive maintenance work). In the event of emergency, RWY will be re-opened within 30 minutes.</p> <p>b. A 5-minute inspection conducted within the periods BTN 0100-0359UTC 0500-0759UTC 0800-1059UTC daily.</p> <p>7) Additional Inspection and Maintenance Closures</p> <p>a. On days when there is a scheduled 4-hour runway closure BTN 1700-2100UTC</p> <p>i. 10-minute inspection conducted within the period BTN 1500-1610UTC on the other operational runway(s);</p> <p>ii. 15-minute inspection conducted within the period BTN 2300-2359UTC on the other operational runway(s);</p> <p>iii. 5-minute inspection conducted within period BTN 2300-2359UTC on the re-opened runway.</p> <p>b. On days when there is no scheduled 4-hour runway closure BTN 1700-2100UTC</p> <p>I. RWY 02L/20R:</p> <p>i. 5-minute inspection conducted BTN 2300-2305UTC</p> <p>ii. 30-minute maintenance will be conducted BTN 1830-1900UTC</p> <p>II. RWY 02C/20C:</p> <p>i. 5-minute inspection conducted BTN 2315-2320UTC</p> <p>ii. 60-minute maintenance will be conducted BTN 2000-2100UTC</p> <p>III. RWY 02R/20L:</p> <p>i. 5-minute inspection conducted BTN 2330-2335UTC</p> <p>ii. 30-minute maintenance will be conducted BTN 2100-2130UTC</p>

WSSS AD 2.18 ATS COMMUNICATION FACILITIES

Service Designation	Call sign	Frequency (P-Pri, S-Sec)	Hours of operation	Remarks
APP	Singapore Departure	P120.3 MHz S132.15 MHz	H24	DEP from all airports in Singapore.
	Singapore Arrival	P119.3 MHz S119.4 MHz S119.55 MHz		TAR - Intermediate and final approach to Singapore Changi AP.
	Singapore Approach	P124.05 MHz S124.6 MHz S126.3 MHz	2100-1700	TAR - flow control service provided for ARR/DEP ACFT. Intermediate approach to Singapore Changi AP and other airports in Singapore.
TWR	Singapore Tower	118.6 MHz	H24	for TKOF/LDG. for ACFT operating on RWY 02L/20R for vehicular movements on RWY 02L/20R
		118.25 MHz		for ACFT operating on RWY 02C/20C for vehicular movements on RWY 02C/20C for ground movement of ACFT (including ACFT on tow) north and south of RWY 02C/20C
		131.4 MHz		for ACFT operating on RWY 02R/20L for vehicular movements on RWY 02R/20L
	Singapore Ground	124.3 MHz	0000-1800 2100-2400	for push-back / taxiing of all ACFT, including ACFT on tow, west of Terminal 3
		121.725 MHz	0000-1700 2100-0000	for push-back / taxiing of all ACFT for ground movement of ACFT (including ACFT on tow) east of Terminal 2 and west of TWY B (excluding TWY J8, J9, J10 and J12)
		121.85 MHz	0000-1600	for push-back / taxiing of all ACFT including ACFT on tow, north of Terminal 1
			1600-2400	for push-back/ taxiing of all ACFT
		121.00 MHz	H24	for ground emergency
		122.55 MHz		for push-back / taxiing of all ACFT for ground movement of ACFT (including ACFT on tow) east of Terminal 4
		125.65 MHz		for push-back / taxiing of all ACFT for ground movement of ACFT (including ACFT on tow) west of Terminal 4
	127.275 MHz	for taxiing of all ACFT for ground movement of ACFT (including ACFT on tow) west of RWY 02R/20L		
	Singapore Delivery	121.65 MHz	H24	for Pre-flight check/ATC clearance
		119.6 MHz	0030-0230 1200-1300	for issuance of ATC clearance

Service Designation	Call sign	Frequency (P-Pri, S-Sec)	Hours of operation	Remarks
TWR	Changi Tower / Changi Apron	121.9 MHz	H24	<p>Requests for engine runs on aprons and taxiways, excluding runways, would be regulated by Changi Apron. All towing request to contact Changi Apron followed by instruction to contact respective Singapore Ground frequency for towing clearance.</p> <p>Request for vehicular movements on taxiways, excluding runways, would be regulated by Changi Tower.</p> <p>For ACFT on tow and vehicular movements on the runway when the runway is closed for maintenance.</p> <p>All personnel operating the radio station on board an ACFT that is on the ground in Changi Airport should possess the Aircraft Radio Operator Approval (AROA) or other equivalent certification.</p>
	Changi East Tower	119.675 MHz	H24	<p>Request for vehicular movements on taxiways, excluding runway, west of RWY 02R/20L and east of TWY C will be regulated by Changi East Tower.</p> <p>For ACFT on tow and vehicular movements on RWY 02R/20L when the runway is closed for maintenance.</p> <p>All personnel operating the radio station on board an ACFT that is on the ground in Changi Airport should possess the Aircraft Radio Operator Approval (AROA) or other equivalent certification.</p>
	Changi East Ground	120.95 MHz	Not for use, unless with prior coordination	For start-up / taxiing of all aircraft
D-ATIS	Changi Airport Departure Information	128.6 MHz	H24	<p>(broadcasting with half hourly updated MET INFO)</p> <p>Data Link Service available.</p>
	Changi Airport Arrival Information	128.025 MHz	H24	<p>AP IDENT WSSS</p> <p>Messages comply with ARINC 623 Standards.</p> <p>Updating of data: H+00 to H+10 and H+30 to H+40</p>
ATIS	Changi East Information (02R/ 20L)	139.95 MHz	Not for use, unless with prior coordination	NIL

8.15 ATC will check for TOBT compliance and update pilot of any revisions in departure clearance and flow restrictions before handing the flight over to Ground frequency for start-up and pushback.

8.16 ATC will cancel the clearance issued and send a "revert to voice procedures" message if pilot does not report ready for push within 5 minutes of TSAT.

9 ASSIGNMENT OF FLIGHT LEVELS TO AIRCRAFT DEPARTING FROM SINGAPORE CHANGI AIRPORT

9.1 Assignment of flight levels to departing aircraft is made on a best-planned-best-served basis (with reference to TOBT for ATC clearance request detailed in para 5.4). Aircraft will normally be assigned the level requested unless an alternate level is offered after coordination with the adjacent ATC centres.

← 9.2 Aircraft departing Singapore requesting FL280, FL300 or FL320 on ATS routes L510, L759, L515/M770, N571, N571/N877, P628 or P574:

- ← a. Aircraft will be assigned No-PDC FL280.
- ← b. Succeeding aircraft on the same ATS route will be assigned No-PDC FL280 with 10-minute longitudinal separation behind provided there is no closing speed with the preceding aircraft.
- ← c. If the succeeding aircraft is faster than the preceding aircraft, additional longitudinal separation as appropriate shall be imposed by ATC.

9.2.1 For aircraft on ATS routes L510, N571, P574 or P628 that are equipped with Automatic Dependent Surveillance – Contract (ADS-C) and Controller-Pilot Data Link Communication (CPDLC):

- a. Succeeding aircraft on the same ATS route will be assigned No-PDC FL280 with 7-minute longitudinal separation behind and provided there is no closing speed with the preceding aircraft.
- b. If the succeeding aircraft is faster than the preceding aircraft, additional longitudinal separation as appropriate shall be imposed by ATC.

← 10 DELAY IN PUSHBACK AND/OR TAXIING DUE TO OTHER AIRCRAFT

10.1 Delays may be expected for the second aircraft to pushback and to taxi when two or more aircraft are parked either adjacent to one another or close together. However, it will retain its ATC clearance even if the 5 minutes grace period allowed for under para 5.9 is exceeded.

Note: The TSAT may not be able to predict delays arising from apron congestion as traffic movement on ground is dynamic and situations may change on a real time basis depending on aircraft readiness. ATC will facilitate pushback as soon as possible when traffic permits.

11 DELAY IN TAKE-OFF DUE TO RESTRICTIONS IN THE ATC CLEARANCE

11.1 The ATC clearance may require an aircraft to arrive at a reporting point at a specified time and level or to depart a number of minutes behind a preceding traffic to establish the appropriate longitudinal separation. Such delay will not deprive a departing aircraft of its ATC clearance even though the 5 minutes grace period allowed for under para 5.9 is exceeded.

12 DELAY DUE TO OVERFLIGHTS

12.1 Overflights are flights that traverse Singapore FIR and/or airspace within the Jakarta FIR where ATS is provided by Singapore (see ENR 2.1) without landing at Singapore Changi Airport. Depending on the positions of overflights, a departing aircraft requesting the same flight level may have to accept an alternate flight level or delay its departure in order to establish the prescribed separation.

13 NON-CDM MODE OF OPERATIONS

13.1 The non-CDM procedures is applicable for non-scheduled flights departing Changi Airport or when TOBT and TSAT references used in A-CDM mode of operations become unavailable due to system issues or maintenance.

13.2 If TOBT cannot be submitted or it is unavailable through different channels stated in para 4.5,

- a. Pilots shall notify ATC when the aircraft is ready to pushback within 5 minutes.
- b. ATC will advise the pilot whether the proposed flight level or other alternate flight level is available and an ATC clearance will be issued accordingly. If pre-departure coordination with an adjacent unit or centre is required, the pilot will be instructed to standby.
- c. Once flight level is accepted by the pilot and an ATC clearance issued, the aircraft must be pushed back within 5 minutes from the time the ATC clearance is accepted unless other ATC restrictions are imposed. The ATC clearance will be cancelled on expiry of the 5 minutes grace period. This also applies to situations when aircraft return to blocks after pushback or develop technical issues and is unable to continue taxi.
- d. Pilots who are ready to depart following the cancellation of an ATC clearance will adopt the procedures as if it is the first time they are ready to depart.

- 13.3 If TSAT is unavailable through different means stated in para 4.10,
- a. AO and GHA shall continue to submit TOBT and pilots shall request for ATC clearance 5 minutes within TOBT stated in para 5.4
 - b. ATC will revert to the gate hold procedures stated in para 14 and issue estimated pushback times accordingly.

14 GATE HOLD PROCEDURES FOR DEPARTING AIRCRAFT (DURING NON-CDM MODE OF OPERATIONS)

- 14.1 Whenever there are about five to seven departing aircraft at the runway holding point, subsequent pushback of departures will be regulated such that the Ground Movement Planner (GMP) on VHF frequency 121.65MHz will start to issue pilots with Expected Pushback Time (EPT) as TSAT used in A-CDM operations is not available. The determination of EPT will take into account an aircraft's parking stand as well as taxi time to the runway-in-use holding point.
- 14.2 When an EPT is issued, pilots will be instructed to either remain on GMP frequency or to monitor Singapore Ground Control (frequencies 121.725MHz, 121.85MHz, 122.55MHz, 124.3MHz or 125.65MHz). It should be noted that when instructed to monitor the Singapore Ground frequencies, pilots shall not establish contact with the Singapore Ground Control, rather, pilots shall maintain listening watch on the assigned Singapore Ground Control frequency and wait for pushback instruction. This is to prevent unnecessary frequency congestion.
- 14.3 A flight issued with an EPT but chooses to commence pushback before the assigned time will be allowed to do so subject to traffic. However, the flight should not expect an earlier departure time as the planned pre-departure sequence will be maintained.
- 14.4 In a situation when a departing aircraft is occupying a gate that has been assigned to an arriving aircraft, the departing aircraft will be instructed by GMP to contact Singapore Ground Movement Control for pushback for the purpose of better gate utilisation.
- 14.5 To maximise runway utilisation, departure sequence will be planned on the basis of increasing runway throughput so as to enhance overall efficiency.

15 GROUND MOVEMENT PLANNER ON VHF 121.65MHz

- 15.1 The frequency shall be used for aircraft pre-flight checks and ATC clearances. Pilot-in-command to make his initial call from the parked position on this frequency.

16 GROUND MOVEMENT CONTROL ON VHF 121.725MHz, 121.85MHz, 122.55MHz, 124.3MHz, 125.65MHz AND 127.275MHz

- 16.1 This frequency shall be used for aircraft start-up/push-back clearance.
- 16.2 Unless otherwise instructed by ATC, the pilot-in-command shall prior to starting engines listen out on the Ground Movement Control frequency on 121.725MHz, 121.85MHz, 122.55MHz, 124.3MHz or 125.65MHz.
- 16.3 The pilot-in-command shall:
- a. Request and obtain taxi instructions prior to taxiing;
Note: ATC clearance, including the assigned SSR code will normally be issued prior to push back. Pilot shall squawk the SSR code immediately when airborne.
 - b. Change from Ground Movement Control frequency to the Runway Control frequency when instructed (118.6MHz, 118.25MHz or 131.4MHz). It should be noted that when instructed to monitor Singapore Tower frequencies, pilots shall not establish contact with Singapore Tower; rather, pilots shall maintain a listening watch on the assigned Singapore Tower frequency and wait for instruction. This is to prevent unnecessary frequency congestion.
- 16.4 Departing aircraft will be instructed when to change from 118.6MHz, 118.25MHz or 131.4MHz to Singapore Departure frequency 120.3MHz.
- 16.5 In the case of the aircraft having landed, the pilot-in-command shall change from 118.6MHz, 118.25MHz or 131.4MHz to 121.725MHz, 121.85MHz, 122.55MHz, 124.3MHz, 125.65MHz or 127.275MHz immediately upon instructed by ATC after clearing the runway. He shall maintain watch on 121.725MHz, 121.85MHz, 122.55MHz, 124.3MHz, 125.65MHz or 127.275MHz for taxiing and parking instructions until he arrives at his aircraft stand.

AERODROME CHART - ICAO

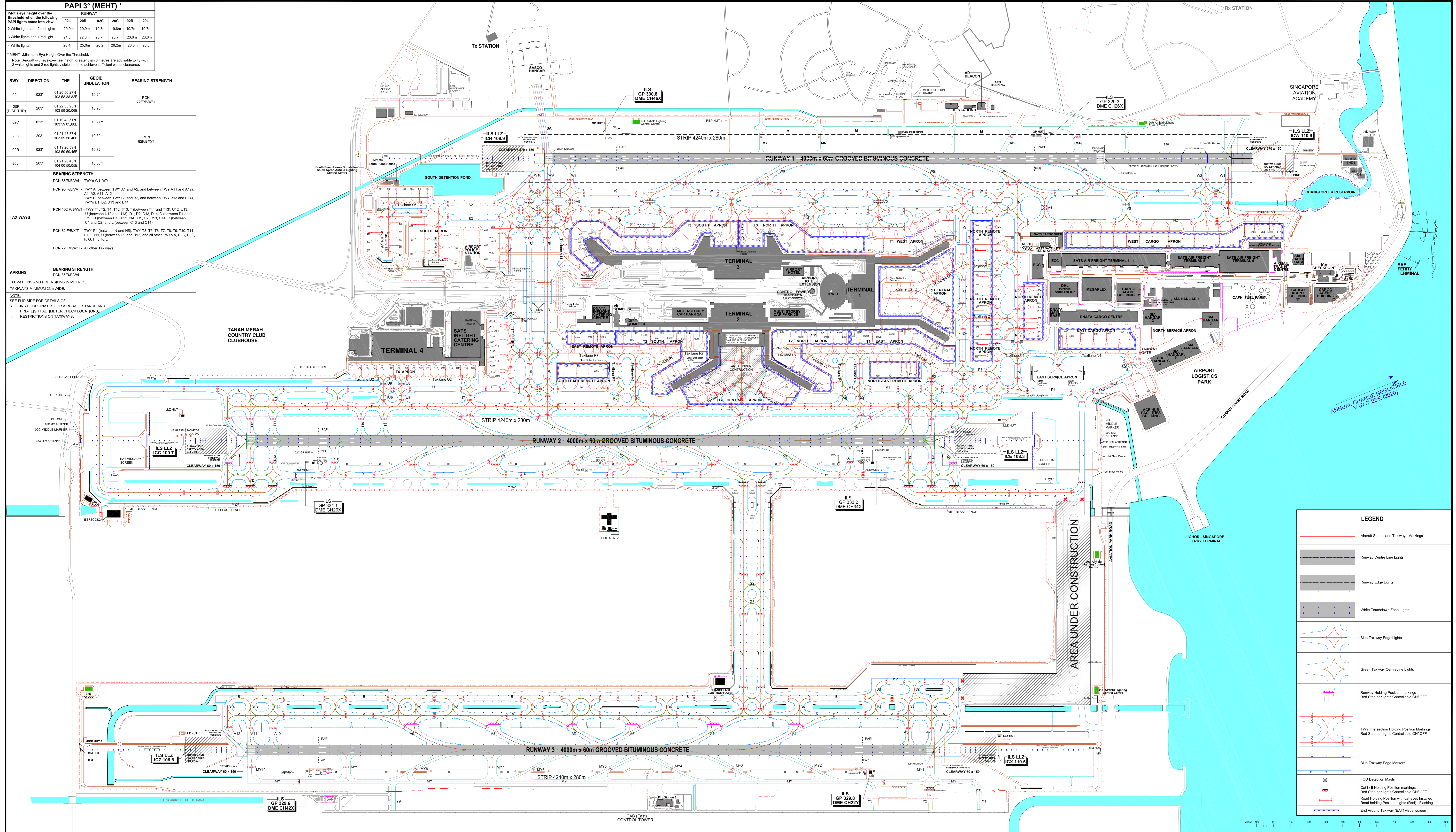
01 21' 33"N
103' 59' 22"E

AERODROME ELEVATION 6.66m

TWR 118.6 / 118.25 / 131.4
GND 124.3 / 121.85 / 121.725 / 127.275
DELIVERY 121.65 / 119.6

RAMP TWR 122.55 (GMC 4 EAST)
GND 125.65 (GMC 4 WEST)

SINGAPORE/SINGAPORE CHANGI



INS COORDINATES FOR AIRCRAFT STANDS AND PRE-FLIGHT ALTIMETER CHECK LOCATIONS

LOCATION	STAND NR	NORTH LAT	EAST LONG	ELEVATION	
T3 SOUTH APRON	A1	01 21 21.52	103 59 06.25	4.75m (15.58ft)	
	A2	01 21 21.75	103 59 04.00	4.65m (15.26ft)	
	A3	01 21 19.86	103 59 02.79	4.68m (15.29ft)	
	A4	01 21 17.61	103 59 02.54	4.79m (15.72ft)	
	A5	01 21 15.50	103 59 03.62	4.86m (15.94ft)	
	A9	01 21 12.56	103 59 03.65	5.02m (16.47ft)	
	A10	01 21 10.34	103 59 02.40	5.04m (16.54ft)	
	A11	01 21 07.93	103 59 01.41	5.25m (17.22ft)	
	A12	01 21 05.76	103 59 00.49	5.38m (17.65ft)	
	A13	01 21 03.59	103 58 59.58	5.49m (17.99ft)	
	A14	01 21 01.66	103 58 57.59	5.57m (18.27ft)	
	A15	01 21 00.77	103 58 55.41	5.49m (17.91ft)	
	A16	01 20 59.27	103 58 54.20	5.51m (18.08ft)	
	A17	01 20 57.25	103 58 54.06	5.23m (17.16ft)	
	A18	01 20 55.87	103 58 55.25	5.37m (17.62ft)	
	A19	01 20 55.26	103 58 57.13	5.40m (17.72ft)	
	A20	01 20 56.09	103 58 58.83	5.45m (17.88ft)	
	A21	01 20 57.10	103 59 00.80	5.49m (18.01ft)	
	T3 NORTH APRON	B1	01 21 26.86	103 59 08.37	4.82m (15.81ft)
		B2	01 21 28.18	103 59 06.82	4.88m (15.35ft)
		B3	01 21 30.33	103 59 07.30	4.65m (15.26ft)
B4		01 21 30.63	103 59 08.60	4.75m (15.58ft)	
B5		01 21 32.98	103 59 10.89	4.80m (15.75ft)	
B6		01 21 35.15	103 59 13.16	4.96m (16.27ft)	
B7		01 21 37.65	103 59 13.93	4.97m (16.31ft)	
B8		01 21 39.94	103 59 15.20	5.13m (16.83ft)	
B9		01 21 42.19	103 59 16.16	5.13m (16.83ft)	
B10		01 21 44.47	103 59 17.12	5.15m (16.90ft)	
T1 WEST APRON	C1	01 21 46.75	103 59 18.08	5.09m (16.70ft)	
	C20	01 21 48.83	103 59 19.23	5.09m (16.67ft)	
	C22	01 21 51.00	103 59 20.13	5.15m (16.90ft)	
	C23	01 21 53.56	103 59 20.77	5.08m (16.67ft)	
	C24	01 21 56.54	103 59 20.97	4.89m (16.04ft)	
	C25	01 21 58.12	103 59 20.99	4.99m (16.37ft)	
	C26	01 22 01.48	103 59 20.76	5.01m (16.44ft)	
T1 CENTRAL APRON	C11	01 21 47.42	103 59 23.82	5.09m (16.70ft)	
	C13	01 21 49.63	103 59 24.75	5.03m (16.50ft)	
	C15	01 21 51.89	103 59 25.70	5.08m (16.60ft)	
	C16	01 21 53.47	103 59 26.62	4.88m (15.98ft)	
	C17	01 21 55.50	103 59 26.20	5.01m (16.44ft)	
	C17L	01 21 54.75	103 59 26.22	4.96m (16.27ft)	
	C17R	01 21 56.01	103 59 25.88	5.12m (16.80ft)	
	C18	01 21 57.86	103 59 25.75	4.99m (16.37ft)	
	C19	01 21 59.79	103 59 25.63	4.95m (16.24ft)	
	D30	01 21 44.54	103 59 30.14	5.08m (16.67ft)	
	D32	01 21 46.75	103 59 31.06	5.08m (16.67ft)	
	D34	01 21 49.03	103 59 32.04	5.07m (16.63ft)	
	D35	01 21 50.87	103 59 32.82	5.02m (16.47ft)	
	D36	01 21 51.98	103 59 34.52	5.08m (16.60ft)	
	D37	01 21 53.37	103 59 36.28	4.97m (16.31ft)	
	D38	01 21 54.58	103 59 37.77	4.99m (16.37ft)	
	T1 EAST APRON	D40	01 21 38.13	103 59 32.89	5.11m (16.77ft)
		D40L	01 21 37.38	103 59 32.83	5.09m (16.70ft)
		D40R	01 21 38.77	103 59 32.84	5.13m (16.83ft)
D41		01 21 40.30	103 59 33.81	5.07m (16.63ft)	
D42		01 21 42.77	103 59 34.58	5.15m (16.89ft)	
D42L		01 21 42.00	103 59 34.47	5.12m (16.79ft)	
D42R		01 21 43.45	103 59 34.44	5.21m (17.09ft)	
D44		01 21 44.97	103 59 35.44	5.14m (16.86ft)	
D46		01 21 47.40	103 59 36.72	5.08m (16.67ft)	
D47		01 21 49.19	103 59 38.89	4.93m (16.17ft)	
D48		01 21 50.60	103 59 40.77	4.97m (16.31ft)	
D49		01 21 52.23	103 59 42.35	4.98m (16.34ft)	
T2 NORTH APRON		E8	01 21 27.99	103 59 38.45	4.68m (15.35ft)
		E10	01 21 24.15	103 59 32.67	4.71m (15.45ft)
		E11	01 21 25.57	103 59 34.37	4.78m (15.68ft)
		E12	01 21 27.20	103 59 36.42	4.75m (15.58ft)
		E20	01 21 24.36	103 59 27.08	5.04m (16.54ft)
		E22	01 21 26.64	103 59 28.04	5.07m (16.63ft)
		E24	01 21 29.01	103 59 29.06	5.09m (16.70ft)
	E24L	01 21 28.32	103 59 28.77	5.10m (16.73ft)	
	E24R	01 21 29.53	103 59 29.28	5.08m (16.67ft)	
	E26	01 21 31.19	103 59 29.96	5.08m (16.67ft)	
	E27	01 21 33.56	103 59 30.96	5.07m (16.62ft)	
	E27L	01 21 32.79	103 59 30.86	5.03m (16.48ft)	
E27R	01 21 34.20	103 59 30.91	5.12m (16.80ft)		
E28	01 21 35.74	103 59 31.89	5.08m (16.67ft)		

INS COORDINATES FOR AIRCRAFT STANDS AND PRE-FLIGHT ALTIMETER CHECK LOCATIONS

LOCATION	STAND NR	NORTH LAT	EAST LONG	ELEVATION	
T2 CENTRAL APRON	E2	01 21 19.28	103 59 27.30	4.90m (16.08ft)	
	E3	01 21 18.44	103 59 29.27	4.82m (15.81ft)	
	E4	01 21 18.10	103 59 31.70	4.80m (15.75ft)	
	E5	01 21 19.56	103 59 33.72	4.90m (16.08ft)	
	E6	01 21 21.22	103 59 35.93	4.84m (15.88ft)	
	E7	01 21 22.48	103 59 37.46	4.73m (15.52ft)	
	F31	01 21 13.87	103 59 25.30	4.91m (16.11ft)	
	F32	01 21 13.03	103 59 27.26	4.85m (15.91ft)	
	F33	01 21 11.30	103 59 28.54	4.91m (16.11ft)	
	F34	01 21 08.98	103 59 28.86	4.92m (16.14ft)	
	F35	01 21 06.60	103 59 29.55	4.91m (16.11ft)	
	F35L	01 21 06.06	103 59 30.13	4.74m (15.55ft)	
	F35R	01 21 06.96	103 59 29.05	5.04m (16.54ft)	
	F36	01 21 04.34	103 59 29.67	4.82m (15.81ft)	
	T2 SOUTH APRON	F37	01 20 59.83	103 59 27.87	4.75m (15.58ft)
		F40	01 21 05.82	103 59 25.34	4.85m (15.91ft)
		F41	01 21 03.19	103 59 25.58	4.82m (15.81ft)
F42		01 21 00.61	103 59 25.96	4.72m (15.49ft)	
F50		01 21 10.69	103 59 21.32	5.03m (16.50ft)	
F52		01 21 09.51	103 59 20.40	5.11m (16.77ft)	
F52L		01 21 07.82	103 59 20.11	5.16m (16.93ft)	
F52R		01 21 09.04	103 59 20.62	5.08m (16.67ft)	
F54		01 21 06.14	103 59 19.40	5.22m (17.13ft)	
F56		01 21 03.96	103 59 18.48	5.30m (17.39ft)	
F56L		01 21 03.27	103 59 18.18	5.42m (17.78ft)	
F56R		01 21 04.49	103 59 18.70	5.34m (17.52ft)	
F58		01 21 01.58	103 59 17.47	5.49m (18.01ft)	
F59		01 20 59.41	103 59 16.55	5.64m (18.50ft)	
F59L		01 20 58.72	103 59 16.26	5.67m (18.60ft)	
F59R		01 20 59.03	103 59 16.78	5.60m (18.37ft)	
F60		01 20 56.91	103 59 15.50	5.77m (18.93ft)	
EAST REMOTE APRON		200	01 20 47.83	103 59 11.67	6.23m (20.44ft)
		200L	01 20 46.91	103 59 11.92	6.28m (20.64ft)
	200R	01 20 48.35	103 59 11.89	6.18m (20.28ft)	
	201	01 20 49.99	103 59 12.62	5.96m (19.55ft)	
	202	01 20 52.34	103 59 13.57	5.94m (19.49ft)	
	202L	01 20 51.65	103 59 13.28	5.76m (18.90ft)	
	202R	01 20 52.87	103 59 13.79	5.73m (18.80ft)	
	203	01 20 54.52	103 59 14.47	5.92m (19.42ft)	
	SOUTH-EAST REMOTE APRON	205	01 20 43.91	103 59 17.06	4.77m (15.65ft)
		206	01 20 46.08	103 59 17.98	4.76m (15.62ft)
		207	01 20 48.21	103 59 19.01	4.74m (15.55ft)
		208	01 20 50.68	103 59 20.05	4.75m (15.58ft)
208L		01 20 50.01	103 59 19.76	4.74m (15.55ft)	
208R		01 20 51.25	103 59 20.29	4.73m (15.42ft)	
NORTH REMOTE APRON		300	01 22 06.95	103 59 22.67	4.53m (14.86ft)
		301	01 22 06.41	103 59 24.69	4.93m (16.17ft)
	302	01 22 05.21	103 59 26.75	4.97m (16.31ft)	
	303	01 22 03.55	103 59 31.40	5.32m (17.45ft)	
	304	01 22 02.84	103 59 33.06	5.35m (17.55ft)	
	305	01 22 02.14	103 59 34.71	5.30m (17.39ft)	
	306	01 22 01.41	103 59 36.42	5.16m (16.93ft)	
	307	01 21 59.39	103 59 40.36	5.16m (16.93ft)	
	308	01 21 58.96	103 59 41.35	5.10m (16.73ft)	
	309	01 21 58.52	103 59 43.17	5.05m (16.60ft)	
	310	01 21 57.42	103 59 44.96	4.74m (15.55ft)	
	951	01 22 09.35	103 59 45.23	5.15m (16.90ft)	
	951L	01 22 08.91	103 59 44.27	5.00m (16.40ft)	
	951R	01 22 08.35	103 59 45.58	5.00m (16.40ft)	
	952	01 22 09.94	103 59 42.65	4.89m (16.04ft)	
	953	01 22 11.22	103 59 40.85	4.98m (16.34ft)	
	953L	01 22 10.78	103 59 39.89	4.83m (15.85ft)	
	953R	01 22 10.41	103 59 41.28	4.87m (15.98ft)	
	954	01 22 12.46	103 59 37.95	4.94m (16.21ft)	
954L	01 22 12.02	103 59 38.99	4.70m (15.42ft)		
954R	01 22 11.65	103 59 38.38	4.74m (15.55ft)		
NORTH-EAST REMOTE APRON	400	01 21 38.71	103 59 40.14	4.31m (14.14ft)	
	401	01 21 40.98	103 59 41.10	4.31m (14.14ft)	
	402	01 21 42.85	103 59 41.99	4.30m (14.11ft)	
	403	01 21 44.37	103 59 42.53	4.29m (14.07ft)	
	404	01 21 45.45	103 59 42.98	4.20m (13.78ft)	

INS COORDINATES FOR AIRCRAFT STANDS AND PRE-FLIGHT ALTIMETER CHECK LOCATIONS

LOCATION	STAND NR	NORTH LAT	EAST LONG	ELEVATION
WEST CARGO APRON	502	01 22 22.23	103 59 31.62	4.35m (14.27ft)
	503	01 22 24.98	103 59 32.78	4.29m (14.07ft)
	504	01 22 27.26	103 59 33.74	4.29m (14.07ft)
	505	01 22 29.54	103 59 34.70	4.32m (14.17ft)
	506	01 22 31.81	103 59 35.66	4.38m (14.37ft)
	507	01 22 34.11	103 59 36.64	4.36m (14.30ft)
	508	01 22 36.41	103 59 37.61	4.29m (14.07ft)
	509	01 22 39.12	103 59 38.76	4.09m (13.42ft)
	510	01 22 41.37	103 59 40.18	4.19m (13.75ft)
	511	01 22 43.64	103 59 41.09	4.22m (13.85ft)
	512	01 22 45.71	103 59 42.01	4.24m (13.91ft)
	513	01 22 47.89	103 59 42.92	4.26m (13.98ft)
	514	01 22 50.19	103 59 43.54	4.36m (14.30ft)
	515	01 22 52.90	103 59 43.20	4.09m (13.43ft)
	516	01 22 55.39	103 59 43.97	4.04m (13.26ft)
	516L	01 22 56.24	103 59 43.89	3.96m (12.98ft)
	516R	01 22 54.93	103 59 43.25	3.95m (12.97ft)
	517	01 22 58.02	103 59 45.08	4.05m (13.27ft)
	517L	01 22 58.83	103 59 44.99	3.96m (12.98ft)
	517R	01 22 57.55	103 59 44.35	3.96m (12.98ft)
	EAST CARGO APRON	600	01 22 14.12	103 59 48.10
600L		01 2		

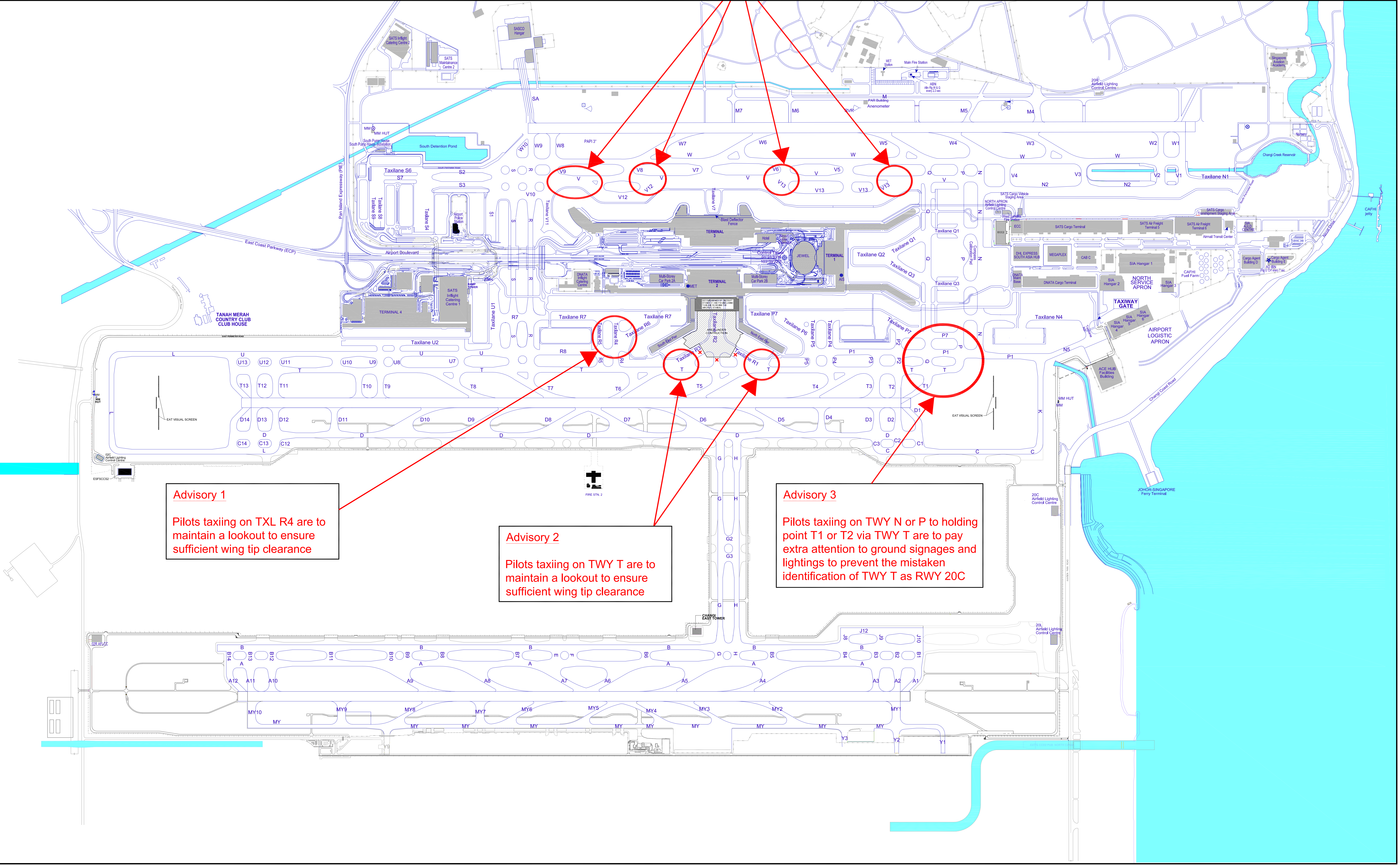
AERODROME ADVISORY CHART

Advisory 4
Pilots taxiing on TWY V are to maintain a lookout to ensure sufficient wing tip clearance

Advisory 1
Pilots taxiing on TXL R4 are to maintain a lookout to ensure sufficient wing tip clearance

Advisory 2
Pilots taxiing on TWY T are to maintain a lookout to ensure sufficient wing tip clearance

Advisory 3
Pilots taxiing on TWY N or P to holding point T1 or T2 via TWY T are to pay extra attention to ground signages and lightings to prevent the mistaken identification of TWY T as RWY 20C

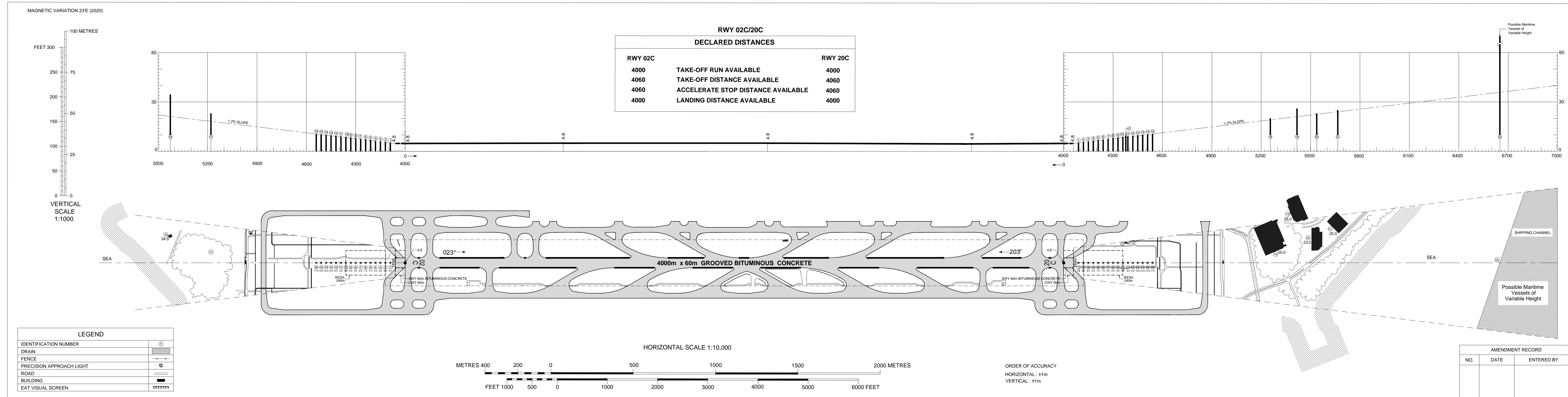


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DIMENSIONS AND ELEVATIONS IN METRES

AERODROME OBSTACLE CHART - ICAO TYPE A (OPERATING LIMITATIONS)

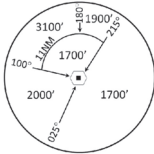
SINGAPORE/Singapore Changi



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INSTRUMENT APPROACH CHART - ICAO

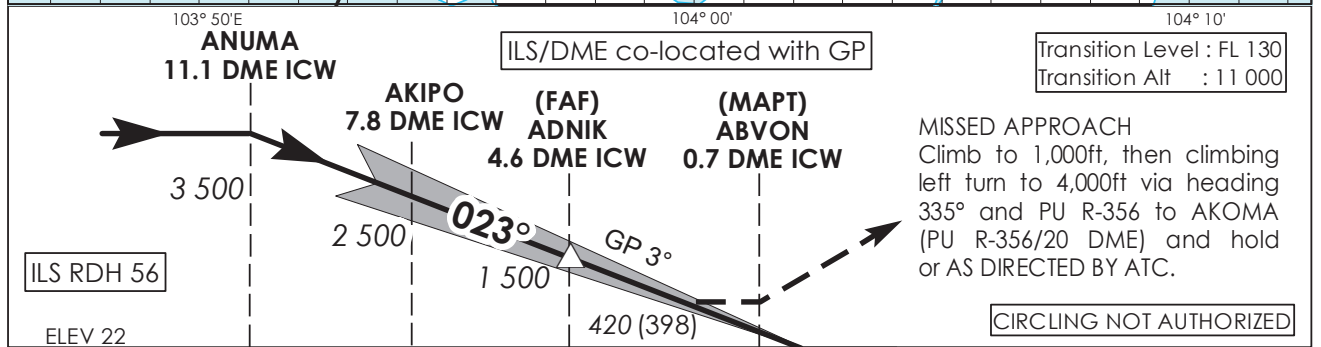
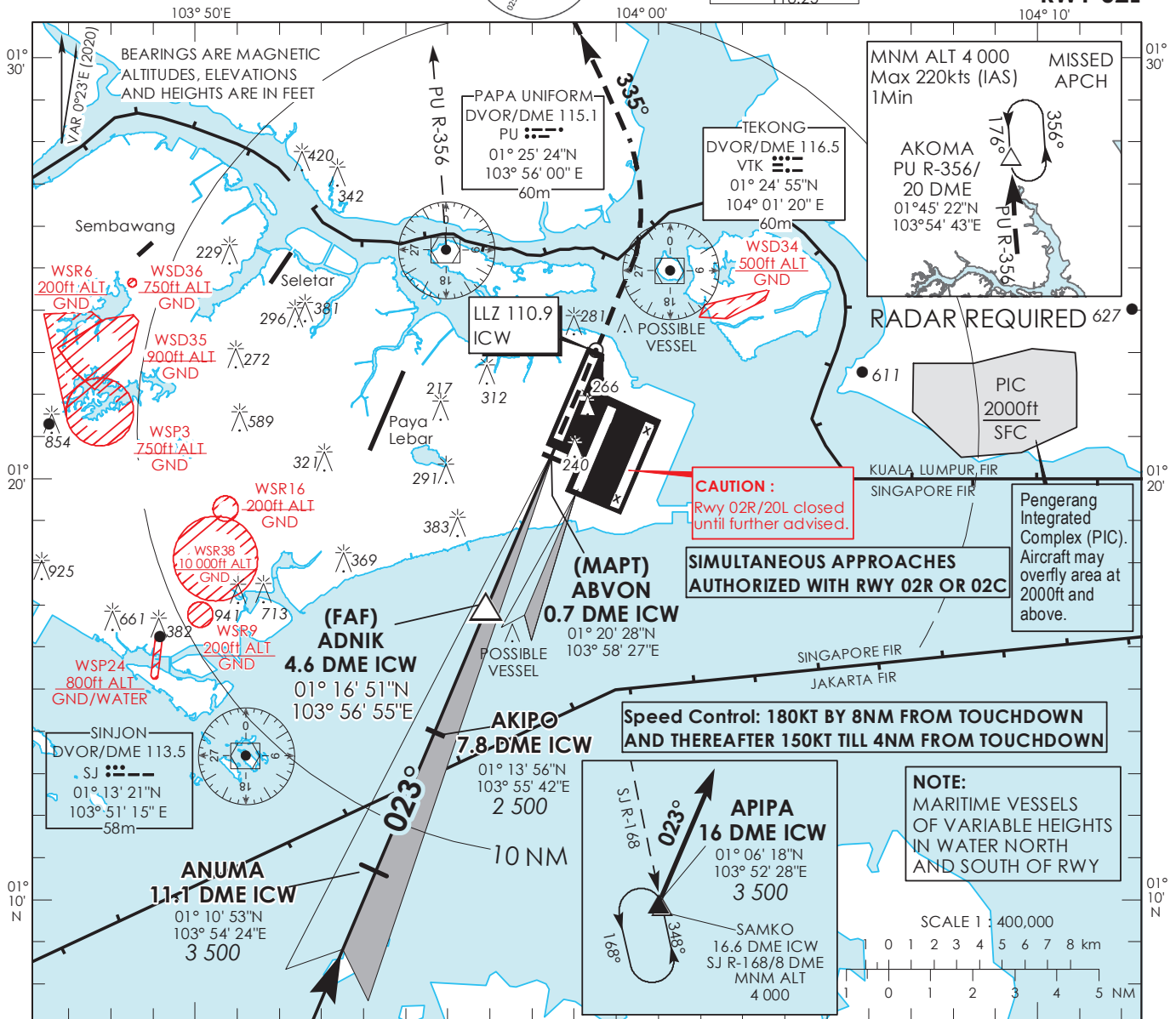
AERODROME ELEV **22ft**
HEIGHT RELATED TO
THR RWY 02L - ELEV **22ft**



MSA 25 NM from TEKONG DVOR

D-ATIS	AP ID WSSS
APP	128.025
APP	124.05
TWR	119.3
TWR	118.6
TWR	118.25

SINGAPORE/ SINGAPORE CHANGI ICW ILS/DME RWY 02L



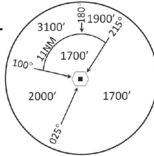
ILS/DME co-located with GP
Transition Level : FL 130
Transition Alt : 11 000
MISSED APPROACH
Climb to 1,000ft, then climbing left turn to 4,000ft via heading 335° and PU R-356 to AKOMA (PU R-356/20 DME) and hold or AS DIRECTED BY ATC.
CIRCLING NOT AUTHORIZED

		OCA (OCH)				
Category of Aircraft		A	B	C	D	D _L
Straight-in	CAT I ILS	173 (151)	187 (165)	203 (181)	216 (194)	219 (197)
	CAT II ILS	88 (66)	98 (76)	108 (86)	127 (105)	127 (105)
	GP INOP	420 (398)				
Distance	4 DME	3 DME		2 DME		
Altitude (Height)	1290 (1268)	970 (948)		660 (638)		
Speed	knots	70	120	150	185	
FAF - MAPT 3.9nm	min : s *	3 : 21	1 : 57	1 : 34	1 : 16	
Rate of descent/GS	ft/min	370	635	795	980	

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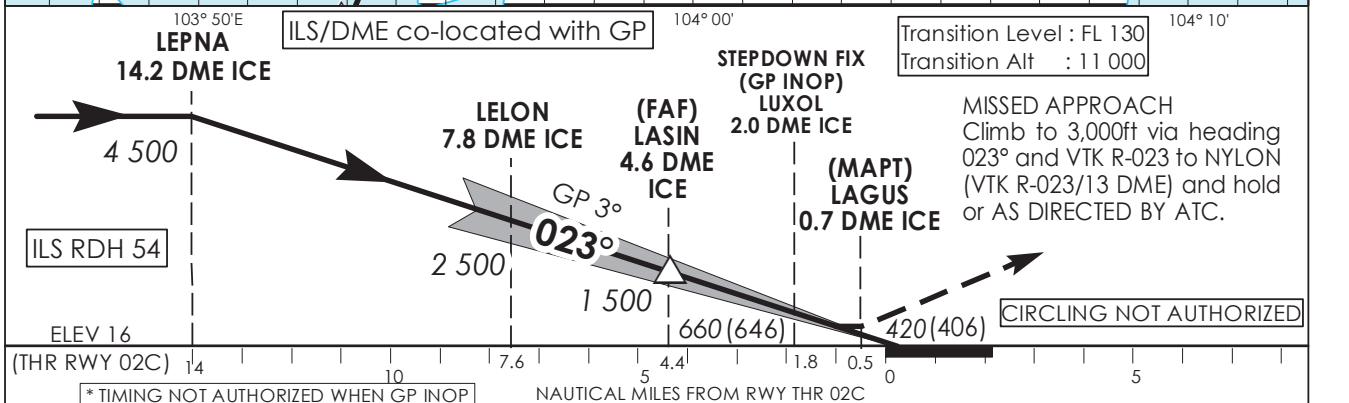
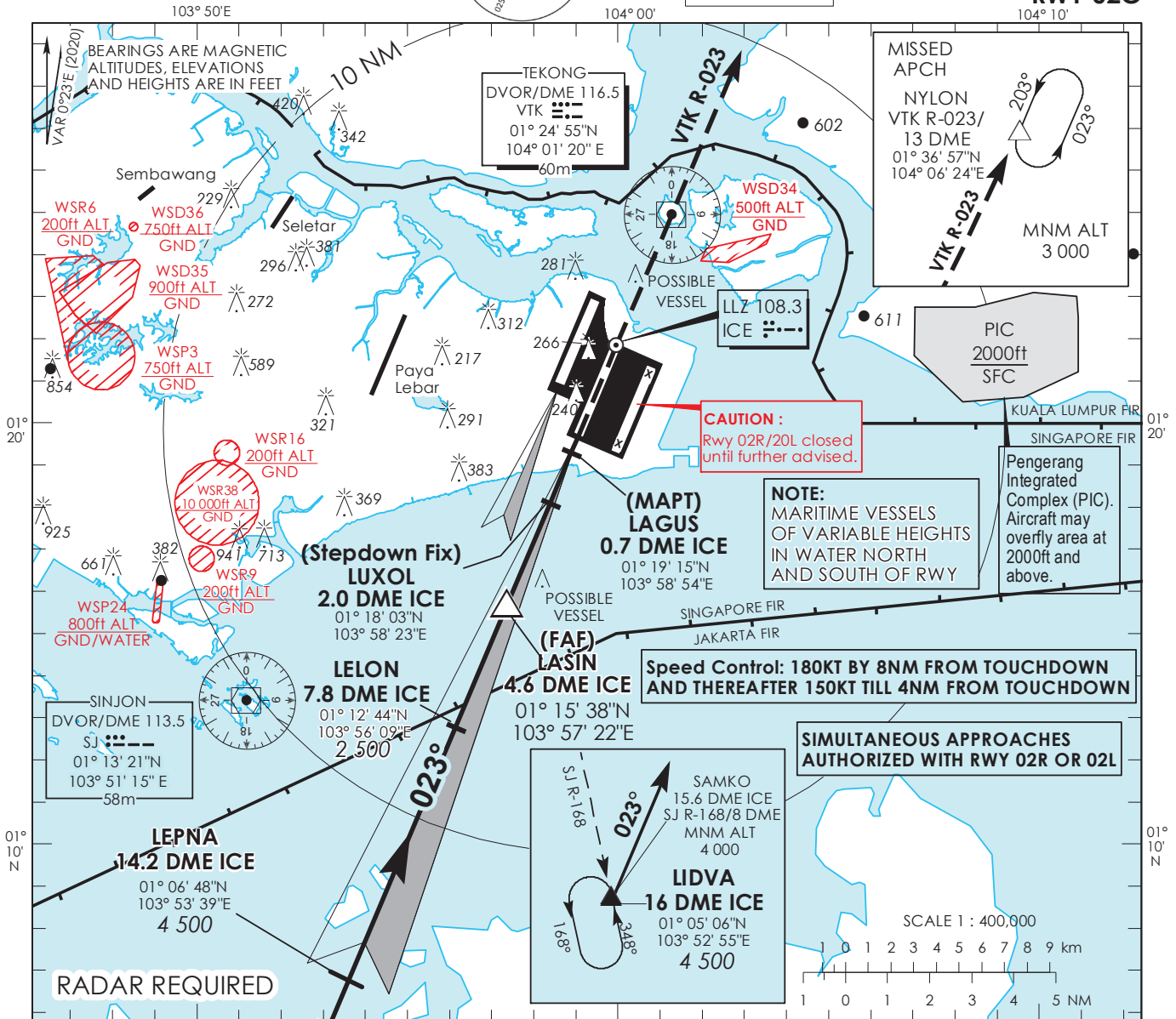
INSTRUMENT APPROACH CHART - ICAO

AERODROME ELEV **22ft**
HEIGHT RELATED TO
THR RWY 02C - ELEV **16ft**



D-ATIS	AP ID WSSS
APP	128.025
TWR	124.05
	119.3
	118.6
	118.25

SINGAPORE/ SINGAPORE CHANGI ICE ILS/DME RWY 02C

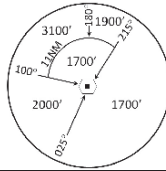


		OCA (OCH)				
Category of Aircraft		A	B	C	D	D _L
Straight-in	CAT I ILS	170 (156)	180 (166)	196 (182)	209 (195)	212 (198)
	GP INOP (with stepdown fix)	420 (406)				
	GP INOP (without stepdown fix)	660 (646)				
Distance		4 DME			3 DME	
Altitude (Height)		1290 (1276)			970 (956)	
Speed		knots	70	120	150	185
FAF - MAPT 3.9nm		min : s*	3 : 21	1 : 57	1 : 34	1 : 16
Rate of descent/GS		ft/min	370	635	795	980

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**INSTRUMENT
APPROACH
CHART**

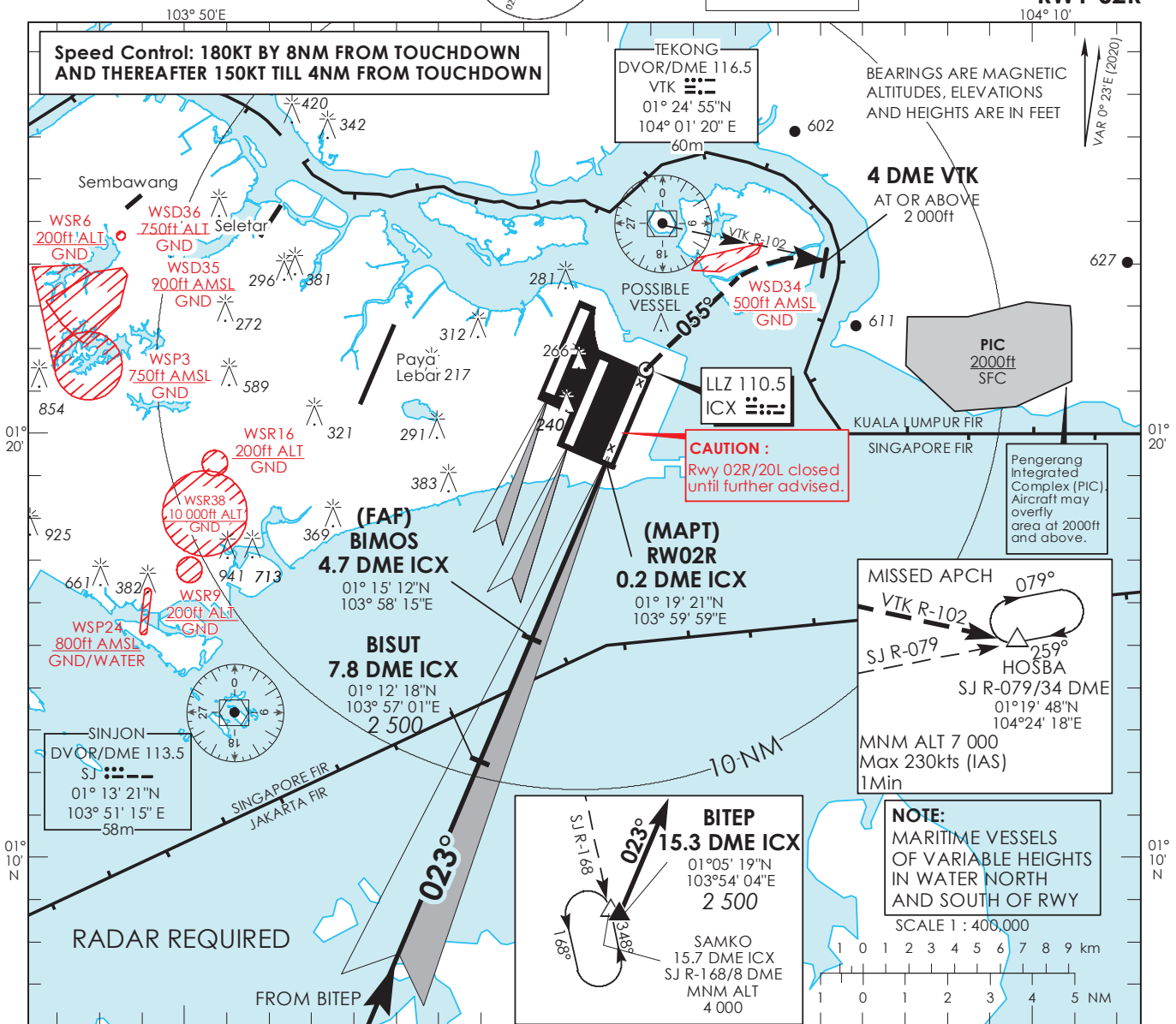
AERODROME ELEV **22ft**
HEIGHT RELATED TO
THR RWY 02R - ELEV **16ft**



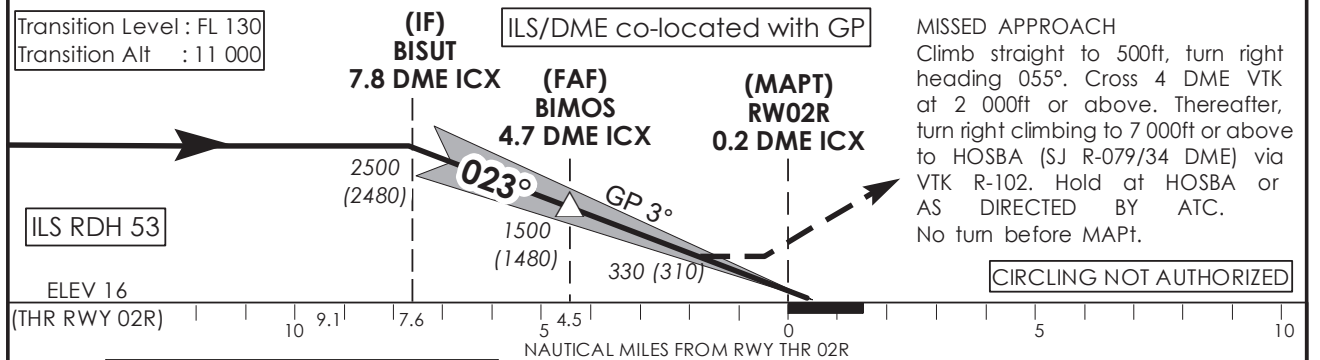
MSA 25 NM
from TEKONG DVOR

D-ATIS AP ID WSSS
128.025
APP 124.05
TWR 119.3
131.4

**SINGAPORE/
SINGAPORE CHANGI
ICX ILS/DME
RWY 02R**



- This procedure requires a missed approach climb gradient of 5% (304 ft/NM) until passing 2,000ft. MAX IAS 185kts during turning missed approach.
- For aircraft which can only achieve a 2.5% (152 ft/NM) climb gradient, the OCA (OCH) is 820ft (800ft) and aircraft shall climb straight to 1200ft before commencing right turn climbing to 7000ft or above to HOSBA.



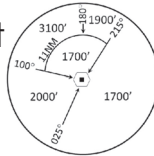
* TIMING NOT AUTHORIZED WHEN GP INOP

		OCA (OCH)			
Category of Aircraft		A	B	C	D
Straight-in	CAT I ILS	220 (200)			
	CAT II ILS	120 (100)			
	GP INOP	330 (310)			
Distance	4 DME	3 DME	2 DME		
Altitude (Height)	1300 (1280)		980 (960)		660 (640)
Speed	knots	70	120	150	185
FAF - MAPT 4.5nm	min : s *	3 : 52	2 : 15	1 : 48	1 : 28
Rate of descent/GS	ft/min	630	1080	1350	1665

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INSTRUMENT APPROACH CHART - ICAO

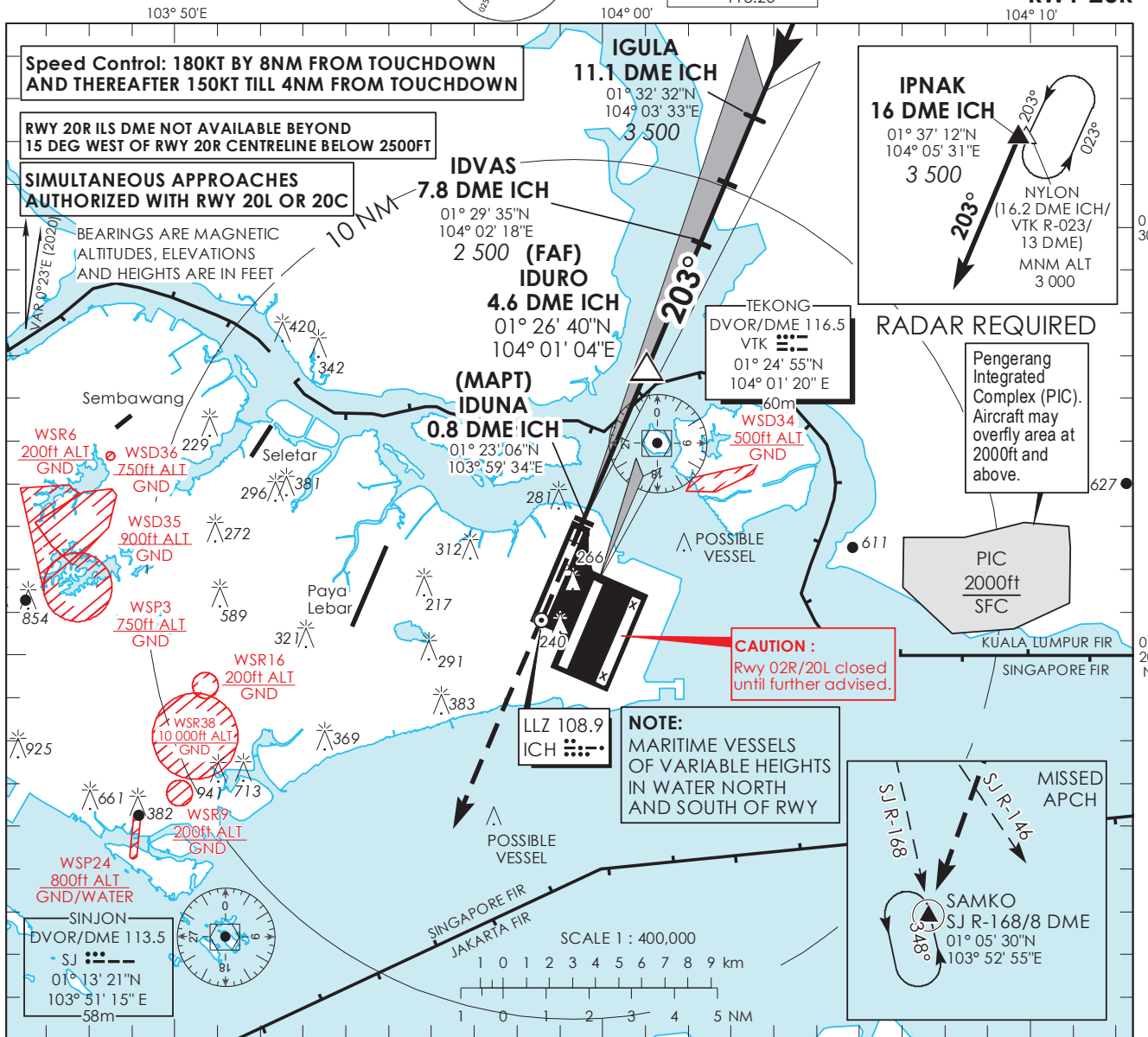
AERODROME ELEV **22ft**
HEIGHT RELATED TO
DTHR RWY 20R - ELEV **13ft**



MSA 25 NM
from TEKONG DVOR

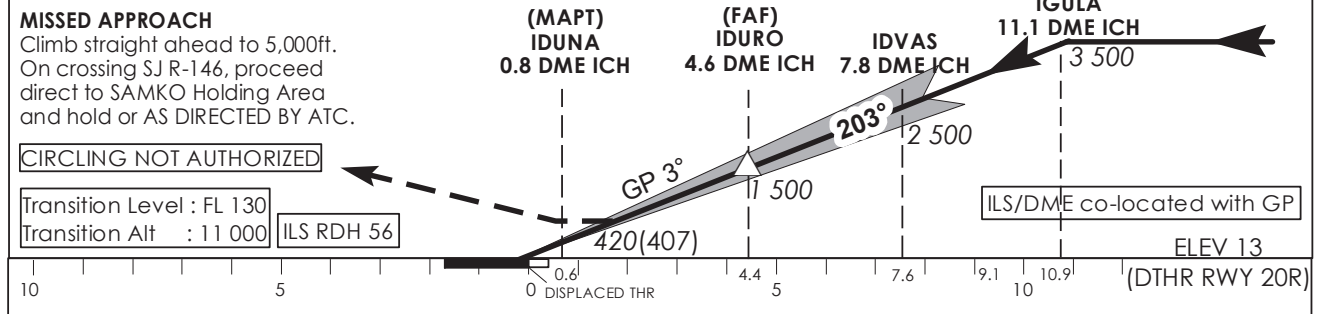
D-ATIS	AP ID WSSS
APP	128.025
APP	124.05
TWR	119.3
TWR	118.6
TWR	118.25

SINGAPORE/ SINGAPORE CHANGI ICH ILS/DME RWY 20R



103° 50'E 104° 00' 104° 10'

This procedure requires a missed approach climb gradient of 3.7% (225 ft/NM) until passing 2,500ft.
For aircraft which can only achieve a 2.5% (152 ft/NM) climb gradient, the CAT I OCA (OCH) is 693ft (680ft).



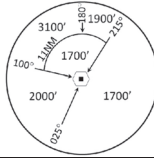
* TIMING NOT AUTHORIZED WHEN GP INOP

		OCA (OCH)				
Category of Aircraft		A	B	C	D	DL
Straight-in	CAT I ILS	152 (139)	159 (146)	179 (166)	192 (179)	195 (182)
	GP INOP	420 (407)				
Distance		4 DME		3 DME		2 DME
Altitude (Height)		1290 (1277)		970 (957)		650 (637)
Speed	knots	70		120	150	185
FAF - MAPT 3.9nm	min : s *	3 : 21		1 : 57	1 : 34	1 : 16
Rate of descent/GS	ft/min	370		635	795	980

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INSTRUMENT APPROACH CHART - ICAO

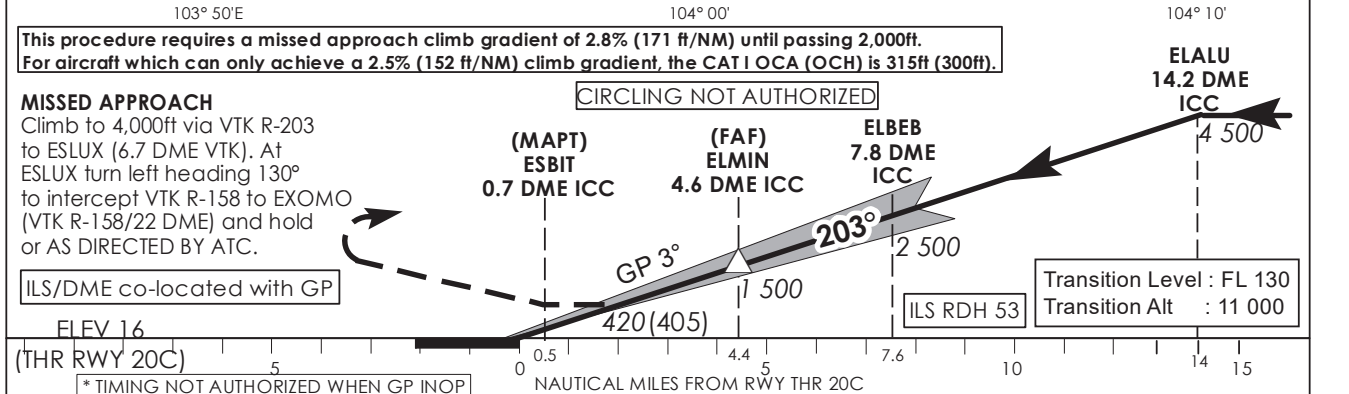
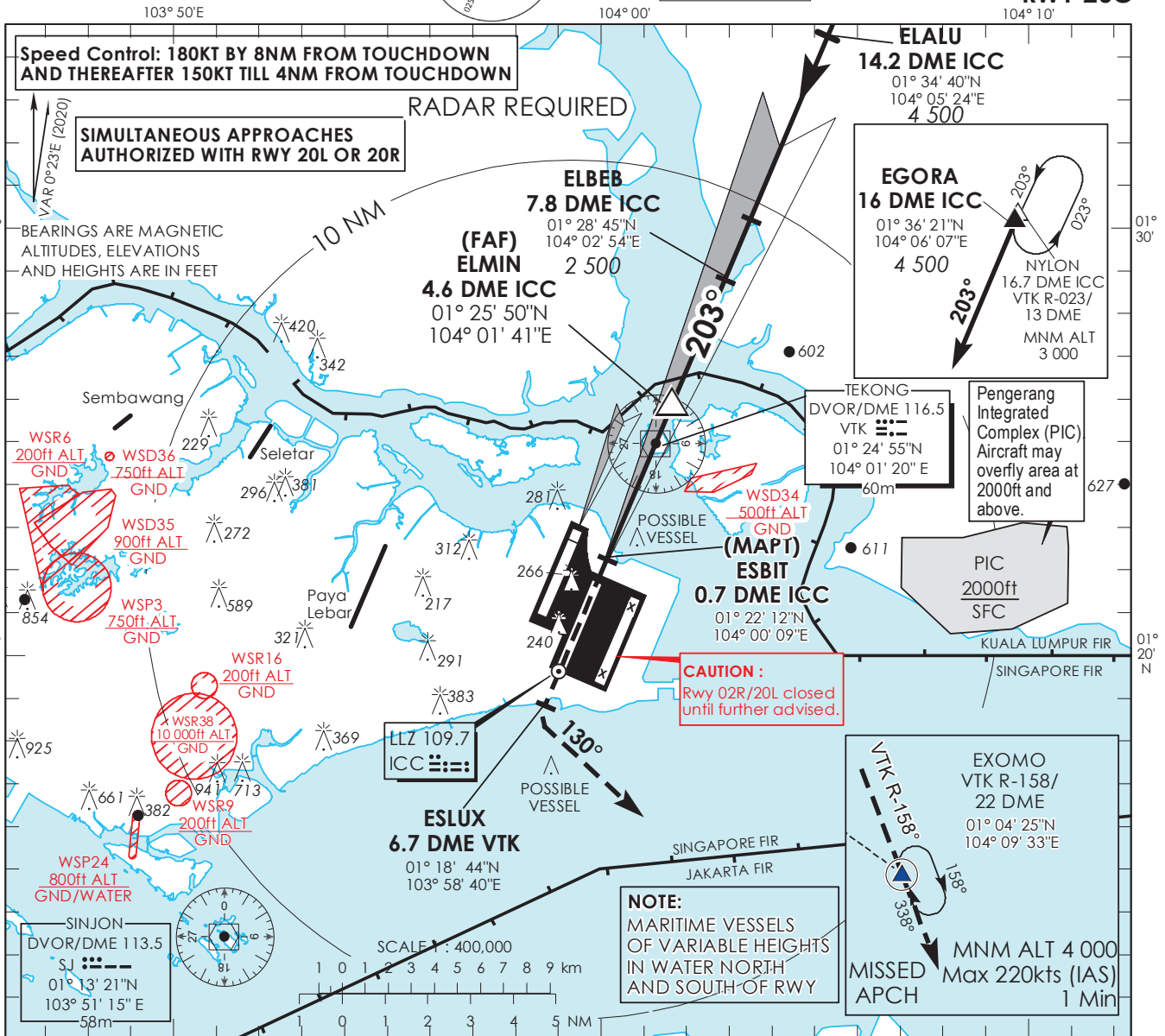
AERODROME ELEV 22ft
HEIGHT RELATED TO
THR RWY 20C - ELEV 16ft



MSA 25 NM from TEKONG DVOR

D-ATIS	AP ID WSSS
APP	128.025
	124.05
TWR	119.3
	118.6
	118.25

SINGAPORE/ SINGAPORE CHANGI ICC ILS/DME RWY 20C

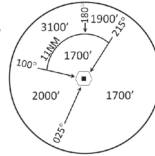


		OCA (OCH)				
Category of Aircraft		A	B	C	D	D _L
Straight-in	CAT I ILS	166 (151)	180 (165)	196 (181)	209 (194)	212 (197)
	CAT II ILS	71 (56)	78 (63)	91 (76)	101 (86)	107 (92)
	GP INOP	420 (405)				
Distance	4 DME	3 DME		2 DME		
Altitude (Height)	1290 (1275)	980 (965)		660 (645)		
Speed	knots	70	120	150	185	
FAF - MAPT 3.9nm	min : s *	3 : 21	1 : 57	1 : 34	1 : 16	
Rate of descent/GS	ft/min	370	635	795	980	

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INSTRUMENT APPROACH CHART - ICAO

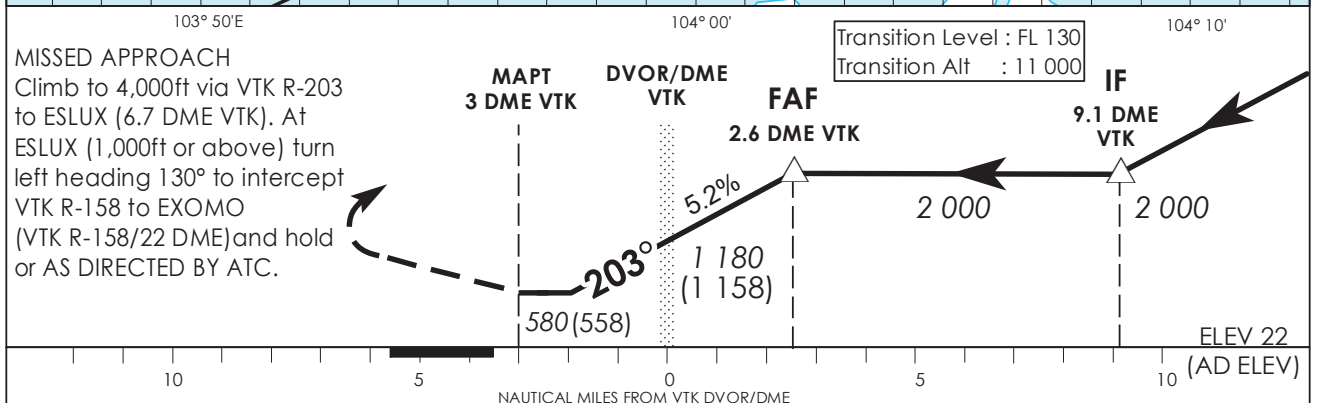
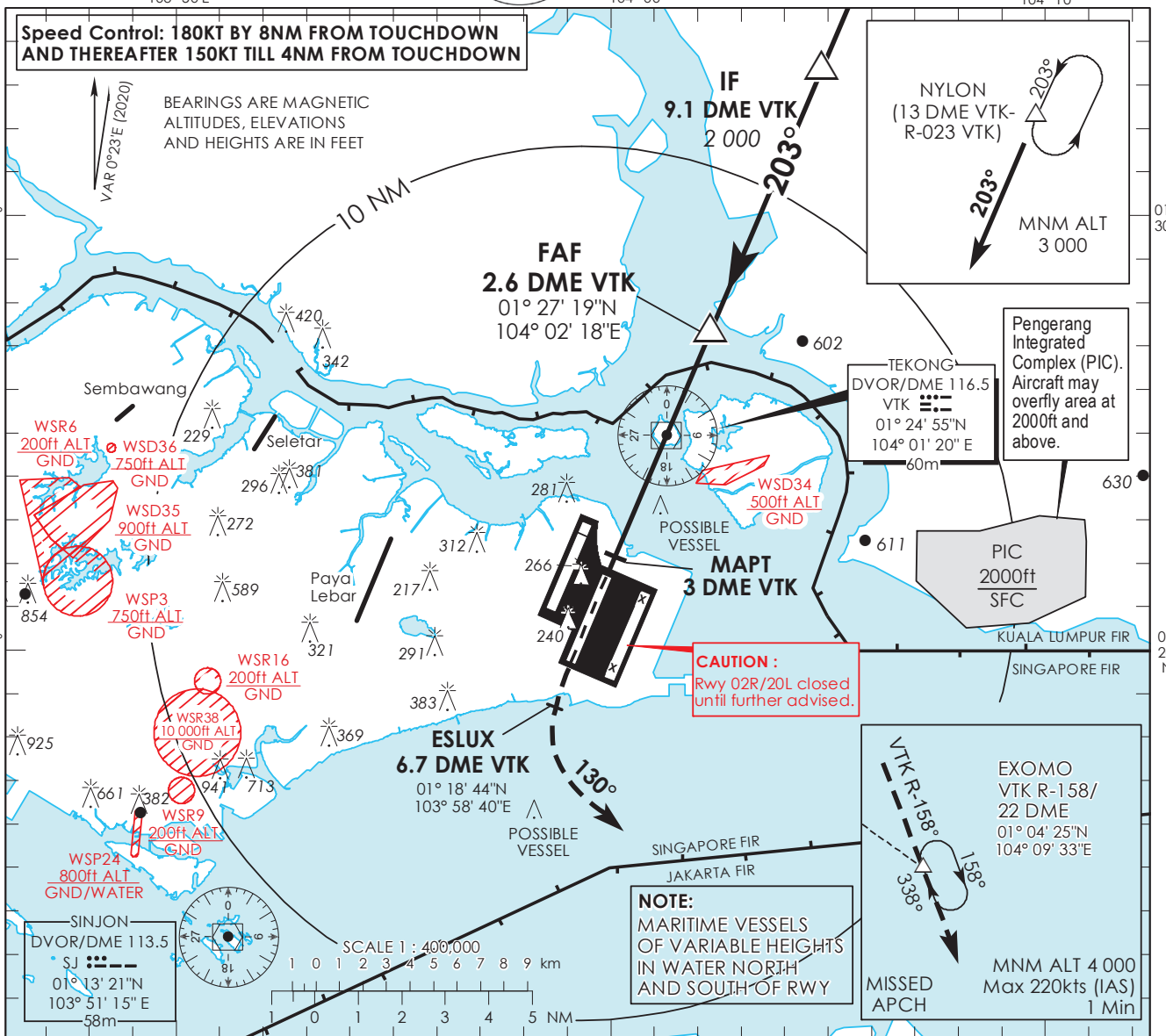
AERODROME ELEV **22ft**
HEIGHT RELATED TO
AD ELEV



MSA 25 NM
from TEKONG DVOR

D-ATIS AP ID WSSS	128.025
APP	124.05
TWR	119.3
	118.6
	118.25

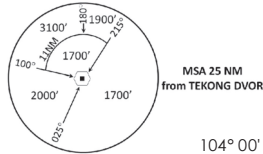
SINGAPORE/ SINGAPORE CHANGI VTK DVOR/DME Rwy 20C



Category of Aircraft	OCA (OCH)			
	A	B	C	D
Straight-in	580 (558)			
Distance	2 DME	1 DME	VTK	1 DME
Altitude (Height)	1820 (1798)	1500 (1478)	1180 (1158)	860 (838)
Speed	knots	70	120	150
FAF - MAPT 5.6nm	min : s	4 : 48	2 : 48	2 : 15
Rate of descent/GS	ft/min	370	635	795

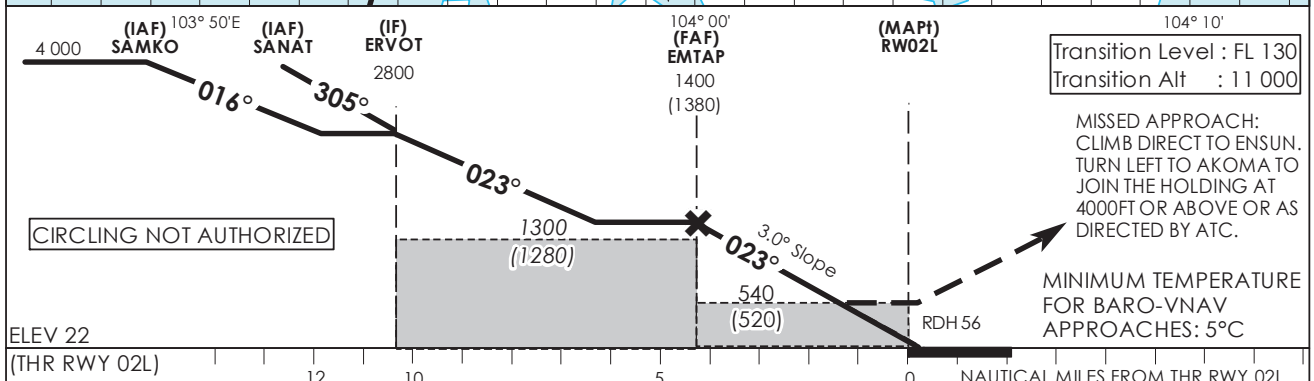
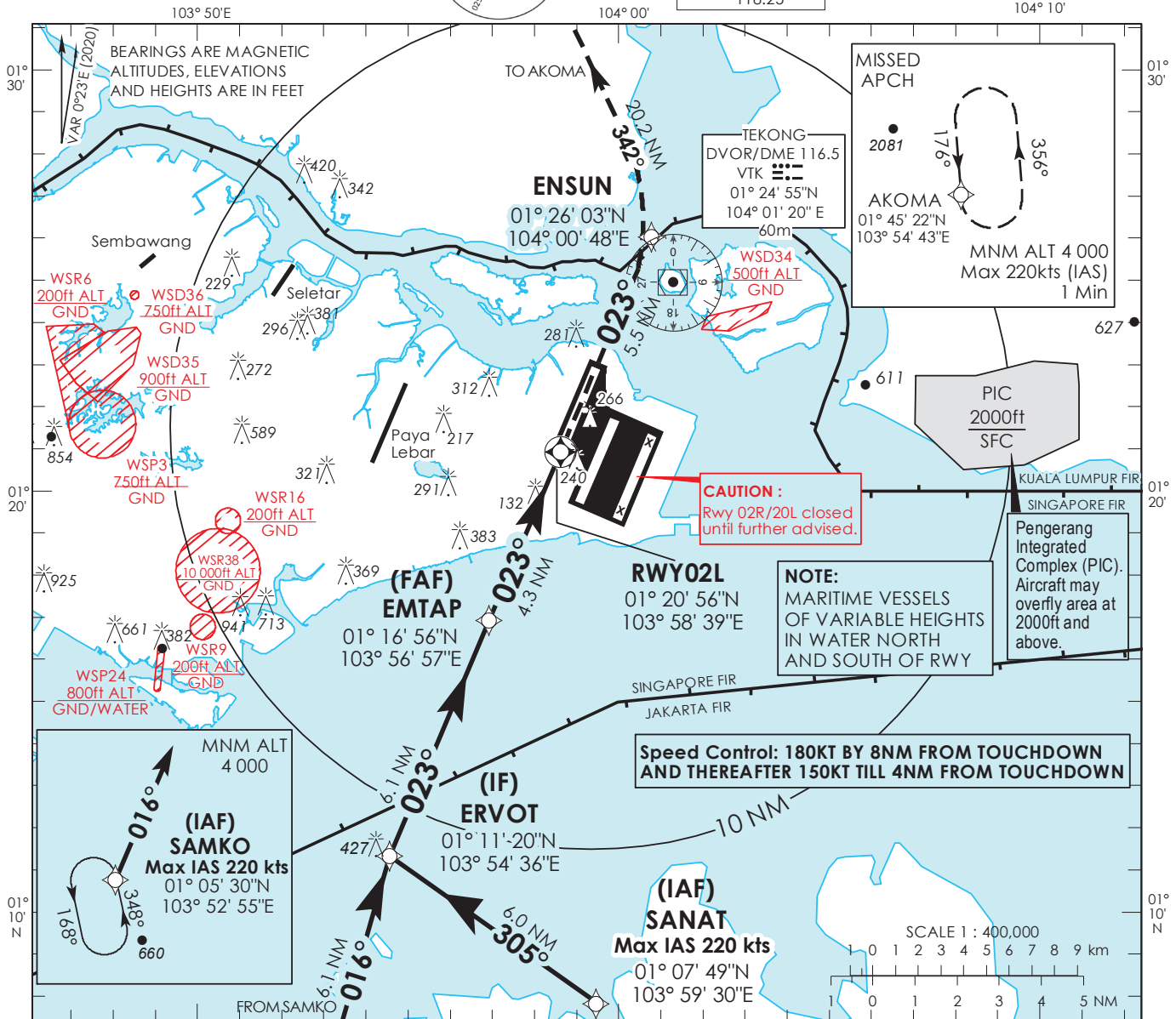
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INSTRUMENT APPROACH CHART - ICAO
AERODROME ELEV 22ft
HEIGHT RELATED TO THR RWY 02L - ELEV 22ft



D-ATIS AP ID WSSS
128.025
APP 124.05
119.3
TWR 118.6
118.25

SINGAPORE/ SINGAPORE CHANGI RNP RWY 02L



		OCA (OCH)					
Category of Aircraft		A	B	C	D		
LNAV/VNAV	2.5%					450 (430)	
LNAV	2.5%					540 (520)	
Fix		SAMKO	SANAT	ERVOT	EMTAP	RW02L	ENSUN
Altitude (Height)		4000 (3978)	4000 (3978)	2800 (2778)	1400 (1378)	540 (518)	880 (858)
Speed	knots	80	100	120	140	140	180
FAF - MAPt 4.3nm	min : s	3 : 14	2 : 35	2 : 09	1 : 51	1 : 37	1 : 26
Rate of descent/GS	ft/min	424	530	637	743	849	955

SINGAPORE CHANGI RNP-APCH RWY 02L – Approach from SAMKO

Path Terminator	Waypoint	Fly-Over	Course °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA/TCH(FT)	Navigation Specification
IF	SAMKO	-	-	-0.4	-	-	A040+	220	-	RNP APCH
TF	ERVOT	-	016 (016.4)	-0.4	6.1	R	A028+	-	-	RNP APCH
TF	EMTAP	-	023 (023.4)	-0.4	6.1	-	A014+	-	-	RNP APCH
TF	RW02L	Y	023 (023.4)	-0.4	4.3	-	-	-	-3.0° / 50	RNP APCH
DF	ENSUN	-	-	-0.4	-	L	-	-	-	RNP APCH
TF	AKOMA	-	342 (342.4)	-0.4	20.2	-	A040+	-	-	RNP APCH

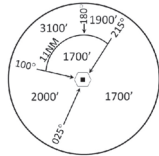
SINGAPORE CHANGI RNP-APCH RWY 02L – Approach from SANAT

Path Terminator	Waypoint	Fly-Over	Course °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA/TCH(FT)	Navigation Specification
IF	SANAT	-	-	-0.4	-	-	A040+	220	-	RNP APCH
TF	ERVOT	-	305 (305.4)	-0.4	6.0	R	A028+	-	-	RNP APCH
TF	EMTAP	-	023 (023.4)	-0.4	6.1	-	A014+	-	-	RNP APCH
TF	RW02L	Y	023 (023.4)	-0.4	4.3	-	-	-	-3.0° / 50	RNP APCH
DF	ENSUN	-	-	-0.4	-	L	-	-	-	RNP APCH
TF	AKOMA	-	342 (342.4)	-0.4	20.2	-	A040+	-	-	RNP APCH

Waypoint Coordinates

Name	Latitude	Longitude
SAMKO (IAF)	01° 05' 30" N	103° 52' 55" E
SANAT (IAF)	01° 07' 49" N	103° 59' 30" E
ERVOT (IF)	01° 11' 20" N	103° 54' 36" E
EMTAP (FAF)	01° 16' 56" N	103° 56' 57" E
RW02L	01° 20' 56" N	103° 58' 39" E
ENSUN	01° 26' 03" N	104° 00' 48" E
AKOMA	01° 45' 22" N	103° 54' 43" E

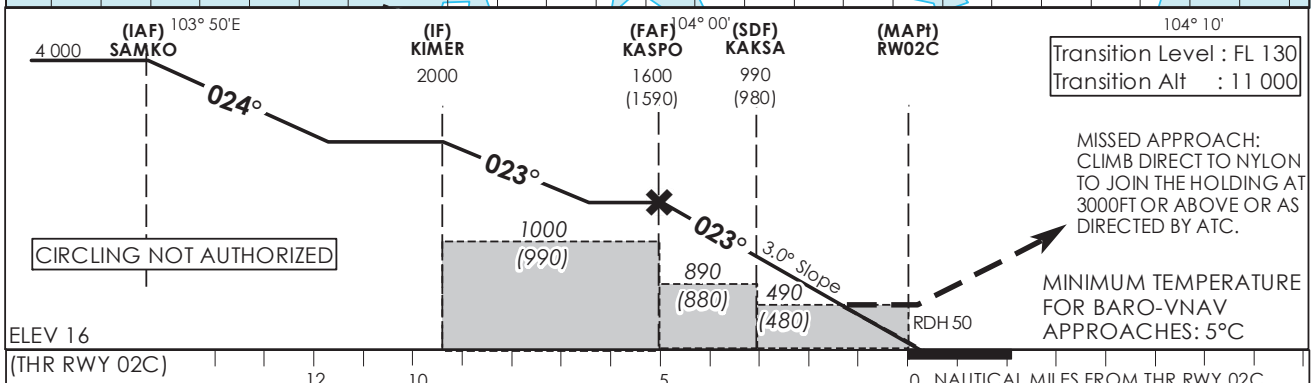
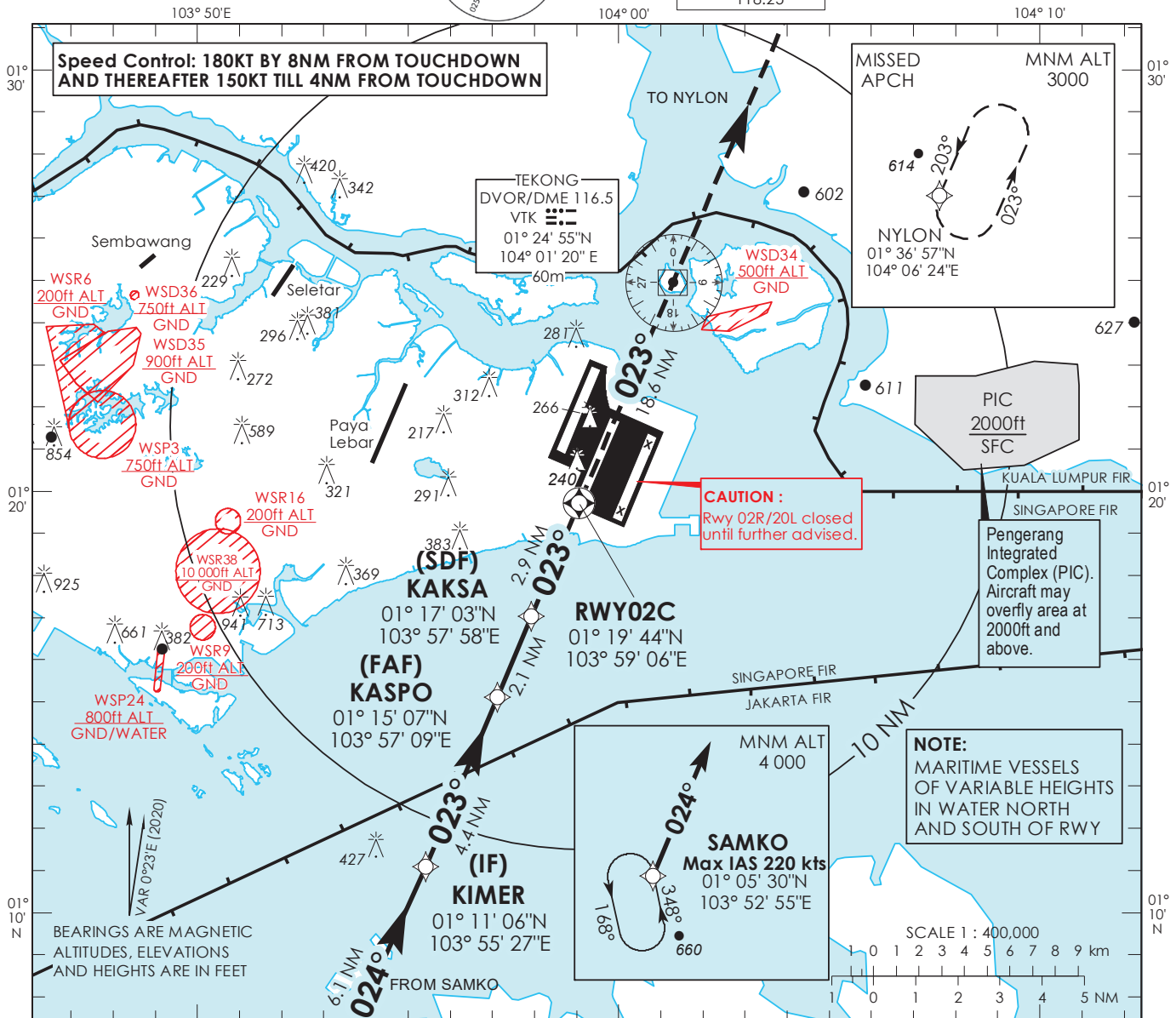
INSTRUMENT APPROACH CHART - ICAO AERODROME ELEV **22ft**
HEIGHT RELATED TO
THR RWY 02C - ELEV **16ft**



MSA 25 NM
from TEKONG DVOR

D-ATIS	AP ID WSSS
	128.025
APP	124.05
	119.3
TWR	118.6
	118.25

SINGAPORE/ SINGAPORE CHANGI RNP RWY 02C



		OCA (OCH)					
Category of Aircraft		A	B	C	D		
LNAV	2.5%		490 (480)				
LNAV without SDF	2.5%		890 (880)				
LNAV/VNAV	2.5%		360 (350)				
Fix		SAMKO	KIMER	KASPO	KAKSA	RW02C	NYLON
Altitude (Height)		4000 (3986)	2000 (1986)	1600 (1586)	990 (976)	490 (476)	3000 (2986)
Speed	knots	80	100	120	140	160	180
FAF - MAPt 5nm	min : s	3 : 45	3 : 00	2 : 30	2 : 09	1 : 53	1 : 40
Rate of descent/GS	ft/min	425	531	637	743	849	955

SINGAPORE CHANGI RNP-APCH RWY 02C – Approach from SAMKO

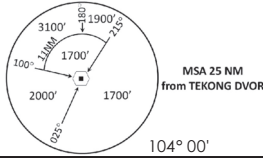
Path Terminator	Waypoint	Fly-Over	Course °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA/TCH(FT)	Navigation Specification
IF	SAMKO	-	-	-0.4	-	-	A040+	220	-	RNP APCH
TF	KIMER	-	024 (024.4)	-0.4	6.1	-	A020+	-	-	RNP APCH
TF	KASPO	-	023 (023.4)	-0.4	4.4	-	A016+	-	-	RNP APCH
TF	KAKSA	-	023 (023.4)	-0.4	2.1	-	990ft+	-	-	RNP APCH
TF	RW02C	Y	023 (023.4)	-0.4	2.9	-	-	-	-3.0° / 50	RNP APCH
DF	NYLON	-	-	-0.4	-	-	A030+	-	-	RNP APCH

Waypoint Coordinates

Name	Latitude	Longitude
SAMKO (IAF)	01° 05' 30" N	103° 52' 55" E
KIMER (IF)	01° 11' 06" N	103° 55' 27" E
KASPO (FAF)	01° 15' 07" N	103° 57' 09" E
KAKSA (SDF)	01° 17' 03" N	103° 57' 58" E
RW02C	01° 19' 44" N	103° 59' 06" E
NYLON	01° 36' 57" N	104° 06' 24" E

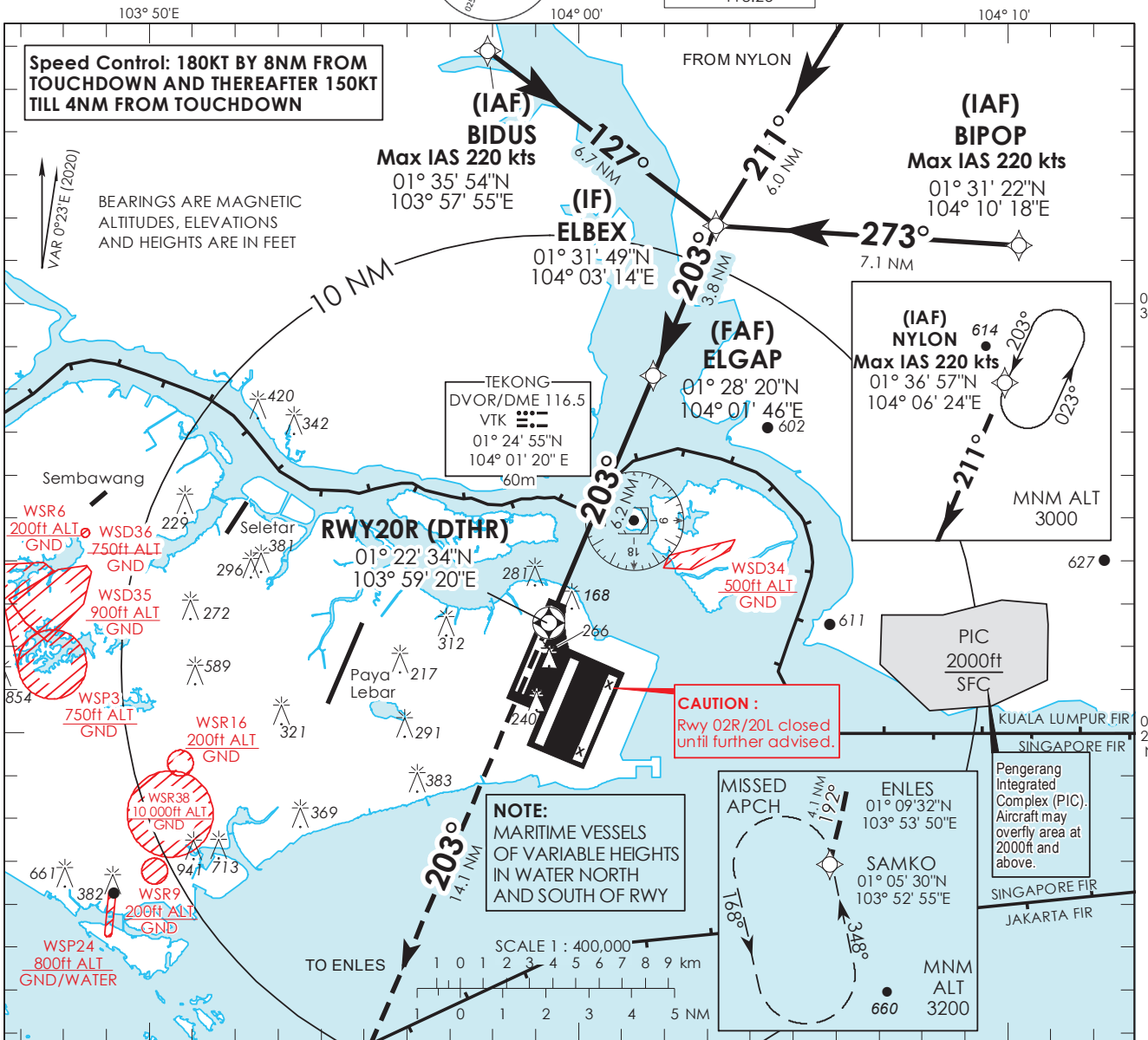
INSTRUMENT APPROACH CHART - ICAO

AERODROME ELEV 22ft
HEIGHT RELATED TO
DTHR RWY 20R - ELEV 13ft



D-ATIS	AP ID WSSS
APP	128.025
APP	124.05
TWR	119.3
TWR	118.6
TWR	118.25

SINGAPORE/ SINGAPORE CHANGI RNP RWY 20R



Transition Level : FL 130
Transition Alt : 11 000

MISSED APPROACH: CLIMB DIRECT TO ENLES. TURN LEFT TO SAMKO TO JOIN THE HOLDING AT 3200FT OR ABOVE OR AS DIRECTED BY ATC.

MINIMUM TEMPERATURE FOR BARO-VNAV APPROACHES: 5°C

RDH 56

3° Slope 203°

TO ENLES

SCALE 1 : 400,000

NOTE: MARITIME VESSELS OF VARIABLE HEIGHTS IN WATER NORTH AND SOUTH OF RWY

CAUTION: Rwy 02R/20L closed until further advised.

CIRCLING NOT AUTHORIZED

	(MAPf) RW20R	(FAF) ELGAP	(IF) ELBEX	(IAF) BIDUS	(IAF) BIPOP	(IAF) NYLON
		2 000 (1990)	2000	3400	3000	3000

Category of Aircraft		A	B	C	D
LNAV/VNAV	2.5%	690 (680)			
LNAV	2.5%	690 (680)			

Fix	BIDUS	NYLON	BIPOP	ELBEX	ELGAP	RW20R	ENLES	SAMKO
Altitude (Height)	3400 (3387)	3000 (2987)	3000 (2987)	2000 (1987)	2000 (1987)	690 (680)	2180 (2167)	3200 (3187)
Speed	knots	80	100	120	140	160	180	
FAF - MAPf 6.2 nm	min : s	4 : 39	3 : 44	3 : 06	2 : 40	2 : 20	2 : 04	
Rate of descent/GS	ft/min	425	531	637	743	849	955	

SINGAPORE CHANGI RNP-APCH RWY 20R – Approach from BIDUS

Path Terminator	Waypoint	Fly-Over	Course °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA/TCH(FT)	Navigation Specification
IF	BIDUS	-	-	-0.4	-	-	A034+	220	-	RNP APCH
TF	ELBEX	-	127 (127.4)	-0.4	6.7	R	A020+	-	-	RNP APCH
TF	ELGAP	-	203 (203.4)	-0.4	3.8	-	A020+	-	-	RNP APCH
TF	RW20R	Y	203 (203.4)	-0.4	6.2	-	-	-	-3.0° / 50	RNP APCH
DF	ENLES	-	-	-0.4	-	L	-	-	-	RNP APCH
TF	SAMKO	-	192 (192.4)	-0.4	4.1	-	A032+	-	-	RNP APCH

SINGAPORE CHANGI RNP-APCH RWY 20R – Approach from NYLON

Path Terminator	Waypoint	Fly-Over	Course °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA/TCH(FT)	Navigation Specification
IF	NYLON	-	-	-0.4	-	-	A030+	220	-	RNP APCH
TF	ELBEX	-	211 (211.4)	-0.4	6.0	L	A020+	-	-	RNP APCH
TF	ELGAP	-	203 (203.4)	-0.4	3.8	-	A020+	-	-	RNP APCH
TF	RW20R	Y	203 (203.4)	-0.4	6.2	-	-	-	-3.0° / 50	RNP APCH
DF	ENLES	-	-	-0.4	-	L	-	-	-	RNP APCH
TF	SAMKO	-	192 (192.4)	-0.4	4.1	-	A032+	-	-	RNP APCH

SINGAPORE CHANGI RNP-APCH RWY 20R – Approach from BIPOP

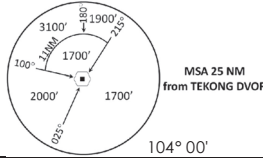
Path Terminator	Waypoint	Fly-Over	Course °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA/TCH(FT)	Navigation Specification
IF	BIPOP	-	-	-0.4	-	-	A030+	220	-	RNP APCH
TF	ELBEX	-	273 (273.4)	-0.4	7.1	L	A020+	-	-	RNP APCH
TF	ELGAP	-	203 (203.4)	-0.4	3.8	-	A020+	-	-	RNP APCH
TF	RW20R	Y	203 (203.4)	-0.4	6.2	-	-	-	-3.0° / 50	RNP APCH
DF	ENLES	-	-	-0.4	-	L	-	-	-	RNP APCH
TF	SAMKO	-	192 (192.4)	-0.4	4.1	-	A032+	-	-	RNP APCH

Waypoint Coordinates

Name	Latitude	Longitude
BIDUS (IAF)	01° 35' 54" N	103° 57' 55" E
NYLON (IAF)	01° 36' 57" N	104° 06' 24" E
BIPOP (IAF)	01° 31' 22" N	104° 10' 18" E
ELBEX (IF)	01° 31' 49" N	104° 03' 14" E
ELGAP (FAF)	01° 28' 20" N	104° 01' 46" E
RW20R	01° 22' 34" N	103° 59' 20" E
ENLES	01° 09' 32" N	103° 53' 50" E
SAMKO	01° 05' 30" N	103° 52' 55" E

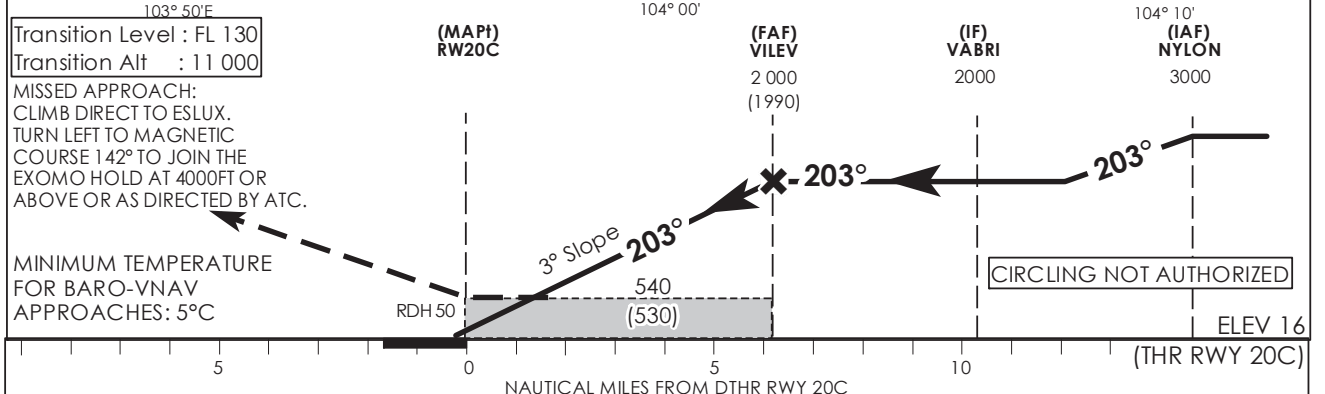
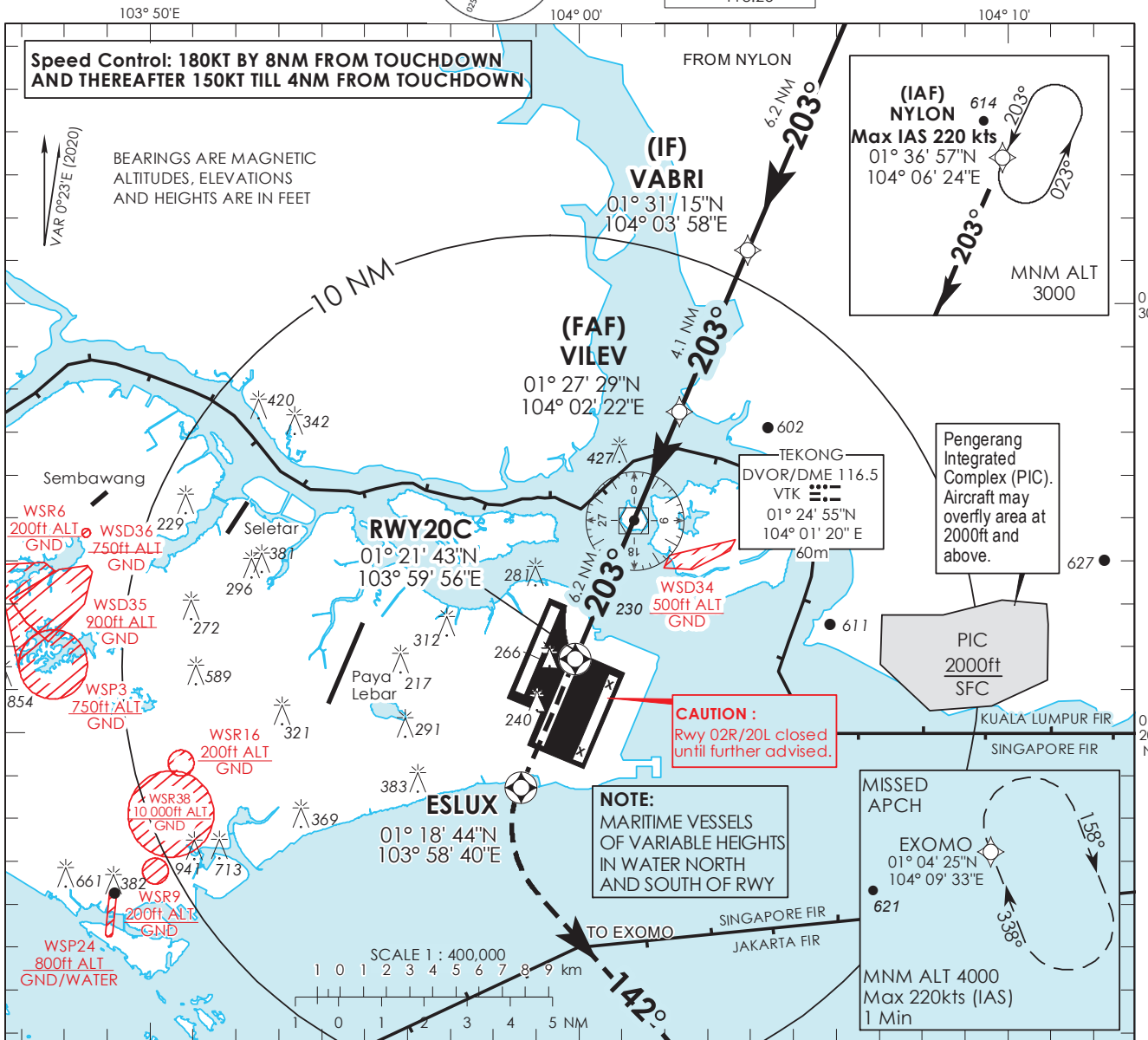
INSTRUMENT APPROACH CHART - ICAO

AERODROME ELEV 22ft
HEIGHT RELATED TO
THR RWY 20C - ELEV 16ft



D-ATIS	AP ID WSSS
APP	128.025
APP	124.05
TWR	119.3
TWR	118.6
TWR	118.25

SINGAPORE/ SINGAPORE CHANGI RNP RWY 20C



		OCA (OCH)					
Category of Aircraft		A	B	C	D		
LNAV/VNAV	2.5%	490 (480)					
LNAV	2.5%	540 (530)					
Fix		NYLON	VABRI	VILEV	RW20C	ESLUX	EXOMO
Altitude (Height)		3000 (2985)	2000 (1985)	2000 (1985)	540 (525)	540 (525)	4000 (3985)
Speed	knots	80	100	120	140	160	180
FAF - MAPt 6.2 nm	min : s	4 : 39	3 : 44	3 : 06	2 : 40	2 : 20	2 : 04
Rate of descent/GS	ft/min	425	531	637	743	849	955

SINGAPORE CHANGI RNP-APCH RWY 20C – Approach from NYLON

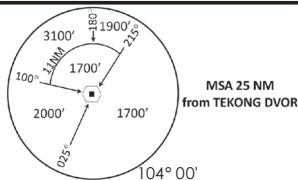
Path Terminator	Waypoint	Fly-Over	Course °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA/TCH(FT)	Navigation Specification
IF	NYLON	-	-	-0.4	-	-	A030+	220	-	RNP APCH
TF	VABRI	-	203 (203.4)	-0.4	6.2	-	A020+	-	-	RNP APCH
TF	VILEV	-	203 (203.4)	-0.4	4.1	-	A020+	-	-	RNP APCH
TF	RW20C	Y	203 (203.4)	-0.4	6.2	-	-	-	-3.0° / 50	RNP APCH
DF	ESLUX	Y	-	-0.4	-	L	-	-	-	RNP APCH
TF	EXOMO	-	142 (142.4)	-0.4	-	-	A040+	-	-	RNP APCH

Waypoint Coordinates

Name	Latitude	Longitude
NYLON (IAF)	01° 36' 57" N	104° 06' 24" E
VABRI (IF)	01° 31' 15" N	104° 03' 58" E
VILEV (FAF)	01° 27' 29" N	104° 02' 22" E
RW20C	01° 21' 43" N	103° 59' 56" E
ESLUX	01° 18' 44" N	103° 58' 40" E
EXOMO	01° 04' 25" N	104° 09' 33" E

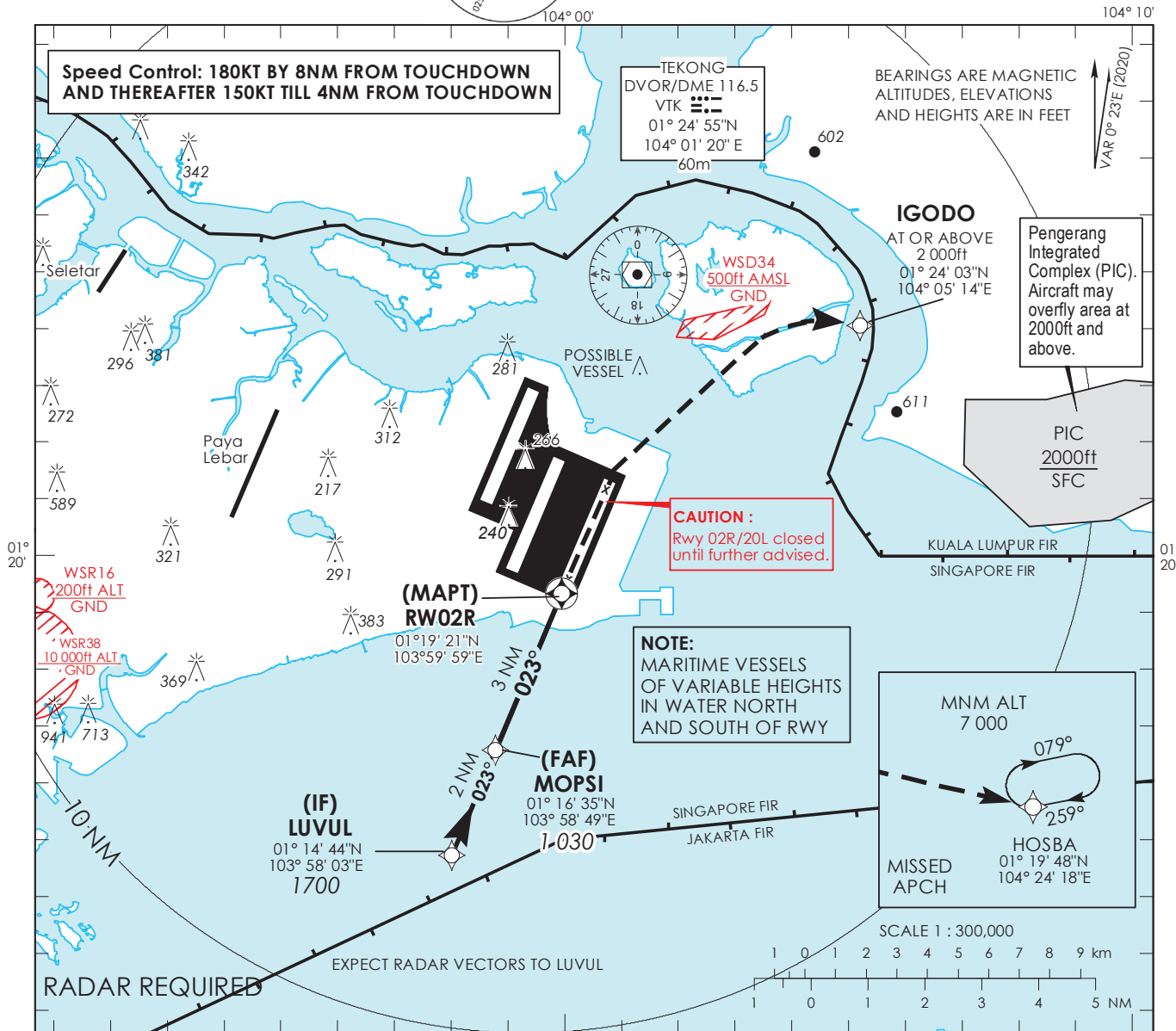
**INSTRUMENT
APPROACH
CHART**

AERODROME ELEV 22ft
HEIGHT RELATED TO
THR RWY 02R - ELEV 16ft

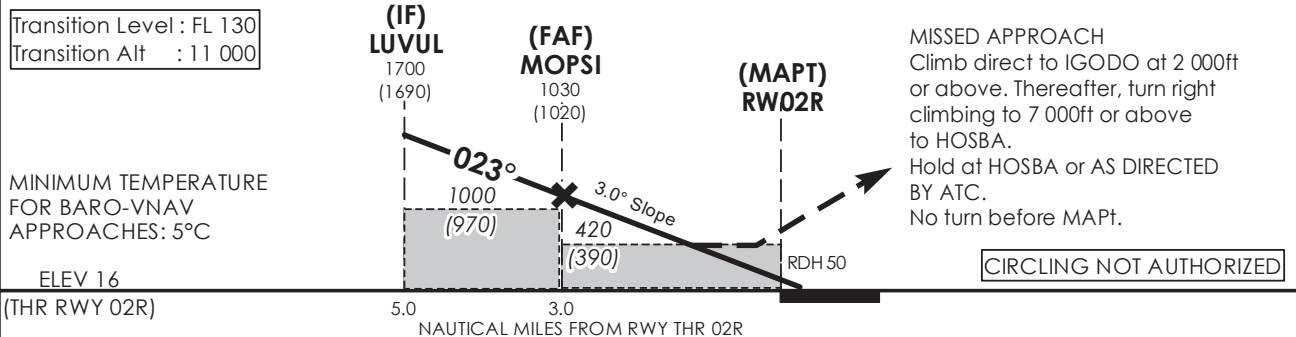


D-ATIS	AP ID WSSS
APP	128.025
	124.05
	119.3
TWR	131.4

**SINGAPORE/
SINGAPORE CHANGI
RNP RWY 02R**



- This procedure requires a missed approach climb gradient of 5% (304 ft/NM) until passing 2,000ft. MAX IAS 185kts during turning missed approach.
- For aircraft which can only achieve a 2.5% (152 ft/NM) climb gradient, the OCA (OCH) is 820ft (800ft) and aircraft shall climb straight to 1200ft before commencing right turn climbing to 7000ft or above to HOSBA.



		OCA (OCH)			
Category of Aircraft		A	B	C	D
LNAV/VNAV	5%	330 (310)			
LNAV	5%	420 (390)			

		LUVUL		MOPSI	
Distance		1700 (1690)		1030 (1020)	
Altitude (Height)		1700 (1690)		1030 (1020)	
Speed	knots	70	120	150	185
FAF - MAPT 3.0nm	min : s *	2 : 34	1 : 30	1 : 12	0 : 58
Rate of descent/GS	ft/min	370	635	795	980

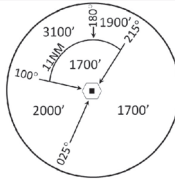
SINGAPORE CHANGI RNP-APCH RWY 02R – Approach from LUVUL

Path Terminator	Waypoint	Fly-Over	Course °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA/TCH(FT)	Navigation Specification
IF	LUVUL	-	023 (023.4)	-0.4	-	-	1700+	180	-	RNP APCH
TF	MOPSI	-	023 (023.4)	-0.4	2.0	-	1030+	150	-	RNP APCH
TF	RW02R	Y	023 (023.4)	-0.4	3.0	R	-	-	-3.0° / 50	RNP APCH
DF	IGODO	-	-	-0.4	-	R	2000+	185	-	RNP APCH
TF	HOSBA	-	103 (103.4)	-0.4	-	-	7000+	-	-	RNP APCH

Waypoint Coordinates

Name	Latitude	Longitude
LUVUL (IF)	01° 14' 44" N	103° 58' 03" E
MOPSI (FAF)	01° 16' 35" N	103° 58' 49" E
RW02R	01° 19' 21" N	103° 59' 59" E
IGODO	01° 24' 03" N	104° 05' 14" E
HOSBA	01° 19' 48" N	104° 24' 18" E

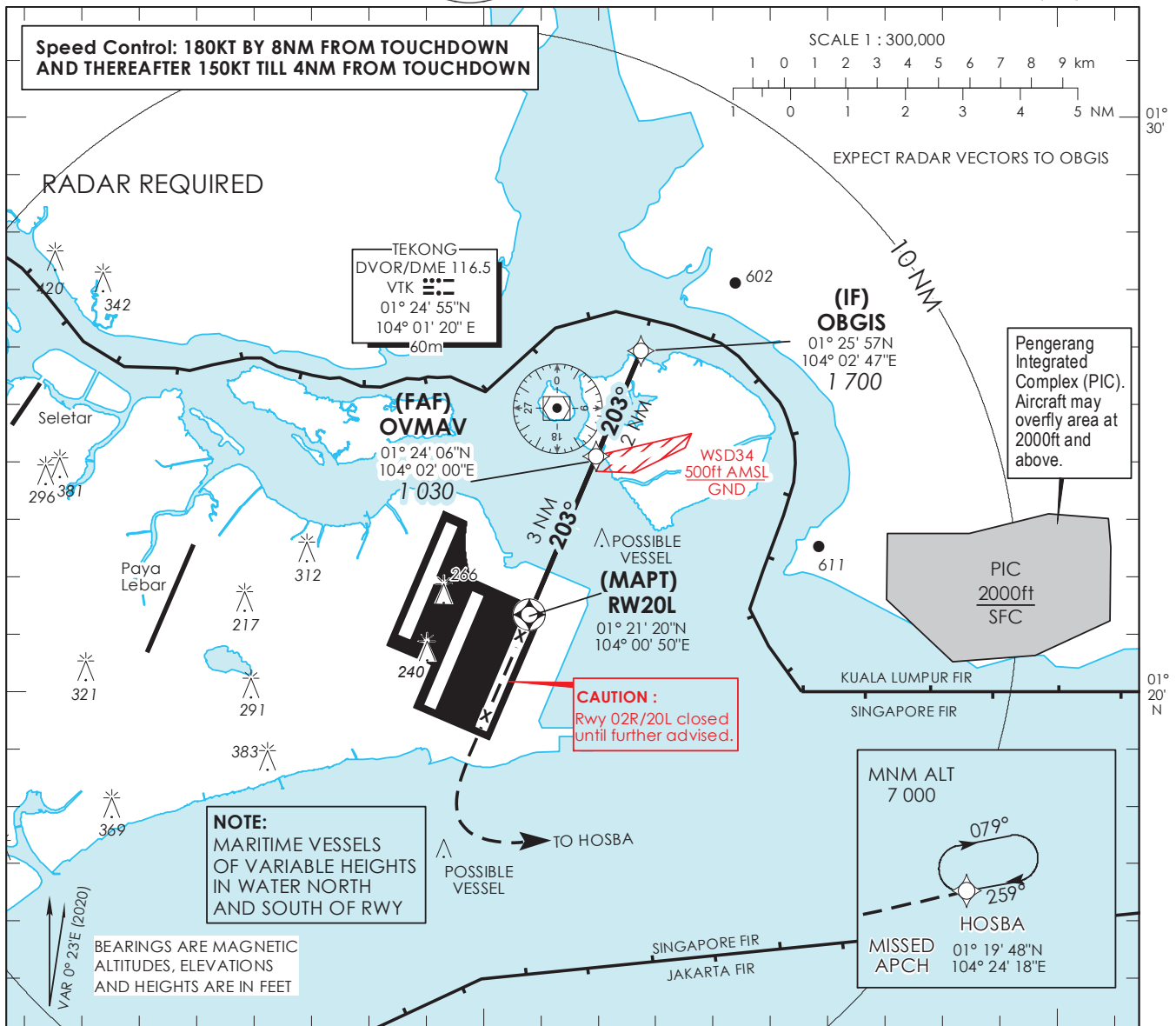
INSTRUMENT APPROACH CHART
AERODROME ELEV **22ft**
HEIGHT RELATED TO
THR RWY 20L - ELEV **16ft**



MSA 25 NM
from TEKONG DVOR

D-ATIS	AP ID	WSSS
APP	128.6	124.05
TWR	119.3	131.4

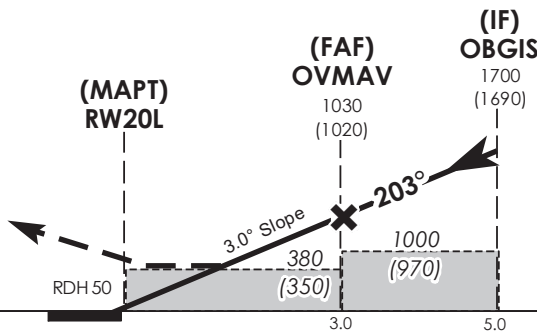
**SINGAPORE/
SINGAPORE CHANGI**
RNP RWY 20L



This procedure requires a missed approach climb gradient of 5% (304 ft/NM) until passing 3,000ft.
For aircraft which can only achieve a 2.5% (152 ft/NM) climb gradient, the OCA (OCH) is 1080ft (1050ft).

Transition Level : FL 130
Transition Alt : 11 000

MISSED APPROACH
Climb straight to 1 500ft, turn left climbing to 7 000ft or above to HOSBA.
Hold at HOSBA or AS DIRECTED BY ATC.
No turn before MAPT.



MINIMUM TEMPERATURE FOR BARO-VNAV APPROACHES: 5°C

CIRCLING NOT AUTHORIZED

ELEV 16
(THR RWY 20L)

		OCA (OCH)			
Category of Aircraft		A	B	C	D
LNAV/VNAV	5%	280 (260)			
LNAV	5%	380 (350)			
Distance		OBGIS		OVMAV	
Altitude (Height)		1700 (1690)		1030 (1020)	
Speed	knots	70	120	150	185
FAF - MAPT 3.0nm	min : s *	2 : 34	1 : 30	1 : 12	0 : 58
Rate of descent/GS	ft/min	370	635	795	980

SINGAPORE CHANGI RNP-APCH RWY 20L – Approach from OBGIS

Path Terminator	Waypoint	Fly-Over	Course °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA/TCH(FT)	Navigation Specification
IF	OBGIS	-	203 (203.4)	-0.4	-	-	1700+	180	-	RNP APCH
TF	OVMAN	-	203 (203.4)	-0.4	2.0	-	1030+	150	-	RNP APCH
TF	RW20L	Y	203 (203.4)	-0.4	3.0	-	-	-	-3.0° / 50	RNP APCH
CA	-	-	203 (203.4)	-0.4	-	L	1500+	-	-	RNP APCH
DF	HOSBA	-	-	-	-	-	7000+	-	-	RNP APCH

Waypoint Coordinates

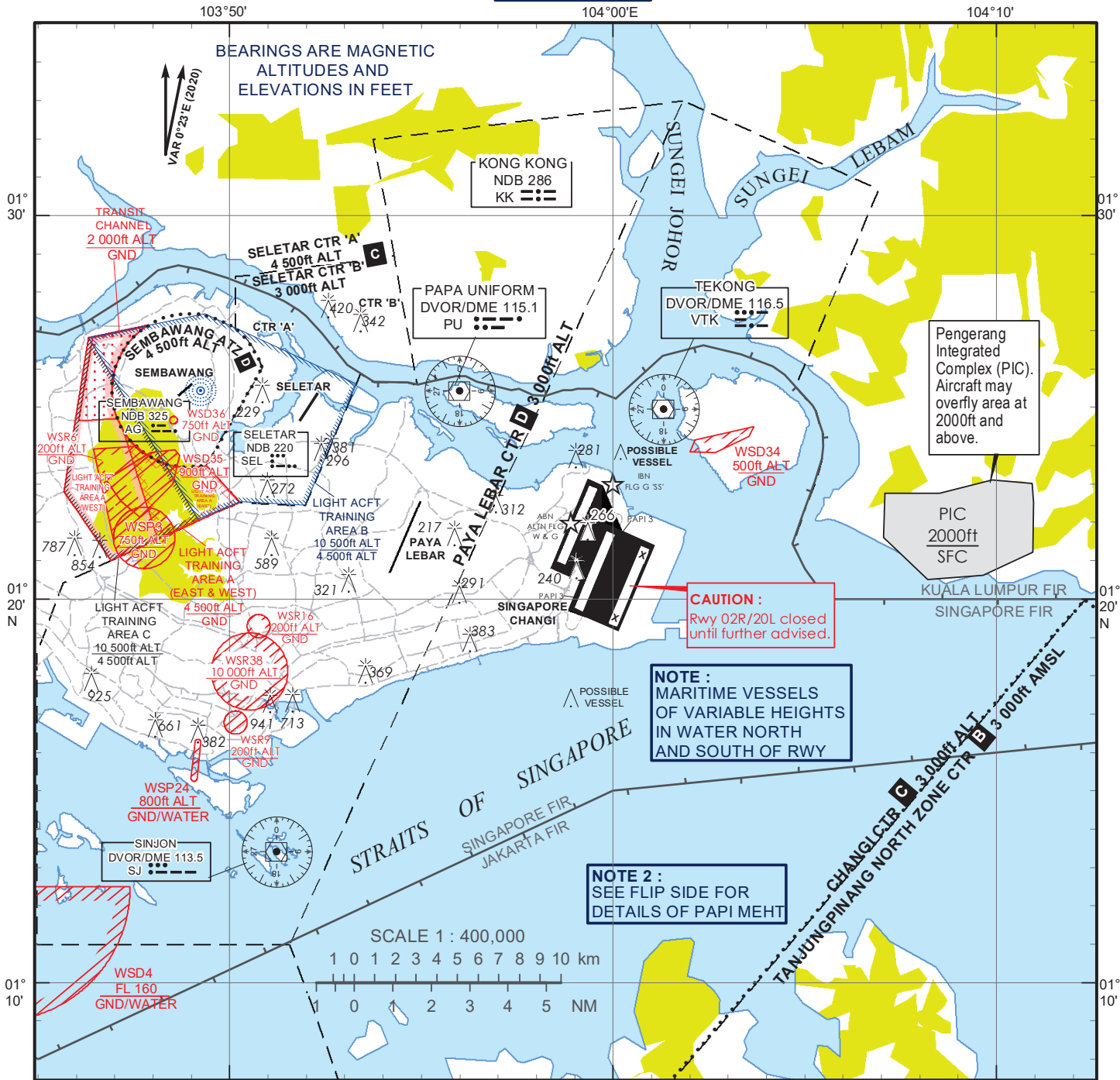
Name	Latitude	Longitude
OBGIS (IF)	01° 25' 57" N	104° 02' 47" E
OVMAN (FAF)	01° 24' 06" N	104° 02' 00" E
RW20L	01° 21' 20" N	104° 00' 50" E
HOSBA	01° 19' 48" N	104° 24' 18" E

**VISUAL
APPROACH
CHART - ICAO**

AERODROME ELEV 22 ft

D-ATIS	AP ID	WSSS
APP	128.025	124.05
TWR	119.3	118.6
	118.25	

SINGAPORE/SINGAPORE CHANGI



VISUAL APPROACH PROCEDURE

- An IFR flight operating into Singapore Changi Airport may be cleared for a visual approach subject to the following conditions :-
 - The pilot has the aerodrome in sight and can conduct his approach with visual reference to terrain;
 - The flight will not cause delay to other traffic;
 - There is no conflicting tall vessel movement;
 - The cloud ceiling at the aerodrome is 4,000ft or more for landing on RWY 20C/R/L and 3,000ft or more for on RWY 02C/L/R ; and
 - The visibility at the aerodrome is 5km or more.
- Notwithstanding para 1d) and 1e), if the pilot reports that he has the aerodrome in sight and can conduct his approach with visual reference to terrain, the flight may be cleared for a visual approach.
- Pilots may expect radar vectoring for separation and sequencing with other traffic prior to being cleared for a visual approach.

PAPI 3° (MEHT)*						
Pilot's eye height over the threshold when the following PAPI lights come in view.	RUNWAY					
	02L	20R	02C	20C	02R	20L
2 White lights and 2 Red lights	20.0m	20.0m	19.8m	19.8m	19.7m	19.7m
3 White lights and 1 Red light	24.0m	22.6m	23.7m	23.7m	23.6m	23.6m
4 White lights	26.4m	25.0m	26.2m	26.2m	26.0m	26.0m
<p>*MEHT : Minimum Eye Height Over the Threshold.</p> <p>Note : Aircraft with eye-to-wheel height greater than 8 metres are advised to fly with 2 white lights and 2 red lights visible so as to achieve sufficient wheel clearance.</p>						

WSSL AD 2.16 HELICOPTER LANDING AREA

1	Coordinates of THR of FATO Geoid undulation	H03 012437.963N 1035152.072E	H21 012446.046N 1035157.344E
2	FATO elevation M/FT	H03- 10.45m/34.3ft; H21 - 9.36m/30.7ft	
3	FATO area dimensions, surface, strength, marking	Rectangle 297m x 21.5m, compacted turf, helicopter landing area designations, outline by concrete kerbs painted white.	
4	True BRG of FATO	033.33/213.33° Direction of TKOF zones: 034°GEO / 214°GEO	
5	Declared distance available	TODAH RTODAH LDAH H03 297m 297m 297m H21 297m 297m 297m	
6	Approach and FATO lighting	Nil	
7	Remarks	Slope of helicopter landing area (transverse/longitudinal) H03 - 1.19%/0.44% ; H21 - 0.96%/0.44%	

WSSL AD 2.17 ATS AIRSPACE

1	<i>Designation and Lateral Limits</i>	<p>SELETAR CTR 012703N 1035009E 012825N 1035009E 012900N 1035425E 012534N 1035454E thence along international boundary to 012556N 1035326E 012227N 1035158E 012232N 1035016E 012327N 1034922E 012607N 1035053E and thence an arc of 2NM radius (centred at position 012536.00N 1034858.02E) joining 012607N 1035053E and 012703N 1035009E</p> <p>SELETAR CONTROL ZONE A Portion of Seletar CTR within Singapore FIR is known as Seletar CTR 'A'.</p> <p>SELETAR CONTROL ZONE 'B' The part in the Kuala Lumpur FIR is known as Seletar CTR 'B' and is bounded by 012825N 1035009E, 012900N 1035425E, 012534N 1035454E thence along the Peninsular Malaysia/Singapore international boundary to 012808N 1035010E to 012825N 1035009E from GND/sea level to 3,000ft. It will be activated only with prior approval of Johor Bahru ATC. (see chart AD-2-WSSL-VFR-1).</p>
2	<i>Vertical Limits</i>	<p>SELETAR CONTROL ZONE A SFC to 4 500ft ALT Maximum Usable ALT 4 000ft</p> <p>SELETAR CONTROL ZONE B SFC to 3 000ft ALT</p>
3	<i>Airspace Classification</i>	C
4	<i>ATS Unit Call sign Language(s)</i>	SELETAR TOWER English
5	<i>Transition Altitude</i>	11000 FT (3,350m)
6	<i>Remarks</i>	NIL

WSSL AD 2.18 ATS COMMUNICATION FACILITIES

Service designation	Call sign	Frequency P-Pri S-Sec	Hours of operation	Remarks
TWR	Seletar Tower	P118.45 MHz S130.2 MHz 270.4 MHz	H24	NIL
	Seletar Ground	121.6 MHz * 122.9 MHz	H24	* for vehicular movements
APP	Singapore Approach	P124.05 MHz S124.6 MHz S126.3 MHz	H24	TAR – flow control service provided for ARR/DEP ACFT. Intermediate approach to Singapore Changi AP and other airports in Singapore. DEP from all airports in Singapore.
	Seletar Approach	126.025 MHz	0000-1500	TAR - Intermediate approach to Seletar Airport.
ATIS	Seletar Airport Information	128.425 MHz	H24	Combined ARR and DEP report (broadcasting with hourly updated MET INFO) Data Link Service available. AP IDENT WSSL Messages comply with ARINC 623 Standards. Updating of data: H+00 to H+10 and H+30 to H+40

WSSL AD 2.19 RADIO NAVIGATION AND LANDING AIDS

Type of Aid and Variation	IDENT	Frequency	OPR Hour	Position of Transmitting Antenna Coordinates	DME Transmitting Antenna Elevation / Remarks
1	2	3	4	5	6 & 7
NIL	NIL	NIL	NIL	NIL	NIL

WSSL AD 2.20 LOCAL TRAFFIC REGULATIONS

1 LOCAL FLYING RESTRICTIONS:

- 1.1 Fixed-wing aircraft operations including circuit flying and training operations are restricted to the west of Seletar runway. Helicopter operations are confined to the west of Seletar runway between sunset and sunrise, subject to the restrictions in paragraph 1.3 below.
- 1.2 Circuit Heights:
 - ← Light aircraft 1000ft (west of Seletar runway only);
 - ← Other aircraft 1,500ft (west of Seletar runway only);
 - Helicopter-only area east of runway up to 600ft AGL
- 1.3 Circuit Flying and Training Operations are not permitted between 1400-2300 daily.
- 1.4 Pilots are required to keep clear of PAYA LEBAR CTR and SEMBAWANG ATZ.
- 1.5 During the designated hours for training flights, non-training flights will not be permitted to operate at Seletar Airport. Refer to GEN 1.2 paragraph 3.8 and WSSL AD 2.22 paragraph 2 for details.
- 1.6 All non-training flights, including functional check flights, are advised to plan to depart or arrive outside the designated hours for training flights.

WSSL AD 2.21 NOISE ABATEMENT PROCEDURES

- 1.1 To alleviate the problem of noise, no flights are permitted between 1400-2300, other than MEDEVAC and emergency flights.
- 1.2 All aircraft on AWY G579 between SINJON (SJ) and GUMPU shall operate at/above 5,000ft.
- 1.3 When overflying residential areas around Seletar Airport, aircraft are to adhere to the minimum altitudes specified within the Noise Abatement Areas.
- 1.4 Noise Abatement Area 1 is bounded by the following points, and aircraft are to maintain a minimum altitude of 1,500ft when overflying the area.

Lateral Limits of Noise Abatement Area 1	
POINT	COORDINATES
A	012551.0N 1035044.3E
B	012549.9N 1035059.2E
C	012522.3N 1035102.3E
D	012458.3N 1035044.4E
E	012443.4N 1035005.3E
A	012551.0N 1035044.3E

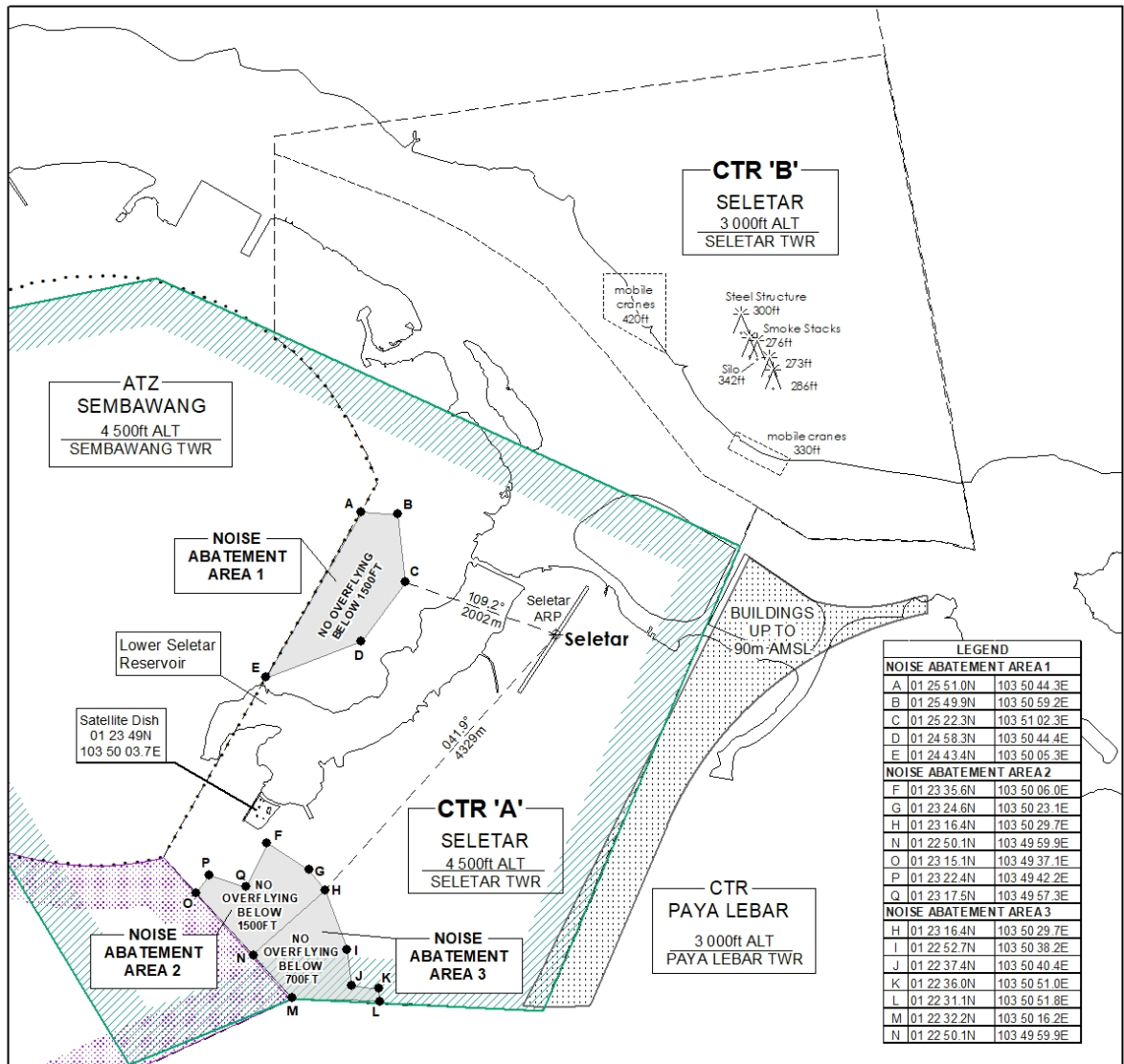
- 1.5 Noise Abatement Area 2 is bounded by the following points, and aircraft are to maintain a minimum altitude of 1,500ft when overflying the area.

Lateral Limits of Noise Abatement Area 2	
Point	Coordinates
F	012335.6N 1035006.0E
G	012324.6N 1035023.1E
H	012316.4N 1035029.7E
N	012250.1N 1034959.9E
O	012315.1N 1034937.1E
P	012322.4N 1034942.2E
Q	012317.5N 1034957.3E
F	012335.6N 1035006.0E

- 1.6 Noise Abatement Area 3 is bounded by the following points, and aircraft are to maintain a minimum altitude of 700ft when overflying the area.

Lateral Limits of Noise Abatement Area 3	
Point	Coordinates
H	012316.4N 1035029.7E
I	012252.7N 1035038.2E
J	012237.4N 1035040.4E
K	012236.0N 1035051.0E
L	012231.1N 1035051.8E
M	012232.2N 1035016.2E
N	012250.1N 1034959.9E
H	012316.4N 1035029.7E

1.7 The map below shows the locations of Noise Abatement Areas 1, 2 and 3 within Seletar Control Zone.



1.8 Aircraft which are unable to adhere to the minimum altitudes specified over the noise abatement areas are not allowed to operate at Seletar Airport.

1.9 No engine run up shall be permitted between 1400-2300.

WSSL AD 2.22 FLIGHT PROCEDURES

1 PROCEDURES FOR ARRIVALS INTO SELETAR AERODROME

1.1 Introduction

- 1.1.1 Aircraft on VFR flight plan, routing via Tebrau City Mall (013259N1034748E) to Seletar shall follow the joining procedures as described in paragraph 1.2 and illustrated in charts AD-2-WSSL-VAC-1, AD-2-WSSL-VAC-2 and AD-2-WSSL-VFR-1.
- 1.1.2 Aircraft returning from Light Aircraft Training Areas shall follow the joining procedures as described in paragraph 1.3 and illustrated in charts AD-2-WSSL-VAC-1 and AD-2-WSSL-VAC-2.
- 1.1.3 Aircraft on IFR flight plan, routing via GUMPU, OMKOM or SJ - PONJO - RECHI to Seletar shall be vectored under radar for a visual approach. Seletar Approach shall provide the radar service for aircraft routing via GUMPU and OMKOM, and Paya Lebar Approach shall provide the radar service for aircraft routing via SJ - PONJO - RECHI. When Seletar Approach and Paya Lebar Approach is closed, Singapore Approach shall provide the service. Unless authorised by ATC, pilots shall follow the joining procedures as described in paragraph 1.4 and 1.5. The joining procedures are illustrated in charts AD-2-WSSL-VAC-3, AD-2-WSSL-VAC-4, AD-2-WSSL-IFR-1 and AD-2-WSSL-IFR-2. All arrival clearances subject to ATC coordination.
- 1.1.4 When within 5km of the aerodrome reference point, aircraft are to fly at a manoeuvring speed of not more than 170kt unless otherwise authorised by ATC. All aircraft are required to keep well clear of Sembawang ATZ, Paya Lebar CTR and any Prohibited/Restricted/Danger Areas (e.g. WSR38 and WSD4) within the vicinity.
- 1.1.5 Circuit traffic already downwind shall have priority. Arriving aircraft shall position and sequence itself accordingly, unless directed otherwise by ATC.
- 1.1.6 Pilots shall not fly east of the runway. This is due to tall buildings up to 90m (296ft) AMSL to the east of Seletar CTR (the location is depicted in charts AD-2-WSSL-VAC-1 to AD-2-WSSL-VAC-4).

1.2 Joining Procedures for VFR flights from Tebrau City Mall (013259N1034748E)

- 1.2.1 Aircraft on VFR flight plan joining Seletar CTR from East of JB Town are to descend to altitude cleared by ATC. From Tebrau City Mall (013259N1034748E) descend in VMC to altitude cleared by ATC and proceed to POINT 'X' (located 012830N 1034954E or radial 297/7DME from PU DVOR/DME) keeping clear of WMP228 and then direct to overhead the airfield.
- 1.2.2 When overhead the airfield, the joining aircraft shall make a turn overflying the runway and after passing abeam the Control Tower, commence descent as cleared to cross the upwind end of the runway at 1,500ft. Passing over the end of the runway, descend to circuit altitude as cleared by ATC. Pilots shall ensure to keep clear of Sembawang ATZ and Paya Lebar CTR and not to fly east of the runway. This is to keep clear of tall buildings up to 90m AMSL to the east of Seletar CTR. The area where the tall buildings are located is indicated in the Seletar Visual Approach Charts AD-2-WSSL-VAC-1 to AD-2-WSSL-VAC-4. Procedures are illustrated in the following charts:
- i. AD-2-WSSL-VAC-1 : Visual Approach Chart - RWY 03
 - ii. AD-2-WSSL-VAC-2 : Visual Approach Chart - RWY 21
- 1.2.3 Traffic permitting and in good visibility, joining aircraft may be cleared to join directly for right base when landing on RWY 21 or turn downwind for RWY 03 from north-end of the runway (THR RWY 21).

1.3 Joining Procedures from Light Aircraft Training Areas

- 1.3.1 Unless otherwise authorised by ATC, aircraft are to join overhead the airfield at 2,000ft keeping clear of Sembawang ATZ and Paya Lebar CTR.
- 1.3.2 When overhead the airfield, the joining aircraft shall make a turn to the eastern side of the runway and after passing abeam the Control Tower, commence descent as cleared to cross the upwind end of the runway at 1,500ft. Passing over the end of the runway, descend to circuit altitude as cleared by ATC. Pilots shall ensure to keep clear of Sembawang ATZ and Paya Lebar CTR and not to fly east of the runway. This is to keep clear of tall buildings up to 90m AMSL to the east of Seletar CTR. The area where the tall buildings are located is indicated in the Seletar Approach Charts AD-2-WSSL-VAC-1 to AD-2-WSSL-VAC-4. Procedures are illustrated in the following charts:
- i. AD-2-WSSL-VAC-1: Visual Approach Chart - RWY 03
 - ii. AD-2-WSSL-VAC-2: Visual Approach Chart - RWY 21
- 1.3.3 Traffic permitting and in good visibility, joining aircraft may be cleared to join directly for right base when landing on RWY 21 or turn downwind for RWY 03 from north-end of the runway (THR RWY 21).

1.4 Joining Procedures for IFR flights from GUMPU, OMKOM or SJ - RWY 03

1.4.1 From OMKOM

Cross OMKOM at or above 3,000ft. On passing OMKOM descend in VMC to 2,000ft or altitude cleared by ATC and join left downwind RWY 03.

- i. Straight-in-Approach
Join downwind RWY 03 at 2,000ft (keeping clear of Sembawang ATZ). When downwind descend from 2,000ft for visual approach RWY 03, or as cleared by ATC. Pilots should have the runway in sight. Aircraft shall be vectored under radar to position for downwind RWY 03.
- ii. Circling Approach
Join downwind RWY 03 at 2,000ft (keeping clear of Sembawang ATZ). At end of downwind turn left and overfly the runway. When passing over north end of the runway (THR RWY 21), descend from 2,000ft to 1,500ft and turn left for downwind RWY 03. At downwind descend for a visual approach RWY 03 or as cleared by ATC. Pilots should have the runway in sight.

1.4.2 From GUMPU

Cross GUMPU at or above 6,000ft enroute to Point ALFA. On passing Point ALFA, descend in VMC to 2,000ft or altitude cleared by ATC. (Point ALFA is located at 013033N 1034942E or Radial 296/7 DME VTK)

- i. Straight-in-Approach
On passing Point ALFA, turn right for downwind RWY 03 (keeping clear of Sembawang ATZ). At downwind descend from 2,000ft for a visual approach RWY 03, or as cleared by ATC. Pilots should have the runway in sight. Aircraft shall be vectored under radar to position for downwind RWY 03.
- ii. Circling Approach
On passing Point ALFA, turn right for downwind RWY 03 (keeping clear of Sembawang ATZ). At end of downwind, turn left and overfly the runway. Passing over north end of the runway (THR RWY 21), descend from 2,000ft to 1,500ft and turn left for downwind RWY 03. At downwind descend for a visual approach RWY 03 or as cleared by ATC. Pilots should have the runway in sight.

1.4.3 From SJ

Cross SJ at 4,000ft or as cleared by ATC. On passing SJ, descend to 3,000ft for PONJO. On passing PONJO, descend in VMC to 2,000ft or altitude cleared by ATC. (PONJO is located at 011629N 1034629E or Radial 303 SJ)

- i. Straight-in-Approach
Join direct for a straight-in visual approach RWY 03 descending from 2,000ft at a speed of not more than 170kt, or as cleared by ATC. Pilots should have the runway in sight.
- ii. Circling Approach
Overfly the runway at 2,000ft at a speed of not more than 160kt, or as cleared by ATC. When passing over the north-end of runway (THR RWY 21), descend from 2,000ft to 1,500ft and turn left for downwind RWY 03 (keeping clear of Sembawang ATZ and Light Aircraft Training Area A). At downwind, descend for visual approach or as cleared by ATC. Pilots should have the runway in sight.

1.4.4 Procedures are illustrated in the following charts:

- AD-2-WSSL-VAC-3 : Visual Approach Chart - RWY 03
- AD-2-WSSL-IFR-1 : Seletar Aerodrome Joining Procedures (IFR flights) from GUMPU, OMKOM and SJ - RWY 03

1.5 Joining Procedures for IFR flights from GUMPU, OMKOM or SJ - RWY 21

1.5.1 From OMKOM

Cross OMKOM at or above 3,000ft. On passing OMKOM descend in VMC to 2,000ft or altitude cleared by ATC.

- i. Straight-in-Approach
Join direct for a straight-in visual approach RWY 21 descending from 2,000ft, or as cleared by ATC. Pilots should have the runway in sight. Aircraft shall be vectored under radar to position for Straight-in-Approach RWY 21.
- ii. Circling Approach
Overfly the runway at 2,000ft, or as cleared by ATC. Passing over the south-end of the runway (THR RWY 03), descend from 2,000ft to 1,500ft and turn right for downwind RWY 21 (keeping clear of Light Aircraft Training Area A and Sembawang ATZ). At downwind descend for a visual approach RWY 21 or as cleared by ATC. Pilots should have the runway in sight.

- 1.5.2 From GUMPU
Cross GUMPU at or above 6,000ft enroute to Point ALFA. On passing Point ALFA, descend in VMC to 2,000ft or altitude cleared by ATC. (Point ALFA is located at 013033N 1034942E or Radial 296 VTK)
- i. Straight-in-Approach
On passing Point ALFA, join direct for a straight-in visual approach RWY 21 descending from 2,000ft, or as cleared by ATC (keeping clear of Sembawang ATZ). Aircraft shall be vectored under radar to position for Straight-in-Approach RWY 21.
 - ii. Circling Approach
On passing Point ALFA, overfly the runway at 2,000ft. When passing over the south end of the runway (THR RWY 03), descend from 2,000ft to 1,500ft and turn right for downwind RWY 21 (keeping clear of Light Aircraft Training Area A and Sembawang ATZ). At downwind descend for a visual approach RWY 21 or as cleared by ATC. Pilots should have the runway in sight.
- 1.5.3 From SJ
Cross SJ at 4,000ft or as cleared by ATC. On passing SJ, descend to 3,000ft for PONJO. On passing PONJO, descend in VMC to 2,000ft or altitude cleared by ATC and join downwind RWY 21 via RECHI-SETHI. (RECHI is located at 012033N 1034908E or Radial 235 PU and SETHI is located at 012439N 1035006E or Radial 263 PU)
- i. Straight-in-Approach
Join downwind RWY 21 via SETHI at 2,000ft (keeping clear of Sembawang ATZ) at a speed of not more than 170kt. When downwind, descend from 2,000ft for visual approach, or as cleared by ATC. Pilots should have the runway in sight.
 - ii. Circling Approach
Join downwind RWY 21 via SETHI at 2,000ft (keeping clear of Sembawang ATZ) at a speed of not more than 160kt. At end of downwind, turn right and overfly the runway. When passing over south-end of the runway (THR RWY 03), descend from 2,000ft to 1,500ft and turn right for downwind RWY 21. At downwind, descend for visual approach or as cleared by ATC. Pilots should have the runway in sight.
- 1.5.4 Procedures are illustrated in the following charts:
- AD-2-WSSL-VAC-4 : Visual Approach Chart - RWY 21
 - AD-2-WSSL-IFR-2 : Seletar Aerodrome Joining Procedures (IFR flights) from GUMPU, OMKOM and SJ - RWY 21

1.6 ***Holding Procedure***

- 1.6.1 A low level holding procedure is established at SJ DVOR/DME. Suitably equipped aircraft bound for Seletar which may wish to hold for weather improvement may use this procedure (ENR 3.6-3 refers)

1.7 ***Approaches to Seletar Aerodrome***

- 1.7.1 A deep-water shipping channel approximately 1525m from the northern threshold cuts across the extended centreline of Seletar RWY 21.
- 1.7.2 Information on the mast heights of tall vessels is relayed to ATC by Maritime and Port Authority of Singapore. ATC shall inform pilots of landing and departing aircraft of such information if the reported mast height of the vessel is above 30m.
- 1.7.3 At night ATC shall not permit landing on RWY 21 when vessels of mast height above 30m are reported.
- 1.7.4 Aircraft making approaches into Seletar are required to keep clear of Sembawang ATZ and any Prohibited/Restricted/Danger Areas (e.g. WSR38 and WSD4) within the vicinity.
- 1.7.5 Aircraft are restricted from overflying built-up residential areas around Seletar Airport (charts AD-2-WSSL-VAC-1 to AD-2-WSSL-VAC-4 refer) at an altitude of below 1,500ft. Aircraft types which are unable to safely manoeuvre clear of the built-up residential areas are not allowed to operate at Seletar Airport.

2 GROUND PROCEDURES FOR NON-TRAINING FLIGHTS

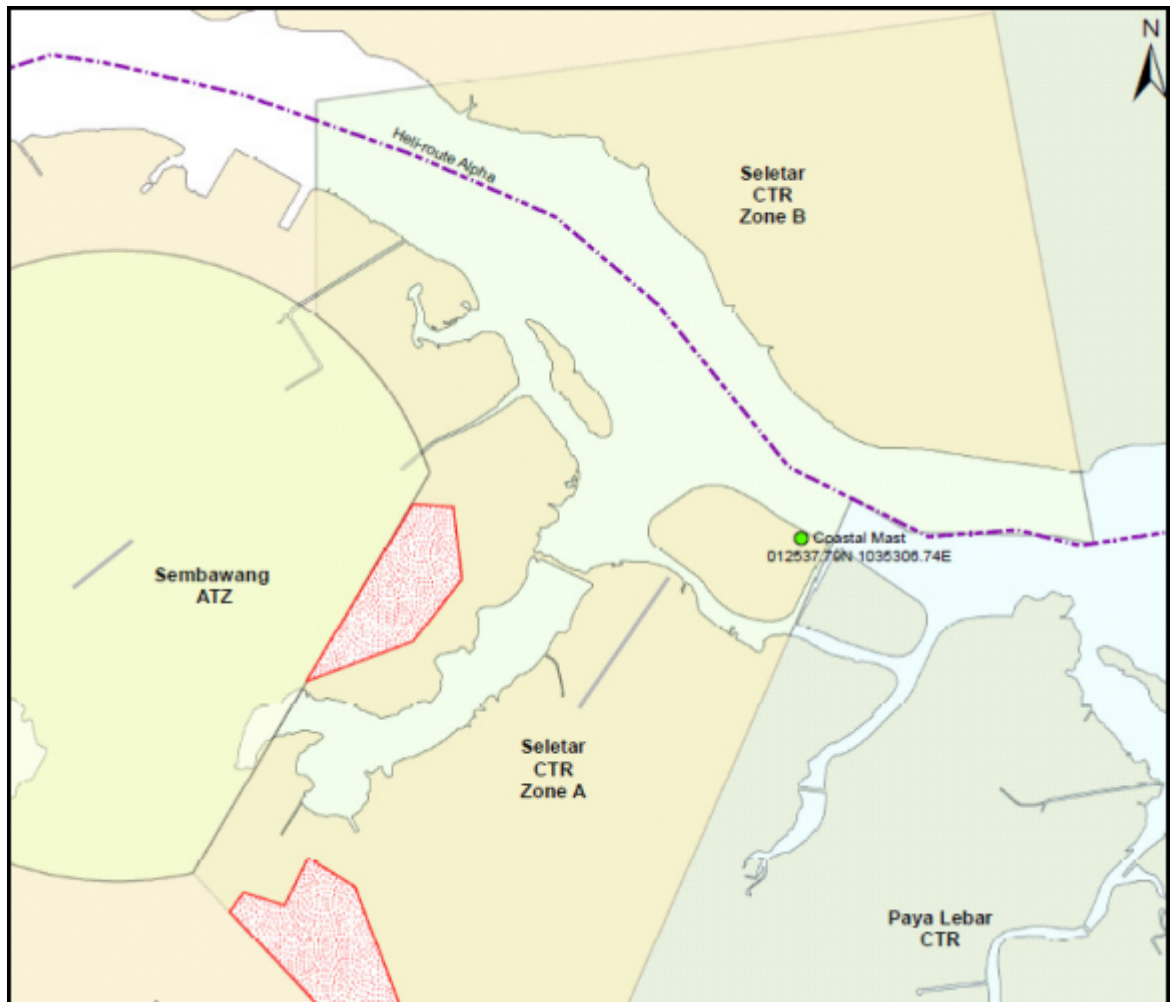
- 2.1 Pilots shall contact ATC (Seletar Ground on 121.6MHz) with the following details when the aircraft is ready to start up for departure within 5 minutes.
- a. Callsign;
 - b. Destination;
 - c. Proposed flight level and alternate level, if any; and
 - d. Parking position.
- 2.1.1 Pilots shall request ATC clearance no later than 15 minutes prior to the start of noise abatement procedures or designated training hours and to expect delay if unable to comply. Refer to GEN 1.2 paragraph 3.8 and WSSL AD 2.21 for details.
- 2.2 ATC will advise the pilot whether the proposed flight level or other alternate flight level is available, and an ATC clearance will be issued accordingly.
- 2.3 Once flight level is accepted by the pilot and an ATC clearance issued, the aircraft must start up within 5 minutes from the time the ATC clearance is accepted unless other ATC restrictions are imposed. The ATC clearance will be cancelled on expiry of the 5 minutes grace period. This also applies to situations when aircraft develop technical issues and is unable to continue taxi for departure.
- 2.4 Pilots who are ready to depart following the cancellation of an ATC clearance shall adopt the procedures as if it is the first time they are ready to depart.

3 DEPARTURES FROM SELETAR AERODROME

- 3.1 Aircraft departing Seletar are required to keep clear of Sembawang ATZ and any Prohibited/Restricted/Danger Areas (e.g. WSR38 and WSD4) within the vicinity.
- 3.2 The pilot-in-command or the operator of IFR flight operating out of Seletar is required to file via OMKOM or RECHI - PONJO - SJ under item 15 of the flight plan. All departure clearances subject to ATC coordination.
- 3.3 Aircraft departing Seletar are required to adhere to the speed restrictions (charts AD-2-WSSL-VDC-1 and AD-2-WSSL-VDC-2 refer).

← 4 HELICOPTER CROSSING SELETAR NORTHERN EXTENDED CENTRELINE

- 4.1 Due to flying activities in Seletar Control Zone, all helicopters flying on Heli-route Alpha and intending to cross the northern extended centreline of Seletar Aerodrome shall obtain a positive clearance from Seletar Tower on 118.45MHz prior to crossing (see chart below).
- 4.2 For eastbound crossing, all helicopters are to hold over the western tip of Seletar Island until a clearance has been issued by Seletar Tower.
- 4.3 For westbound crossing, all helicopters are to hold on Heli-route Alpha abeam the coastal mast until a clearance has been issued by Seletar Tower.
- 4.4 The holding altitude is 200 feet or otherwise instructed by ATC.



WSSL AD 2.23 ADDITIONAL INFORMATION

1 BIRD CONCENTRATION IN THE VICINITY OF THE AIRPORT

- 1.1 A number of varieties of birds are found in Singapore throughout the year. The larger birds commonly found in Seletar Airport includes the following:
- Cattle egrets (weighing approximately 300g each)
 - Brahminy kites (weighing approximately 600g each)
- 1.2 There could be an increase in bird activities during the usual migratory months of September to April. During this period, migratory birds may use the airport as their feeding ground.
- 1.3 Handheld laser device, long range acoustic device and alternating amplified bird cries of distress are used for bird dispersal within Seletar Airport.

←

WSSL AD 2.24 CHARTS RELATED TO SELETAR AIRPORT

Aerodrome Chart - ICAO	AD-2-WSSL-ADC-1 to 1.1
Layout of Significant Aerodrome Buildings and Apron Facilities	AD-2-WSSL-ADC-2
Aerodrome Hotspots	AD-2-WSSL-ADC-3
Aerodrome Obstacle Chart (AOC) - ICAO - TYPE A - RWY 03/21	AD-2-WSSL-AOC-1
Aerodrome Obstacle Chart (AOC) - ICAO - TYPE B - RWY 03/21	AD-2-WSSL-AOC-2
Visual Approach Chart (VAC) - ICAO - RWY 03	AD-2-WSSL-VAC-1
Visual Approach Chart (VAC) - ICAO - RWY 21	AD-2-WSSL-VAC-2
Visual Approach Chart (VAC) - ICAO - Advisory Joining Procedures - RWY 03	AD-2-WSSL-VAC-3
Visual Approach Chart (VAC) - ICAO - Advisory Joining Procedures - RWY 21	AD-2-WSSL-VAC-4
Visual Departure Chart - RWY 03	AD-2-WSSL-VDC-1 to 1.1
Visual Departure Chart - RWY 21	AD-2-WSSL-VDC-2 to 2.1
Joining Procedures - VFR Flights from Johor Bahru	AD-2-WSSL-VFR-1
Joining procedures - IFR Flights from GUMPU, OMKOM and SJ - RWY 03	AD-2-WSSL-IFR-1
Joining procedures - IFR Flights from GUMPU, OMKOM and SJ - RWY 21	AD-2-WSSL-IFR-2

**VISUAL
APPROACH
CHART - ICAO**

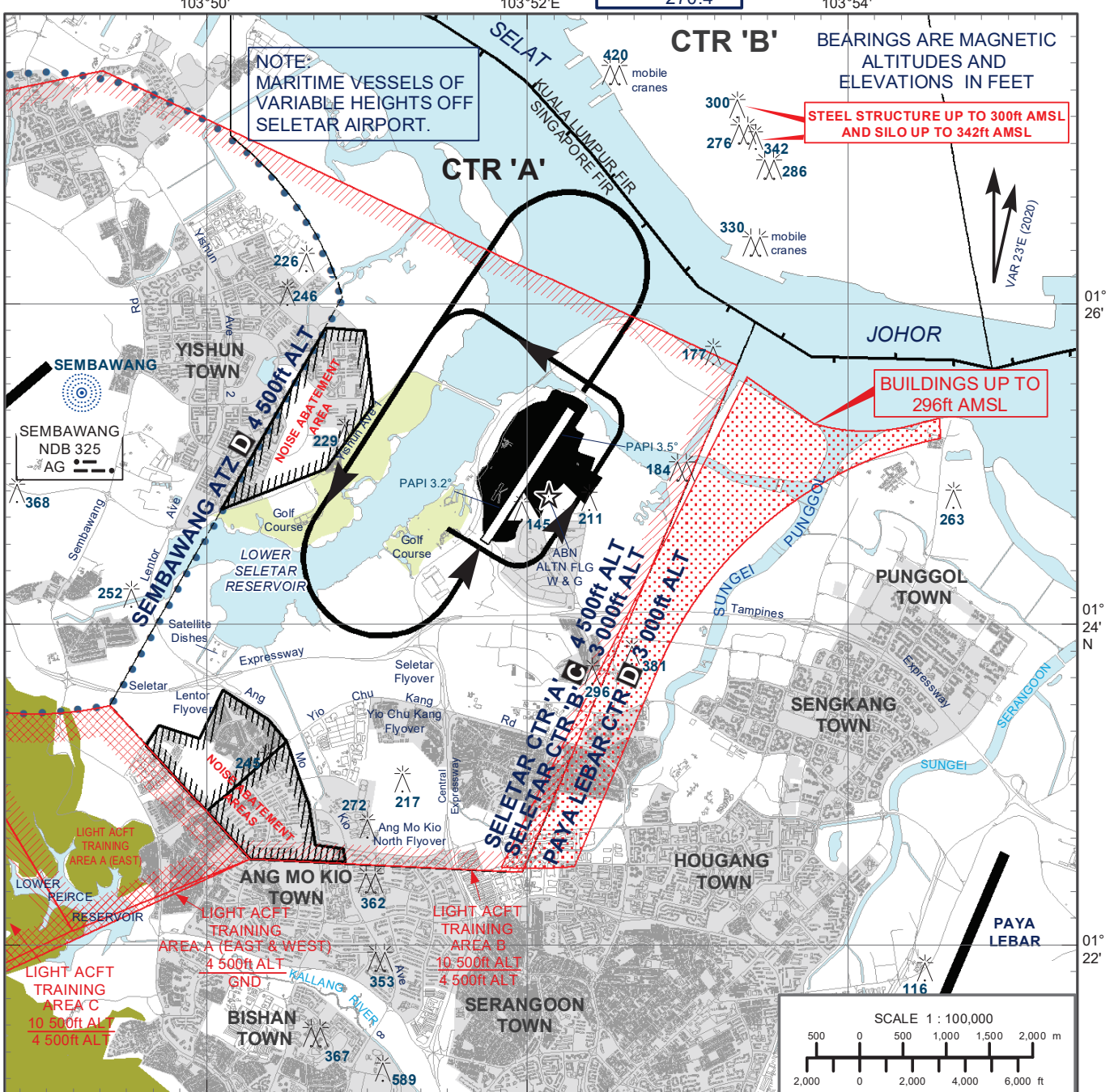
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ATIS AP ID-WSSL
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APP 124.05
126.025
TWR 118.45
270.4

SINGAPORE/SELETAR

RWY 03



JOINING PROCEDURE - RWY 03

- 1) Join overhead at 2 000ft ALT or as cleared by ATC and at a speed of not more than 170kt.
- 2) When over the south-end of the runway (THR RWY 03), join the circuit crossing the upwind north-end of the runway (THR RWY 21) at 1 500ft ALT or above or at the altitude cleared by ATC.
- 3) Joining aircraft shall give way to circuit traffic already on downwind.

CAUTION

- a) Pilots are required to keep clear of Sembawang ATZ.
- b) Pilots should not fly to the east of the runway. This is to keep clear of tall buildings up to 296ft AMSL to the east of Seletar CTR. (See area shaded in red).



Minimum altitudes apply over noise abatement areas (WSSL AD 2.21)
Aircraft types which are unable to safely manoeuvre clear of the noise abatement areas are not allowed to operate at Seletar Airport.

Pilot's eye height over the threshold when the following PAPI lights come into view	PAPI 3.2°	
	RUNWAY	
	03	21
2 white lights and 2 red lights (MEHT)*	21.24m	17.720m
3 white lights and 1 red light	22.27m	19.286m
4 white lights	24.75m	20.871m

*MEHT : Minimum Eye Height Over the Threshold.

Note : Aircraft with eye-to-wheel height greater than 6.3 metres are advised to fly with 2 white and 2 red lights visible so as to achieve sufficient wheel clearance.

Note:

- 1) Pilots are to be advised of the steel structure 300ft AMSL and the Silo 342ft AMSL 2nm north of the airfield.
- 2) Pilots are required to keep their turns within Seletar Control Zone.
- 3) Pilots are required to keep clear of Sembawang ATZ and Paya Lebar CTR.

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**VISUAL
APPROACH
CHART - ICAO**

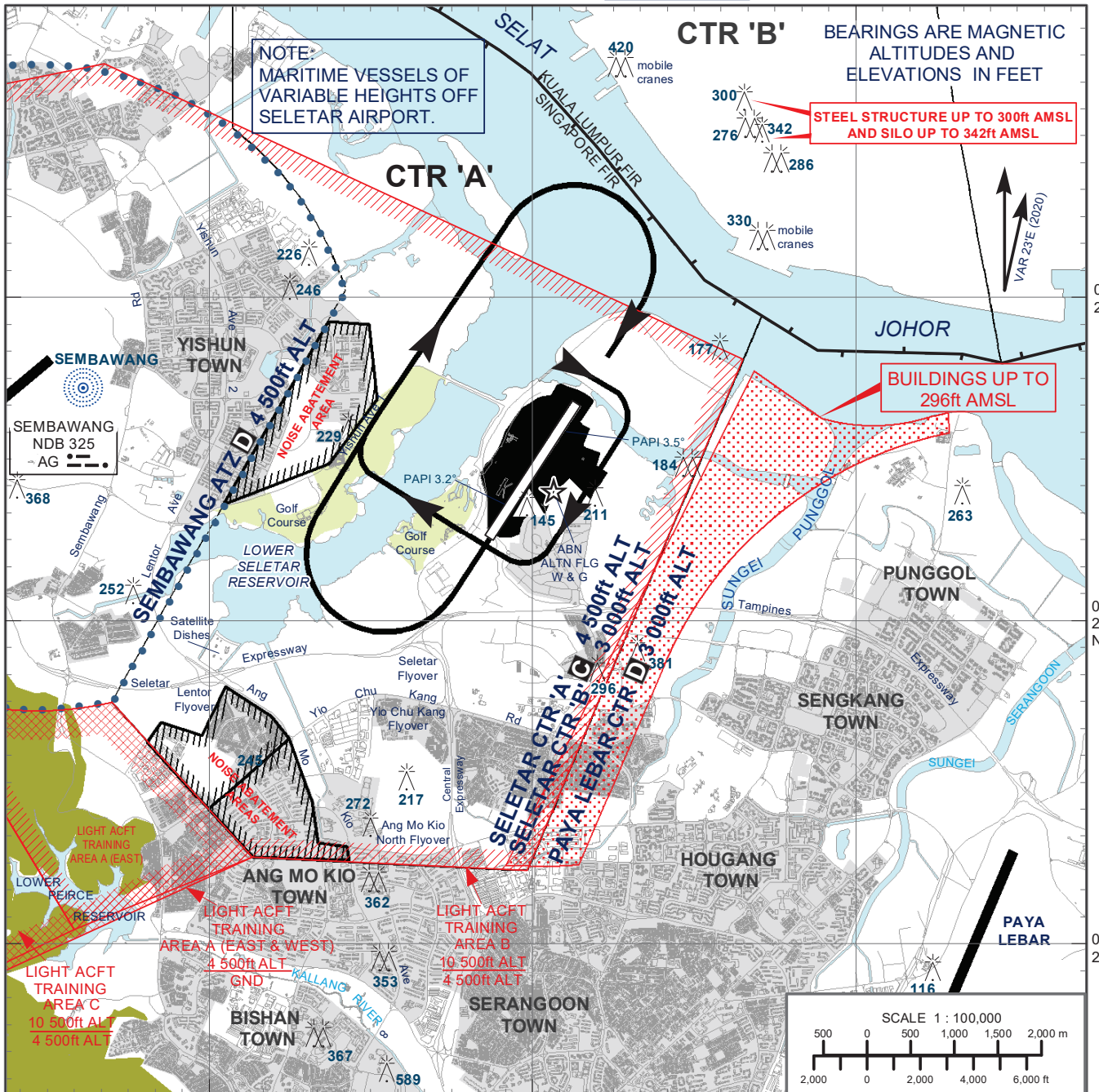
AD ELEV 46 ft

ATIS AP ID-WSSL
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TWR 118.45
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SINGAPORE/SELETAR

RWY 21



JOINING PROCEDURE - RWY 21

- 1) Join overhead at 2 000ft ALT or as cleared by ATC and at a speed of not more than 170kt.
- 2) When over the north-end of the runway (THR RWY 21), join the circuit crossing the upwind south-end of the runway (THR RWY 03) at 1 500ft ALT or above or at the altitude cleared by ATC.
- 3) Joining aircraft shall give way to circuit traffic already on downwind.

CAUTION

- a) Pilots are required to keep clear of Sembawang ATZ.
- b) Pilots should not fly to the east of the runway. This is to keep clear of tall buildings up to 296ft AMSL to the east of Seletar CTR. (See area shaded in red).



Minimum altitudes apply over noise abatement areas (WSSL AD 2.21)
Aircraft types which are unable to safely manoeuvre clear of the noise abatement areas are not allowed to operate at Seletar Airport.

PAPI 3.5°

Pilot's eye height over the threshold when the following PAPI lights come into view	RUNWAY	
	03	21
2 white lights and 2 red lights (MEHT)*	21.24m	17.720m
3 white lights and 1 red light	22.27m	19.286m
4 white lights	24.75m	20.871m

*MEHT : Minimum Eye Height Over the Threshold.

Note : Aircraft with eye-to-wheel height greater than 6.3 metres are advised to fly with 2 white and 2 red lights visible so as to achieve sufficient wheel clearance.

Note:

- 1) Pilots are to be advised of the steel structure 300ft AMSL and the Silo 342ft AMSL 2nm north of the airfield.
- 2) Pilots are required to keep their turns within Seletar Control Zone.
- 3) Pilots are required to keep clear of Sembawang ATZ and Paya Lebar CTR.

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VISUAL APPROACH CHART - ICAO

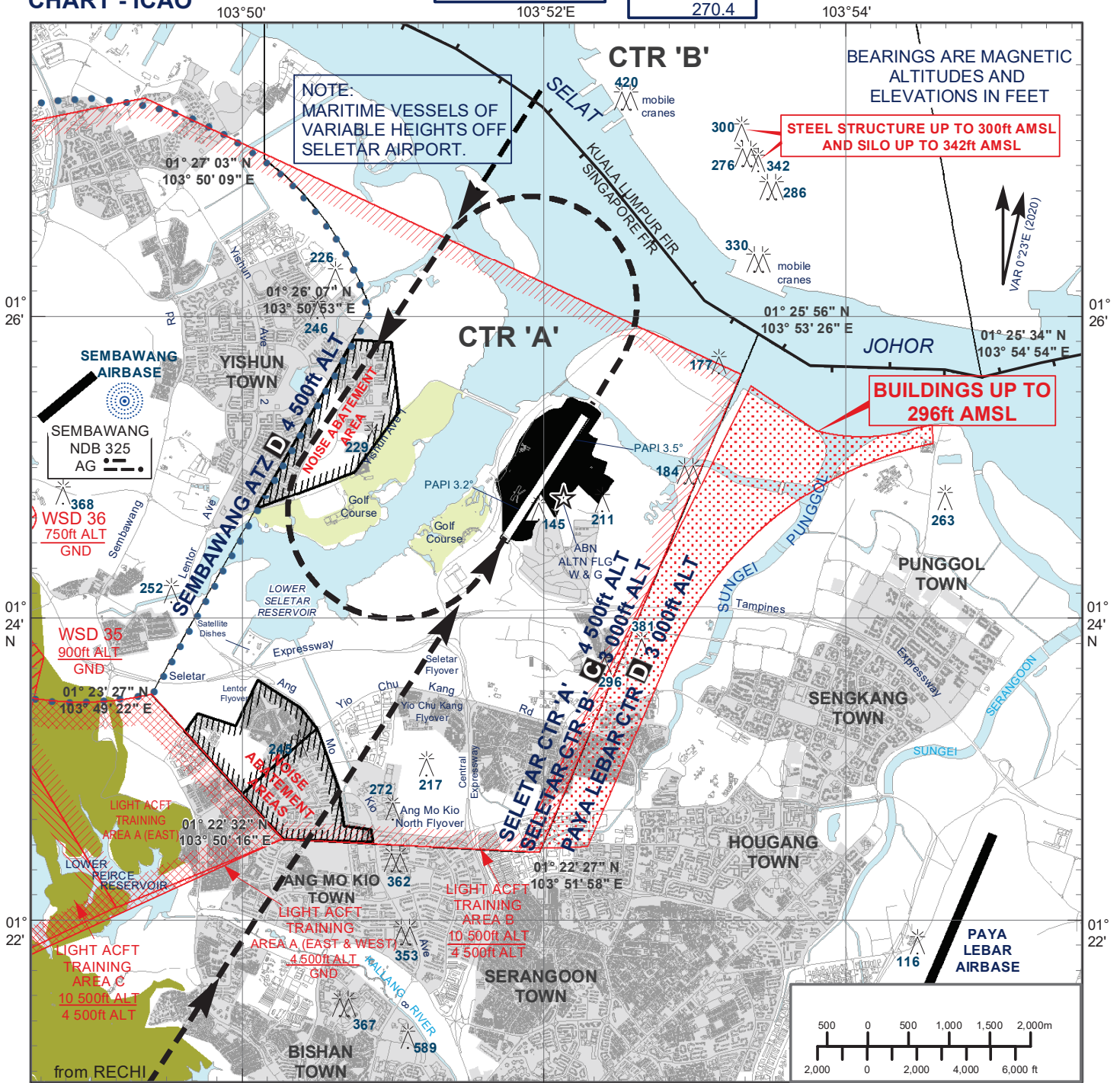
AD ELEV 46 ft

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SINGAPORE/SELETAR

RWY 03



ADVISORY JOINING PROCEDURES - RWY 03
Straight-in Approach

- From GUMPU or OMKOM, join left downwind at 2 000ft, or as directed by ATC, at a speed of not more than 170kt. When downwind, descend from 2 000ft for visual approach or as cleared by ATC. Pilots should have runway in sight. Aircraft shall give way to circuit traffic already on downwind.
- From SJ-PONJO-RECHI, join direct for visual approach, descending from 2 000ft at a speed of not more than 170kt, or as cleared by ATC. Pilots should have runway in sight.

Circling Approach

- From GUMPU or OMKOM, join left downwind at 2 000ft at a speed of not more than 160kt. Passing abeam south-end of the runway (THR RWY 03), turn left to over fly the runway. Passing over the north-end of the runway (THR RWY 21), descend from 2 000ft to 1 500ft and turn left for downwind RWY 03. At downwind, descend for a visual approach or as cleared by ATC. Pilots should have the runway in sight.
- From SJ-PONJO-RECHI, overfly the runway at 2 000ft at a speed of not more than 160kt, or as cleared by ATC. When passing over the north-end of the runway (THR RWY 21), descend from 2 000ft to 1 500ft and turn left for downwind RWY 03. At downwind, descend for a visual approach or as cleared by ATC. Pilots should have runway in sight.
- Joining aircraft shall give way to circuit traffic already on downwind.

CAUTION

- Pilots are required to keep clear of Sembawang ATZ. Turns should therefore be kept within Seletar CTR.
- Pilots should not fly to the east of the runway. This is to keep clear of tall buildings up to 296ft AMSL there. Pilots should have all relevant obstructions in sight, including the steel structure 300ft AMSL and the Silo 342ft AMSL 2nm north of the airfield.

- Minimum altitudes apply over noise abatement areas (WSSL AD 2.21)
Aircraft types which are unable to safely manoeuvre clear of the noise abatement areas are not allowed to operate at Seletar Airport.

PAPI 3.2°	Pilot's eye height over the threshold when the following PAPI lights come into view	
	RUNWAY	
	03	21
2 white lights and 2 red lights (MEHT)*	21.24m	17.720m
3 white lights and 1 red light	22.27m	19.286m
4 white lights	24.75m	20.871m

*MEHT : Minimum Eye Height Over the Threshold.

Note : Aircraft with eye-to-wheel height greater than 6.3 metres are advised to fly with 2 white and 2 red lights visible so as to achieve sufficient wheel clearance.

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VISUAL APPROACH CHART - ICAO

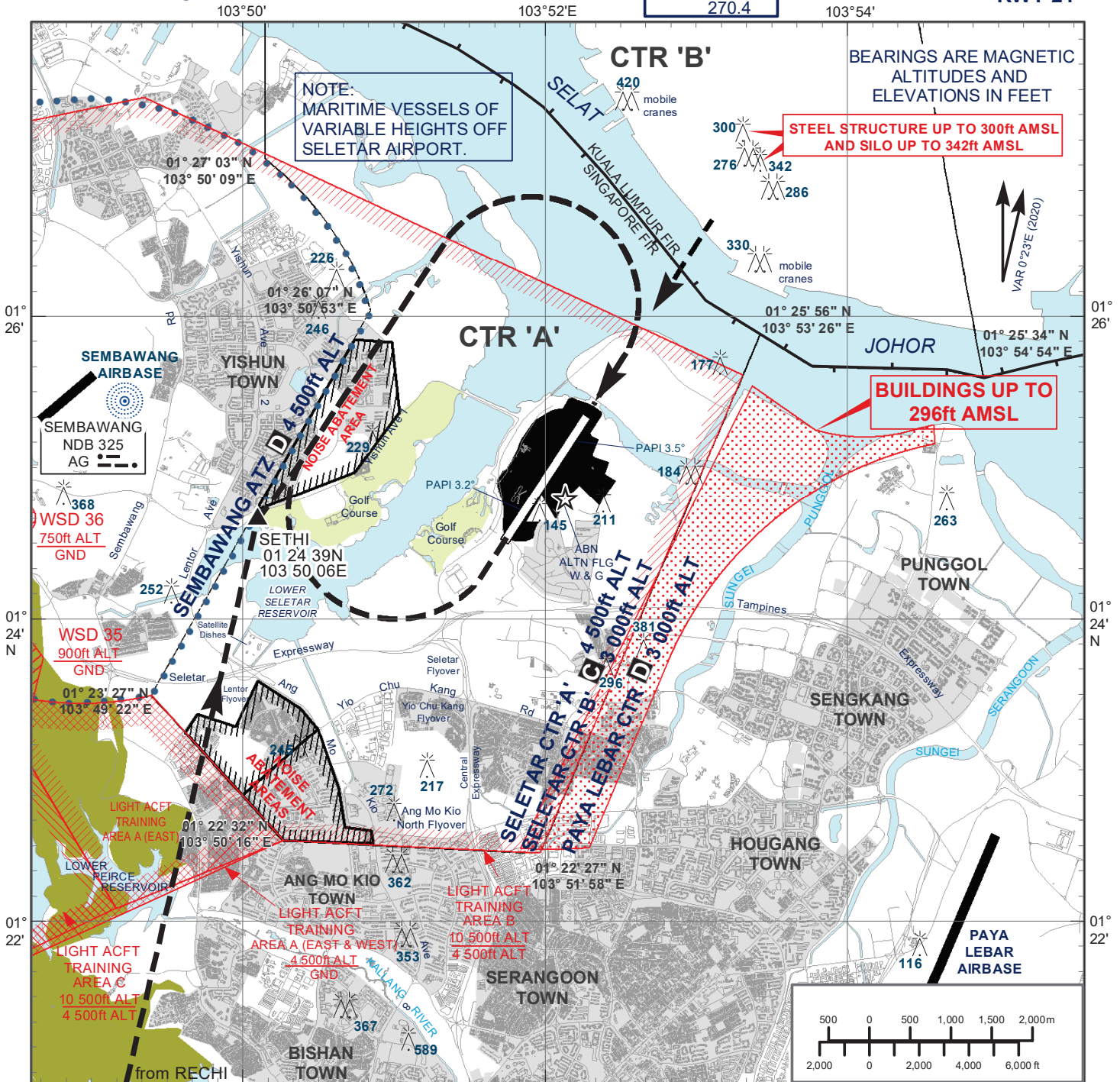
AD ELEV 46 ft

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TWR 118.45
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SINGAPORE/SELETAR

RWY 21



- From GUMPU or OMKOM, join direct for a visual approach RWY 21, descending from 2 000ft at a speed of not more than 170kt, or as cleared by ATC. Pilots should have runway in sight..
- From SJ-PONJO-RECHI-SETHI, join right downwind RWY 21 via SETHI at 2 000ft at a speed of not more than 170kt. When downwind, descend from 2 000ft for a visual approach or as cleared by ATC. Pilots should have runway in sight. Aircraft shall give way to circuit traffic already on downwind.

Circling Approach

- From GUMPU or OMKOM, overfly the runway at 2 000ft at a speed of not more than 160kt. When passing over south-end of the runway (THR RWY 03), descend from 2 000ft to 1 500ft and turn right for right downwind RWY 21. At downwind, descend for a visual approach or as cleared by ATC. Pilots should have the runway in sight.
- From SJ-PONJO-RECHI-SETHI, join right downwind RWY 21 via SETHI at 2 000ft at a speed of not more than 160kt. At end of downwind, turn right and overfly the runway. When passing over south-end of the runway (THR RWY 03), descend from 2 000ft to 1 500ft and turn right for right downwind RWY 21. At downwind, descend for a visual approach or as cleared by ATC. Pilots should have runway in sight.
- Joining aircraft shall give way to circuit traffic already on downwind.

CAUTION

- Pilots are required to keep clear of Sembawang ATZ. Turns should therefore be kept within Seletar CTR.
- Pilots should not fly to the east of the runway. This is to keep clear of tall buildings up to 296ft AMSL there. Pilots should have all relevant obstructions in sight, including the steel structure 300ft AMSL and the Silo 342ft AMSL 2nm north of the airfield.
- Minimum altitudes apply over noise abatement areas (WSSL AD 2.21)
Aircraft types which are unable to safely manoeuvre clear of the noise abatement areas are not allowed to operate at Seletar Airport.

Pilot's eye height over the threshold when the following PAPI lights come into view	PAPI 3.5°	
	RUNWAY	
	03	21
2 white lights and 2 red lights (MEHT)*	21.24m	17.720m
3 white lights and 1 red light	22.27m	19.286m
4 white lights	24.75m	20.871m

*MEHT : Minimum Eye Height Over the Threshold.

Note : Aircraft with eye-to-wheel height greater than 6.3 metres are advised to fly with 2 white and 2 red lights visible so as to achieve sufficient wheel clearance.

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VISUAL DEPARTURE CHART

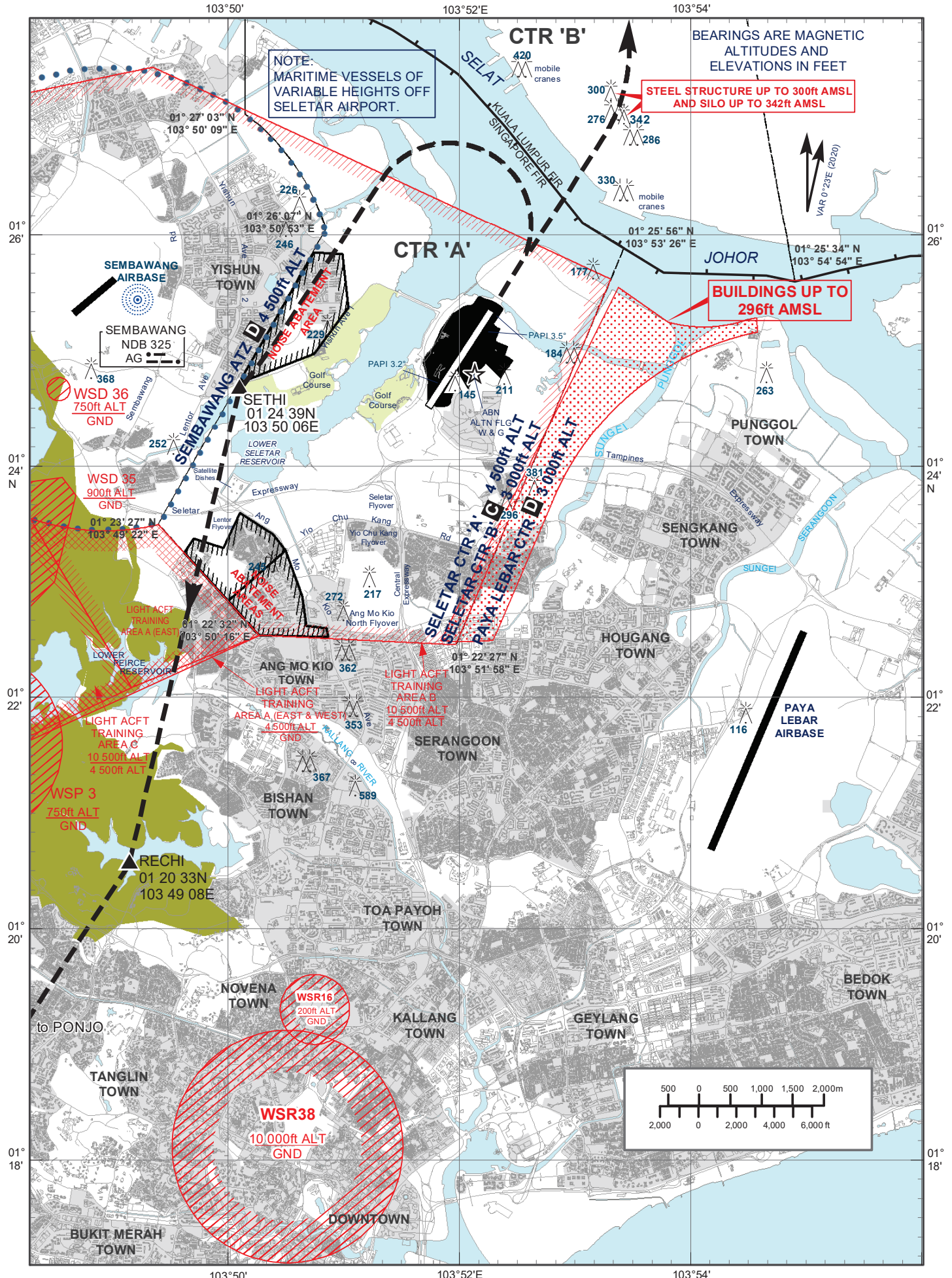
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ATIS AP ID-WSSL
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APP 124.05
TWR 118.45
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SINGAPORE/SELETAR


RWY 03



ADVISORY DEPARTURE PROCEDURES FOR RUNWAY 03

On departure, pilots of both fixed-wing and rotary-wing aircraft should climb ahead to an altitude cleared by ATC. Pilots can expect a radar heading to leave Seletar CTR. Where a radar heading is not given, pilots shall navigate to SETHI-RECHI-PONJO-SJ, or navigate to OMKOM, in accordance with their ATC clearance.

CAUTION

- a) Pilots are required to keep clear of Sembawang ATZ. Turns should therefore be kept within Seletar CTR.
- b) Pilots of fixed-wing aircraft should not fly to the east of the runway. This is to keep clear of tall buildings up to 296ft AMSL there. Pilots should have all relevant obstacles in sight, including the steel structure 300ft AMSL and SILO 342ft AMSL 2nm north of the airfield.
- c) When cleared via SETHI-RECHI-PONJO-SJ, pilots shall not deviate from the clearance unless approved by ATC. This is due to the proximity of WSR38 which is Permanently active from Ground to 10,000ft.
- d) Pilots shall maintain a speed of not more than 185KTS until passing PONJO to mitigate risk of encroaching into WSD4.
- e)  Minimum altitudes apply over noise abatement areas (WSSL AD 2.21). Aircraft types which are unable to safely manoeuvre clear of the noise abatement areas are not allowed to operate at Seletar Airport.

VISUAL DEPARTURE CHART

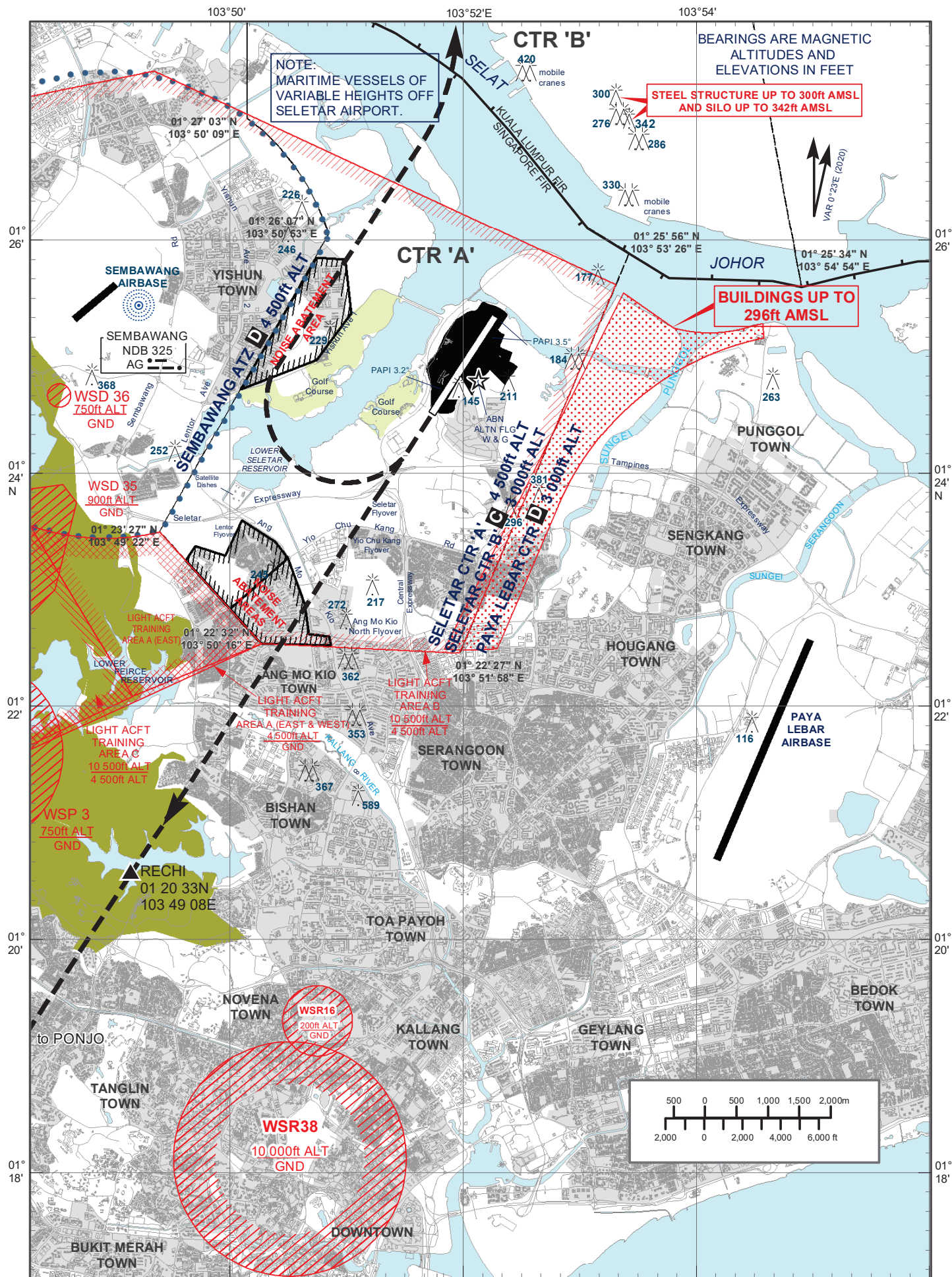
AD ELEV 46 ft

ATIS AP ID-WSSL
128.425

APP 124.05
TWR 118.45
270.4

SINGAPORE/SELETAR

RWY 21

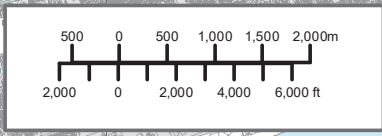


NOTE: MARITIME VESSELS OF VARIABLE HEIGHTS OFF SELETAR AIRPORT.

STEEL STRUCTURE UP TO 300ft AMSL AND SILO UP TO 342ft AMSL

BUILDINGS UP TO 296ft AMSL

VAR 0° 23'E (2020)




ADVISORY DEPARTURE PROCEDURES FOR RUNWAY 21

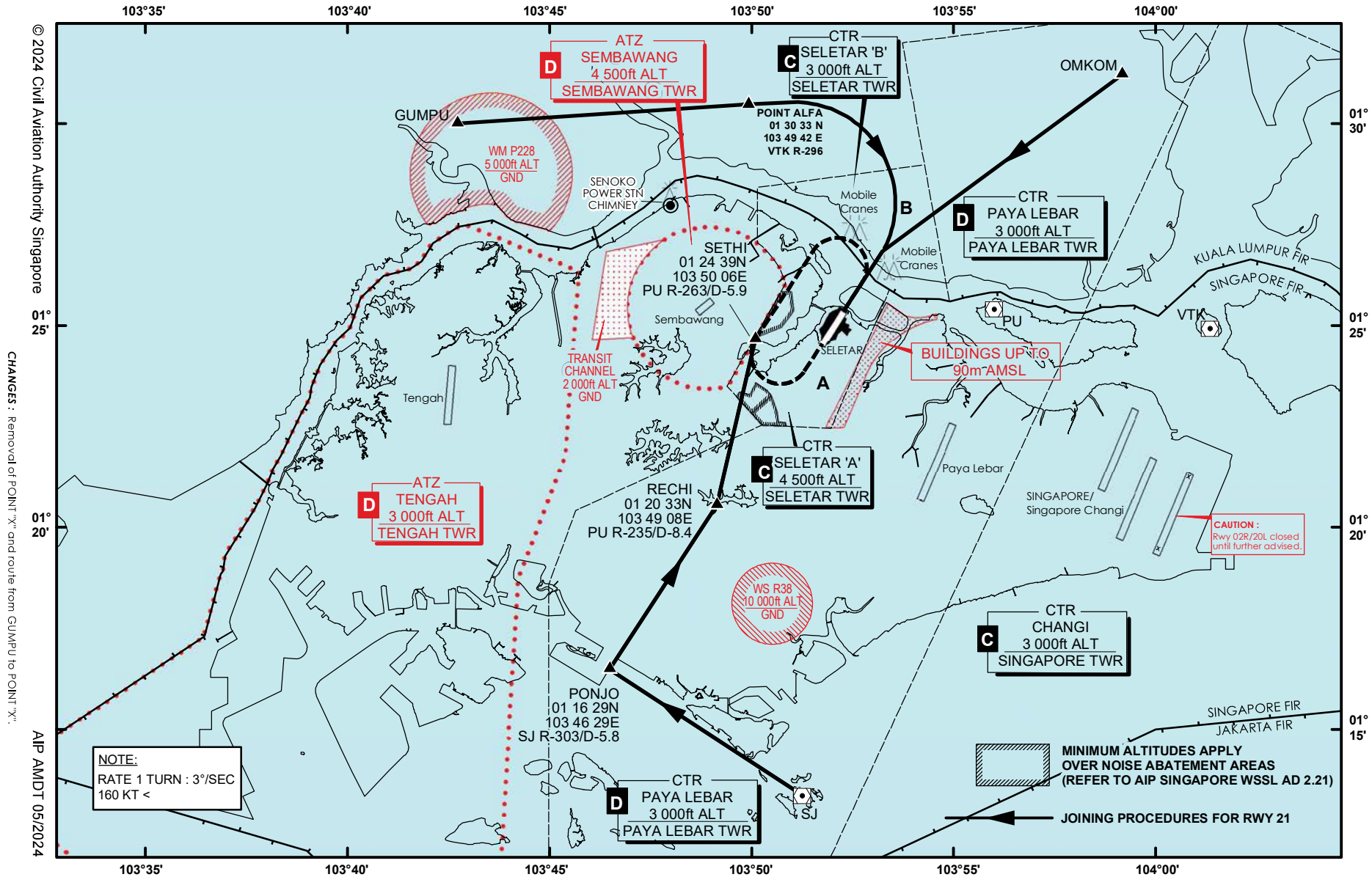
On departure, pilots can expect to climb to an initial altitude clearance by ATC. Pilots of fixed-wing aircraft navigating to OMKOM can expect to turn right to join the circuit till end of downwind and then expect a radar heading to leave Seletar CTR. Where a radar heading is not given, pilots shall navigate to RECHI-PONJO-SJ, or navigate to OMKOM in accordance with their ATC clearance.

Pilots of rotary-wing aircraft can expect to turn left after departure to join the helicopter circuit pattern till end of downwind. Thereafter, they can expect further en-route clearance.

CAUTION

- a) Pilots are required to keep clear of Sembawang ATZ. Turns should therefore be kept within Seletar CTR.
- b) Pilots of fixed-wing aircraft should not fly to the east of the runway. This is to keep clear of tall buildings up to 296ft AMSL there. Pilots should have all relevant obstacles in sight, including the steel structure 300ft AMSL and SILO 342ft AMSL 2nm north of the airfield.
- c) When cleared via RECHI-PONJO-SJ, pilots shall not deviate from the clearance unless approved by ATC. This is due to the proximity of WSR38 which is Permanently active from Ground to 10,000ft.
- d) Pilots shall maintain a speed of not more than 185KTS until passing PONJO to mitigate risk of encroaching into WSD4.
- e)  Minimum altitudes apply over noise abatement areas (WSSL AD 2.21). Aircraft types which are unable to safely manoeuvre clear of the noise abatement areas are not allowed to operate at Seletar Airport.
- f) When cleared via OMKOM, pilots shall maintain a speed of not more 185KTS until established on the downwind leg to mitigate risk of encroaching into Sembawang ATZ.

SELETAR AERODROME JOINING PROCEDURE (IFR FLIGHTS) FROM GUMPU, OMKOM AND SJ - RUNWAY 21



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CHANGES : Removal of POINT 'X' and route from GUMPU to POINT 'X'.

AIP AMDT 05/2024

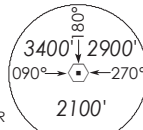
AIP Singapore

AD-2-WSSL-IFR-2
05 SEP 2024

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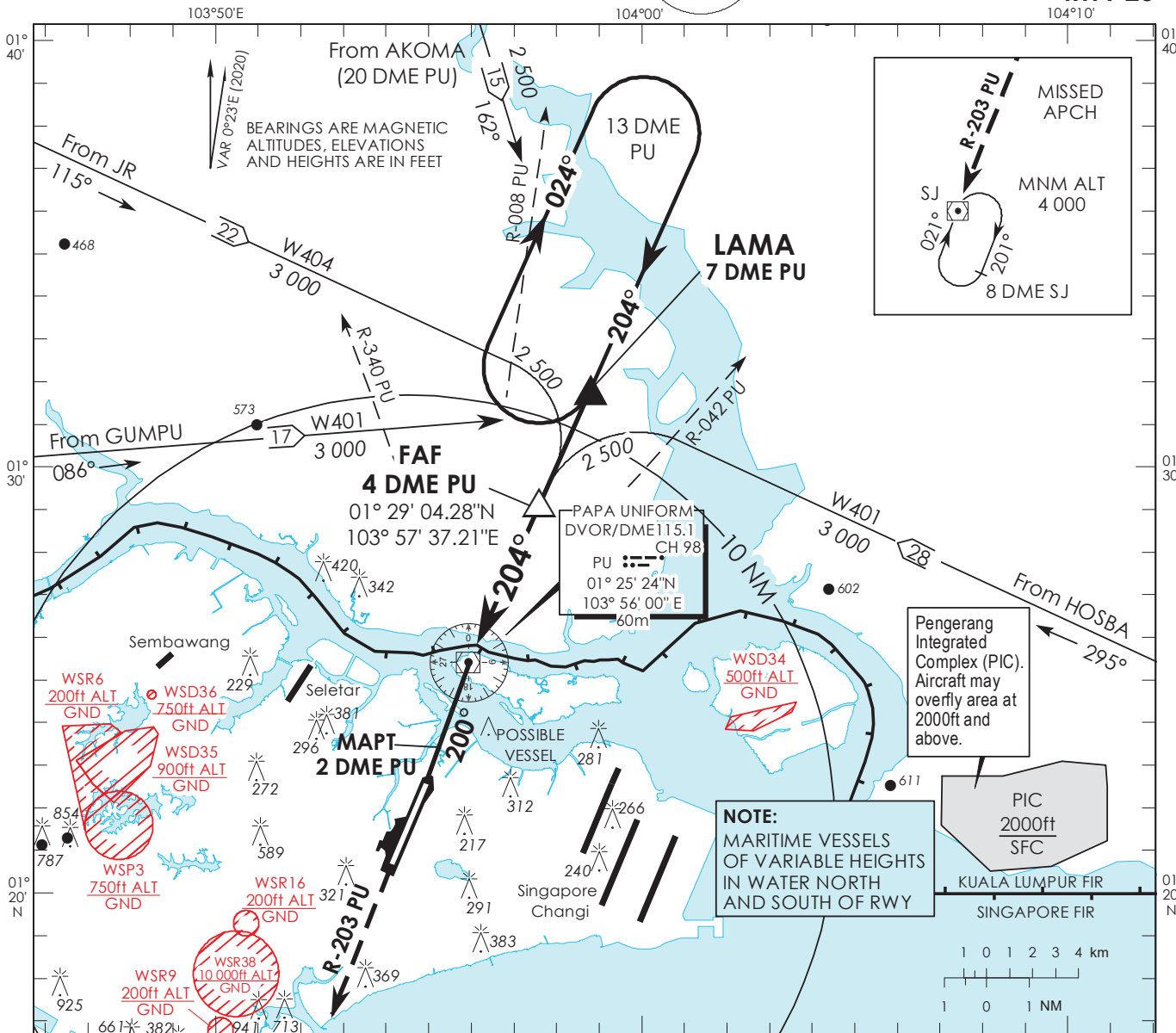
INSTRUMENT APPROACH CHART - ICAO

AERODROME ELEV **65ft**
HEIGHT RELATED TO
AD ELEV - **65ft**



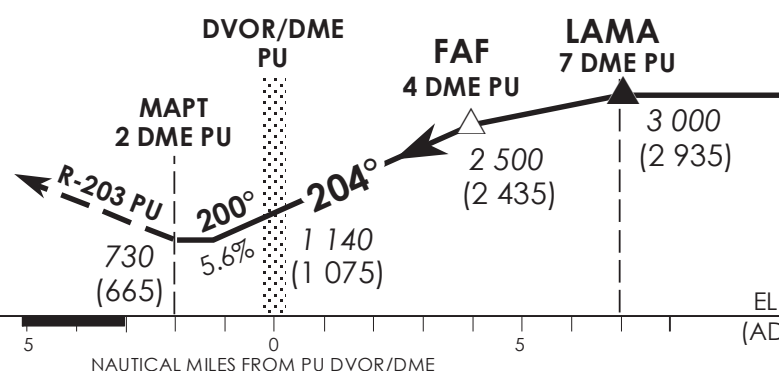
APP 124.05
119.9
126.025
TWR 118.05

**SINGAPORE/PAYA LEBAR
PU DVOR/DME
RWY 20**



Transition Level : FL 130
Transition Alt : 11 000

MISSED APPROACH
Climb to 4 000ft on R-203 PU to SJ DVOR/DME and hold South right turn 021° inbound or AS DIRECTED BY ATC

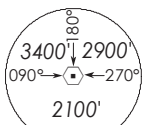


OCA (OCH)					
Category of Aircraft	A	B	C	D	
Straight-in	730 (665)				
Distance	3 DME	2 DME	1 DME	PU DVOR/DME	1 DME
Altitude (Height)	2160 (2095)	1820 (1755)	1480 (1415)	1140 (1075)	800 (735)
Speed	knots	70	120	150	185
FAF - MAPT 6nm	min : s	5 : 09	3 : 00	2 : 24	1 : 57
Rate of descent/GS	ft/min	370	635	795	980

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INSTRUMENT APPROACH CHART - ICAO

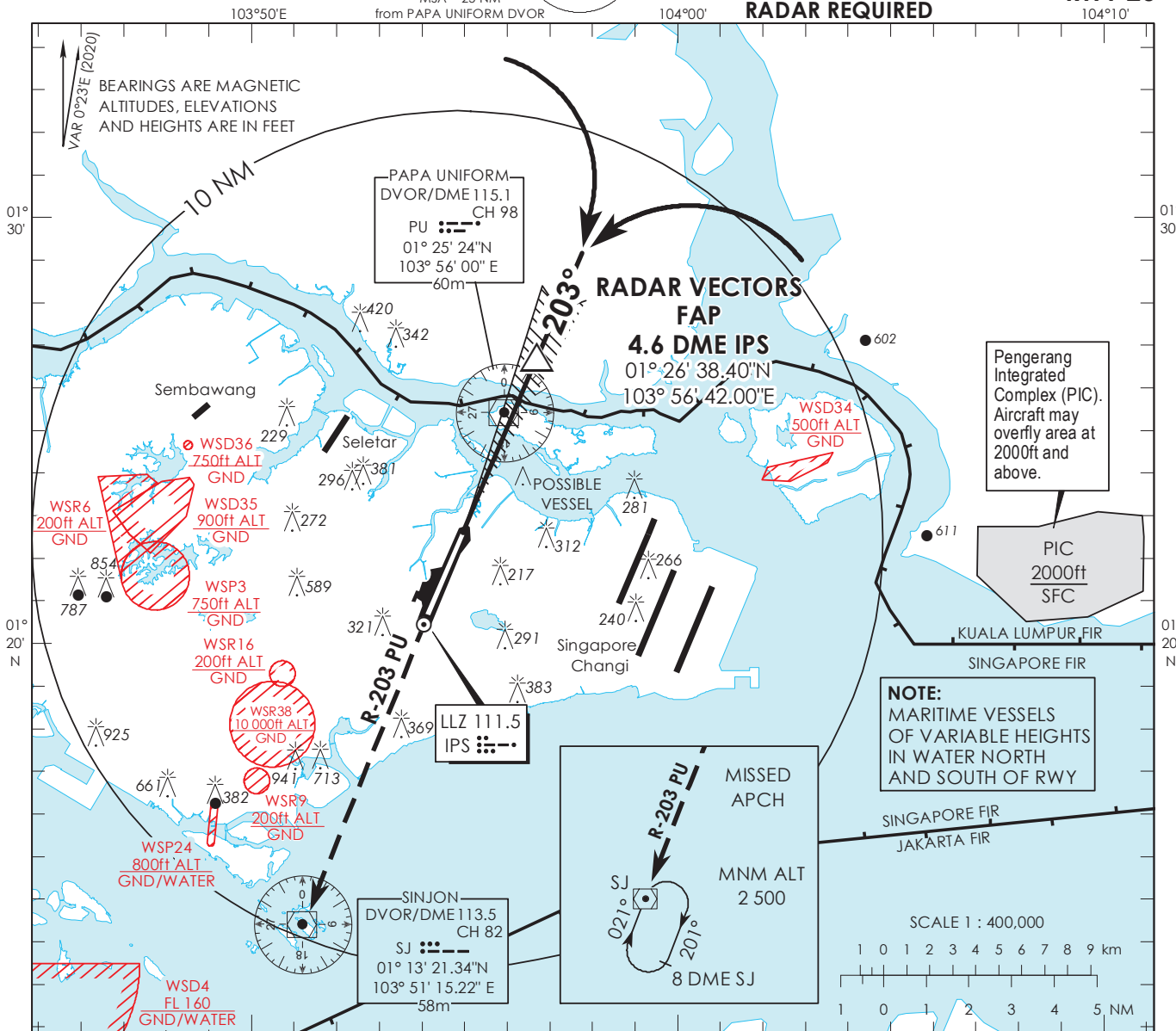
AERODROME ELEV 65ft
HEIGHT RELATED TO THR RWY 20 - 65ft



ATIS Paya Lebar	148.9
Singapore APP	124.05
Paya Lebar APP	119.9 298.0
Seletar APP	126.025
Paya Lebar TWR	118.05 263.1
Ground Control	130.8 296.0

SINGAPORE/PAYA LEBAR IPS ILS/DME RWY 20

RADAR REQUIRED

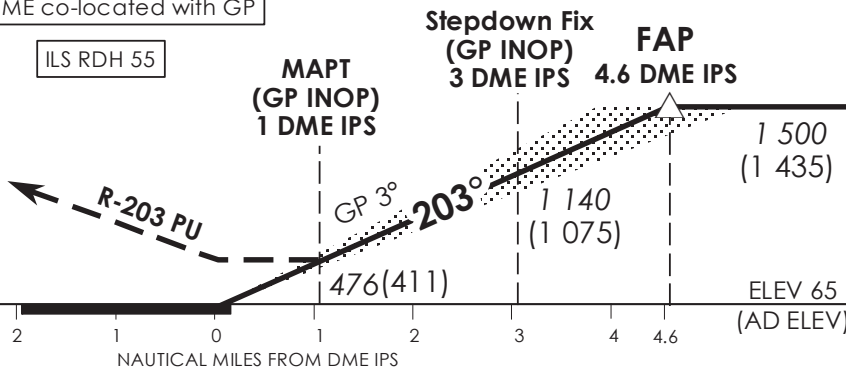


Transition Level : FL 130
Transition Alt : 11 000

ILS/DME co-located with GP

ILS RDH 55

MISSED APPROACH
Climb to 3 000ft on R-203 PU to SJ DVOR/DME and hold South right turn 021° inbound or AS DIRECTED BY ATC



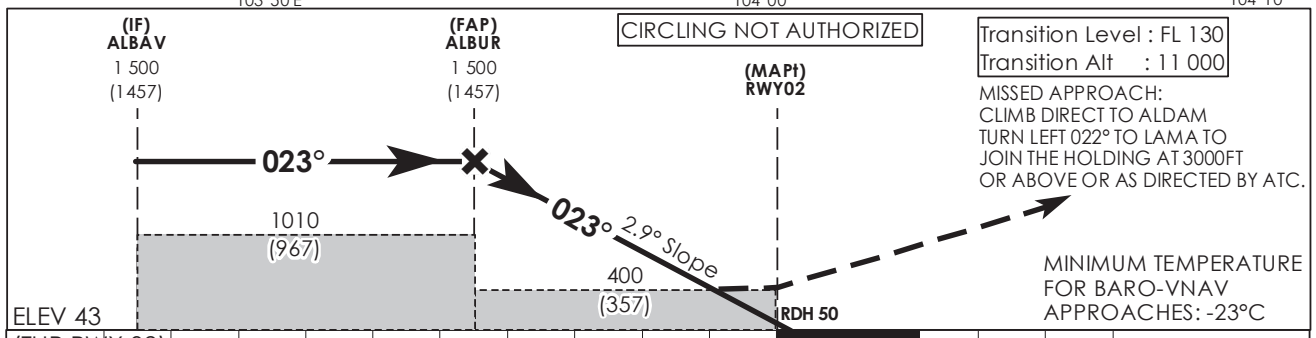
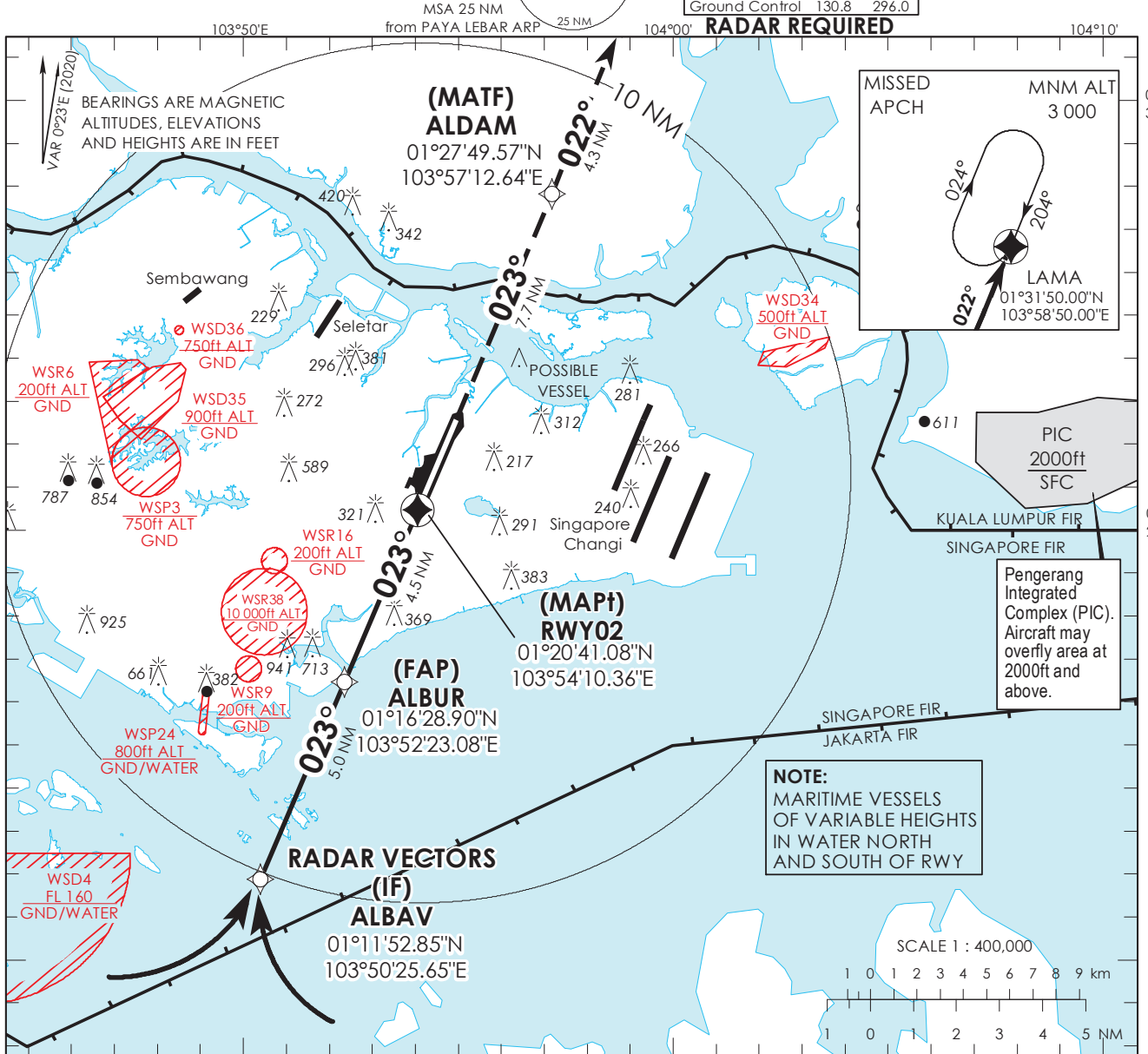
		OCA (OCH)			
Category of Aircraft		A	B	C	D
Straight-in	CAT I ILS	194 (129)	204 (139)	214 (149)	224 (159)
	GP INOP	476 (411)			
Distance		4 DME	3 DME	2 DME	
Altitude (Height)		1300 (1235)	1140 (1075)	820 (755)	
Speed	knots	70	120	150	185
FAF - MAPT 3.6nm	min : s	3 : 06	1 : 48	1 : 27	1 : 11
Rate of descent/GS	ft/min	370	635	795	980

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INSTRUMENT APPROACH CHART - ICAO
AERODROME ELEV **65ft**
HEIGHT RELATED TO THR RWY 02 - **43ft**

ATIS Paya Lebar	148.9
Singapore APP	124.05
Paya Lebar APP	119.9 298.0
Seletar APP	126.025
Paya Lebar TWR	118.05 263.1
Ground Control	130.8 296.0

SINGAPORE/PAYA LEBAR
RNP RWY 02

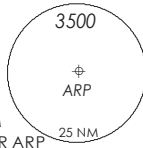


Category of Aircraft	OCA (OCH)			
	A	B	C	D
LNAV/VNAV	2.5%	400 (357)		
LNAV	2.5%	400 (357)		

Fix	ALBAV	ALBUR	RWY02	ALDAM	LAMA		
Altitude (Height)	1500 (1457)	1500 (1457)	400 (357)	1250 (1207)	1910 (1867)		
Speed	knots	80	100	120	140	160	180
FAP - MAPt 4.5 nm	min : s	3 : 23	2 : 42	2 : 15	1 : 56	1 : 41	1 : 30
Rate of descent/GS	ft/min	410	513	615	718	821	923

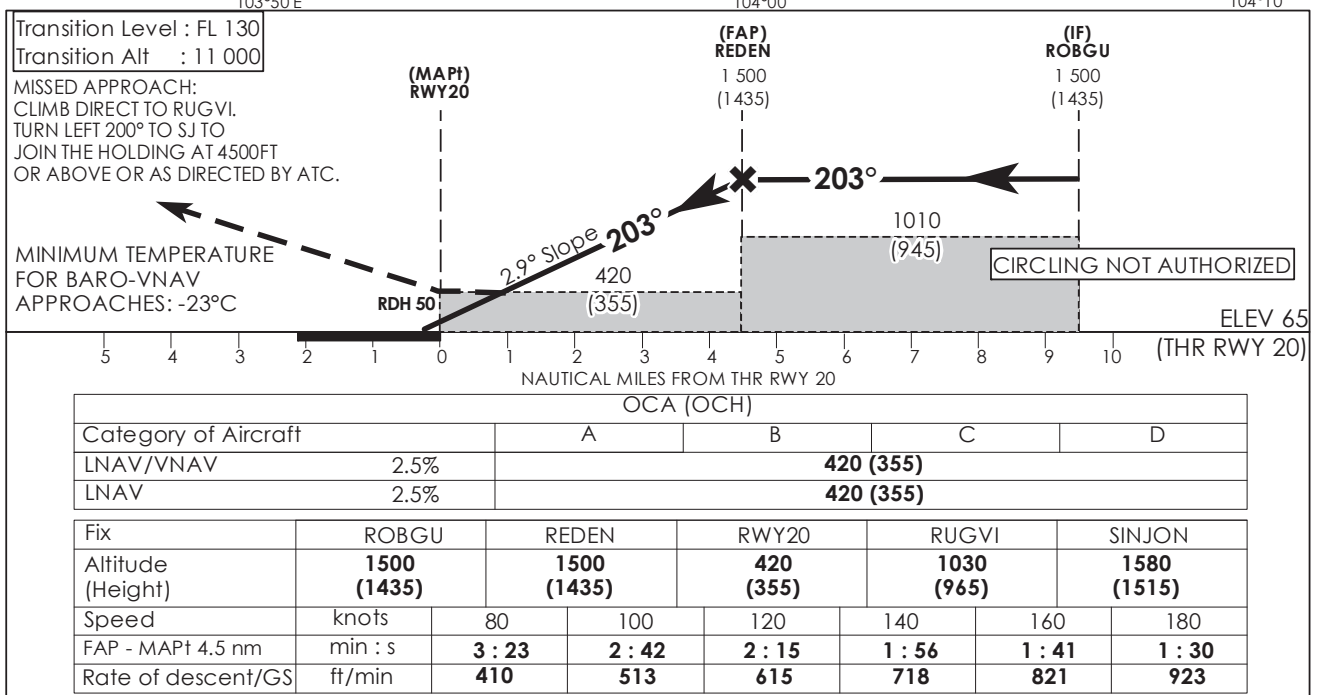
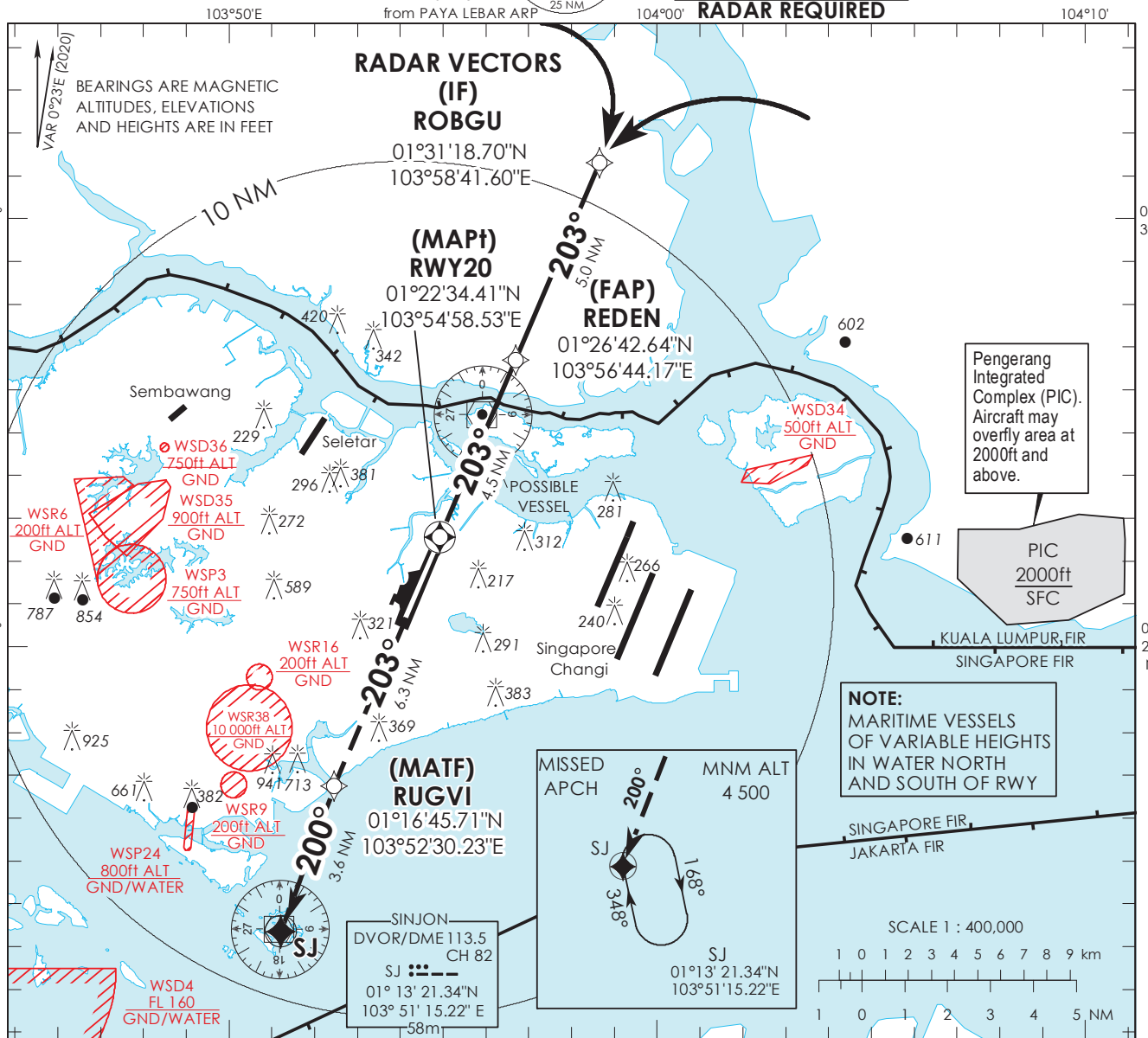
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INSTRUMENT APPROACH CHART - ICAO
AERODROME ELEV **65ft**
HEIGHT RELATED TO THR RWY 20 - **65ft**



ATIS Paya Lebar	148.9
Singapore APP	124.05
Paya Lebar APP	119.9 298.0
Seletar APP	126.025
Paya Lebar TWR	118.05 263.1
Ground Control	130.8 296.0

SINGAPORE/PAYA LEBAR
RNP RWY 20



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