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REPUBLIC OF SINGAPORE

AERONAUTICAL INFORMATION SERVICES
CIVIL AVIATION AUTHORITY OF SINGAPORE
SINGAPORE CHANGI AIRPORT
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AIP

AMENDMENT NR 6/15
15 OCTOBER 2015

1. SIGNIFICANT INFORMATION AND CHANGES

1.1 Singapore FIR

a)	Withdrawal of Prohibited Area WSP36	ENR 5.1-3 ENR 5.1-9 / Chart

1.2 Singapore Changi Airport (WSSS)

a)	Shortening of the clearway for Runway 02C/20C from 270m to 60m	WSSS AD 2-12 WSSS AD 2-31 / Chart WSSS AD 2-39 / Chart WSSS AD 2-41 / Chart
b)	Revisions to the take-off distance available for Runway 02C/20C	WSSS AD 2-13 WSSS AD 2-39 / Chart
c)	Insertion of Advisory Alert on potential risk of mistaking Taxiways EP and WP as a runway	WSSS AD 2-33 / Chart

2. DESTROY PAGES WSSS AD 2-50-1 TO WSSS AD 2-50-4.

3. INSERT THE ATTACHED REPLACEMENT PAGES WHICH ARE MARKED WITH ASTERISKS IN THE CHECKLIST OF PAGES - GEN 0.4-1 TO GEN 0.4-4.

4. NEW OR REVISED INFORMATION IS INDICATED EITHER BY A HORIZONTAL ARROW OR A VERTICAL LINE.

5. RECORD ENTRY OF AMENDMENT ON PAGE GEN 0.2-1.

6. THIS AMENDMENT INCORPORATES INFORMATION CONTAINED IN THE FOLLOWING WHICH ARE HEREBY SUPERSEDED:

AIP SUPPLEMENT:
136/15 dated 30/7/15

NOTAMs:
A1928/15 dated 31/8/15
A2007/15 dated 9/9/15

PART 1 - GENERAL (GEN)

GEN 0

GEN 0.1 PREFACE

1. Name of the publishing authority

AIP Singapore is published by authority of the Civil Aviation Authority of Singapore.

2. Applicable ICAO documents

The AIP is prepared in accordance with the Standards and Recommended Practices (SARPs) of Annex 15 to the Convention on International Civil Aviation and the *Aeronautical Information Services Manual* (ICAO Doc 8126). Charts contained in the AIP are produced in accordance with Annex 4 to the Convention on International Civil Aviation and with the *Aeronautical Chart Manual* (ICAO Doc 8697). Differences from ICAO Standards, Recommended Practices and Procedures are given in subsection GEN 1.7.

3. The AIP structure and established regular amendment interval

3.1 *The AIP structure*

The AIP forms part of the Integrated Aeronautical Information Package, details of which are given in subsection GEN 3.1. The principal AIP structure is shown in graphic form on page GEN 0.1-3.

The AIP is made up of three parts, General (GEN), En-route (ENR) and Aerodromes (AD), each divided into sections and subsections as applicable, containing various types of information.

3.1.1 *PART 1 - GENERAL (GEN)*

Part 1 consists of five sections containing information briefly described hereafter.

GEN 0 - Preface; Record of AIP Amendments; Record of current AIP Supplements; Checklist of AIP pages; List of hand amendments to the AIP; and Table of Contents to Part 1.
GEN 1 - *National regulations and requirements* - Designated authorities; Entry, transit and departure of aircraft; Entry, transit and departure of passengers and crew; Entry, transit and departure of cargo; Aircraft instruments, equipment and flight documents; Summary of national regulations and international agreements/conventions; and Differences from ICAO Standards, Recommended Practices and Procedures.
GEN 2 - *Tables and codes* - Measuring system, aircraft markings, holidays; Abbreviations used in AIS publications; Chart symbols; Location indicators; List of radio navigation aids; Conversion tables; and Sunrise/Sunset tables.
GEN 3 - *Services* - Aeronautical Information Services; Aeronautical Charts; Air Traffic Services; Communication Services; Meteorological Services; and Search and Rescue.
GEN 4 - *Charges for aerodromes and air navigation services* - Aerodrome charges and Air navigation services charges.

3.1.2 *PART 2 - EN-ROUTE (ENR)*

Part 2 consists of seven sections containing information briefly described hereafter.

ENR 0 - Table of Contents to Part 2.
ENR 1 - *General rules and procedures* - General rules; Visual flight rules; Instrument flight rules; ATS airspace classification; Holding, approach and departure procedures; Radar services and procedures; Altimeter setting procedures; Regional supplementary procedures; Air traffic flow management; Flight planning; Addressing of flight plan messages; Interception of civil aircraft; Unlawful interference; and Air traffic incidents.

ENR 2 - *Air traffic services airspace* - Detailed description of Flight Information Region (FIR); Terminal Control Areas (TMA); and other regulated airspace.

ENR 3 - *ATS routes* - Detailed description of ATS routes; Area Navigation Routes; Helicopter Routes; other routes; and en-route holding.
Note - Other types of routes which are specified in connection with procedures for traffic to and from aerodromes are described in the relevant sections and subsections of Part 3 - Aerodromes.

ENR 4 - *Radio navigation aids/systems* - Radio navigation aids - en-route; special navigation systems; name-code designators for significant points; and aeronautical ground lights - en-route.

ENR 5 - *Navigation warnings* - Prohibited, restricted and danger areas; military exercise and training areas; other activities of a dangerous nature; air navigation obstacles - en-route; aerial sporting and recreational activities; and bird migration and areas with sensitive fauna.

ENR 6 - *En-route charts* - En-route Chart - ICAO.

3.1.3 *PART 3 - AERODROMES (AD)*

Part 3 consists of three sections containing information briefly described hereafter.

AD 0 - Table of Contents to Part 3.

AD 1 - *Aerodromes - Introduction* - Aerodromes availability; Rescue and fire fighting services; Index to aerodromes; and Grouping of aerodromes.

AD 2 - *Aerodromes* - Detailed information about aerodromes listed under 24 sub-sections.

AD 3 - This section has been omitted as there are no heliports in Singapore.

3.2 Regular Amendment Interval

Regular amendments to AIP Singapore will be issued once every two months. The publication dates will be on alternate AIRAC effective dates as follows:

Amendment NR	Publication Date
7/15	10 December 2015
1/16	4 February 2016
2/16	31 March 2016
3/16	26 May 2016
4/16	21 July 2016
5/16	15 September 2016
6/16	10 November 2016

4. Service to contact in case of detected AIP errors or omissions

In the compilation of the AIP, care has been taken to ensure that the information contained therein is accurate and complete. Any errors and omissions which may nevertheless be detected, as well as any enquiries or suggestions concerning the Integrated Aeronautical Information Package, should be referred to:

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GEN 0.3 RECORD OF CURRENT AIP SUPPLEMENTS

NR/ Year	*Subject*	*AIP section affected*	*Period of validity (from / to)*	*Cancellation record*
1/14	Paya Lebar AP - Luffer Cranes	AD	WIE / 31 DEC 16	
2/14	Paya Lebar AP - Luffer Cranes	AD	WIE / 31 DEC 16	
3/14	Paya Lebar AP - Luffer Crane	AD	WIE / 31 DEC 16	
4/14	Paya Lebar AP - Topless Cranes	AD	WIE / 31 DEC 16	
5/14	Paya Lebar AP - Topless Cranes	AD	WIE / 31 DEC 16	
11/14	Paya Lebar AP - Hammerhead Crane	AD	WIE / 1 DEC 15	
12/14	Paya Lebar AP - Luffer Crane	AD	WIE / 15 DEC 15	
13/14	Paya Lebar AP - Luffer Crane	AD	WIE / 27 DEC 15	
14/14	Paya Lebar AP - Luffer Cranes	AD	WIE / 31 DEC 15	
15/14	Paya Lebar AP - Topless Cranes	AD	WIE / 31 DEC 15	
51/14	Paya Lebar AP - Cranes	AD	WIE / 31 DEC 15	
52/14	Paya Lebar AP - Luffer Crane	AD	WIE / 31 DEC 15	
53/14	Paya Lebar AP - Topless Cranes	AD	WIE / 31 DEC 15	
54/14	Paya Lebar AP - Topless Cranes	AD	WIE / 31 DEC 15	
55/14	Paya Lebar AP - Luffer Cranes	AD	WIE / 31 DEC 15	
61/14	Paya Lebar AP - Topless Cranes	AD	WIE / 31 DEC 15	
62/14	Paya Lebar AP - Topless Cranes	AD	WIE / 31 DEC 15	
63/14	Paya Lebar AP - Cranes	AD	WIE / 31 DEC 15	
64/14	Paya Lebar AP - Topless Cranes	AD	WIE / 31 DEC 15	
65/14	Paya Lebar AP - Luffer Cranes	AD	WIE / 31 DEC 15	
66/14	Paya Lebar AP - Saddle Cranes	AD	WIE / 30 DEC 15	
67/14	Paya Lebar AP - Luffer Crane	AD	WIE / 31 DEC 15	
68/14	Paya Lebar AP - Luffer Crane	AD	WIE / 31 DEC 15	
69/14	Paya Lebar AP - Luffer Cranes	AD	WIE / 31 DEC 15	
70/14	Paya Lebar AP - Hammerhead Cranes	AD	WIE / 31 DEC 15	
213/14	Paya Lebar AP - Cranes	AD	WIE / 1 MAR 16	
214/14	Paya Lebar AP - Cranes	AD	WIE / 1 MAR 16	
215/14	Paya Lebar AP - Cranes	AD	WIE / 30 MAR 16	
216/14	Paya Lebar AP - Hammerhead and Luffer Cranes	AD	WIE / 31 MAR 16	
217/14	Paya Lebar AP - Luffer Cranes	AD	WIE / 31 MAR 16	
218/14	Paya Lebar AP - Luffer Cranes	AD	WIE / 30 DEC 17	
219/14	Paya Lebar AP - Luffer Cranes	AD	WIE / 31 DEC 17	
220/14	Paya Lebar AP - Hammerhead and Luffer Cranes	AD	WIE / 31 DEC 17	
221/14	Paya Lebar AP - Luffer Crane	AD	WIE / 31 DEC 17	
222/14	Paya Lebar AP - Luffer Cranes	AD	WIE / 31 DEC 17	
223/14	Paya Lebar AP - Luffer Cranes	AD	WIE / 1 JUN 16	
224/14	Paya Lebar AP - Mobile Crane	AD	WIE / 1 JUN 16	
225/14	Paya Lebar AP - Crane	AD	WIE / 14 JUN 16	
226/14	Paya Lebar AP - Luffer Cranes	AD	WIE / 30 JUN 16	
227/14	Paya Lebar AP - Luffer Cranes	AD	WIE / 30 JUN 16	
238/14	Paya Lebar AP - Luffer Cranes	AD	WIE / 1 DEC 16	
239/14	Paya Lebar AP - Topless Cranes	AD	WIE / 31 DEC 16	
240/14	Paya Lebar AP - Topless Cranes	AD	WIE / 31 DEC 16	
241/14	Paya Lebar AP - Luffer Cranes	AD	WIE / 31 DEC 16	
242/14	Paya Lebar AP - Topless Cranes	AD	WIE / 31 DEC 16	
330/14	Paya Lebar AP - Crane	AD	WIE / 30 NOV 16	
333/14	Singapore Changi AP - Work activities due to construction of new aircraft stands and new taxiways at West Cargo Area	AD	WIE / 31 AUG 16	
360/14	Paya Lebar AP - Topless Cranes and Luffer Cranes	AD	WIE / 1 DEC 15	
361/14	Paya Lebar AP - Hammerhead Cranes	AD	WIE / 20 DEC 15	
362/14	Paya Lebar AP - Luffer Crane	AD	WIE / 31 DEC 15	
363/14	Paya Lebar AP - Luffer Cranes	AD	WIE / 31 DEC 15	
364/14	Paya Lebar AP - Luffer Crane	AD	WIE / 31 DEC 15	

GEN 0.3 RECORD OF CURRENT AIP SUPPLEMENTS				
NR/ Year	*Subject*	*AIP section affected*	*Period of validity (from / to)*	*Cancellation record*
370/14	Paya Lebar AP - Hammerhead Cranes	AD	WIE / 1 JAN 16	
371/14	Paya Lebar AP - Hammerhead Cranes	AD	WIE / 1 JAN 16	
372/14	Paya Lebar AP - Tower Cranes	AD	WIE / 25 JAN 16	
373/14	Paya Lebar AP - Topless Cranes	AD	WIE / 31 JAN 16	
374/14	Paya Lebar AP - Luffer Crane	AD	WIE / 31 JAN 16	
380/14	Paya Lebar AP - Hammerhead and Topless Cranes	AD	WIE / 31 DEC 16	
381/14	Paya Lebar AP - Topless Cranes / A Frames	AD	WIE / 31 DEC 16	
382/14	Paya Lebar AP - Topless Cranes	AD	WIE / 31 DEC 16	
383/14	Paya Lebar AP - Luffer and Hammerhead Canes	AD	WIE / 31 DEC 16	
384/14	Paya Lebar AP - Topless and Hammerhead Cranes	AD	WIE / 31 DEC 16	
11/15	Paya Lebar AP - Tower Cranes	AD	WIE / 30 DEC 15	
12/15	Paya Lebar AP - Luffer Crane	AD	WIE / 30 DEC 15	
13/15	Paya Lebar AP - Luffer Crane	AD	WIE / 31 DEC 15	
14/15	Paya Lebar AP - Topless Cranes	AD	WIE / 31 DEC 15	
15/15	Paya Lebar AP - Luffer Cranes	AD	WIE / 31 DEC 15	
16/15	Paya Lebar AP - Luffer Crane and Saddle Crane	AD	WIE / 31 DEC 15	
17/15	Paya Lebar AP - Tower Crane	AD	WIE / 31 DEC 15	
18/15	Paya Lebar AP - Hammerhead and Luffer Cranes	AD	WIE / 31 DEC 15	
19/15	Paya Lebar AP - Topless Cranes and Luffer Cranes	AD	WIE / 31 DEC 15	
21/15	Paya Lebar AP - Saddle Crane	AD	WIE / 4 DEC 17	
22/15	Paya Lebar AP - Luffer Cranes	AD	WIE / 9 DEC 17	
23/15	Paya Lebar AP - Topless Cranes	AD	WIE / 31 DEC 17	
24/15	Paya Lebar AP - Luffer Crane	AD	WIE / 31 DEC 17	
25/15	Paya Lebar AP - Hammerhead Cranes	AD	WIE / 31 DEC 17	
27/15	Singapore Changi AP - Work activities due to construction of new aircraft stands and modification of engine run-up bays at East Cargo Area	AD	WIE / 31 MAR 17	
29/15	Paya Lebar AP - Mobile Cranes	AD	WIE / 1 JAN 17	
30/15	Paya Lebar AP - Luffer Cranes	AD	WIE / 2 JAN 17	
31/15	Paya Lebar AP - Topless Cranes	AD	WIE / 3 JAN 17	
32/15	Paya Lebar AP - Luffer Crane	AD	WIE / 31 JAN 17	
33/15	Paya Lebar AP - Luffer Crane and Topless Cranes	AD	WIE / 31 JAN 17	
39/15	Paya Lebar AP - Luffer Crane	AD	WIE / 22 JUN 16	
40/15	Paya Lebar AP - Mobile Crane	AD	WIE / 29 JUN 16	
41/15	Paya Lebar AP - Luffer Crane	AD	WIE / 30 JUN 16	
42/15	Paya Lebar AP - Tower Crane	AD	WIE / 30 JUN 16	
43/15	Paya Lebar AP - Luffer Crane	AD	WIE / 1 JUL 16	
48/15	Paya Lebar AP - Luffer Crane	AD	WIE / 30 NOV 15	
49/15	Paya Lebar AP - Luffer Cranes	AD	WIE / 30 NOV 15	
50/15	Paya Lebar AP - Topless Cranes and Luffer Crane	AD	WIE / 30 NOV 15	
51/15	Paya Lebar AP - Crawler Crane	AD	WIE / 31 DEC 15	
52/15	Paya Lebar AP - Crawler Tower Crane	AD	WIE / 31 DEC 15	
53/15	Paya Lebar AP - Luffer Crane	AD	WIE / 1 FEB 16	
54/15	Sembawang AD - Luffer Cranes	AD	WIE / 28 FEB 16	
55/15	Paya Lebar AD - Crawler Cranes	AD	WIE / 23 MAR 16	
56/15	Paya Lebar AP - Topless Cranes	AD	WIE / 31 MAR 16	
57/15	Paya Lebar AP - Hammerhead Cranes	AD	WIE / 1 APR 16	
58/15	Paya Lebar AP - Luffer Crane	AD	WIE / 30 MAY 16	
59/15	Paya Lebar AP - Luffer Cranes	AD	WIE / 10 SEP 16	
60/15	Paya Lebar AP - Luffer Crane	AD	WIE / 30 SEP 16	
61/15	Paya Lebar AP - Topless Cranes	AD	WIE / 30 SEP 16	

GEN 0.3 RECORD OF CURRENT AIP SUPPLEMENTS				
NR/ Year	*Subject*	*AIP section affected*	*Period of validity (from / to)*	*Cancellation record*
62/15	Paya Lebar AP - Topless Cranes	AD	WIE / 31 DEC 16	
63/15	Paya Lebar AP - Luffer Crane	AD	WIE / 1 AUG 16	
64/15	Paya Lebar AP - Luffer Cranes	AD	WIE / 30 AUG 16	
65/15	Paya Lebar AP - Luffer Cranes	AD	WIE / 31 AUG 16	
66/15	Paya Lebar AP - Saddle Cranes and Luffer Crane	AD	WIE / 31 AUG 16	
67/15	Paya Lebar AP - Saddle Cranes	AD	WIE / 1 SEP 16	
68/15	Paya Lebar AP - Luffer Crane	AD	WIE / 7 JUL 17	
69/15	Paya Lebar AP - Tower Cranes	AD	WIE / 31 JUL 17	
70/15	Paya Lebar AP - Luffer Cranes and Saddle Cranes	AD	WIE / 19 AUG 17	
71/15	Paya Lebar AP - Tower Cranes	AD	WIE / 10 SEP 17	
72/15	Paya Lebar AP - Tower Cranes	AD	WIE / 10 SEP 17	
73/15	Paya Lebar AP - Saddle Cranes	AD	WIE / 9 OCT 17	
74/15	Paya Lebar AP -Topless Cranes and Luffer Crane	AD	WIE / 31 DEC 17	
75/15	Paya Lebar AP - Hydraulic Crawler Cranes	AD	WIE / 7 JAN 18	
76/15	Paya Lebar AP - Tower Cranes	AD	WIE / 31 MAR 18	
77/15	Paya Lebar AP - Saddle Cranes	AD	WIE / 1 MAY 18	
78/15	Paya Lebar AP - Tower Cranes	AD	WIE / 1 MAR 17	
79/15	Paya Lebar AP - Hammerhead Cranes	AD	WIE / 4 MAR 17	
80/15	Paya Lebar AP - Topless Cranes	AD	WIE / 1 APR 17	
81/15	Paya Lebar AP - Hammerhead Cranes	AD	WIE / 29 APR 17	
82/15	Paya Lebar AP - Topless Cranes	AD	WIE / 10 MAY 17	
83/15	Paya Lebar AP - Luffer Cranes	AD	WIE / 1 FEB 17	
84/15	Paya Lebar AP - Hammerhead Cranes	AD	WIE / 28 FEB 17	
85/15	Paya Lebar AP - Crane	AD	WIE / 28 FEB 17	
86/15	Paya Lebar AP - Luffer Crane	AD	WIE / 28 FEB 17	
87/15	Sembawang AD - Hammerhead Cranes	AD	WIE / 1 FEB 17	
88/15	Paya Lebar AP - Luffer Crane	AD	WIE / 31 OCT 15	
89/15	Paya Lebar AP - Topless Cranes	AD	WIE / 31 OCT 15	
90/15	Paya Lebar AP - Luffer Crane	AD	WIE / 1 NOV 15	
91/15	Paya Lebar AP - Hammerhead Crane	AD	WIE / 1 NOV 15	
92/15	Paya Lebar AP - Hammerhead Cranes	AD	WIE / 1 NOV 15	
93/15	Singapore Changi Ap - Works schedule and movement area restrictions pertaining to the diversion of airside services and soil improvement works	AD	WIE / 24 OCT 15	
108/15	Singapore Changi AP - Revised work activities area due to construction of new aircraft stands and new taxiways at West Cargo Area	AD	WIE / 2 AUG 16	
109/15	Singapore Changi AP - Shortening of Runway 20C approach lighting to 720m to facilitate the construction of the northern end-around-taxiway	AD	2 OCT 15 / 31 OCT 18	
111/15	Paya Lebar AP - Topless Cranes	AD	WIE / 31 OCT 15	
113/15	Paya Lebar AP - Cranes	AD	WIE / 31 MAY 16	
116/15	Paya Lebar AP - Luffer Crane	AD	WIE / 14 NOV 16	
117/15	Paya Lebar AP - Crane	AD	WIE / 30 NOV 16	
118/15	Paya Lebar AP - Tower Cranes	AD	WIE / 31 DEC 16	
119/15	Paya Lebar AP - Luffer Cranes	AD	WIE / 31 DEC 16	
120/15	Paya Lebar AP - Topless Tower Cranes	AD	WIE / 1 APR 17	
121/15	Paya Lebar AP - Luffer Crane	AD	WIE / 1 JUN 17	
122/15	Paya Lebar AP - Topless Cranes	AD	WIE / 30 JUN 17	
123/15	Paya Lebar AP - Topless Cranes	AD	WIE / 30 JUN 17	
124/15	Paya Lebar AP - Luffer Cranes	AD	WIE / 30 JUN 17	
125/15	Paya Lebar AP - Luffer Crane	AD	WIE / 1 JUL 17	

GEN 0.3 RECORD OF CURRENT AIP SUPPLEMENTS				
NR/ Year	*Subject*	*AIP section affected*	*Period of validity (from / to)*	*Cancellation record*
126/15	Paya Lebar AP - Luffer Crane	AD	WIE / 30 DEC 17	
127/15	Tengah AD - Topless Cranes and Luffer Crane	AD	1 SEP 15 / 31 AUG 17	
128/15	Tengah AD - Topless Cranes	AD	1 SEP 15 / 31 AUG 17	
129/15	Tengah AD - Luffer Crane	AD	WIE / 31 DEC 17	
130/15	Sembawang AD - Luffer Cranes	AD	WIE / 31 DEC 17	
131/15	Paya Lebar AP - Topless Cranes	AD	WIE / 31 DEC 17	
132/15	Paya Lebar AP - Cranes	AD	WIE / 12 APR 18	
133/15	Paya Lebar AP - Luffer Crane and Topless Crane	AD	WIE / 30 JUN 18	
134/15	Paya Lebar AP - Luffer Cranes	AD	WIE / 30 JUN 18	
135/15	Tengah AD - Luffer Cranes	AD	WIE / 30 JUN 18	
138/15	Paya Lebar AP- Luffer Crane	AD	WIE / 30 JUN 17	
139/15	Paya Lebar AP- Topless Cranes and Luffer Crane	AD	WIE / 30 JUN 17	
140/15	Paya Lebar AP - Luffer Cranes	AD	WIE / 30 DEC 17	
141/15	Paya Lebar AP - Saddle Crane	AD	WIE / 30 DEC 17	
142/15	Paya Lebar AP - Topless Cranes	AD	WIE / 31 AUG 18	
143/15	Paya Lebar AP - Topless Cranes and Luffer Crane	AD	WIE / 31 DEC 15	
144/15	Paya Lebar AP - Saddle Cranes	AD	WIE / 31 JAN 16	
145/15	Paya Lebar AP - Topless Crane	AD	WIE / 31 DEC 16	
146/15	Paya Lebar AP - Topless Cranes	AD	WIE / 31 JAN 17	
147/15	Paya Lebar AP - Luffer Crane	AD	WIE / 1 AUG 17	
148/15	Paya Lebar AP - Luffer Crane	AD	WIE / 31 DEC 15	
149/15	Paya Lebar AP - Crawler Crane and Mobile Crane	AD	WIE / 31 JAN 16	
150/15	Paya Lebar AP - Crawler Crane	AD	WIE / 31 JAN 16	
151/15	Paya Lebar AP - Topless Cranes	AD	WIE / 6 MAY 16	
152/15	Paya Lebar AP - Topless Cranes	AD	WIE / 31 MAY 16	
153/15	Paya Lebar AP - Topless Crane	AD	WIE / 30 SEP 16	
154/15	Paya Lebar AP - Crawler Crane and Mobile Crane	AD	WIE / 13 OCT 16	
155/15	Paya Lebar AP - Luffer Crane	AD	WIE / 31 MAY 17	
156/15	Paya Lebar AP - Topless Cranes	AD	WIE / 1 JUN 17	
157/15	Paya Lebar AP- Luffer Crane	AD	WIE / 14 AUG 17	
158/15	Paya Lebar AP - Hammerhead and Luffer Cranes	AD	WIE / 30 JUN 17	
159/15	Paya Lebar AP - Luffer Cranes	AD	WIE / 31 JUL 17	
160/15	Paya Lebar AP - Luffer Cranes	AD	WIE / 15 AUG 18	
161/15	Paya Lebar AP - Luffer Cranes	AD	WIE / 1 SEP 18	
162/15	Sembawang AD - Topless Cranes	AD	31 OCT 15 / 31 OCT 18	
163/15	Singapore Changi AP - Works schedule and movement area restrictions pertaining to runway resurfacing works, diversion of airside services and soil improvement works	AD	24 OCT 15 / 26 MAR 16	
164/15	Singapore Changi AP - Opening of new aircraft stands 515, 516 and 517, new multiple aircraft receiving stands (MARS) 516 and 517, and Taxilane WD at West Cargo Area	AD	20 OCT 15 / PERM	

GEN 0.4 CHECKLIST OF AIP PAGES

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PART 1 - GENERAL (GEN)	
GEN 0	
* **0.1-1**	**15 OCT 15**
* **0.1-2**	**15 OCT 15**
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0.2-1	18 SEP 14
* **0.3-1**	**15 OCT 15**
* **0.3-2**	**15 OCT 15**
* **0.3-3**	**15 OCT 15**
* **0.3-4**	**15 OCT 15**
* **0.4-1**	**15 OCT 15**
* **0.4-2**	**15 OCT 15**
* **0.4-3**	**15 OCT 15**
* **0.4-4**	**15 OCT 15**
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0.6-1	5 MAY 11
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0.6-3	20 AUG 15
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1.1-2	15 NOV 12
1.2-1	8 JAN 15
1.2-2	8 JAN 15
1.2-3	25 JUN 15
1.2-4	25 JUN 15
1.2-5	25 JUN 15
1.2-6	25 JUN 15
1.3-1	3 JUN 10
1.3-2	3 JUN 10
1.3-3	20 AUG 15
1.3-4	20 AUG 15
1.3-5/chart	18 APR 02
1.3-7/chart	18 APR 02
1.4-1	5 MAY 11
1.4-2	5 MAY 11
1.4-3	5 MAY 11
1.5-1	22 OCT 09
1.6-1	29 MAY 14
1.6-2	29 MAY 14
1.6-3	3 APR 14
1.6-4	3 APR 14
1.7-1	5 MAR 15
1.7-2	5 MAR 15
1.7-3	5 MAR 15
1.7-4	5 MAR 15
1.7-5	5 MAR 15
GEN 2	
* **2.1-1**	**15 OCT 15**
* **2.1-2**	**15 OCT 15**
2.2-1	13 NOV 14
2.2-2	13 NOV 14
2.2-3	13 NOV 14
2.2-4	13 NOV 14
2.2-5	13 NOV 14
2.2-6	13 NOV 14
2.2-7	13 NOV 14
2.2-8	13 NOV 14
2.3-1	18 JAN 07
2.3-2	18 JAN 07
2.4-1	3 JUN 10
2.5-1	20 AUG 15
2.5-3/chart	20 AUG 15
2.6-1	28 SEP 06
2.6-2	28 SEP 06
2.7-1	20 AUG 15
GEN 3	
3.1-1	13 NOV 14
3.1-2	13 NOV 14
3.1-3	8 JAN 15
3.1-4	8 JAN 15
3.1-5	13 NOV 14
3.2-1	13 NOV 14
3.2-2	13 NOV 14
3.2-3	10 MAY 07
* **3.2-5**	**15 OCT 15**
* **3.2-6**	**15 OCT 15**
3.2-7	13 NOV 14
3.3-1	13 NOV 14
3.3-2	13 NOV 14
3.4-1	20 AUG 15
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GEN 2. TABLES AND CODES

GEN 2.1 MEASURING SYSTEM, AIRCRAFT MARKINGS, HOLIDAYS

1. UNITS OF MEASUREMENT

1.1 The table of units of measurement shown below is used for the dissemination of information and in messages transmitted to aircraft.

Measurement of	*Units*
Distance used in navigation, position report, etc. - generally in excess of 4000m	* Kilometres (km) or Nautical miles (NM)
Relatively short distances such as those relating to aerodromes (e.g. runway lengths)	Metres (m)
Altitudes, elevations and heights	Metres (m) or Feet (ft)
Horizontal speed including wind speed	Knots (kt)
Vertical speed	Feet per minute (ft/min)
Wind direction for landing and taking-off	Degrees Magnetic (°M)
Wind direction except for landing and taking-off	Degrees True (°T)
Visibility, including runway visual range	Metres (m) or Kilometres (km)
Altimeter Setting	Hectopascals (hPa)
Temperature	Degrees Celsius (Centigrade) (°C)
Weight	Metric tonnes (t) or kilogrammes (kg)
Time	Hours and minutes, the day of 24 hours beginning at midnight UTC (hhmm)
* International nautical miles, for which conversion into metres is given by: 1 international NM = 1852 metres	

2. TIME SYSTEM

2.1 Co-ordinated Universal Time (UTC) is used in the air traffic and communication services and in documents published for international distribution by the Aeronautical Information Service. Reporting of time is expressed to the nearest minute, e.g. 12:40:35 is reported as 1241. Local time is 8 hours ahead of UTC. Time checks to aircraft are accurate to within 30 seconds.

3. GEODETIC REFERENCE DATUM

3.1 Name/Designation of Datum

3.1.1 All published geographical coordinates in the Singapore FIR indicating latitude and longitude are expressed in terms of the World Geodetic System-1984 (WGS-84) geodetic reference datum.

3.2 Area of Application

3.2.1 The area of application for the published geographical coordinates coincides with the area of responsibility of the Aeronautical Information Service, i.e. the entire territory of Singapore as well as the airspace over the high seas encompassed by the Singapore Flight Information Region.

GEN 2.1 MEASURING SYSTEM, AIRCRAFT MARKINGS, HOLIDAYS

3.3 Use of asterisk

3.3.1 An asterisk (*) will be used to identify those published geographical coordinates which have been transformed into WGS-84 coordinates but whose accuracy of original field work does not meet the requirements in ICAO Annex 11, Chapter 2 and ICAO Annex 14, Volume I, Chapter 2. Specifications for determination and reporting of WGS-84 coordinates are given in ICAO Annex 11, Chapter 2 and ICAO Annex 14, Volume I, Chapter 2.

4. AIRCRAFT NATIONALITY AND REGISTRATION MARKS

4.1 The nationality mark for aircraft registered in Singapore is the figure 9, followed by the letter V, i.e. 9V. The nationality mark is followed by a hyphen and a registration mark consisting of a three letter group, e.g. 9V-BAA.

5. PUBLIC HOLIDAYS IN SINGAPORE

5.1 The following dates are notified as public holidays:

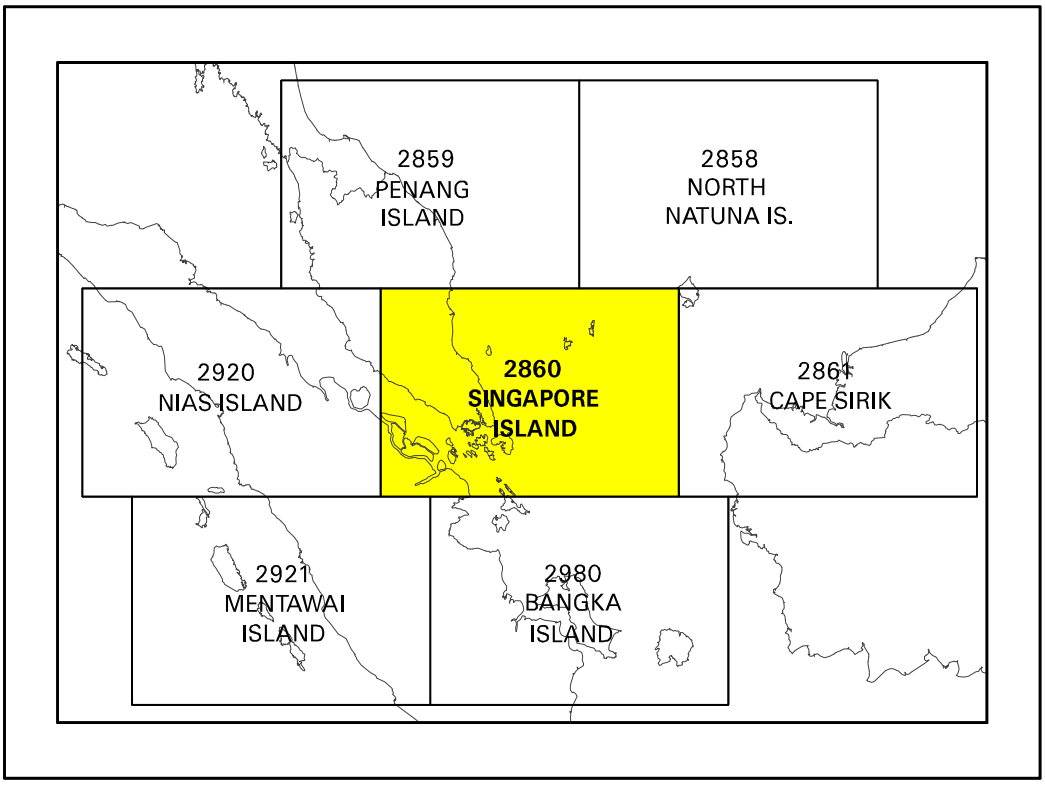
Name of Holiday	Date	Day
Deepavali	10 November 2015	Tuesday
Christmas Day	25 December 2015	Friday
New Year's Day	1 January 2016	Friday
Chinese New Year Chinese New Year	8 February 2016 9 February 2016	Monday Tuesday
Good Friday	25 March 2016	Friday
Labour Day	1 May 2016	Sunday*
Vesak Day	21 May 2016	Saturday
Hari Raya Puasa	6 July 2016	Wednesday
National Day	9 August 2016	Tuesday
Hari Raya Haji	12 September 2016	Monday
Deepavali	29 October 2016	Saturday
Christmas Day	25 December 2016	Sunday*

* When a public holiday falls on a Sunday, the following Monday will be a public holiday.

GEN 3.2.5 LIST OF AERONAUTICAL CHARTS AVAILABLE

Title of Chart Series	*Scale*	*Name and/or number*		*Price ($)*	*Date*
World Aeronautical Chart ICAO (WAC)	1:1 000 000	WAC 2860		In AIP	15 JUL 99
Enroute Chart ICAO (ENRC)		ENR 6-1		In AIP	15 OCT 15
Instrument Approach Chart ICAO (IAC)		***Singapore Changi***			
	1:400 000	RWY 02L - ICW ILS/DME	WSSS AD 2-101	In AIP	5 MAR 15
	1:400 000	RWY 02C - ICE ILS/DME	WSSS AD 2-103	In AIP	5 MAR 15
	1:400 000	RWY 02C - VTK DVOR/DME	WSSS AD 2-105	In AIP	5 MAR 15
	1:400 000	RWY 02R - ICX ILS/DME	WSSS AD 2-107	In AIP	5 MAR 15
	1:400 000	RWY 20R - ICH ILS/DME	WSSS AD 2-109	In AIP	5 MAR 15
	1:400 000	RWY 20C - ICC ILS/DME	WSSS AD 2-111	In AIP	5 MAR 15
	1:400 000	RWY 20C - VTK DVOR/DME	WSSS AD 2-113	In AIP	5 MAR 15
	1:400 000	RWY 20L - ICZ ILS/DME	WSSS AD 2-115	In AIP	5 MAR 15
	1:400 000	RWY 02L - RNAV(GNSS)	WSSS AD 2-117	In AIP	20 AUG 15
	1:400 000	RWY 02C - RNAV(GNSS)	WSSS AD 2-118	In AIP	20 AUG 15
	1:400 000	RWY 20R - RNAV(GNSS)	WSSS AD 2-119	In AIP	20 AUG 15
	1:400 000	RWY 20C - RNAV(GNSS)	WSSS AD 2-120	In AIP	20 AUG 15
		Paya Lebar			
	1:400 000	RWY 20 - PU DVOR/DME	WSAP AD 2-17	In AIP	5 MAR 15
	1:400 000	RWY 02 - PU DVOR/DME	WSAP AD 2-19	In AIP	5 MAR 15
	1:400 000	RWY 20 - IPS ILS/DME	WSAP AD 2-21	In AIP	5 MAR 15
	1:400 000	RWY 02 - IPN ILS/DME	WSAP AD 2-23	In AIP	5 MAR 15
Visual Approach Chart ICAO (VAC)	1:400 000	***Singapore Changi***	WSSS AD 2-121	In AIP	20 AUG 15
		Seletar			
	1:100 000	RWY 03	WSSL AD 2-21	In AIP	5 MAR 15
	1:100 000	RWY 21	WSSL AD 2-23	In AIP	5 MAR 15
	1:100 000	RWY 03	WSSL AD 2-25	In AIP	5 MAR 15
	1:100 000	RWY 21	WSSL AD 2-27	In AIP	5 MAR 15
Visual Departure Chart		***Seletar***			
	1:100 000	RWY 03	WSSL AD 2-29	In AIP	5 MAR 15
	1:100 000	RWY 21	WSSL AD 2-31	In AIP	5 MAR 15
Aerodrome Chart ICAO (AC)		***Singapore Changi***	WSSS AD 2-31	In AIP	15 OCT 15
		Seletar	WSSL AD 2-13	In AIP	25 JUN 15
		Paya Lebar	WSAP AD 2-11	In AIP	5 MAR 15
Aerodrome Obstacle Chart ICAO TYPE A (AOC)		***Singapore Changi***			
	1:10 000	RWY 20R/02L	WSSS AD 2-37	In AIP	20 AUG 15
	1:10 000	RWY 20C/02C	WSSS AD 2-39	In AIP	15 OCT 15
		Seletar			
	1:10 000	RWY 03/21	WSSL AD 2 -17	In AIP	5 MAR 15
		Paya Lebar			
	1:20 000	RWY 20/02	WSAP AD 2-15	In AIP	5 MAR 15
Aerodrome Obstacle Chart ICAO TYPE B (AOC)		***Singapore Changi***			
	1:25 000	RWY 02L/20R and 02C/20C	WSSS AD 2-41	In AIP	15 OCT 15
		Seletar			
	1:12 500	RWY 03/21	WSSL AD 2-19	In AIP	30 APR 15
Precision Approach Terrain Chart - ICAO (PATC)		***Singapore Changi***			
	1:2 500	RWY 02L	WSSS AD 2-43	In AIP	25 APR 96
	1:2 500	RWY 02C	WSSS AD 2-45	In AIP	25 APR 96

GEN 3.2.6 INDEX TO THE WORLD AERONAUTICAL CHART (WAC) - ICAO 1:1 000 000



WAKE VORTEX ENCOUNTER REPORTING FORM FOR PILOTS		
Date and Time	Date of incident	
	Time (UTC)	
Aircraft Type	Make	
	Model	
	Series	
Altitude	Height	☐ m or ☐ ft
	Altitude	☐ m or ☐ ft
	Flight level	
Geographical Position	Location	
	State	
	Airport	
	Runway	☐ L ☐ C ☐ R
Details	Phase of flight	☐ take-off ☐ initial climb ☐ climb ☐ cruise ☐ descent ☐ approach ☐ final ☐ touch-down ☐ taxiing ☐ other
	Were you turning?	☐ yes ☐ no ☐ L ☐ R
	Which holding pattern were you in, if any?	
	Were you:	☐ high ☐ low ☐ on the glide path
	Were you:	☐ left of ☐ right of ☐ on the centre-line
	Weight:	kg
	IAS	kts
	Heading	degrees
Other	What led you to suspect wake vortex as the cause of the disturbance?	
Did you experience vertical acceleration?	☐ yes ☐ no	Please describe:
What was the change in attitude? Please estimate angle.	Pitch: Roll: Yaw:	

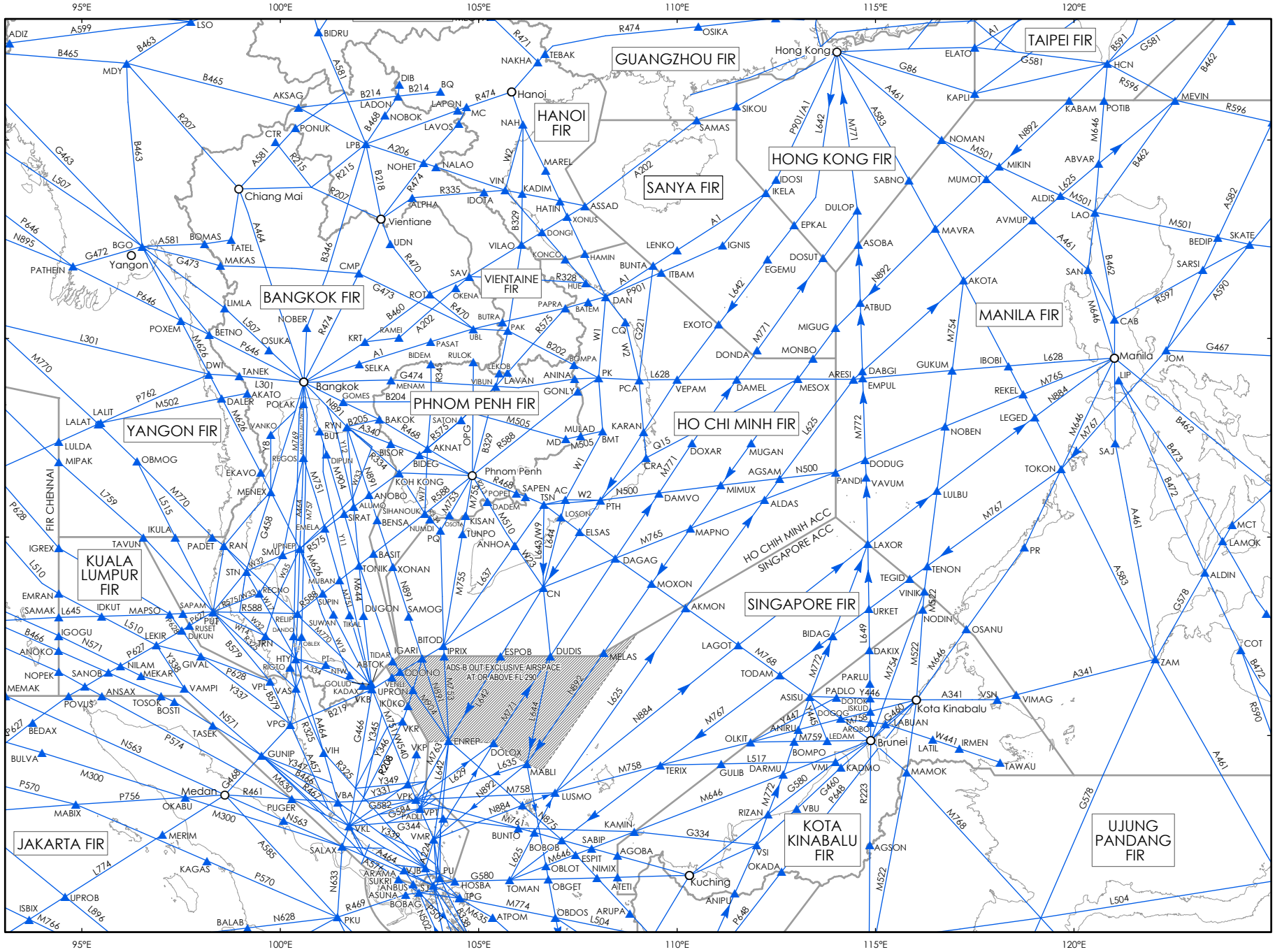
Was there any change in altitude?	☐ yes ☐ no ☐ n/a
Was there buffeting?	☐ yes ☐ no ☐ n/a
Was there stall warning?	☐ yes ☐ no ☐ n/a
Was the autopilot engaged?	☐ yes ☐ no ☐ n/a
What control action was taken?	☐ none ☐ go-around ☐ runway change ☐ other Please describe briefly:
Could you see the aircraft suspected of generating the wake vortex?	☐ yes ☐ no ☐ n/a
If yes, what was it?	Make – Model – Series -
Where was it relative to your position?	Separation distance: Clock reference:
Were you aware of the preceding aircraft type before the encounter?	☐ yes ☐ no ☐ n/a

Please submit the completed form to CAAS via fax: +65 65423869 or via post to:

Head (ATS Oversight)
Civil Aviation Authority of Singapore
P. O. Box 1, Singapore Changi Airport,
Singapore 918141

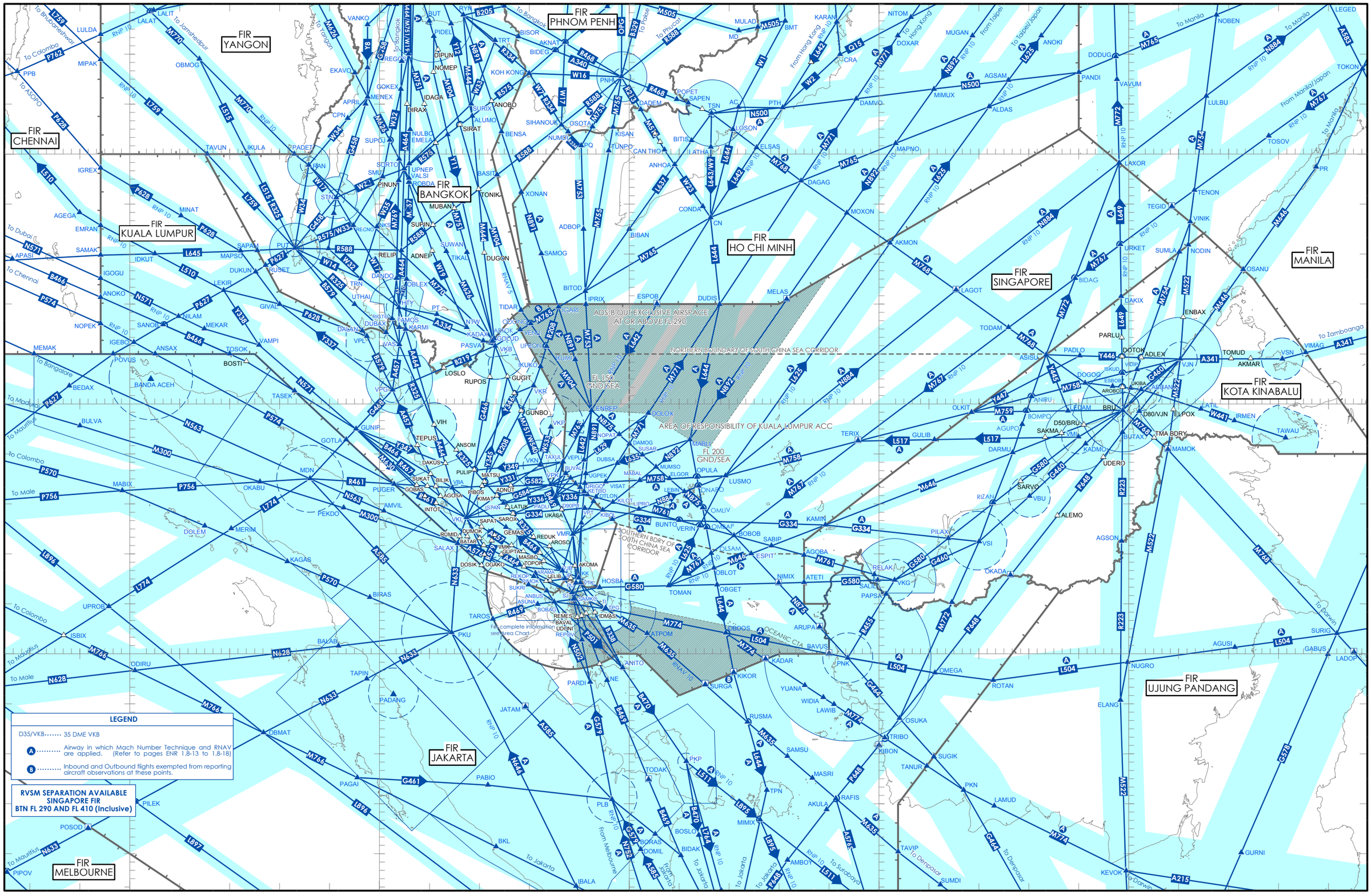
or email to: lim_lam_seng@caas.gov.sg

ATS ROUTE STRUCTURE WITHIN SINGAPORE & ADJACENT FIRs



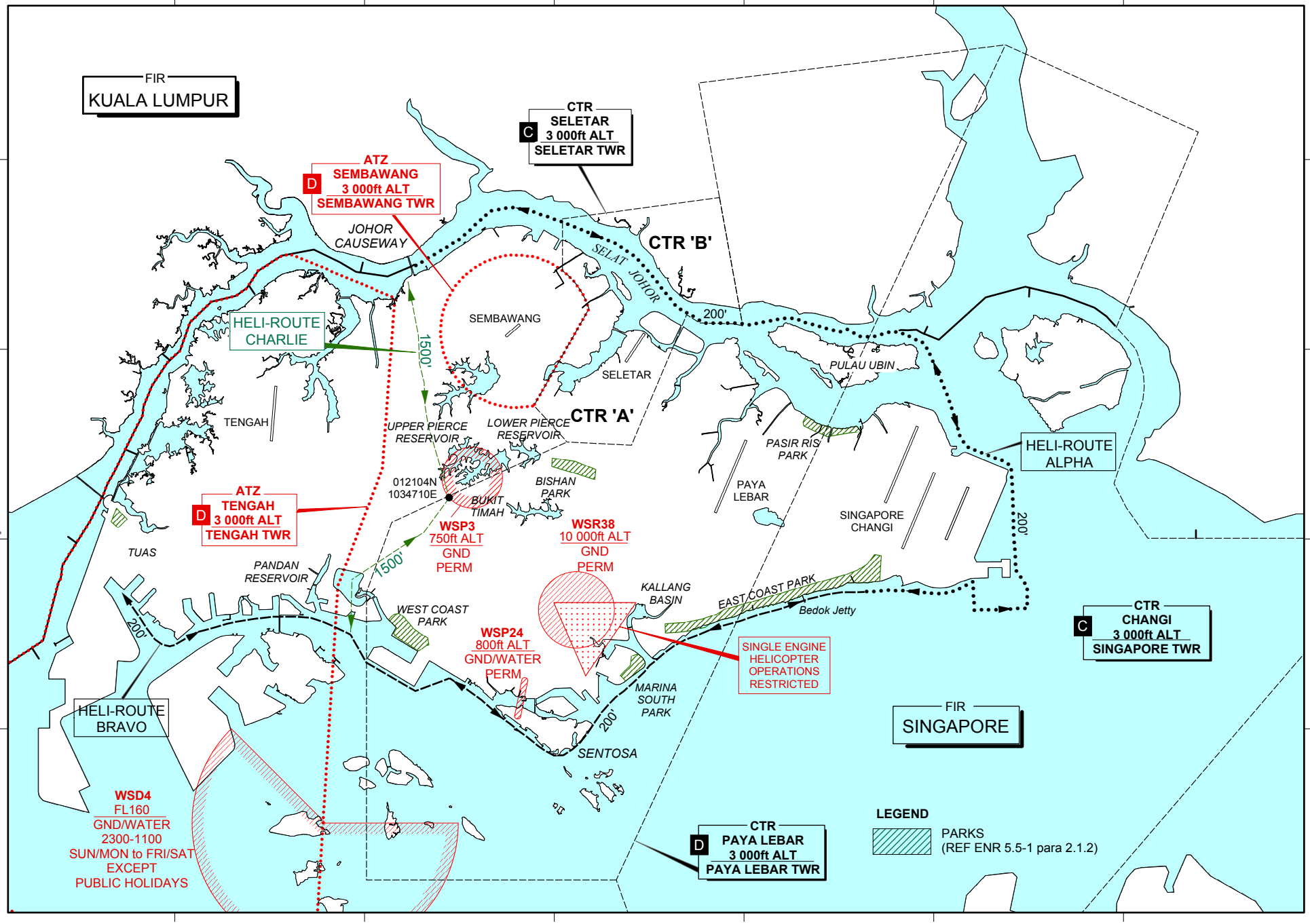
CHANGES : ATS route W441 added.
RNAV rotues M522, M758 and Y446 revised.

AIR TRAFFIC SYSTEM CHART



CHANGES : ATS route W441 added.
RNAV routes M552, M758 and Y446 revised.

HELICOPTER ROUTES IN VMC

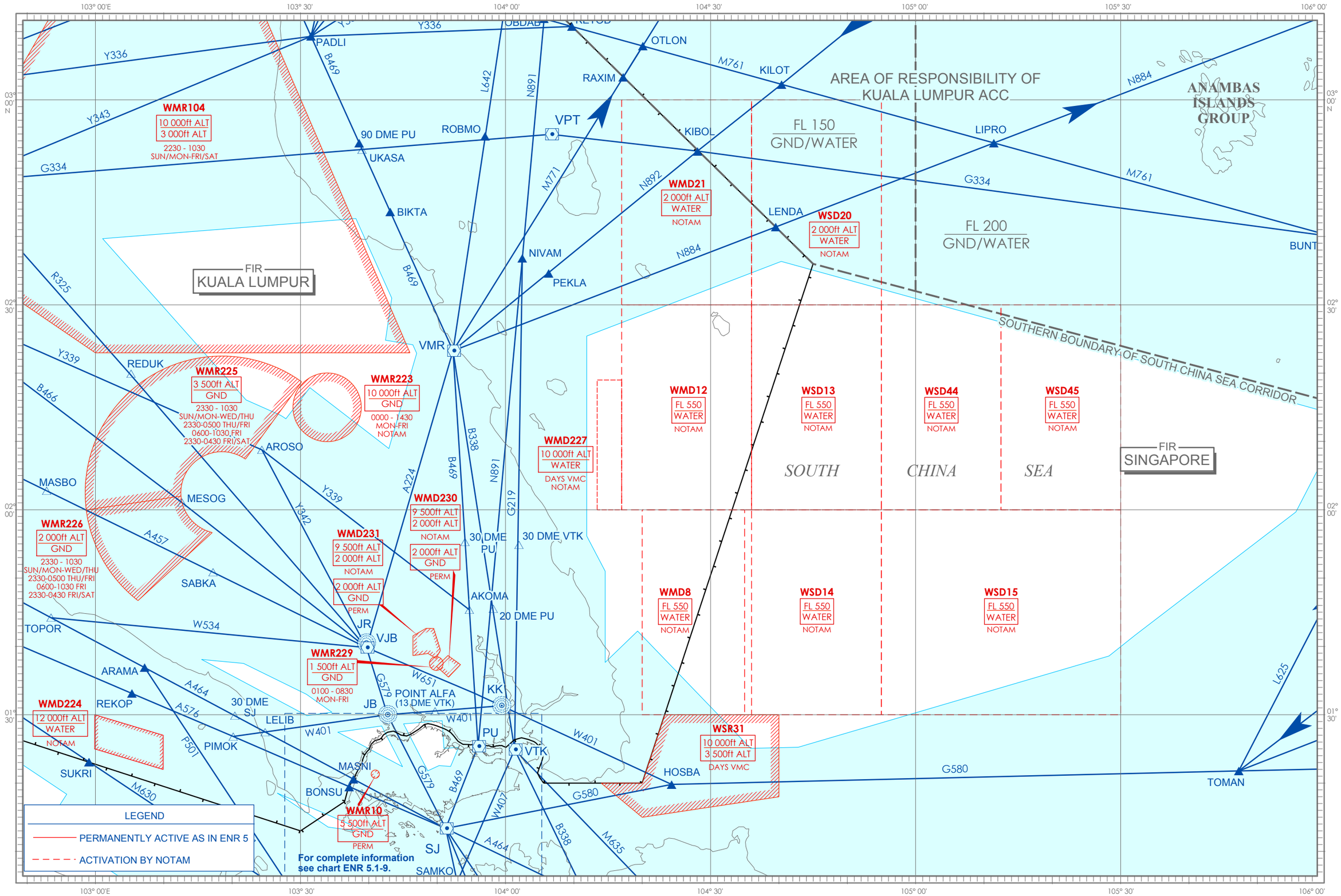


CHANGES : Bedok Jetty added.
Coordinates of Murnane Reservoir added.

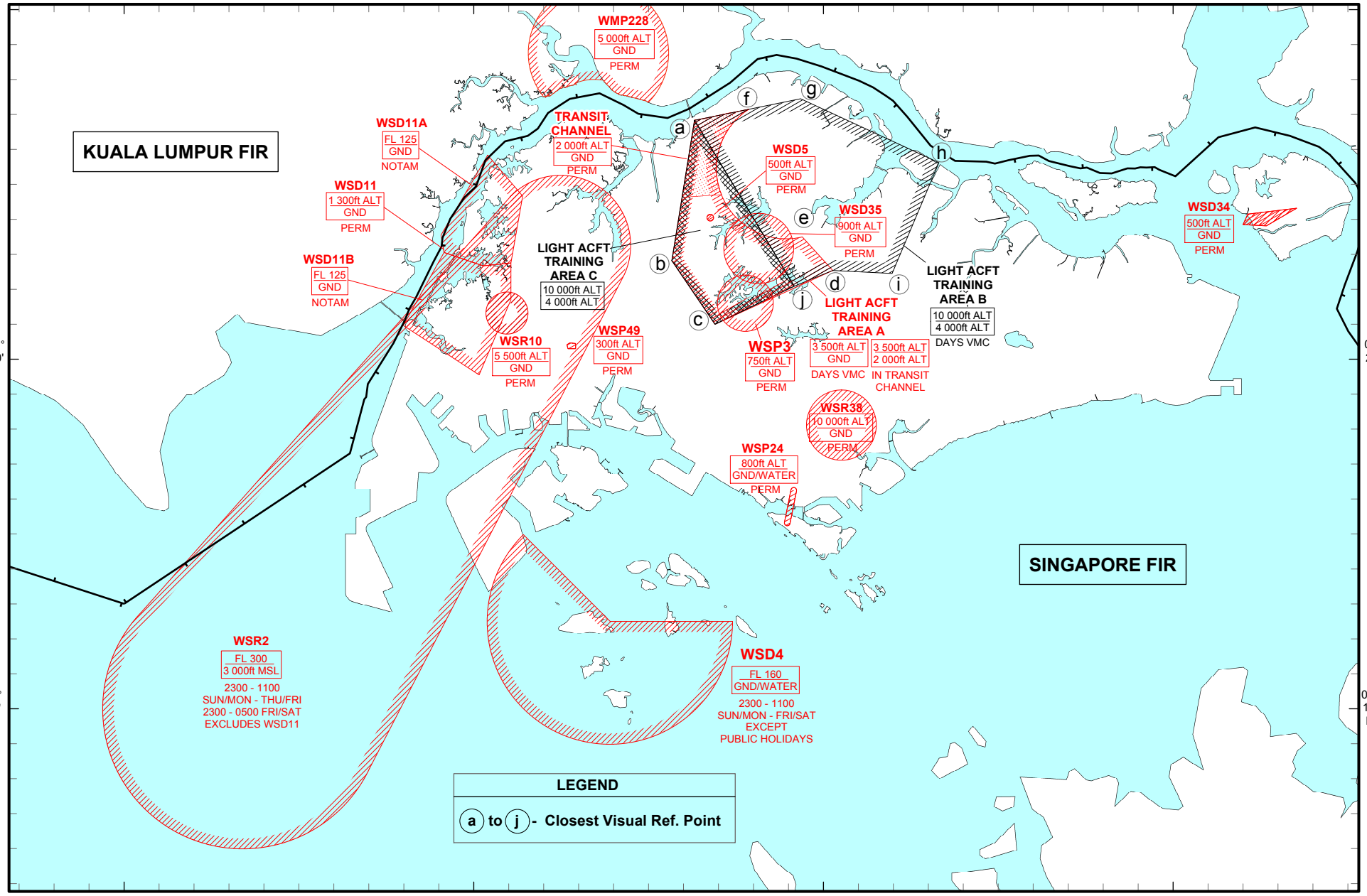
ENR 5.1 PROHIBITED, RESTRICTED AND DANGER AREAS		
Identification, Name and Lateral Limits	*Upper Limit* *Lower Limit*	*Remarks* *(time of activity, type of restriction, nature of hazard, risk of interception)*
1	2	3
PROHIBITED AREAS		
WSP3 A circle, 0.8NM radius centred at 012136N 1034746E.	750ft GND	Active: Permanent. Under no circumstances shall a forced landing be permitted within the area. Rotary wing aircraft shall avoid overflying the area.
WSP24 Area within two circles, 150m radius, centred at Mt. Faber (011615N 1034909E) and Sentosa Island (011519N 1034858E) and the tangential lines joining these circles.	800ft ALT GND/WATER	Active: Permanent.
WSP49 012025N 1034236E 012028N 1034239E 012027N 1034249E 012018N 1034249E 012018N 1034236E.	300ft ALT GND	Active: Permanent.
WMP228 Bukit Serene Area within 2NM centred at 012845N 1034334E with the southern border of the Prohibited Area coinciding with the coastline of South Johor.	5 000ft ALT GND	Sultan's Palace. Active: Permanent. (refer to AIP Malaysia)
RESTRICTED AREAS		
WSR2 Tengah Corridor Area within two circles, 2NM radius, centred at Tengah and 4NM radius, centred at 011000N 1033324E and the tangents joining these circles but excluding WSD11 (Pasir Laba Range) when notified as active.	FL 300 3 000ft MSL	Jet Let-Down Sector. Active: BTN 2300-1100 SUN-MON to THU-FRI and BTN 2300-0500 FRI-SAT. Controlling Authority : Tengah APP on 130.0 or 263.4 MHz DRG AD OPR HR and SATCC (RSAF element) on 123.4 MHz and 288.2MHz after AD OPR HR.
WSR10 A circle, 0.6nm radius, centred at 012119N 1034057E.	5 500ft ALT GND	Active: Permanent.
WSR31 012000N 1041400E 012000N 1042000E 013000N 1042300E 013000N 1044000E 011800N 1044000E 011500N 1042000E.	10 000ft ALT 3 500ft MSL	Training Area. Active daily during daylight hours in VMC only when radar unit in operations.
WSR38 A circle, 1NM radius centred at 011807N 1035031E.	10 000ft ALT GND	Istana. Active: Permanent. All FLT BTN SJ/JB on AWY G579 are to avoid at all times the area which overlaps the eastern edge of G579.
WMR104 032859N 1030254E 023959N 1023454E 022300N 1025954E 022300N 1034554E 032059N 1032054E 031859N 1031554E 032559N 1031254E 032859N 1030254E.	10 000ft ALT 3 000ft ALT	Training. Active: 2230-1030 SUN-MON to FRI-SAT (refer to AIP Malaysia)

ENR 5.1 PROHIBITED, RESTRICTED AND DANGER AREAS		
Identification, Name and Lateral Limits	*Upper Limit* *Lower Limit*	*Remarks* *(time of activity, type of restriction, nature of hazard, risk of interception)*
1	2	3
RESTRICTED AREAS		
WMR223 Kangar Kahang A circle, 5NM radius, centred at 021500N 1033354E.	10 000ft ALT GND	Parachute Dropping. Active: by NOTAM. Controlling Authority: Kluang Tower 128.3MHz / 122.4MHz. (refer to AIP Malaysia)
WMR225 North-Kluang An arc of a circle, radius 20NM, centred at 020230N 1031824E (Kluang Control Tower) from 020000N 1025839E to 021830N 1032954E; then an arc of a circle, radius 6NM, centred at 020230N 1031824E (Kluang Control Tower) from 020200N 1031224E to 020730N 1032154E; then straight lines joining 020000N 1025839E to 020200N 1031224E and 021830N 1032954E to 020730N 1032224E.	3 500ft ALT GND	Army Airwing Helicopter Training Area. Active: 2330-1030 SUN-MON TO WED-THU; 2330-0500 THU-FRI; 0600-1030 FRI; and 2330-0430 FRI-SAT; SUN and PH closed. Controlling Authority: Kluang Tower 128.3MHz and 122.4MHz. PPR for all non-Malaysian Army aircraft. During hours of operations, request through Kluang Army Airwing Operations (48 hours prior notice). No refuelling for civil aircraft. (refer to AIP Malaysia)
WMR226 West-Kluang An arc of a circle, radius 20NM, centred at 020230N 1031824E (Kluang Control Tower) from 020000N 1025839E to 014630N 1030554E; then an arc of a circle, radius 6NM, centred at 020230N 1031824E (Kluang Control Tower) from 020200N 1031224E to 015650N 1031709E.	2 000ft ALT GND	
WMR229 A circle, 1NM radius, centred at 013730N 1034952E.	1 500ft ALT GND	Helicopter Operations. Active: 0100-0830 MON-FRI. Visiting military aircraft are required to give advance notice of movements to Jungle Warfare School. (refer to AIP Malaysia)
DANGER AREAS		
WSD4 Southern Islands Live Firing Range An arc, 3.5NM radius, centred at 011230N 1034354E with eastern extremity at 011230N 1034724E and western extremity at 011459N 1034125E.	FL 160 GND/WATER	Air to GND and GND to GND Firing Range. Active: 2300-1100 SUN-MON to FRI-SAT except PH. Activity outside these hours will be notified by NOTAM.
WSD5 Mandai Camp A circle, radius 175M, centred at 012403N 1034646E.	500ft ALT GND	Rifle Range. Active: Permanent.

PROHIBITED, RESTRICTED AND DANGER AREAS - CHART 1



PROHIBITED, RESTRICTED AND DANGER AREAS - CHART 2



CHANGES : Prohibited Area WSP36 removed.

ENROUTE CHART - ICAO

LEGEND

Aerodrome	
Flight Information Region (FIR) — Name of FIR; Upper Limit; Lower Limit; Unit providing service	FIR SINGAPORE UNL GND/WATER ACC SINGAPORE
Terminal Control Area (TMA) — Name of TMA; Airspace Classification; Upper Limit; Lower Limit; Radio Frequency (ies)	TMA KUCHING A B C FL 250 3 000ft 134.5,120.2
Control Zone (CTR) — Name of CTR; Airspace Classification; Upper Limit; Radio Frequency (ies)	CTR KUCHING C 3 000ft 120.2
ATS route — Route designator; Magnetic track; Distance in nautical miles; Minimum flight altitude (ft)/flight level; Required navigation performance	L642; 032° (122); 7 000/FL 140; RNP 10
ATS route reporting point by-pass (No report is required on this route)	
Reporting Point (REP)	Compulsory; On Request
ATS/MET reporting point (MRP)	Compulsory; On Request
Restricted Airspace (P-Prohibited, R-Restricted, D-Danger) — Identification of area; Nationality letter; Vertical limits	W5D8 FL 400 WATER
Note : Restricted airspace outside Singapore FIR are not shown	
Collocated VOR and DME navigation aids (VOR/DME) — Compass rose oriented on the chart to Magnetic North	
Identification for radio navigation aids (NAVAID) — Name; NAVAID, frequency, identification or call sign; Geographical coordinates in WGS-84 equivalent; Elevation of DME site (to the nearest 30m)	SINJON DVOR/DME 113.5 01°13'21"N 103°51'13"E 60m
COP at mid-point between VOR are not shown	

Area Minimum Altitude (AMA)

Each 2° 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 : 3 500 feet **35**

- (A) Airway in which Mach Number Technique and RNAV are applied (Refer to pages ENR 1.8-13 to 1.8-18)
- (B) Inbound and Outbound flights exempted from reporting aircraft observations at these points.

WSJC/WMFC FIR BDRY REPORTING POINTS

TAXUL 03 50 33N 103 40 37E	**MANIM** 03 14 31N 104 05 53E
BUVAL 03 36 22N 103 43 41E	**KETOD** 03 10 44N 104 09 43E
DOVOL 03 30 47N 103 49 23E	**RAXIM** 03 03 18N 104 17 13E
IDSEL 03 24 32N 103 55 44E	**KIBOL** 02 52 29N 104 28 05E
EGOLO 03 19 34N 104 00 47E	**LENDA** 02 41 24N 104 39 32E

RVSM SEPARATION AVAILABLE SINGAPORE FIR BTN FL 290 AND FL 410 (Inclusive)

AIRSPACE CLASSIFICATION IN THE SINGAPORE FIR

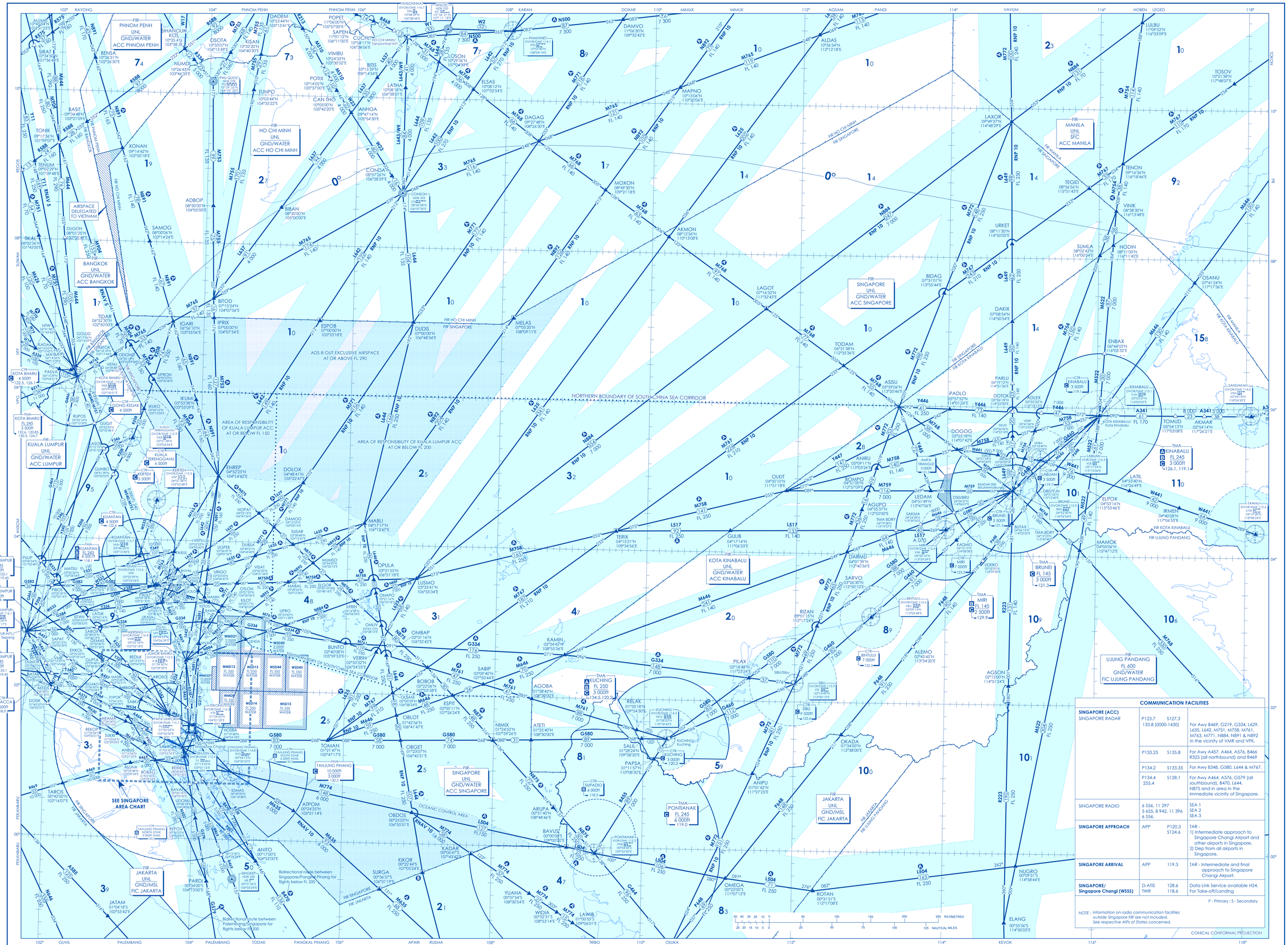
Airspace		Levels	Classification
Controlled airspace		FL 150 to FL 460	A
		Surface to FL 150	B
Controlled airspace more than 100 nm seaward from the shoreline		Lower limit to FL 460	A
Control Zones (CTRs)	Changi CTR	Surface to upper limit	C
	Paya Lebar CTR		D
	Seletar CTR		C
ATZs		Surface to upper limit	D
Uncontrolled airspace			G*

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

CAUTION

Consult respective NOTAMs and AIPs of States concerned for the latest information
and
the Civil Aviation Authority of Singapore does not accept responsibility for any errors or omissions in the information shown outside of Singapore FIR

MAGNETIC INFORMATION FOR THE YEAR 2015



COMMUNICATION FACILITIES

SINGAPORE (ACC) SINGAPORE RADAR	P123.7 133.8 (0000-1430)	S127.3	For Awy B469, G219, G334, L629, L635, L642, M751, M758, M761, M763, M771, N884, N891 & N892 in the vicinity of VMR and VPK.
	P133.25	S135.8	For Awy A457, A464, A576, B466 R325 (all northbound) and R469
	P134.2	S133.35	For Awy B348, G580, L644 & M767.
	P134.4 255.4	S128.1	For Awy A464, A576, G579 (all southbound), B470, L644, N875 and in area in the immediate vicinity of Singapore.
SINGAPORE RADIO	6 556, 11 297 5 655, 8 942, 11 396 6 556.		SEA 1 SEA 2 SEA 3
SINGAPORE APPROACH	APP	P120.3 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	119.3	TAR - Intermediate and final approach to Singapore Changi Airport.
SINGAPORE/ Singapore Changi (WSSS)	D-ATIS 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.

CHANGES : ATS route W441 added.
RNAV routes M552, M758 and Y446 revised.

PART 3 - AERODROMES (AD)

AD 0

AD 0.6 TABLE OF CONTENTS TO PART 3

AD 1. AERODROMES - INTRODUCTION

AD 2. AERODROMES

3. TERMINAL 2 AIRCRAFT STANDS - Aircraft types that can be parked at stands (✈) are as follows:

Stands	E1	E2	E3	E4	E5	E6	E7	E8	E10	E11	E12	E20	E22	E24	E26	E27	E28
A300		✈	✈	✈	✈	✈		✈		✈	✈	✈	✈	✈	✈	✈	✈
A310	✈	✈	✈	✈	✈	✈	✈	✈		✈	✈	✈	✈	✈	✈	✈	✈
A319	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈		✈	✈	✈
A320	✈	✈	✈	✈	✈	✈	✈	✈		✈	✈	✈	✈		✈	✈	✈
A321			✈		✈								✈		✈	✈	✈
A332			✈	✈	✈			✈		✈	✈	✈	✈	✈	✈	✈	✈
A333			✈	✈	✈			✈		✈	✈	✈	✈	✈	✈	✈	✈
A342			✈	✈	✈			✈		✈	✈		✈	✈	✈	✈	✈
A343			✈	✈	✈			✈		✈	✈		✈	✈	✈	✈	✈
A345			✈	✈	✈			✈		✈	✈		✈	✈	✈	✈	✈
A346				✈	✈			✈									
A380					✈			✈		✈							
B707															✈	✈	✈
B727	✈	✈	✈	✈	✈	✈		✈		✈	✈	✈	✈	✈	✈	✈	✈
B737	✈	✈	✈	✈	✈	✈	✈	✈		✈	✈	✈	✈		✈	✈	✈
B747			✈	✈	✈			✈		✈	✈	✈	✈	✈	✈	✈	✈
→ **B748**					✈			✈		✈							
B74S			✈	✈	✈			✈		✈	✈		✈	✈	✈	✈	✈
B757	✈	✈	✈	✈	✈	✈		✈		✈	✈	✈	✈	✈	✈	✈	✈
B762	✈	✈	✈	✈	✈	✈		✈		✈	✈	✈	✈	✈	✈	✈	✈
B763	✈	✈	✈	✈	✈	✈		✈		✈	✈	✈	✈	✈	✈	✈	✈
B772			✈	✈	✈			✈		✈	✈	✈	✈	✈	✈	✈	✈
B773				✈	✈	✈		✈		✈	✈		✈	✈	✈	✈	✈
B773ER				✈	✈			✈		✈	✈		✈	✈	✈	✈	✈
B788												✈	✈		✈	✈	✈
B789												✈	✈		✈	✈	✈
DC10				✈	✈	✈		✈		✈	✈				✈	✈	✈
DC9												✈					
F70	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈			
F100															✈	✈	✈
IL62															✈	✈	✈
IL86															✈	✈	✈
IL96															✈	✈	✈
L101				✈	✈	✈		✈		✈	✈				✈	✈	✈
MD11				✈	✈	✈		✈		✈	✈				✈	✈	✈
MD80															✈	✈	✈
MD82															✈	✈	✈
MD83																✈	
MD87												✈					
MD88															✈	✈	✈

Stands	E24L	E24R
A319, A320, A321, B737	✈	✈

4. TERMINAL 2 AIRCRAFT STANDS - Aircraft types that can be parked at stands (✈) are as follows:

Stands	F30	F31	F32	F33	F34	F35	F36	F37	F40	F41	F42	F50	F52	F54	F56	F58	F59	F60
A300		✈	✈		✈	✈			✈	✈	✈	✈	✈	✈	✈	✈	✈	✈
A310		✈	✈	✈	✈	✈			✈	✈	✈	✈	✈	✈	✈	✈	✈	✈
A319	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈		✈		✈		✈
A320	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈		✈		✈		✈
A321																		
A332		✈			✈				✈	✈	✈	✈	✈	✈	✈	✈	✈	✈
A333		✈			✈				✈	✈	✈	✈	✈	✈	✈	✈	✈	✈
A342		✈			✈				✈	✈	✈		✈	✈	✈	✈	✈	✈
A343		✈			✈				✈	✈	✈		✈	✈	✈	✈	✈	✈
A345		✈			✈				✈	✈	✈		✈	✈	✈	✈	✈	✈
A346											✈							✈
A359																✈	✈	✈
A380		✈									✈							✈
B707												✈		✈			✈	✈
B727	✈	✈	✈	✈	✈	✈		✈	✈	✈	✈	✈		✈	✈	✈	✈	✈
B737	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈		✈		✈		✈
B747		✈			✈	✈			✈	✈	✈	✈	✈	✈	✈	✈	✈	✈
B748		✈									✈							✈
B74S		✈			✈				✈	✈	✈			✈	✈	✈	✈	✈
B757		✈	✈	✈	✈	✈			✈	✈	✈	✈	✈	✈	✈	✈	✈	✈
B762		✈	✈		✈	✈			✈	✈	✈	✈	✈	✈	✈	✈	✈	✈
B763		✈	✈		✈	✈			✈	✈	✈	✈	✈	✈	✈	✈	✈	✈
B772		✈		✈	✈				✈	✈	✈	✈	✈	✈	✈	✈	✈	✈
B773										✈	✈			✈	✈	✈	✈	✈
B773ER										✈	✈			✈	✈	✈	✈	✈
B788		✈										✈	✈	✈	✈	✈	✈	✈
B789		✈										✈	✈	✈	✈	✈	✈	✈
DC10					✈	✈				✈	✈			✈	✈	✈	✈	✈
DC8																		
DC9												✈		✈	✈	✈		
F70	✈	✈	✈	✈	✈	✈		✈	✈	✈	✈	✈		✈	✈	✈	✈	✈
L101					✈	✈				✈	✈			✈	✈	✈	✈	✈
MD11					✈	✈				✈	✈			✈	✈	✈	✈	✈
MD87												✈		✈				

Stands	F52L	F52R	F56L	F56R	F59L	F59R
A319	✈	✈	✈	✈	✈	✈
A320	✈	✈	✈	✈	✈	✈
A321	✈	✈	✈	✈	✈	✈
B737(100-500)	✈	✈	✈	✈	✈	✈
B737(600-900)	✈	✈	✈	✈		✈

5. TERMINAL 3 AIRCRAFT STANDS - Aircraft types that can be parked at stands (✈) are as follows:

Stands	A1	A2	A3	A4	A5	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20	A21
A300		✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈		
A310		✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈		
A319		✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈		
A320		✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈		
A321		✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈		
A332	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈		✈
A333	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈
A343	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈
A345	✈	✈	✈	✈	✈		✈	✈	✈	✈	✈	✈	✈	✈				
A346		✈		✈	✈		✈	✈	✈	✈	✈							
A359		✈	✈	✈	✈		✈				✈	✈		✈				
A380		✈		✈	✈		✈											
B737			✈			✈		✈	✈	✈	✈		✈	✈	✈	✈		
B744	✈	✈	✈	✈	✈		✈	✈	✈	✈	✈	✈	✈	✈				
B788		✈		✈			✈									✈	✈	✈
→ **B789**		✈		✈	✈		✈				✈	✈		✈				
B757		✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈		
B767		✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈		
B772	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈
B773		✈		✈	✈		✈	✈	✈	✈	✈							
B773ER		✈		✈	✈		✈	✈	✈	✈	✈							

Stands	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
A300		✈	✈	✈	✈	✈	✈	✈	✈	✈
A310		✈	✈	✈	✈	✈	✈	✈	✈	✈
A319		✈	✈	✈	✈	✈	✈	✈	✈	✈
A320		✈	✈	✈	✈	✈	✈	✈	✈	✈
A321		✈	✈	✈	✈	✈	✈	✈	✈	✈
A332	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈
A333	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈
A343	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈
A345	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈
A359	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈
A346		✈		✈	✈		✈			
A380		✈		✈	✈		✈			
B707									✈	✈
B737			✈			✈				
B744	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈
B788								✈	✈	✈
→ **B789**	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈
B757		✈	✈	✈	✈	✈	✈	✈	✈	✈
B767		✈	✈	✈	✈	✈	✈	✈	✈	✈
B772	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈
B773		✈		✈	✈	✈	✈	✈	✈	✈
B773ER		✈		✈	✈	✈	✈	✈	✈	✈

6. REMOTE STANDS - Aircraft types that can be parked at stands (✈) are as follows:

Stands	103	104	200	200L	200R	201	202	202L	202R	203	205	206	207	208	209
A300, A310	✈	✈	✈			✈	✈			✈	✈	✈	✈	✈	✈
A319, A320	✈	✈		✈	✈	✈		✈	✈	✈	✈	✈	✈	✈	✈
A321				✈	✈			✈	✈						
A330, A342	✈	✈	✈			✈	✈			✈	✈	✈			
A343, A345	✈	✈	✈			✈	✈			✈	✈	✈			
A359			✈			✈	✈			✈	✈	✈			
A380	✈	✈													
AT72			✈			✈	✈			✈	✈	✈	✈	✈	✈
B707, B727	✈	✈	✈			✈	✈			✈	✈	✈	✈	✈	✈
B737	✈	✈		✈	✈	✈		✈	✈	✈	✈	✈	✈	✈	✈
B747, B74S, B788	✈	✈	✈			✈	✈			✈	✈	✈			
B748	✈	✈													
B757	✈	✈	✈			✈	✈			✈	✈	✈	✈	✈	✈
B767, B772, B773	✈	✈	✈			✈	✈			✈	✈	✈			
B773ER	✈	✈	✈			✈	✈			✈	✈	✈			
B789	✈	✈	✈			✈	✈			✈	✈	✈			
DC8	✈	✈													
DC10	✈	✈	✈			✈	✈			✈	✈	✈			
DHC7													✈	✈	✈
F70	✈	✈	✈			✈	✈			✈	✈	✈	✈	✈	✈
IL62			✈			✈	✈			✈	✈	✈			
L101	✈	✈	✈			✈	✈			✈	✈	✈			
MD11	✈	✈	✈			✈	✈			✈	✈	✈			

Stands	300	301	302	303	304	305	306	307	308	309	310	400	401	402	403	404
A300, A310	✈	✈	✈	✈	✈	✈	✈			✈	✈	✈	✈	✈		
A319, A320	✈	✈	✈	✈	✈	✈	✈			✈	✈	✈	✈	✈	✈	
A330, A342	✈		✈								✈	✈	✈			
A343, A345	✈		✈								✈	✈	✈			
A359	✈		✈								✈					
AT72				✈	✈	✈	✈									
B707	✈	✈	✈	✈	✈	✈	✈			✈	✈	✈	✈	✈		
B727	✈	✈	✈	✈	✈	✈	✈			✈	✈	✈	✈	✈	✈	
B737 (100-500)	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈
B737 (600-900)	✈	✈	✈	✈	✈	✈	✈			✈	✈	✈	✈	✈	✈	
B747	✈		✈								✈	✈	✈			
B74S, B788	✈		✈								✈	✈	✈			
B757, B767	✈	✈	✈	✈	✈	✈	✈			✈	✈	✈	✈	✈		
B772, B773	✈		✈								✈	✈	✈			
B773ER	✈		✈								✈	✈	✈			
B789	✈		✈								✈	✈	✈			
DC10	✈		✈				✈				✈	✈	✈			
DC8	✈	✈	✈	✈	✈	✈	✈			✈	✈					
F70	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	✈	
L101	✈		✈				✈				✈	✈	✈			
MD11	✈		✈				✈				✈	✈	✈			

WSSS AD 2.9 SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM AND MARKINGS

AIRFIELD GROUND LIGHTING CONTROL AND MONITORING SYSTEM (AGLCMS) AND MARKINGS

1. INTRODUCTION

1.1 The taxiing guidance system at Singapore Changi Airport consists of stop bars and selectable segments of green taxiway centreline lights. The system is designed to provide pilots with visual guidance while taxiing during night operations and during periods of low visibility. It is controlled by the Ground Movement Controller (GMC) at Changi Control Tower using the Airfield Ground Lighting Control and Monitoring System (AGLCMS).

2. ROUTE SELECTION AND PRIORITY

2.1 When a taxiing route is selected on the AGLCMS, corresponding segments of taxiway centreline lights on the manoeuvring area are switched on automatically. When two or more routes are selected, the system will give priority to the first route and activate red stopbar lights across conflicting routes, as necessary. A segment of the centreline lights of the conflicting routes that cut across the first route will also be suppressed. The GMC has the option of over-riding the taxiing route priority by selecting or deselecting the appropriate stopbar lights.

2.2 All taxiing guidance lights on taxiways leading to the runways terminate at the runway holding positions where, by default, red stopbar lights remain on unless deselected by the runway controller. When deselected, these stopbar lights will re-activate automatically after 50 seconds. Pilots shall not cross any lighted red stopbar lights.

2.3 Pilots shall enter / cross the runway or taxiway only when both the following conditions are met:
The crew have
a) received positive ATC clearance to enter / cross the runway or taxiway, and
b) observed that the red stop-bar lights are turned off.

3. TAXI INSTRUCTIONS USING THE GREEN TAXIWAY CENTRELINE LIGHTS

3.1 ATC will use the phraseology “Taxi on the greens .....” when issuing a clearance to pilots to taxi along the directional guidance provided by the green taxiway centreline lights.

4. INFORMATION AND MANDATORY SIGNS / MARKINGS

4.1 When following the directional guidance provided by the green taxiway centreline lights and red stop bar lights, pilots are advised to also navigate their taxi route with reference to information and mandatory signs/markings provided at the airport so as to maintain situational awareness of their whereabouts at all times.

WSSS AD 2.10 AERODROME OBSTACLES							
IN APPROACH / TKOF AREAS				***IN CIRCLING AREA AND AT AD***			
RWY/Area affected		*OBST type, ELEV, Markings/LGT*	*Coordinates*	*OBST type, ELEV, Markings/LGT*		*Coordinates*	
1		2	3	1		2	
a)	RWY 20R APCH RWY 02L TKOF	Mast HGT ranging fm 98ft AMSL and above.	Shipping channel aprx1290m from THR RWY 20R.	a)	Surface wind direction sleeves	LOC at each end of RWY adjacent to GP hut	
b)	RWY 20C APCH RWY 02C TKOF	Mast HGT ranging fm 98ft AMSL and above.	Shipping channel aprx 2630m from THR RWY 20C.	b)	PAR hut	Besides RWY 02L/20R, opposite the PTB	
c)	RWY 02L/20R APCH RWY 02L/20R TKOF RWY 02C/20C APCH RWY 02C/20C TKOF	ILS LLZ co-located with LLZ antennas.	Within the RWY strip.	c)	Frangible PAR reflectors	LOC at ends of RWY 02L/20R	
d)	RWY 20R APCH	Two antennae, HGT 72ft AMSL, marked and LGTD	012311N 1035928E	d)	GP huts co-located with GP antennas	Within the RWY strip	
e)	RWY 20R APCH	Antenna, HGT 88ft AMSL, marked and LGTD	012315N 1035931E	e)	Antenna, HGT 82ft AMSL, marked and LGTD	012036N 1035819E	
f)	RWY 02L APCH	Antenna, HGT 82ft AMSL, marked and LGTD	012051N 1035827E	f)	Antenna, HGT 85ft AMSL, marked and LGTD	012039N 1035821E	
g)	RWY 02L APCH	Pole, HGT 128ft AMSL, marked and LGTD	011859N 1035748E	g)	Antenna, HGT 78ft AMSL, marked and LGTD	012042N 1035823E	
h)	RWY 02L APCH	Pole, HGT 160ft AMSL, marked and LGTD	012058N 1035814E	h)	Antenna, HGT 82ft AMSL, marked and LGTD	012053N 1035827E	
i)	RWY 02L APCH	Pole, HGT 131ft AMSL, marked and LGTD	012038N 1035848E	i)	Antenna, HGT 78ft AMSL, marked and LGTD	012049N 1035826E	
j)	RWY 20L APCH	Shipping channel	Aprx1600m from THR RWY 20L.	j)	ILS glide slope antenna hut	LOC 93m west of RWY 02R/20L CL and 300m(1,000ft) up corresponding THR.	
				k)	Surface wind meas-urement wind sleeves	LOC each end of RWY 02R/20L adjacent to glide slope hut 300m (1,000ft) up the THR.	
				l)	Frangible poles, HGT 9ft AMSL	Installed aprx 200m fm centre of RET to identify 58m away fm TWY WP CL towards RWY 02L/20R	
Obstacles in the APCH/TKOF areas, circling area and at the aerodrome are shown on the AOC, IAC and VAC.							

WSSS AD 2.11 METEOROLOGICAL INFORMATION PROVIDED		
1	*Associated MET Office*	Singapore Changi (WSSS)
2	*Hours of service*	H24
3	*Office responsible for TAF preparation* *Periods of validity*	Singapore Changi (WSSS) 12, 30
4	*Type of landing forecast, Interval of issuance*	TREND
5	*Briefing/consultation provided*	P
6	*Flight documentation, Language used*	Charts or Tabular forms, English
7	*Charts and other information available for briefing or consultation*	S, U, P
8	*Supplementary equipment available for providing information*	HRPT: High Resolution Picture Transmission APT: Automatic Picture Transmission MDWR: MET Doppler Weather Radar MAINT: Second WED of every month BTN 0200-0900 ALTN period: THU following the second WED.
9	*ATS units provided with information*	Singapore ACC, Singapore RCC
10	*Additional information*	TEL: 65422837 (MET Office)

WSSS AD 2.12 RUNWAY PHYSICAL CHARACTERISTICS					
Designations RWY NR	*TRUE BRG*	*Dimensions of RWY (m)*	*Strength (PCN) and surface of RWY and SWY*	*THR coordinates (THR Geoid Undulation)*	*THR elevation and highest elevation of TDZ of precision approach RWY*
1	*2*	*3*	*4*	*5*	*6*
02L	023.02°	4 000 x 60	72/F/B/W/U Bituminous concrete	012056.26N 1035838.83E (10.29m)	6.66m 6.23m
20R (Threshold displaced by 740m southwards)	203.02°	4 000 x 60	72/F/B/W/U Bituminous concrete	012233.95N 1035920.06E (10.29m)	4.01m 4.31m
02C	023.03°	4 000 x 60	72/F/B/W/U Bituminous concrete	011943.51N 1035905.86E (10.28m)	4.32m 4.52m
20C	203.03°	4 000 x 60	72/F/B/W/U Bituminous concrete	012143.37N 1035956.46E (10.28m)	4.58m 4.56m
02R	023°	2 750 x 60	72/F/B/W/T Asphalt	011958.05N 1040015.26E	-
20L	203°	2 750 x 60	72/F/B/W/T Asphalt	012120.45N 1040050.05E	-
Note: RWY 02R/20L is used solely by the Republic of Singapore Air Force (RSAF) aircraft.					

WSSS AD 2.12 RUNWAY PHYSICAL CHARACTERISTICS (continued)					
Slope of RWY-SWY Transverse / Longitudinal	*SWY Dimensions (m)*	*CWY Dimensions (m)*	*STRIP Dimensions (m)*	*OFZ*	*Remarks*
7	*8*	*9*	*10*	*11*	*12*
RWY 02L 0.76 / 0.24%	60 X 60	270 X 150	4 240 X 300	Yes	Scheduled closure of runways (see below)
RWY 20R 1.45 / 0.25%	60 X 60	270 X 150	4 240 X 300		
RWY 02C 1.50 / 0.03%	60 X 60	60 X 150	4 240 X 300		
RWY 20C 1.38 / 0.07%	60 X 60	60 X 150	4 240 X 300		
RWY 02R	150 X 60	-	3 050 X 336	-	Hookwire cable installed 450m (1476ft) from the southern THR and 457m (1500ft) from the northern THR.
RWY 20L	150 X 60	-	3 050 X 336	-	

Remarks (continued from above)	
Scheduled Closure of RWY 02L/20R	
1a)	BTN 1630-2200 on first FRI, third MON and third WED of every month (*preventive maintenance work).* In the event of an emergency, RWY will be re-opened within 30 minutes.
1b)	BTN 0225-0240 0630-0635 1000-1005 2300-2305 daily (*inspection).* In the event of an emergency, RWY will be re-opened within 5 minutes.
Scheduled Closure of RWY 02C/20C	
2a)	BTN 1630-2200 on second FRI, fourth MON and fourth WED of every month (*preventive maintenance work).* In the event of an emergency, RWY will be re-opened within 30 minutes.
2b)	BTN 0300-0315 0650-0655 1020-1025 2320-2325 daily (*inspection*). In the event of emergency, RWY will be re-opened within 5 minutes.

WSSS AD 2.13 DECLARED DISTANCES						
RWY Designator	*Intersection Departures*	*TORA (m)*	*TODA (m)*	*ASDA (m)*	*LDA (m)*	*Remarks*
1	2	3	4	5	6	7
20R	Not applicable	4000	4270	4060	3260	Thr displaced by 740m southwards
	W2	3850	4120	3910	Not applicable	
	W3	3050	3320	3110	Not applicable	
	W4	2600	2870	2660	Not applicable	
	W5	2150	2420	2210	Not applicable	
02L	Not applicable	4000	4270	4060	4000	Nil
	W8	3850	4120	3910	Not applicable	
	W7	3050	3320	3110	Not applicable	
	W6	2600	2870	2660	Not applicable	
20C	Not applicable	4000	4060	4060	4000	Nil
	E2	3850	3910	3910	Not applicable	
	E3	3425	3485	3485	Not applicable	
	E4	2750	2810	2810	Not applicable	
	E5	2250	2310	2310	Not applicable	
02C	Not applicable	4000	4060	4060	4000	Nil
	E10	3850	3910	3910	Not applicable	
	E9	3345	3405	3405	Not applicable	
	E8	3205	3265	3265	Not applicable	
	E7	2555	2615	2615	Not applicable	
	E6	2105	2165	2165	Not applicable	
02R	Not applicable	2750	3050	2900	2750	Nil
20L	Not applicable	2750	3050	2900	2750	

Note: Intersection departures are allowed subject to the following:
(a) initiated by pilot and approved by ATC, traffic permitting.
(b) ATC is able to keep aircraft visual at all times

WSSS AD 2.14 APPROACH AND RUNWAY LIGHTING								
RWY	*Apch Lgt Type, Len Intensity*	*THR Lgt colour WBAR*	*PAPI (MEHT)*	*TDZ Lgt Len*	*RWY Centreline Lgt Len, spacing, colour, INTST*	*RWY Edge Lgt, Len, spacing, colour, INTST*	*RWY End Lgt colour*	*SWY Lgt colour*
1	2	3	4	5	6	7	8	9
02L	CAT II High Intensity consisting of extended centreline and red row barrettes, 2 crossbars, 2 approach beacons and sequenced flashing lights.	Green supple-mented by green wing-bar and 2 THR ident lights.	PAPI 3° loc either side of RWY, 422m behind RWY THR, 2 white LGT and 2 red LGT (20.6m), 3 white LGT and 1 red LGT (23.1m), 4 white LGT (25.6m). Aircraft with eye-to-wheel hgt greater than 8m are adz to fly with 2 white and 2 red LGT visible so as to achieve sufficient wheel clearance.	White	Inset High Intensity centreline lights as flw: From THR to 900m fm RWY end: White, 300m to 900m fm RWY end: Altn red/ white, 300m to RWY end: Red.	Bi-direc-tional raised White/Amber edge lights.	Red	Ele-vated Red
20R	CAT I High Intensity distance-coded centreline lgts showing variable white and crossbars at 150m, 300m, 450m, 600m and 750m.	Green supple-mented by green wing-bar and 2 THR ident lights.	PAPI 3° located either side of RWY, 410m fm THR. 2 white LGT and 2 red LGT (20.0m), 3 white LGT and 1 red LGT (22.6m), 4 white LGT (25.0m). Aircraft with eye-to-wheel hgt greater than 8m are adz to fly with 2 white and 2 red LGT visible so as to achieve sufficient wheel clearance.	Nil	Inset High Intensity centreline lights as flw: From THR to 900m fm RWY end: white, 300m to 900m fm RWY end: Altn red/ white, 300m to RWY end: Red.	Red RWY edge lgts in the direction of RWY 20R before the displaced thr. Bi-direc-tional raised White/Amber edge lights after the displaced THR.	Red	Ele-vated Red
02C	CAT I High Intensity consisting of centreline barrettes showing variable white, 1 crossbar, 2 approach beacons and sequenced flashing lights.	Green supple-mented by green wing-bar and 2 THR ident lights.	PAPI 3° located either side of RWY, 418m fm THR. 2 white LGT and 2 red LGT (20.4m), 3 white LGT and 1 red LGT (23.1m), 4 white LGT (25.5m). Aircraft with eye-to-wheel hgt greater than 8m are adz to fly with 2 white and 2 red LGT visible so as to achieve sufficient wheel clearance.	Nil	Inset High Intensity centreline lights as flw: From THR to 900m fm RWY end: White, 300m to 900m fm RWY end: Altn red/ white, 300m to RWY end: Red.	Bi-direc-tional raised White/Amber edge lights.	Red	Ele-vated Red

AERODROME CHART - ICAO

01° 21' 33"N
103°59' 22"E

AERODROME ELEVATION 6.66m

TWR	118.6 / 118.25
GND	124.3 / 121.85 / 121.725
DELIVERY	121.65

SINGAPORE/SINGAPORE CHANGI

PAPI 3° (MEHT)*

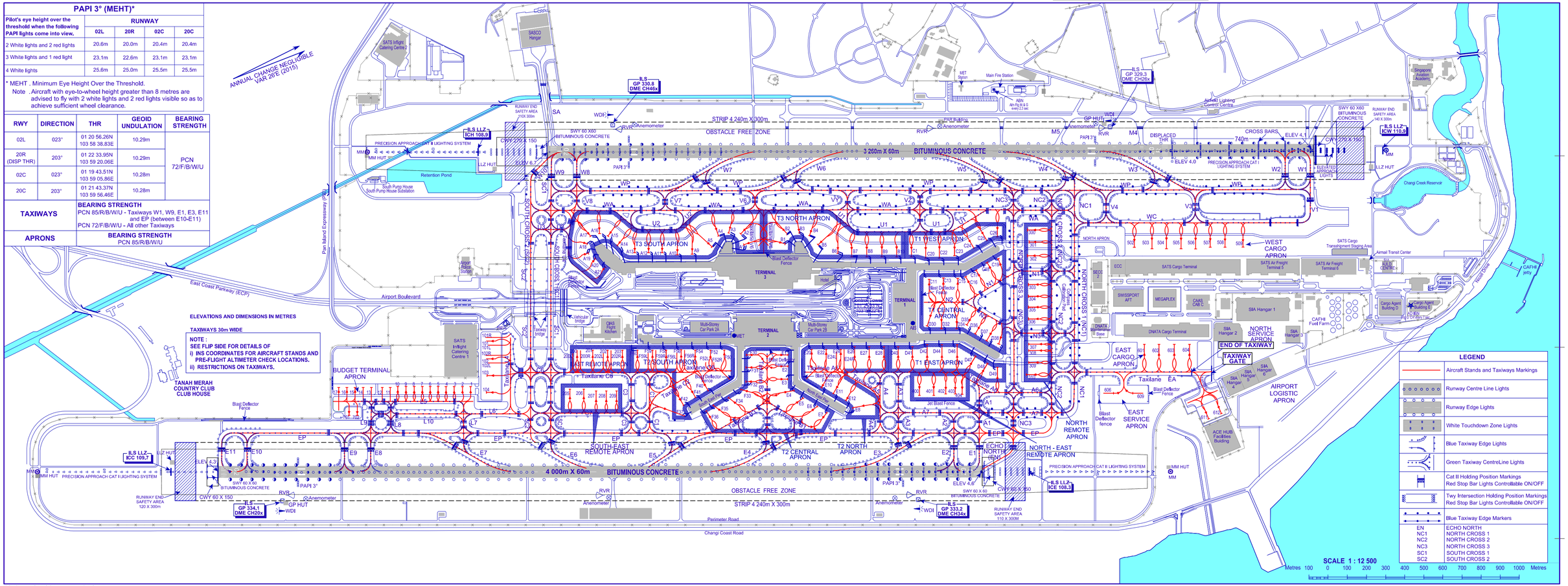
Pilot's eye height over the threshold when the following PAPI lights come into view.	RUNWAY			
	02L	20R	02C	20C
2 White lights and 2 red lights	20.6m	20.0m	20.4m	20.4m
3 White lights and 1 red light	23.1m	22.6m	23.1m	23.1m
4 White lights	25.8m	25.0m	25.5m	25.5m

* MEHT . Minimum Eye Height Over the Threshold.

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.

RWY	DIRECTION	THR	GEOID UNDULATION	BEARING STRENGTH
02L	023°	01 20 56.26N 103 58 38.83E	10.29m	PCN 72/F/B/W/U
20R (DISP THR)	203°	01 22 33.95N 103 59 20.06E	10.29m	
02C	023°	01 19 43.51N 103 59 05.86E	10.28m	
20C	203°	01 21 43.37N 103 59 56.46E	10.28m	

TAXIWAYS	BEARING STRENGTH PCN 85/R/B/W/U - Taxiways W1, W9, E1, E3, E11 and EP (between E10-E11) PCN 72/F/B/W/U - All other Taxiways
APRONS	BEARING STRENGTH PCN 85/R/B/W/U



Changes : Runway 02C/20C Clearway dimension revised.

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	4.66m (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	5.48m (17.98ft)
	A14	01 21 01.66	103 58 57.59	5.57m (18.27ft)
	A15	01 21 00.77	103 58 55.41	5.46m (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	4.68m (15.35ft)
	B3	01 21 30.33	103 59 07.30	4.65m (15.26ft)
	B4	01 21 32.03	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	5.09m (16.70ft)
	B9	01 21 42.19	103 59 16.16	5.13m (16.83ft)
	B10	01 21 44.47	103 59 17.12	5.10m (16.73ft)
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	5.08m (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 59.12	103 59 20.59	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	5.07m (16.63ft)
	C13	01 21 49.64	103 59 24.75	5.05m (16.57ft)
	C15	01 21 51.90	103 59 25.71	5.05m (16.57ft)
	C16	01 21 53.63	103 59 26.42	4.91m (16.11ft)
	C17	01 21 55.63	103 59 26.07	5.03m (16.50ft)
	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	5.09m (16.70ft)
	D32	01 21 46.73	103 59 31.07	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	5.06m (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 38.02	103 59 32.85	5.07m (16.63ft)
	D41	01 21 40.30	103 59 33.81	5.07m (16.63ft)
	D42	01 21 42.70	103 59 34.48	5.11m (16.77ft)
	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 33.46	103 59 30.93	5.03m (16.50ft)
	E28	01 21 35.74	103 59 31.89	5.08m (16.67ft)
T2 CENTRAL APRON	E1	01 21 20.02	103 59 25.58	4.91m (16.11ft)
	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)
	F30	01 21 14.71	103 59 23.33	4.92m (16.14ft)
	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 28.96	4.92m (16.14ft)
	F35	01 21 06.28	103 59 29.29	4.90m (16.08ft)
	F36	01 21 04.34	103 59 29.67	4.82m (15.81ft)

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

LOCATION	STAND NR	NORTH LAT	EAST LONG	ELEVATION
T2 SOUTH APRON	F37	01 20 59.83	103 59 27.87	4.75m (15.58ft)
	F40	01 21 05.62	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 08.51	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 59.93	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	6.29m (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	101	01 20 34.88	103 59 04.05	4.49m (14.73ft)
	101L	01 20 34.60	103 59 04.70	4.60m (15.09ft)
	101R	01 20 35.11	103 59 03.50	4.53m (14.86ft)
	102	01 20 33.76	103 59 06.65	4.49m (14.73ft)
	102L	01 20 33.53	103 59 07.33	4.62m (15.16ft)
	102R	01 20 34.00	103 59 06.10	4.60m (15.09ft)
	103	01 20 32.88	103 59 09.35	4.67m (15.32ft)
	104	01 20 31.77	103 59 11.96	4.39m (14.40ft)
	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 47.91	103 59 18.88	4.74m (15.55ft)
	208	01 20 49.48	103 59 19.54	4.74m (15.55ft)
	209	01 20 51.06	103 59 20.21	4.75m (15.58ft)
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	5.06m (16.60ft)
	310	01 21 57.42	103 59 44.96	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 41.89	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)
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)
EAST CARGO APRON	601	01 22 16.52	103 59 49.27	4.27m (14.01ft)
	602	01 22 18.80	103 59 50.23	4.30m (14.11ft)
	603	01 22 21.15	103 59 51.02	4.29m (14.07ft)
	604	01 22 23.46	103 59 51.99	4.31m (14.14ft)
EAST SERVICE APRON	606	01 22 09.09	103 59 53.22	2.70m (8.86ft)
	609	01 22 12.19	103 59 54.57	3.01m (9.88ft)
ACEHUB	611	01 22 22.14	104 00 02.87	4.01m (13.16ft)
	612	01 22 24.50	104 00 02.87	3.91m (12.83ft)
BUDGET TERMINAL APRON	1	01 20 28.69	103 59 10.05	3.97m (13.02ft)
	2	01 20 27.39	103 59 09.51	4.04m (13.25ft)
	3	01 20 26.09	103 59 08.96	3.90m (12.80ft)
	4	01 20 24.80	103 59 08.41	3.86m (12.66ft)
	5	01 20 23.50	103 59 07.86	3.85m (12.63ft)
	6	01 20 22.20	103 59 07.32	3.86m (12.66ft)
	7	01 20 20.90	103 59 06.77	3.83m (12.57ft)
	8	01 20 19.60	103 59 06.22	3.84m (12.60ft)
	9	01 20 18.31	103 59 05.67	3.83m (12.57ft)
	10	01 20 17.03	103 59 05.07	3.85m (12.63ft)
	11	01 20 15.77	103 59 04.43	3.90m (12.80ft)
	12	01 20 14.50	103 59 03.89	3.94m (12.93ft)
	13	01 20 12.78	103 59 03.16	3.99m (13.09ft)
	14	01 20 11.48	103 59 02.62	4.01m (13.16ft)
	15	01 20 10.33	103 59 01.72	4.60m (15.09ft)
	16	01 20 09.03	103 59 01.17	4.60m (15.09ft)
	17	01 20 07.74	103 59 00.62	4.60m (15.09ft)
	701	01 20 08.81	103 59 06.24	5.03m (16.50ft)
	702	01 20 07.51	103 59 05.69	5.03m (16.50ft)

RESTRICTIONS ON TAXIWAYS

1) Pilots are advised to apply minimum thrust when
   i) turning into TWY A1, A3, A4 and Taxilane A5 while taxiing either northwards or southwards on Taxilane A6, and
   ii) thereafter when taxiing along TWY A1 up to and including the TWY A7/A1 junction.
   This is in view of apron activities at aircraft stands D40, D41, D47, D48, D49, E22, E24, E27 and E28.

2) TWY SA can only be used by aircraft with maximum wingspan 65m. TWY SA is a one-way live TWY for aircraft taxiing into SASCO hangar via RWY 02L. Only tow-out operation is allowed from SASCO hangar into TWY SA and RWY 02L.

3) Pilots operating aircraft with wheelbase longer than B747 or 26m shall take note that judgemental oversteering may be required when manoeuvring round taxiway turns.

4) TWY NC3 (between TWY WA and TWY A6) is a TWY with reduced minimum separation distances between the TWY centreline and object. Due to the reduced minimum separation distances, pilots are advised to adhere strictly to the TWY centreline and to slow down the taxi speed accordingly. TWY NC3 (between TWY WA and TWY A6) can only be used by aircraft with maximum wingspan 65m.

5) Taxiway centreline along TWY EP between TWY B1 and B3 offset eastward by 2.5m away from aircraft stands E7 and F36.

6) Pilots are advised to apply minimum thrust when turning into taxiway WA from taxilane V6.

7) Taxilane U4 (behind aircraft stands A18 to A21) can only be used by aircraft with maximum wingspan 61m.

8) TWY N1 (behind aircraft stands C16 to C19 and between TWY NC2 and TWY NC3), TWY N2 and TWY N3 (behind aircraft stands D35 to D38 and between TWY NC2 and TWY NC3) can only be used by aircraft with maximum wingspan 65m.

9) Taxilane A6 (behind aircraft stands E20 to E24) and Taxilane C6 (behind aircraft stands F50 to F54) can only be used by aircraft with maximum wingspan 65m (towing and pushback exempted).

10) TWY L5 can only be used by aircraft with maximum wingspan 36m.

11) TWY L8, L9 and L10 can only be used by aircraft with maximum wingspan 65m.

12) Pilots are advised to exercise caution when taxiing near TWY L5, L8, L9 and L10.

13) Pilots are advised to apply speed limit of 20 knots when taxiing along TWY SOUTH CROSS 1 and SOUTH CROSS 2.

14) Pilots turning aircraft into aircraft stand A2 or aircraft stand B2 are advised to wait for any aircraft holding at Taxilane V6, at the inner cul-de-sac portion of the terminal building to vacate this portion before turning into aircraft stand A2 or aircraft stand B2.

15) TWY M4 and M5 are solely for use by Republic of Singapore Air Force (RSAF) aircraft.

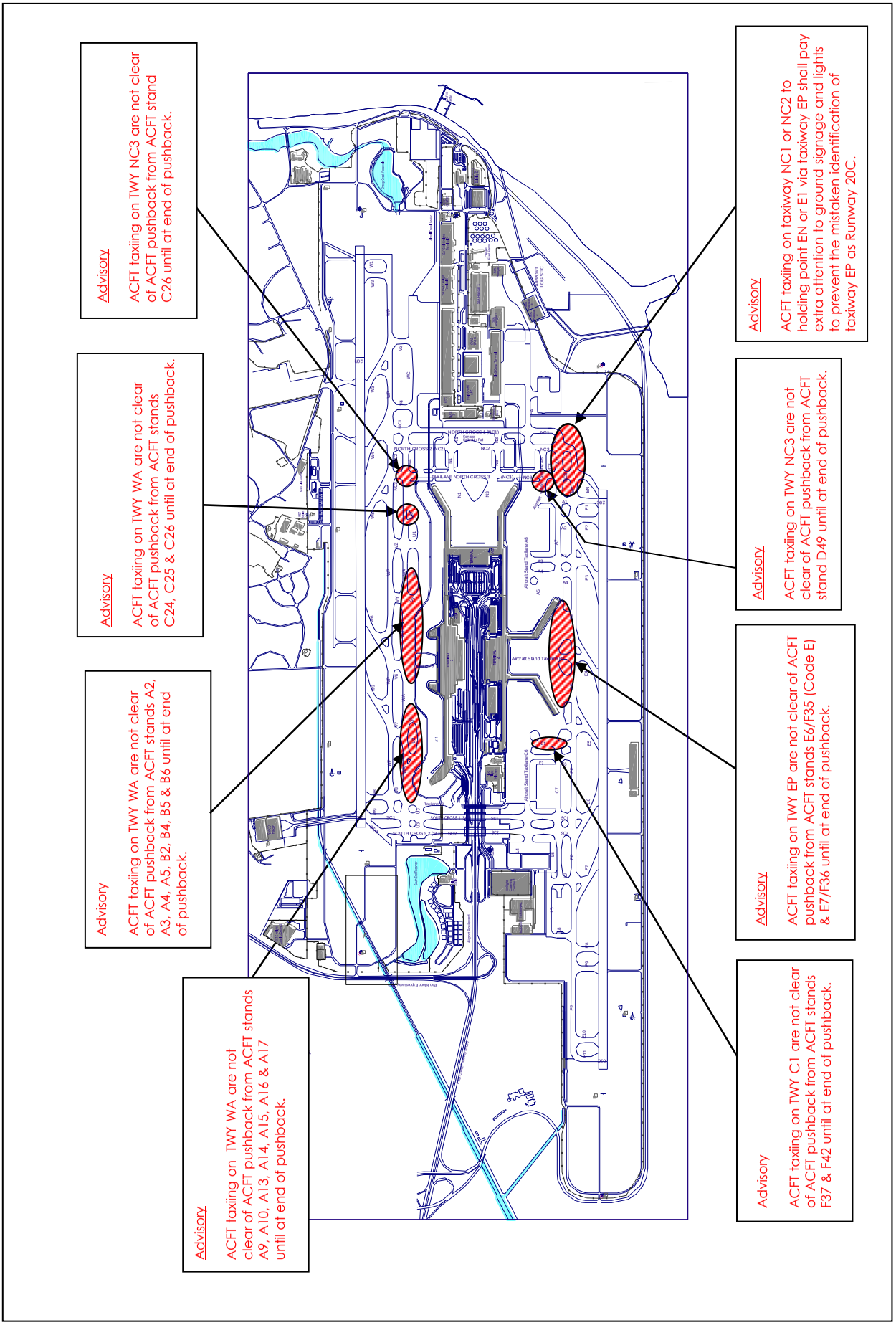
RADIO ALTIMETER OPERATIONS AREA

A radio altimeter operating area is established in the pre-threshold area of Runway 02L/20R and Runway 02C/20C. The size of the radio altimeter operating area is 300m length and 120m width.

AIRCRAFT STANDS WITH SAFEGATE AIRCRAFT DOCKING GUIDANCE SYSTEM.

TOTAL AIRCRAFT PARKING POSITIONS : 167

AERODROME ADVISORY CHART



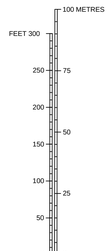
CHANGES : Advisory alert on potential risk of mistaking Taxiways EP and WP as a runway added.

DIMENSIONS AND ELEVATIONS IN METRES

AERODROME OBSTACLE CHART - ICAO
TYPE A (OPERATING LIMITATIONS)

SINGAPORE/Singapore Changi

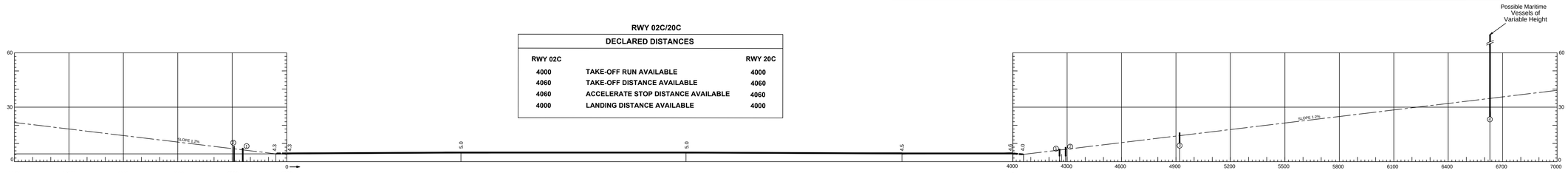
MAGNETIC VARIATION 26°E (2015)



RWY 02C/20C

DECLARED DISTANCES

RWY 02C		RWY 20C
4000	TAKE-OFF RUN AVAILABLE	4000
4060	TAKE-OFF DISTANCE AVAILABLE	4060
4060	ACCELERATE STOP DISTANCE AVAILABLE	4060
4000	LANDING DISTANCE AVAILABLE	4000



LEGEND	
LOCALISER ANTENNA	
BUILDING	
IDENTIFICATION NUMBER	1
LAMP POST	
ROAD	
TREE CANOPY	

HORIZONTAL SCALE 1:10,000

METRES 400 200 0 500 1000 1500 2000 METRES

FEET 1000 500 0 1000 2000 3000 4000 5000 6000 FEET

ORDER OF ACCURACY
HORIZONTAL : ±1m
VERTICAL : ±1m

AMENDMENT RECORD		
NO.	DATE	ENTERED BY

CHANGES : Clearway dimension and Take-Off Distance Available (TODA) for Runway revised.

AERODROME OBSTACLE CHART - ICAO
TYPE B

SINGAPORE / Singapore Changi

CHANGES: Runway 02C/20C Clearway dimension revised.

GRID : Grid lines and co-ordinates shown are based on WGS-84 datum.

STANDARD DEPARTURE CHART RNAV (GNSS) - INSTRUMENT (SID)

TWR 118.6 / 118.25
APP 120.3
ACC 133.25

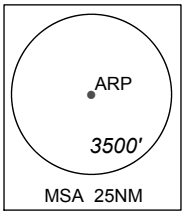
TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi
RWY 02L/20R
AROSO DEPARTURES
AROSO 2E (R02L)
AROSO 2F (R20R)

ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 26'E (2015)

DISTANCES IN NM



NOTE: RADAR REQUIRED

NOTE: ACFT UNABLE TO FLY THE SID PROFILE SHALL INFORM ATC PRIOR TO DEPARTURE AND TO EXPECT RADAR VECTORING, IF NECESSARY

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

NOTE: REFER TO BACK PAGE FOR
- FORMAL AND TABULAR DESCRIPTIONS
- RADIO COM FAILURE PROCEDURES

AROSO
02°08'46"N
103°24'21"E

308° 24

AKMET
01°53'55"N
103°43'39"E
A110

308° 14

AKOMA
01°45'22"N
103°54'43"E
A070
For AROSO 2E only

AROSO 2E 333° 14

AROSO 2F 342° 21

ATRUM
01°32'56"N
104°00'57"E

333° 3

TOPOM
01°29'55"N
104°02'27"E
A020

RWY02L(DER)
01°23'05"N
104°59'33"E

RWY20R(DER)
01°20'47"N
103°58'35"E

023°

AROSO 2E

TEKONG
DVOR/DME 116.5
VTK
01°24'55"N
104°01'20"E
60M
A070
For AROSO 2F only

342° 10

SUKOK
01°15'12"N
104°04'28"E

023° 5

SASGA
01°10'37"N
104°02'28"E
A040

113° 8

SUNGO
01°13'38"N
103°55'32"E

AROSO 2F 203° 5

SUNVA
01°17'56"N
103°57'22"E
A020

GENERAL INFORMATION

INITIAL CLIMB
3000FT OR AS DIRECTED BY ATC

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

RWY 02L

SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF BY SINGAPORE RADAR.
SEE (ENR 1.5-4) FOR MINIMUM CLIMB GRADIENT CRITERIA.

RWY 20R

SHALL NOT EXCEED IAS 230KTS UNTIL SASGA AND NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF BY SINGAPORE RADAR.
DEPARTURES SHALL BE ON A MINIMUM NET CLIMB GRADIENT OF 5% UNTIL REACHING OR PASSING 400FT, THEREAFTER 3.3%.

GND SPEED - KNOTS	75	100	150	200	250	300
5% V/V (fpm)	380	506	760	1013	1266	1519
3.3% V/V (fpm)	251	334	501	668	835	1003

NOT TO SCALE

AROSO 2E (SID) RNAV GNSS RWY 02L - DESCRIPTIONS

Formal & Abbreviated Descriptions

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To TOPOM on course 023° at or above 2000ft, turn left. To ATRUM. To AKOMA at or above 7000ft, turn left. To AKMET at or above 11000ft. To AROSO.	TOPOM [M023; A020+; L] - ATRUM - AKOMA [A070+; L] - AKMET [A110+] - AROSO	CF TF TF TF TF	N N N N N

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	TOPOM	-	023(022.5)	-0.5	L	A020+	-	RNAV1
TF	ATRUM	-	333(332.5)	-0.5	-	-	-	RNAV1
TF	AKOMA	-	333(332.5)	-0.5	L	A070+	-	RNAV1
TF	AKMET	-	308(307.5)	-0.5	-	A110+	-	RNAV1
TF	AROSO	-	308(307.5)	-0.5	-	-	-	RNAV1

AROSO 2F (SID) RNAV GNSS RWY 20R - DESCRIPTIONS

Formal & Abbreviated Descriptions

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To SUNVA on course 203° at or above 2000ft. To SUNGO, turn left. To SASGA at or above 4000ft, speed 230kts, turn left. To SUKOK, turn left. To VTK at or above 7000ft. To AKOMA, turn left. To AKMET at or above 11000ft. To AROSO.	SUNVA [M203; A020+] - SUNGO [L] - SASGA [A040+; K230; L] - SUKOK [L] - VTK [A070+] - AKOMA [L] - AKMET [A110+] - AROSO	CF TF TF TF TF TF TF TF	N N N N N N N N

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	SUNVA	-	203(202.5)	-0.5	-	A020+	-	RNAV1
TF	SUNGO	-	203(202.5)	-0.5	L	-	-	RNAV1
TF	SASGA	-	113(113.3)	-0.5	L	A040+	K230	RNAV1
TF	SUKOK	-	023(023.6)	-0.5	L	-	-	RNAV1
TF	VTK	-	342(341.5)	-0.5	-	A070+	-	RNAV1
TF	AKOMA	-	342(341.5)	-0.5	L	-	-	RNAV1
TF	AKMET	-	308(307.5)	-0.5	-	A110+	-	RNAV1
TF	AROSO	-	308(307.5)	-0.5	-	-	-	RNAV1

RADIO COMMUNICATIONS FAILURE PROCEDURE

1	**SET TRANSPONDER TO MODE A/C CODE 7600**
2	**COMMUNICATIONS FAILURE OCCURS IMMEDIATELY AFTER DEPARTURE ON:** **RWY 02L -** PROCEED STRAIGHT AHEAD TO NYLON HOLDING AREA (NHA) CLIMBING TO THE LAST ASSIGNED ALTITUDE, THEREAFTER REFER TO SINGAPORE AIP ON RADIO COMMUNICATIONS FAILURE PROCEDURE. **RWY 20R -** PROCEED STRAIGHT AHEAD TO SAMKO HOLDING AREA (SHA) CLIMBING TO THE LAST ASSIGNED ALTITUDE, THEREAFTER REFER TO SINGAPORE AIP ON RADIO COMMUNICATIONS FAILURE PROCEDURE.

STANDARD DEPARTURE CHART RNAV (GNSS) - INSTRUMENT (SID)

TWR 118.6 / 118.25
APP 120.3
ACC 134.4

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi
RWY 02C/20C
VENIX DEPARTURES
VENIX 1A (R02C)
VENIX 1B (R20C)

ELEV, ALT IN FEET
BEARINGS, TRACKS AND RADIALS ARE MAGNETIC
VAR 26'E (2015)

DISTANCES IN NM

NOTE: RADAR REQUIRED

NOTE: ACFT UNABLE TO FLY THE SID PROFILE SHALL INFORM ATC PRIOR TO DEPARTURE AND TO EXPECT RADAR VECTORING, IF NECESSARY

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

NOTE: REFER TO BACK PAGE FOR
- FORMAL AND TABULAR DESCRIPTIONS
- RADIO COM FAILURE PROCEDURES

GENERAL INFORMATION

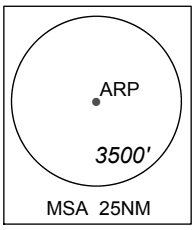
INITIAL CLIMB
3000FT OR AS DIRECTED BY ATC

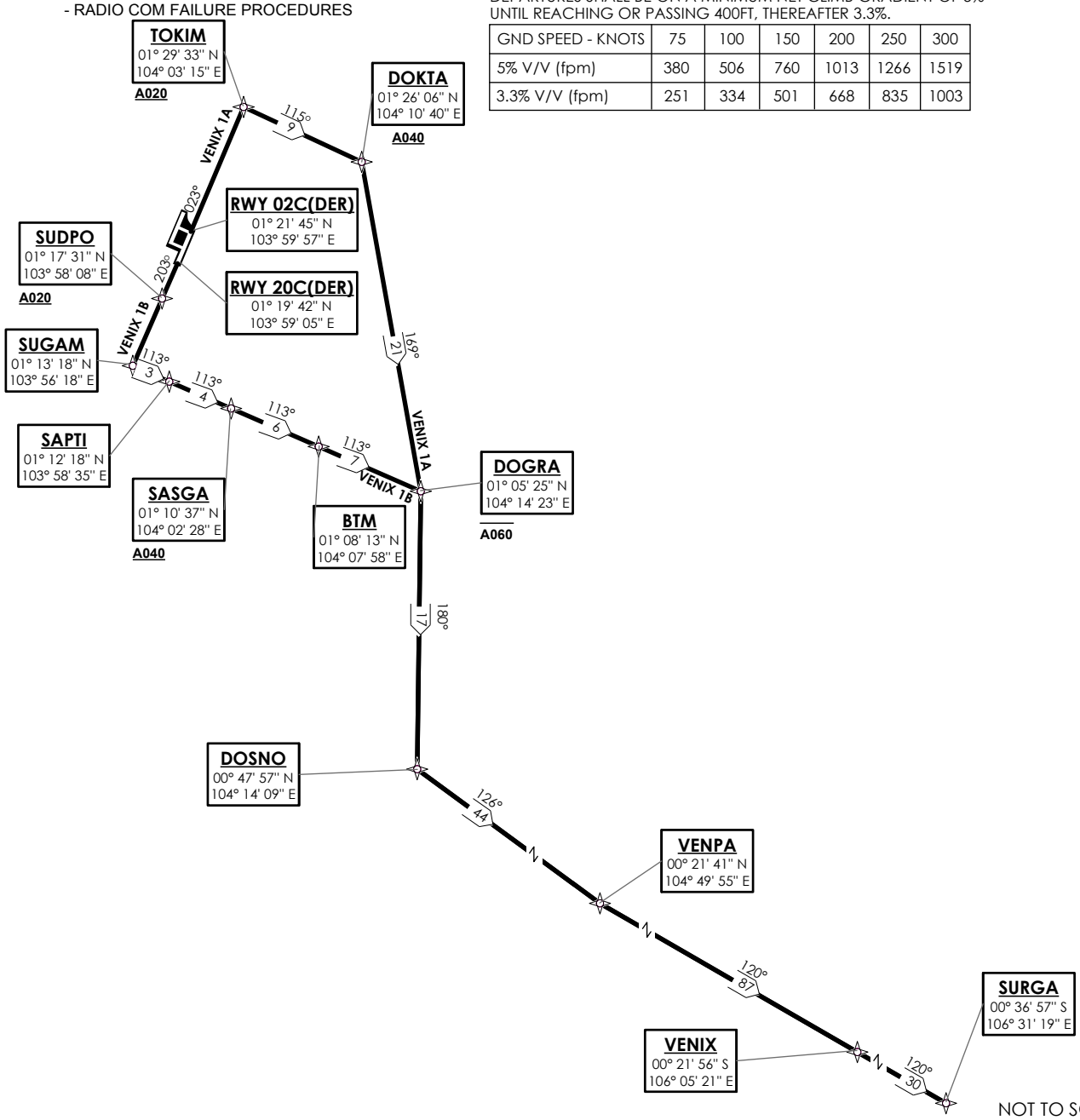
ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

RWY 02C
SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF BY SINGAPORE RADAR.
SEE (ENR 1.5-4) FOR MINIMUM CLIMB GRADIENT CRITERIA.

RWY 20C
SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF BY SINGAPORE RADAR.
DEPARTURES SHALL BE ON A MINIMUM NET CLIMB GRADIENT OF 5% UNTIL REACHING OR PASSING 400FT, THEREAFTER 3.3%.

GND SPEED - KNOTS	75	100	150	200	250	300
5% V/V (fpm)	380	506	760	1013	1266	1519
3.3% V/V (fpm)	251	334	501	668	835	1003





VENIX 1A (SID) RNAV GNSS RWY 02C - DESCRIPTIONS

Formal & Abbreviated Descriptions

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To TOKIM on course 023° at or above 2000ft,, turn right. To DOKTA at or above 4000ft, turn right. To DOGRA at or below 6000ft, turn right. To DOSNO, turn left. To VENPA, turn left. To VENIX. To SURGA.	TOKIM [M023; A020+; R] -	CF	N
	DOKTA [A040+; R] -	TF	N
	DOGRA [A060-; R] -	TF	N
	DOSNO [L] -	TF	N
	VENPA [L] -	TF	N
	VENIX -	TF	N
	SURGA	TF	N

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	TOKIM	-	023(022.5)	-0.5	R	A020+	-	RNAV1
TF	DOKTA	-	115(114.5)	-0.5	R	A040+	-	RNAV1
TF	DOGRA	-	169(168.5)	-0.5	R	A060-	-	RNAV1
TF	DOSNO	-	180(179.5)	-0.5	L	-	-	RNAV1
TF	VENPA	-	126(125.5)	-0.5	L	-	-	RNAV1
TF	VENIX	-	120(199.5)	-0.5	-	-	-	RNAV1
TF	SURGA	-	120(199.5)	-0.5	-	-	-	RNAV1

VENIX 1B (SID) RNAV GNSS RWY 20C - DESCRIPTIONS

Formal & Abbreviated Descriptions

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
To SUDPO on course 203° at or above 2000ft. To SUGAM, turn left. To SAPTI. To SASGA at or above 4000ft. To BTM. To DOGRA at or below 6000ft, turn right. To DOSNO, turn left. To VENPA, turn left. To VENIX. To SURGA.	SUDPO [M203; A020+] -	CF	N
	SUGAM [L] -	TF	N
	SAPTI -	TF	N
	SASGA [A040+] -	TF	N
	BTM -	TF	N
	DOGRA [A060-; R] -	TF	N
	DOSNO [L] -	TF	N
	VENPA [L] -	TF	N
	VENIX -	TF	N
	SURGA	TF	N

Tabular Descriptions

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
CF	SUDPO	-	203(202.5)	-0.5	-	A020+	-	RNAV1
TF	SUGAM	-	203(202.5)	-0.5	L	-	-	RNAV1
TF	SAPTI	-	113(113.3)	-0.5	-	-	-	RNAV1
TF	SASGA	-	113(113.3)	-0.5	-	A040+	-	RNAV1
TF	BTM	-	113(113.3)	-0.5	-	-	-	RNAV1
TF	DOGRA	-	113(113.3)	-0.5	R	A060-	-	RNAV1
TF	DOSNO	-	180(179.5)	-0.5	L	-	-	RNAV1
TF	VENPA	-	126(125.5)	-0.5	L	-	-	RNAV1
TF	VENIX	-	120(199.5)	-0.5	-	-	-	RNAV1
TF	SURGA	-	120(199.5)	-0.5	-	-	-	RNAV1

RADIO COMMUNICATIONS FAILURE PROCEDURE

1	**SET TRANSPONDER TO MODE A/C CODE 7600**
2	**COMMUNICATIONS FAILURE OCCURS IMMEDIATELY AFTER DEPARTURE ON:** **RWY 02C -** PROCEED STRAIGHT AHEAD TO NYLON HOLDING AREA (NHA) CLIMBING TO THE LAST ASSIGNED ALTITUDE, THEREAFTER REFER TO SINGAPORE AIP ON RADIO COMMUNICATIONS FAILURE PROCEDURE. **RWY 20C -** PROCEED STRAIGHT AHEAD TO SAMKO HOLDING AREA (SHA) CLIMBING TO THE LAST ASSIGNED ALTITUDE, THEREAFTER REFER TO SINGAPORE AIP ON RADIO COMMUNICATIONS FAILURE PROCEDURE.

WSAP AD 2.1 AERODROME LOCATION INDICATOR AND NAME
WSAP - Paya Lebar Airport

WSAP AD 2.2 AERODROME GEOGRAPHICAL AND ADMINISTRATIVE DATA		
1	*ARP coordinates and site at AD*	012120.6N 1035410.0E (Paya Lebar IBN)
2	*Direction and distance from (city)*	-
3	*Elevation/Reference temperature*	20m (65ft) / 31.5°C
4	*MAG VAR*	26'E (2015)
5	*AD Administration, address, telephone, telefax, telex, AFS*	Paya Lebar Airport Singapore 539906 Tel: 63813111 (Base Command Post) AFS: WSAPYWYX
6	*Types of traffic permitted*	IFR
7	*Remarks*	Operator: Republic of Singapore Air Force. Alternate/Emergency Diversionary Aerodrome for Singapore Changi Airport (see page WSAP AD 2-9)

WSAP AD 2.3 OPERATIONAL HOURS		
1	*Aerodrome Administration*	BTN 2300-1100 SUN/MON to THU/FRI, 2300-0500 FRI/SAT; Public holidays and outside operating hours prior permission required from RSAF Headquarters via Paya Lebar Operations.
2	*Customs and Immigration*	by prior arrangement only
3	*Health and Sanitation*	by prior arrangement only
4	*AIS Briefing Office*	-
5	*ATS Reporting Office*	-
6	*MET Briefing Office*	H24
7	*Air Traffic Services*	H24
8	*Remarks*	AD may be closed periodically for Foreign Object Damage (FOD) walk. Actual emergency or diversion will be accepted at 30 min notification. Such closure will be published via NOTAM.

WSAP AD 2.4 HANDLING SERVICES AND FACILITIES		
1	*Cargo Handling Facilities*	-
2	*Fuel / Oil Types*	JET A1, Oil
3	*Fuelling Facilities / Capacity*	BTN 2300-1100 SUN/MON to THU/FRI; 2300-0500 FRI/SAT; Public holidays and outside operating hours prior permission required from RSAF Headquarters via Paya Lebar Base Command Post.
4	*Hangar space for visiting aircraft*	-
5	*Repair facilities for visiting aircraft*	-
6	*Remarks*	Nil

WSAP AD 2.5 PASSENGER FACILITIES		
1	*Hotels*	Nil
2	*Restaurants*	Nil
3	*Transportation*	Nil
4	*Medical Facilities*	Nil
5	*Banks and Post Offices*	Nil
6	*Tourist Office*	Nil
7	*Remarks*	Nil

WSAP AD 2.6 RESCUE AND FIRE FIGHTING SERVICES		
1	*AD category for fire fighting*	CAT 9
2	*Rescue equipment*	Adequately provided as recommended by ICAO
3	*Capability for removal of disabled aircraft*	Sufficient salvage equipment provided by Airfield Ground Services section at military bases.
4	*Remarks*	All Airport Emergency Services personnel are trained in rescue and fire-fighting as well as medical first-aid.

WSAP AD 2.7 SEASONAL AVAILABILITY - CLEARING
The aerodrome is available throughout the year.

WSAP AD 2.8 APRONS, TAXIWAYS AND CHECK LOCATIONS/POSITIONS DATA		
1.	*Apron surface and strength*	Strength: LCN80 - Flexible (Apron A) Strength: LCN100 - PCN71/R/B/W/U (Apron B) Strength: LCN100 - PCN72/F/B/W/U (Apron C) Strength: LCN80 - Flexible (Jet Apron/Jet Apron Extension)
2.	*Taxiway width, surface and strength*	Strength: PCN72/F/B/W/U
3.	*Remarks*	TWY between TWY W1 and TWY W2 closed to all code C and above aircraft. Pilots to exercise caution.

WSAP AD 2.20 LOCAL TRAFFIC REGULATIONS

DESIGNATION OF PAYA LEBAR AIRPORT AS AN ALTERNATE AD FOR SINGAPORE CHANGI AIRPORT

1. INTRODUCTION

1.1 Paya Lebar Airport is designated as an alternate aerodrome to Singapore Changi Airport.

1.2 As Paya Lebar Airport is a joint civil/military aerodrome, its use as a planned alternate aerodrome for Singapore Changi Airport is subjected to certain restrictions and limitations. It also has limited ground, baggage and passenger handling facilities for civilian aircraft operations, such as passenger boarding bridges.

2. MANNING OF PAYA LEBAR AIRPORT

2.1 The airport is open from 2300-1100 on SUN-MON to THU-FRI and 2300-0500 on FRI-SAT. It is closed on Sundays and Public Holidays. Outside the stipulated operating hours and during airport closure, Paya Lebar Airport will be opened at 30 minutes' notice to accept diversion flights into the aerodrome.

2.2 Airline operators are requested to inform the Airport Manager and the Duty Tower or SATCC Supervisor at Singapore Changi Airport as soon as it is known that their service will require the use of Paya Lebar Airport. Revised ETAs and/or ETDs are to be notified as soon as known.

2.3 The airport will hold off all departures and arrivals when the aerodrome visibility falls below 3km, or when the aerodrome prevailing clould base is lower than 500ft. This is a safety consideration to avoid aircraft from carrying out a missed approach under an adverse weather condition. For maintenance/test flights scheduled to depart and arrive back to the airport, such departures may be held off when the aerodrome visibility falls below 6km, or when the aerodrome prevailing cloud base is lower than 1,000ft.

3. OPERATIONAL SERVICES

3.1 Air-ground-air communications maintained by Paya Lebar Airport for aerodrome/approach control service are listed in page WSAP AD 2-7.

4. PASSENGER CLEARANCE

4.1 All Customs, Health and Immigration clearances will be carried out at Singapore Changi Airport.

4.2 The diverting aircraft Airline's Coordinator and its ground handling agency staff shall be present to provide assistance when an aircraft is required to land at Paya Lebar Airport.

5. SECURITY

5.1 All airline personnel, including ground handlers and support staff who have to proceed to Paya Lebar Airport must wear their Singapore Changi Airport passes at a prominent position for entry to the aircraft parking area. All personnel not in possession of the laminated Singapore Changi Airport pass will be denied entry into Paya Lebar Airport by the RSAF Security Guard. Entry into the airport by both the airline personnel and service equipment is via the main gate. The Airline Engineering Coordinator shall be responsible for the proper positioning of the ground servicing equipment and vehicles in the Apron Area where arriving aircraft are to be parked.

5.2 The security of civil aircraft parked in the Apron is the responsibility of the aircraft owner and any security service obtained shall first be cleared with the Paya Lebar Airport flight security.

6. AIRCRAFT STAND ALLOCATION

6.1 Nine aircraft parking positions in Apron C and on taxiway fillets are available for civil aircraft. A separation of 40 feet between wing-tips should be maintained.

6.2 Aircraft parking positions will be issued by the Paya Lebar Tower and the Airline Engineering Coordinator shall provide the marshalling services. Close coordination between the Airline Engineering Coordinator and the Tower Controller is essential in regard to aircraft parking and positioning of servicing equipment in and around the parking apron.

7. AIRCRAFT REFUELLING

7.1 ST Airport Services Pte Ltd (STARS) is the assigned aircraft fuelling agency. However, prior arrangement must be made between the airline and STARS for such services. The refuelling rate available is 350 imperial gallons per minute (IGPM).

8. GROUND OPERATIONS

8.1 Singapore Airport Terminal Services (SATS) and Changi International Airport Services (CIAS) will provide all ground services at one hour's prior notice except engineering services which will be provided by Singapore Airlines.

9. FULL EMERGENCY/CRASH PROCEDURE

9.1 In the event of a Full Emergency being declared on a civil aircraft diverted to Paya Lebar AP, Full Emergency/Crash Procedures applicable to Singapore Changi AP will equally apply to Paya Lebar AP.

9.2 Alerting of all outside organisations such as the Singapore Civil Defence Force, Police, MINDEF and ambulance services shall be carried out by the Singapore Changi AP Tower Controller.

10. METEOROLOGICAL AND AERONAUTICAL INFORMATION SERVICE

10.1 Meteorological service is available 24 hours at the 6th floor of the Old Operations Building, Paya Lebar Airport.

10.2 Aeronautical Information Service is available at Singapore Changi Airport.

11. ATC SERVICE OUTSIDE STIPULATED OPERATING HOURS

11.1 Radar service will not be available at Paya Lebar Airport outside its stipulated operating hours.

WSAP AD 2.22 FLIGHT AND GROUND PROCEDURES

1. DEPARTURE AND ARRIVAL PROCEDURES

1.1 The designated runway for departures is RWY 02 and for arrivals is RWY 20.

1.2 The airport will hold off all departures and arrivals when the aerodrome visibility falls below 3km, or when the aerodrome prevailing cloud base is lower than 500ft. This is a safety consideration to avoid aircraft fm carrying out a missed approach and overflying the populace under an adverse weather condition.

2. STANDARD INSTRUMENT DEPARTURES

November 1 Departure - Climb to maintain 3,000ft on RWY heading for PU DVOR/DME. At PU DVOR/DME, turn left heading 010. Contact Paya Lebar APP on 119.9MHz or 298.0MHz or as instructed by ATC.
November 2 Departure - Climb to maintain 3,000ft on RWY heading for PU DVOR/DME. At PU DVOR/DME, maintain heading 020. Contact Paya Lebar APP on 119.9MHz or 298.0MHz or as instructed by ATC.
November 3 Departure - Climb to maintain 3,000ft on RWY heading for PU DVOR/DME. At PU DVOR/DME, turn left heading 360. Contact Paya Lebar APP on 119.9MHz or 298.0MHz or as instructed by ATC.

3. STANDARD ARRIVALS

When Paya Lebar is VMC - Expect radar vector to RWY 20 for visual straight-in approach.
When Paya Lebar is IMC - Expect radar vector to RWY 20 for ILS or PU DVOR/DME approach.

WSAP AD 2.24 CHARTS RELATED TO PAYA LEBAR AIRPORT

WSAT AD 2.18 ATS COMMUNICATION FACILITIES				
Service Designation	*Call sign*	*Frequency P - Primary S - Secondary*	*Hours of operation*	*Remarks*
APP	Tengah Approach	P130.0 MHz P263.4 MHz S122.0 MHz	BTN 2300-1100 SUN/MON to THU/FRI; and On SUN, Public holidays and outside the above times, PPR from RSAF HQ via Tengah Ops.	
TWR	Tengah Tower	P122.0 MHz P282.5 MHz S263.4 MHz		
	Tengah Ground	122.0 MHz 337.8MHz		
	Tengah Talkdown	130.0 MHz 290.8 MHz 328.5 MHz		
ACC	Singapore Radar	P123.7 MHz S127.3 MHz	H24	for AWY B469, G219, G334, R208, L625, L629, L635, L642, M751, M753, M758, M761, M763, M771, N884, N891 and N892.
		133.8 MHz	0000-1430	
		P133.25 MHz S135.8 MHz	H24	for AWY A457, A464, A576, B466, R325 (all northbound) and R469.
		P134.4 MHz S128.1 MHz 255.4 MHz		for AWY A464, G579, A576 (all southbound), B470, G220, N875 and in area in the immediate vicinity of Singapore
				Radar Maint Period: Monthly - EV third SAT 1601-2359
	Singapore Radio	6 556 KHz 11 297 KHz	H24	SEA 1, SATCOM SER AVBL SSB suppressed carrier
		5 655 KHz 8 942 KHz 11 396 KHz		SEA 2, SATCOM SER AVBL SSB suppressed carrier
		6 556 KHz		SEA 3, SATCOM SER AVBL SSB suppressed carrier
APP	Singapore Approach	P120.3 MHz S124.6 MHz		TAR - Intermediate approach to Singapore Changi AP and other airports in Singapore - DEP from all airports in Singapore Maint Period: Monthly EV first THU 0000-0900 (ASR I) and EV fourth SAT 1601-2359 (ASR II)

WSAT AD 2.19 RADIO NAVIGATION AND LANDING AIDS					
Type of Aid	*IDENT*	*FREQ*	*OPR Hour*	*Coordinates*	*Remarks*
TACAN	TNG	CH86X	2300-1100 from SUN/MON to THU/FRI SUN, Public holidays and outside the above timings, prior permission required from RSAF HQ via Tengah Operations.	012336.00N 1034242.00E	043° MAG 0.55km from ARP Maint Period: 0001-0900 second SAT of EV month
SINJON DVOR/DME	SJ	113.5MHz CH82X	H24	011321.54N 1035115.74E	201° MAG 14.5km from THR RWY 02 (Paya Lebar) Antenna HGT: 194ft AMSL. Coverage 200NM Maint Period: 0200-0600 third THU of EV month
ILS LLZ RWY 36	ITN	108.1MHz	H24	012408.43N 1034234.34E	Located 260m from THR RWY 18 along centreline of RWY. Course width 3°
ILS GP RWY 36	-	334.7MHz	H24	012240.84N 1034231.01E	GP antenna 3°
ILS DME RWY 36	ITN	CH18X	H24	012241.02N 1034226.67E	DME co-located with GP
ILS LLZ RWY 18	ITS	111.3MHz	H24	012221.63N 1034224.98E	Located 290m from THR RWY 36 along centreline of RWY. Course width 3°
ILS GP RWY 18	-	332.3MHz	H24	012351.64N 1034237.33E	GP antenna 3°
ILS ME RWY 18	ITS	CH50X	H24	012350.04N 1034236.38E	DME co-located with GP