

WSSL SINGAPORE / SELETAR**WSSL AD 2.1 AERODROME LOCATION INDICATOR AND NAME****WSSL - SINGAPORE / SELETAR****WSSL AD 2.2 AERODROME GEOGRAPHICAL AND ADMINISTRATIVE DATA**

1	ARP Coordinates and Site at AD	012501.04N 1035203.52E
2	Direction and distance from (city)	006°, 14.6km from city centre (The Fullerton Hotel , Singapore)
3	Elevation/Reference Temperature	14 M(46ft) / 33.7°C
4	Geoid Undulation	9.78 M
5	MAG VAR	0°23' E (2020)
6	AD Administration, Address, Telephone, Telefax, AFS	<p>Address: CHANGI AIRPORT GROUP (S) PTE LTD SELETAR AIRPORT 21 Seletar Aerospace Road 1 Singapore 797405</p> <p>TEL: (65)64812909, Fax: (65)64833044 (AIS) TEL: (65)64812893, Fax: (65)64831656 (Control Tower) TEL: (65)64815077, 97533361 FAX: (65)64831754 (Airside Operations) AFS: WSSLYDYX</p>
7	Types of Traffic Permitted	IFR and VFR
8	Remarks	<p>a) Scheduled Closure Periods for RWY 03/21: see AIP section WSSL AD 2.12 item 14 i).</p> <p>b) Night flight restriction for noise abatement purpose (see AIP section WSSL AD 2.21).</p> <p>c) PPR for aircraft not equipped with RTF.</p> <p>d) A subsonic jet aircraft, unless otherwise exempted, is not permitted to operate in Singapore unless it possesses a noise certificate stating that it meets the noise standards of ICAO Annex 16, Volume 1, Chapter 3, or equivalent. The noise certificate may also take the form of a suitable statement contained in another document approved by the State of Registry of the aircraft.</p> <p>e) Direct transit area. Overnight transit in Singapore city.</p> <p>f) All arriving and departing aircraft are required to appoint a licensed Ground Handling Agent (GHA). List of Seletar GHAs can be downloaded from URL - http://www.seletarairport.com/ground-handling-agents-at-seletar-airport.html</p> <p>g) For non-scheduled flights, all passengers and crews are required to clear Customs and Immigration at Seletar Business Aviation Centre (SBAC)</p>

WSSL AD 2.3 OPERATIONAL HOURS

1	Aerodrome Administration	H24	5	ATS Reporting Office	H24
2	Customs and Immigration	H24	6	MET Briefing Office	H24
3	Health and Sanitation	H24	7	Air Traffic Services	H24
4	AIS Self-Briefing Office	H24	8	Apron Control Office	H24

WSSL AD 2.4 HANDLING SERVICES AND FACILITIES

1	Cargo Handling Facilities	Provided by handling agent.
2	Fuel / Oil Types	AVGAS 100LL, JET A1

3	<i>Fuelling Facilities / Capacity</i>	SUN/MON to THU/FRI BTN 2330-1400; SAT, SUN and Public holidays BTN 0030-0930 Contact during operating hours: TEL: (65)68538320 (Operations Room) Contact after operating hours: TEL: (65)82009899 (H24 Operations Mobile) FAX: (65)64839246 Group email: GX-SAV-Seletar-Operations24by7@shell.com PPP link: http://www.shell.com/business-customers/aviation/ppp.html
4	<i>Hangar space for visiting aircraft</i>	By arrangement with handling agent.
5	<i>Repair facilities for visiting aircraft</i>	By arrangement with handling agent.
6	<i>Remarks</i>	NIL

WSSL AD 2.5 PASSENGER FACILITIES

1	<i>Hotels</i>	NIL
2	<i>Restaurants</i>	Public area of terminal building
3	<i>Transportation</i>	Handling agent provides its own transport service for passengers and crew between airport and city. Public buses and private hired taxis are available at airport terminal.
4	<i>Medical Facilities</i>	NIL
5	<i>Bank and Post Office</i>	NIL
6	<i>Tourist Office</i>	NIL
7	<i>Remarks</i>	Internet address : http://www.seletarairport.com/ / for airport and flight information, facilities and services.

WSSL AD 2.6 RESCUE AND FIRE FIGHTING SERVICES

1	<i>AD category for fire fighting</i>	CAT7 (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>	Up to B757-200. Contact Seletar Airside Operations at: +65 64815077 or +65 97533361
4	<i>Remarks</i>	All Airport Emergency Service personnel are trained in rescue and fire-fighting as well as medical first-aid.

WSSL AD 2.7 SEASONAL AVAILABILITY - CLEARING

The aerodrome is available throughout the year

WSSL AD 2.8 APRONS, TAXIWAYS AND CHECK LOCATIONS/POSITIONS DATA

1	<i>Apron surface and strength</i>	Surface: Concrete (all other aircraft stands) Strength: PCR 432 / R / C / W / U
2	<i>Taxiway width, surface and strength</i>	Width: 23 M (75.5ft), 18 (59.1ft) TWY EC4, EC5 AND EC6
		8 M (26.2ft) TWY WS1 and WS2
		Surface: Bituminous concrete
		Strength: PCR 423/F/C/X/U
3	<i>Remarks : NIL</i>	

WSSL AD 2.9 SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM AND MARKINGS

SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM AND MARKINGS		
1	<i>Use of aircraft stand ID signs, TWY guidelines and visual docking/parking guidance system of aircraft stands</i>	Taxiing guidance signs at all intersections with TWY and RWY at all holding positions. Guidelines at apron. Nose-in guidance at aircraft stands.
2	<i>RWY and TWY markings and LGT</i>	<p><u>RWY LGT:</u> refer to page WSSL AD 2-5 for details. RWY Turn Pad LGT / Markings: Only AVBL at THR RWY 03. Yellow turnpad centreline.</p> <p><u>TWY LGT:</u> TWY Edge LGT: Blue LGT, inset, elevated and omni-directional. TWY Centreline LGT: Green LGT, fixed. Intermediate Holding Position LGT: Yellow LGT, fixed, unidirectional. TWY markings: Yellow TWY centreline.</p> <p>The fixed green taxiway centreline lights and fixed unidirectional yellow intermediate holding position lights shall be switched on between sunset and sunrise or during periods of poor visibility. ATC will continue to verbalise the taxi route as per current practice. Pilots shall continue to adhere strictly to the taxi clearances issued by ATC at all times.</p> <p>In the event that the fixed green taxiway centreline lights and fixed unidirectional yellow intermediate holding position lights become unserviceable, pilots shall taxi following the single continuous yellow taxiway centreline markings and intermediate holding position markings (single broken line laid across the entire width of the taxiway) as per mode of operations during VMC daylight hours.</p> <p><u>MARKING AIDS:</u> Threshold, touchdown zone, centreline stripes and RWY designation. RWY width outline from bituminous concrete surface by white lines.</p> <p><u>AIMING POINT MARKINGS:</u> RWY 03: coincident with PAPI origin located 423.542m from THR respectively. RWY 21: coincident with PAPI origin located 271.279m from THR respectively.</p>
3	<i>Stop Bars</i>	<p>Stop Bars: Red LGT across taxiways W1, W2, W3, E1, E2, E3 and E4, flushed with TWY surface and are supplemented with elevated RWY guard LGT at the sides. By default, red stop bar lights remain on unless deselected by the runway controller. When deselected, these stop bar lights will re-activate automatically after 45 seconds. Pilots shall not cross any lighted red stop bar lights. Pilots and drivers shall enter / cross the runway only when <u>both</u> the following conditions are met:</p> <p>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.</p> <p>Crash Alarm Stop Bars: Red LGT across junctions of EP, EC4 and EH2 TWY, flushed with TWY surface. (Note to pilots and tow-crew: Slow down when taxiing / towing on TWY EP between TWY EC4 and abeam the Control Tower. Keep a lookout for emergency vehicles that may cross the taxiway to respond to emergency on the RWY.)</p>

SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM AND MARKINGS		
4	Remarks	<p>a) Aircraft operators/ground handlers shall be responsible for the safe and smooth operations of aircraft at the aircraft stands.</p> <p>b) A ground handler shall be at the aircraft stand when the aircraft is ready to depart and ensure that the area around the aircraft is clear of vehicles, equipment and personnel before aircraft engines are started. When the pilot signals that he is ready to taxi, the ground handler shall marshal the aircraft out of the aircraft stand. All personnel, tow tugs and equipment shall be cleared from the aircraft stand and red chevron markings on the adjacent aircraft stands before self-power out can commence.</p> <p>c) All arriving aircrafts will be assigned an aircraft stand. Aircraft with wingspan larger than 15m shall be marshalled into the aircraft stand by a ground handler.</p> <p>d) Code A, Code B and Code C aircraft can taxi into aircraft stands C1, C2, C3, C4, C5 and C6 from the north or the south via TWY WA.</p> <p>e) Only Code A aircraft, Code B aircraft, aircraft type Global Express (GLEX), Global 5000 (GL5T), Global 6000 (GL6T), Global Express XRS (GLEX), Global 7500 (GL7T), Fokker 50 (F50), Fokker 70 (F70), Fokker 100 (F100), Gulfstream 500 (GLF5), Gulfstream 550 (GLF5), Gulfstream 650 (GLF6), ATR 42 (AT45 & AT46), ATR 72 (AT75 & AT76), DASH 7 (DNC7), Falcon 7X (FA7X) and Falcon 8X (FA8X) are allowed to taxi out from aircraft stands C1, C2, C3, C4, C5 and C6 subjected to (g), (h) or (i).</p> <p>f) All other aircraft not listed in (e) departing from C1, C2, C3, C4, C5 and C6 are required to push back onto TWY WA or tow forward onto TWY WP.</p> <p>g) Aircraft departing stand C1 shall taxi out towards the north only.</p> <p>h) Aircraft departing stand C6 shall taxi out towards the south only.</p> <p>i) Aircraft departing stands C2, C3, C4 and C5 are allowed to taxi out towards the south or the north.</p> <p>j) Aircraft types up to B757-200 (no winglets) can taxi into aircraft stands D50, D51, D52, D53, D54, D55 and D56.</p> <p>k) Only Code A aircraft, Code B aircraft and Code C aircraft, Airbus A320 family (A318, A319, A320, A321), ATR 42 (AT45 & AT46), ATR 72 (AT75 & AT76), DASH 7 (DNC 7), Embraer 190STD (E190), Embraer ERJ 135 (E135), Falcon 7X (FA7X), Falcon 8X (FA8X), Fokker 50 (F50), Fokker 70 - all, Fokker 100 - all, Global Express (GLEX), Global 5000 (GL5T), Global 6000 (GL6T), Global Express XRS (GLEX), Global 7500 (GL7T), Gulfstream 500 (GLF5), Gulfstream 550 (GLF5), Gulfstream 650 (GLF6) and Q400 (DH8) are allowed to taxi out from aircraft stands D50, D51, D52, D53, D54, D55 and D56.</p> <p>l) Aircraft type C130 is restricted to tow in operations at aircraft stand D1, D2 and D50. Aircraft is required to shut down at designated shut down area and be towed to aircraft stand D1, D2 and D50.</p> <p>m) Only aircraft type ATR72 (AT75 & AT76) and aircrafts with wingspan less than 27.2m can be parked at aircraft stands C60, C61 and C62.</p>

1 PROCEDURES FOR START-UP AND PUSHBACK OF AIRCRAFT

1.1 1.1 For more detailed information on Seletar Aerodrome pushback procedures, please refer to Seletar Airport website at <https://www.seletarairport.com/resources.html>.

WSSL AD 2.10 AERODROME OBSTACLES

IN APPROACH / TKOF AREAS			IN CIRCLING AREA AND AT AD	
RWY/Area affected	Obstacle type Elevation Markings/LGT	Coordinates	Obstacle type Elevation Markings/LGT	Coordinates
a	b	c	a	b
RWY 03 TKOF RWY 21 APCH	1) Mast HGT ranging from 98ft AMSL and above in shipping channel	Approximately 1525m from THR RWY 21	1) Power station chimney 407ft AMSL	012656.8N1035251.7E
	2) Steel structure 300ft AMSL	012709.78N1035318.74E	2) Radio mast 217ft AMSL	012258.8N1035113.8E
	3) Chimney 276ft AMSL	012700.18N1035321.93E	3) Radio masts 184ft AMSL	012454N 1035300E
	4) Chimney 273ft AMSL	012651.81N1035330.23E	4) Radar tower 177ft AMSL marked/LGTD	012537.79N1035306.74E (reclaimed land north of RWY)
	5) Chimney 286ft AMSL	012646.99N1035331.46E	5) Mobile cranes 420ft AMSL	within area bounded by 012711.78N1035223.74E 012729.78N1035223.74E 012729.78N1035247.74E 012656.78N1035247.74E
	6) Mobile cranes 330ft AMSL	within area bounded by 012627.24N1035313.00E 012607.79N1035333.95E 012614.23N1035337.07E 012623.93N1035316.02E	6) Glide Path Antenna 72ft AMSL	012512N1035215E
	7) Silo, 342 ft AMSL, mark and lighted	012659.1N1035325.3E		
Obstacles in the approach / TKOF areas, circling area and at the aerodrome are shown on the AOC and VAC				

WSSL AD 2.11 METEOROLOGICAL INFORMATION PROVIDED

1	Associated MET Office	Seletar
2	Hours of service	H24
3	Office responsible for TAF preparation, Periods of validity	Singapore Changi, 30 hours
4	Type of landing forecast, Interval of issuance	METAR, SPECI and AD warning of adverse weather (H24). TREND NIL.
5	Briefing/consultation provided	NIL
6	Flight documentation, Language(s) used	Tabular forms, English
7	Charts/other information available for briefing or consultation	NIL
8	Supplementary equipment available for providing information	MDWR (Meteorological Doppler Weather Radar), Automated Weather Observing System (AWOS), Low Level Wind Shear Alert System (LLWAS)
9	ATS units provided with information	NIL
10	Additional information	TEL: 64815978 (MET Office)

WSSL AD 2.12 RUNWAY PHYSICAL CHARACTERISTICS

Designations RWY NR	TRUE BRG	Dimensions of RWY (m)	Strength (PCR) 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
03	033.33°	1836 x 46	423/F/C/X/U Grooved Bituminous Concrete	THR: 012430.85N 1035143.79E RWY end: 012520.79N 1035216.43E (9.78M)	THR: 14m TDZ: Not applicable
21	213.33°	1836 x 46	423/F/C/X/U Grooved Bituminous Concrete	THR: 012520.79N 1035216.43E RWY end: 012430.85N 1035143.79E (9.78M)	THR: 5m TDZ: Not applicable

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
7	8	9	10	11	12
RWY 03 1.21 / 0.49% SWY: Not Applicable	Not Applicable	60 X 150	1956 X 150	RWY 03-240 X 92	Not Applicable
RWY 21 1.21 / 0.49% SWY: Not Applicable	Not Applicable			RWY 21-240 X 150	Not Applicable

OFZOFZ	Remarks
13	14
Not Applicable	<p>i) Scheduled closure period for RWY 03/21</p> <p>a) BTN 1600-2300 on first and third FRI of every month or the following FRI if the first or third FRI is a public holiday. RWY CLSD to all TFC except medevac and EMERG flights. Advance notice of 30 minutes is required for EMERG reopening of RWY.</p> <p>b) BTN 0500-0630, 1030-1200, 1600-1730 and 2300-0030 daily for 15-minute RWY inspection. Aircraft to expect delay.</p> <p>ii) A lighted RWY turn pad with centreline marking is provided at the threshold of RWY 03 which is able to serve aircraft up to B757-200.</p> <p>iii) Orange frangible posts are positioned along the boundary 90m on either sides of the RWY centreline demarcating the boundary for grass cutting and other maintenance works.</p> <p>iv) Wind Direction Indicators (WDIs) are located at both northern and southern ends of the RWY.</p>

WSSL AD 2.13 DECLARED DISTANCES

RWY Designator	TORA (m)	TODA (m)	ASDA (m)	LDA (m)	Remarks
1	2	3	4	5	6
03	1836	1896	1836	1836	NIL
21	1836	1896	1836	1836	NIL

WSSL AD 2.14 APPROACH AND RUNWAY LIGHTING

RWY Designator	APCH LGT type LEN INTST	THR LGT Colour WBAR	VASIS (MEHT) PAPI	TDZ LGT LEN	RWY CL LGT,LEN, spacing, colour, INTST	RWY edge LGT LEN, spacing colour, INTST	RWY End LGT Colour WBAR	SWY LGT LEN Colour
1	2	3	4	5	6	7	8	9
03	Simple APCH LGT: 4 rows of barettes of 3 LGT each and 1 crossbar of 13 LGT. White, elevated, uni-directional APCH LGT and white, omni-directional CGL on top of elevated APCH LGT. Simple TDZ LGT: 2 pairs white, inset, uni-directional LGT.	GREEN with THR IDENT LGT	PAPI 3.2°(both sides of RWY) 2 white 2 red LGT (21.24m) 3 white 1 red LGT (22.27m) 4 white LGT (24.75m). ACFT with eye-to-wheel HGT greater than 6.3m are ADZ to fly with 2 white 2 red LGT visible so as to achieve sufficient wheel CLR.	NIL	NIL	White with yellow on last 600m of either end. Elevated, bi-directional and brilliancy controlled.	RED	NIL
21	APCH LGT: 1 row of inset APCH LGT of 4 LGT and 4 rows of barettes of 4 LGT each. White inset uni-directional APCH LGT and white omni-directional CGL on top of white, elevated uni-directional APCH LGT. Simple TDZ LGT: 2 pairs white, inset, uni-directional LGT.	GREEN with THR IDENT LGT	PAPI 3.5°(both sides of RWY) 2 white 2 red LGT (17.720m) 3 white 1 red LGT (19.286m) 4 white LGT (20.871m). ACFT with eye-to-wheel HGT greater than 6.3m are ADZ to fly with 2 white 2 red LGT visible so as to achieve sufficient wheel CLR.	NIL	NIL	White with yellow on last 600m of either end. Elevated, bi-directional and brilliancy controlled.	RED	NIL
RWY 21 THR and RWY END LGT symmetrically disposed in 2 groups with a gap between the groups. RWY 21 THR and RWY END LGT reinstated to inset fitting.								

WSSL AD 2.15 OTHER LIGHTING, SECONDARY POWER SUPPLY

1	ABN/IBN location, characteristics and hours of operation	ABN: 012448.00N 1035207.96E (on top of Control Tower) ALTN FLG W G EV 2.5 SEC. HN and IMC IBN: 012509.94N 1035152.14E (on top of West Substation) FLG G 'SL' EV 7 SEC. HN and IMC
2	LD and LGTI location Ultrasonic wind sensor location and LGT	Ultrasonic wind sensors and windsocks at ends of RWY.
3	TWY edge and centreline lighting	TWY Edge LGT: BLUE, elevated and omni-directional. TWY Centreline LGT: Green, fixed. Intermediate holding position LGT: Yellow, fixed, unidirectional.
4	Secondary power supply/switch-over time	Automatic standby generator power supply available for airfield lighting.
5	Remarks	Vehicles painted yellow or displaying checkered red/white or orange/white flag at highest point of vehicle. WDI lighted.

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>	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 SELETAR CONTROL ZONE A Portion of Seletar CTR within Singapore FIR is known as Seletar CTR 'A'. 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).
2	<i>Vertical Limits</i>	SELETAR CONTROL ZONE A SFC to 4 500ft ALT Maximum Usable ALT 4 000ft SELETAR CONTROL ZONE B SFC to 3 000ft ALT
3	<i>Airspace Classification</i>	C
4	<i>ATS Unit Call sign Language(s)</i>	SELETAR TOWER English
5	<i>Transition Altitude</i>	11000 (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.

Service designation	Call sign	Frequency P-Pri S-Sec	Hours of operation	Remarks
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 AERODROME 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.

2 FILING OF FUNCTIONAL CHECK/TRAINING FLIGHTS

2.1 Flight notification shall be given prior to departure. Flight notification by means of RTF should be avoided.

2.2 For training flights planned to be conducted in Seletar circuits or in Light Aircraft Training Areas A, B and C, locally based operators shall submit details of their flight by electronic mail using the Seletar Functional Check / Training Form which can be retrieved from webpage:

<https://aim-sg.caas.gov.sg>

2.3 Operators of functional check flights conducting circuits within Seletar shall contact Seletar Tower Manager to provide advance notice, at least 2 days before the date of flight. These flights shall not operate within the designated hours for training flights. Refer to GEN 1.2 paragraph 3.8 and WSSL AD 2.20 paragraph 1.5 for details.

Note: Functional Check flight shall not be operated in Light Aircraft Training Areas A, B and C.

2.4 Flight details should contain the following information:

- a) Aircraft identification;
- b) Name and contact number of pilot;
- c) Number of persons on board;
- d) ETD;
- e) Flight duration;
- f) Total endurance; and
- g) Area of flight.

2.5 For flights other than those classified in paragraphs 2.2 and 2.3 above, a flight plan shall be filed.

2.6 Light aircraft engaged in flying training shall maintain VHF communication.

2.7 Light aircraft flying on airways shall, in addition to radio communication apparatus, be equipped with a radio compass.

2.8 All fixed wing aircraft are to use the runway for take-off and landing. After landing, pilots are to vacate the runway via the first available exit taxiway to the left or right or as instructed by ATC.

2.9 Fixed-wing circuit patterns are left hand for RWY 03 and right hand for RWY 21 (arrival and departure).

2.10 All light aircraft training flights shall not descend below 200ft on Seletar QNH when on final approach to land or for a touch-and-go landing unless a landing/touch-and-go clearance has been obtained from ATC. If no such clearance has been obtained from ATC by 200ft the aircraft shall break-off its approach and carry out a go-around procedure.

3 WRONG APPROACHES AND LANDINGS OF AIRCRAFT BOUND FOR SELETAR AERODROME AND SEMBAWANG MILITARY AERODROME

3.1 INTRODUCTION

3.1.1 The attention of all pilots is drawn to the existence of RSAF Sembawang Aerodrome, 3NM to the west of Seletar Aerodrome. The runway at Sembawang is orientated in almost the same direction as the runway at Seletar Aerodrome i.e. 03/21 for Seletar Aerodrome and 05/23 for Sembawang. Due to the close proximity of these two runways, pilots are cautioned against mistaking Sembawang Aerodrome for Seletar Aerodrome and thus making an inadvertent visual landing or approach to land at Sembawang.

3.1.2 Erroneous approaches or landings usually occurred in marginal weather conditions. In almost every instance, the prevailing weather at the time of the incident contributed towards a hasty and erroneous identification of the correct aerodrome.

3.1.3 There is intensive local flying at both aerodromes during the day and night. As pilot training is the major activity at both aerodromes, the risk of collision is very great if a wrong approach or landing is made at either of the two aerodromes.

3.2 POINTS TO BEAR IN MIND WHEN APPROACHING SELETAR AD OR SEMBAWANG AD

3.2.1 The following points are highlighted to serve as a guide to assist pilots in identifying Seletar AD or Sembawang AD and should be remembered and followed:

- a) The runways at Seletar and Sembawang are almost identically aligned. Extra vigilance, therefore, is required when approaching either aerodrome, or when commencing an approach to land.
- b) Make full use of available navigational and landing aids, and positively identify each aid used.
- c) Adhere strictly to the joining instructions issued by ATC.
- d) To keep clear of Sembawang ATZ while approaching Seletar AD for landing and vice versa.

3.2.2 Pilots are required to take note of the proximity of Sembawang ATZ, Paya Lebar CTR and all Prohibited/ Restricted/Danger Areas (e.g. WSR38 and WSD4). All arriving and departing aircraft will have to keep clear of these areas.

3.3 AERODROME CHARACTERISTICS OF SELETAR AND SEMBAWANG AERODROMES

Aeronautical Service	Seletar AD	Sembawang AD	Significant Differences and Remarks
RWY Designation	03/21	05/23	Exercise caution due to almost similar RWY alignment
Location	Adjacent to the Straits of Johor on the eastern bank of Seletar River. Seletar AD is situated APRX 3NM NW of Paya Lebar AP.	APRX 3NM west of Seletar AD and 3NM inland from the Straits of Johor	Seletar RWY commences almost from the edge of the shore. Also note that Sembawang AD is inland and not next to the sea. Pilots operating in either AD are to keep clear of the other AD ATZ/CTR at all times.
RWY LGT	White/Amber RWY edge LGT	NIL	Sembawang AD has no RWY LGT
Approach LGT	Simple approach LGT available for RWY 03 approach, consisting of 4 rows of barettes and 1 crossbar (5th row). RWY 03 - white, elevated, uni-directional approach LGT and white, omni-directional CGL on top of elevated approach LGT. Approach LGT available for RWY 21 approach, consisting of 1 row of inset approach LGT (1st row) and 4 rows of barettes. RWY 21 - white, inset and elevated, uni-directional approach LGT and white, omni-directional CGL on top of elevated approach LGT. Simple touchdown zone LGT for both RWY 03 and RWY 21 approach consisting of 2 pairs of white, inset, uni-directional LGT	NIL	No visual approach slope indicator at Sembawang AD
IBN	FLG G 'SL' EV 7 SEC	FLG R 'AG' EV 20 SEC HN and IMC	NIL
ABN	ALTN FLG W G EV 2.5 SEC	NIL	Sembawang AD has no ABN
Parking Apron	Relatively large aircraft parking apron to the west of RWY, connected to the RWY by three taxiways	Small aircraft parking apron	Differences in size and location of the parking apron

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

Lateral Limits of Noise Abatement Area 1	
POINT	COORDINATES
D	012458.3N 1035044.4E
E	012443.4N 1035005.3E
A	012551.0N 1035044.3E

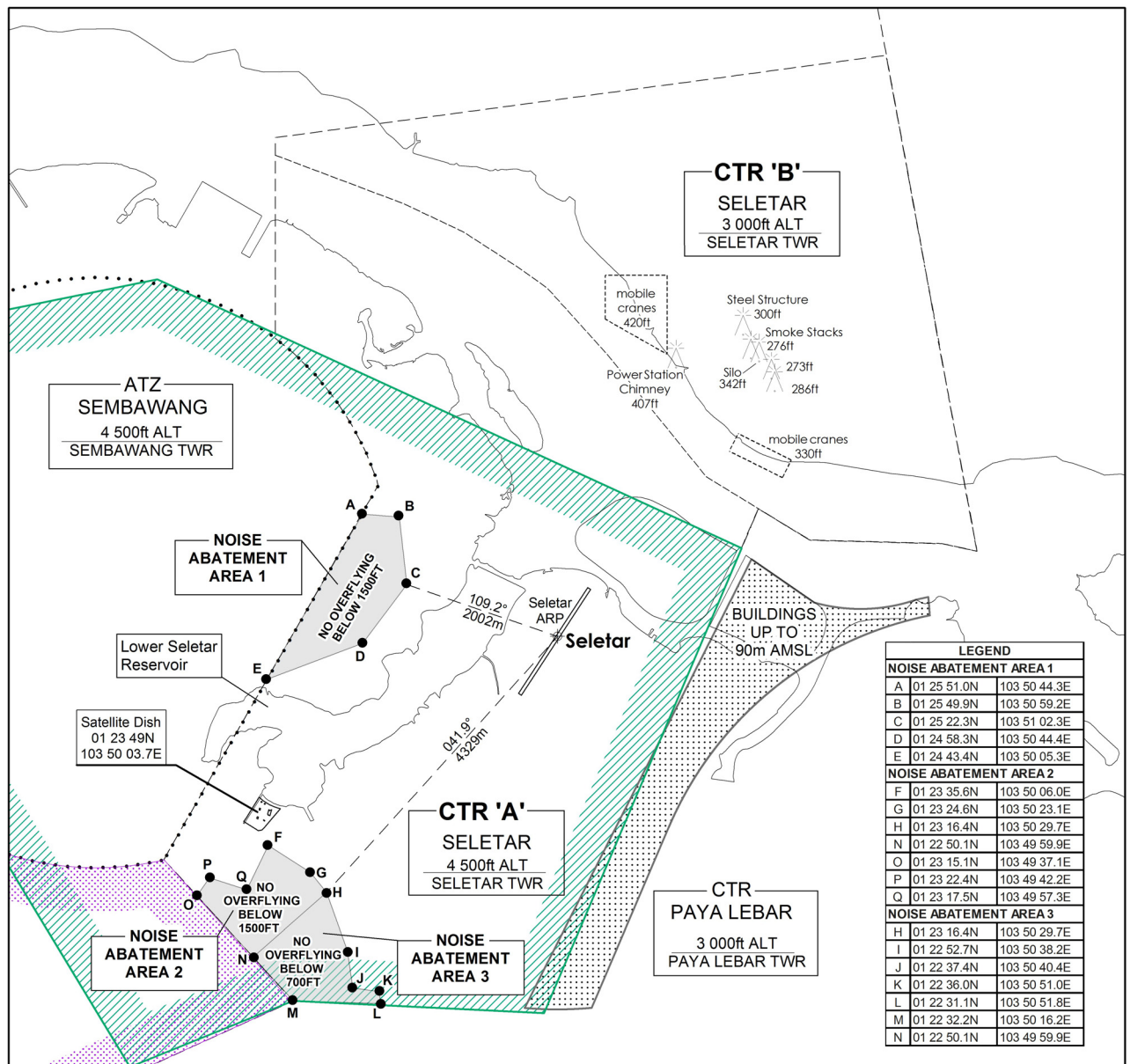
1.5 Noise Abatement Area 2 is bounded by the following points, and aircraft are to maintain a minimum altitude of 1,500ft when overflying the area.

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.

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).

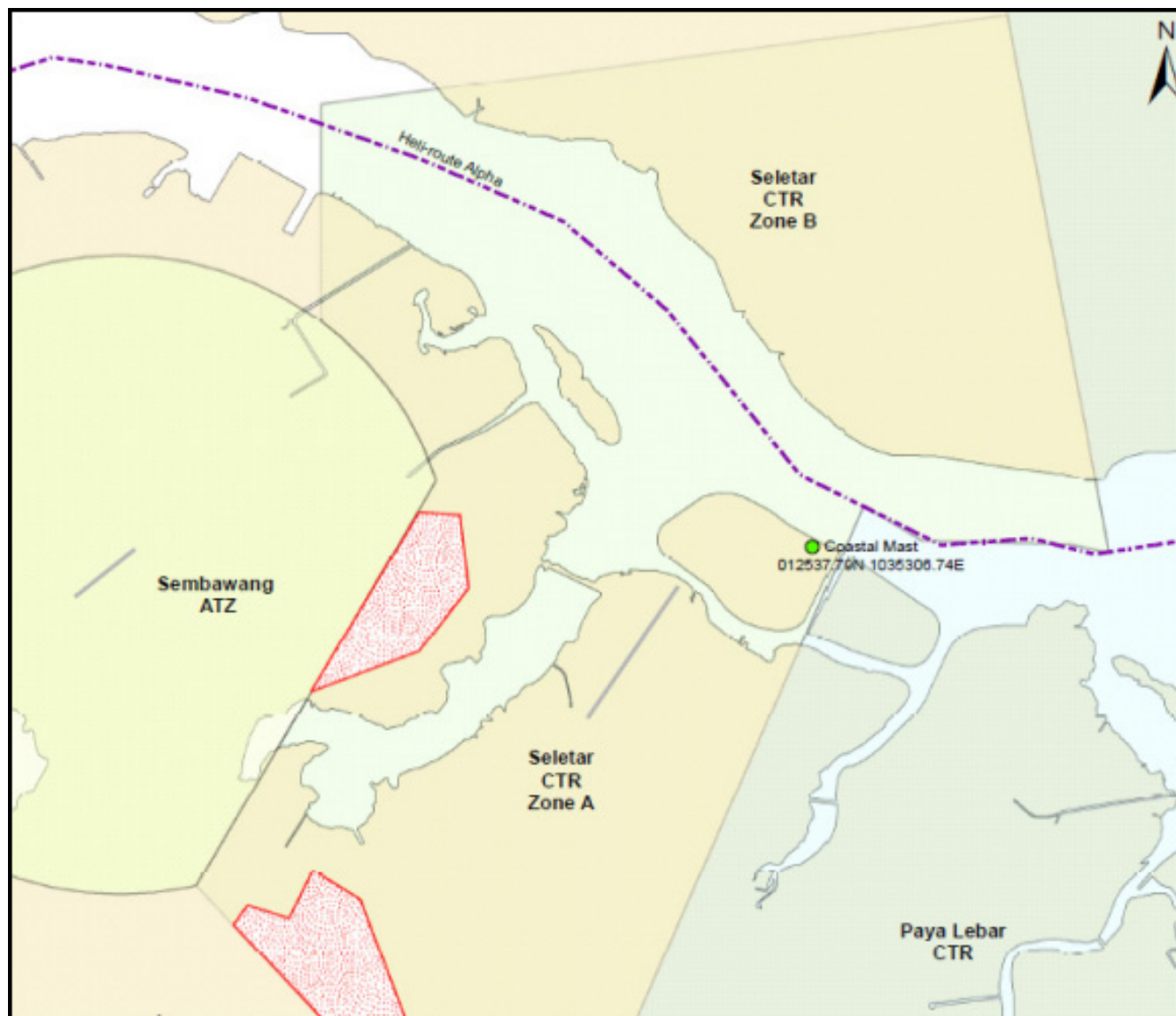
4 HELICOPTER CROSSING SELETAR NORTHERN EXTENDED CENTRELINE

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 AN AERODROME

Aerodrome Chart - ICAO	AD-2-WSSL-ADC-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
AD-2-WSSL-VDC-2 to 2.1	AD-2-WSSL-VDC-2
AD-2-WSSL-VFR-1	AD-2-WSSL-VFR-1
AD-2-WSSL-IFR-1	AD-2-WSSL-IFR-1
AD-2-WSSL-IFR-2	AD-2-WSSL-IFR-2

WSSL AD 2.25 VISUAL SEGMENT SURFACE (VSS) PENETRATION

NIL (not applicable).

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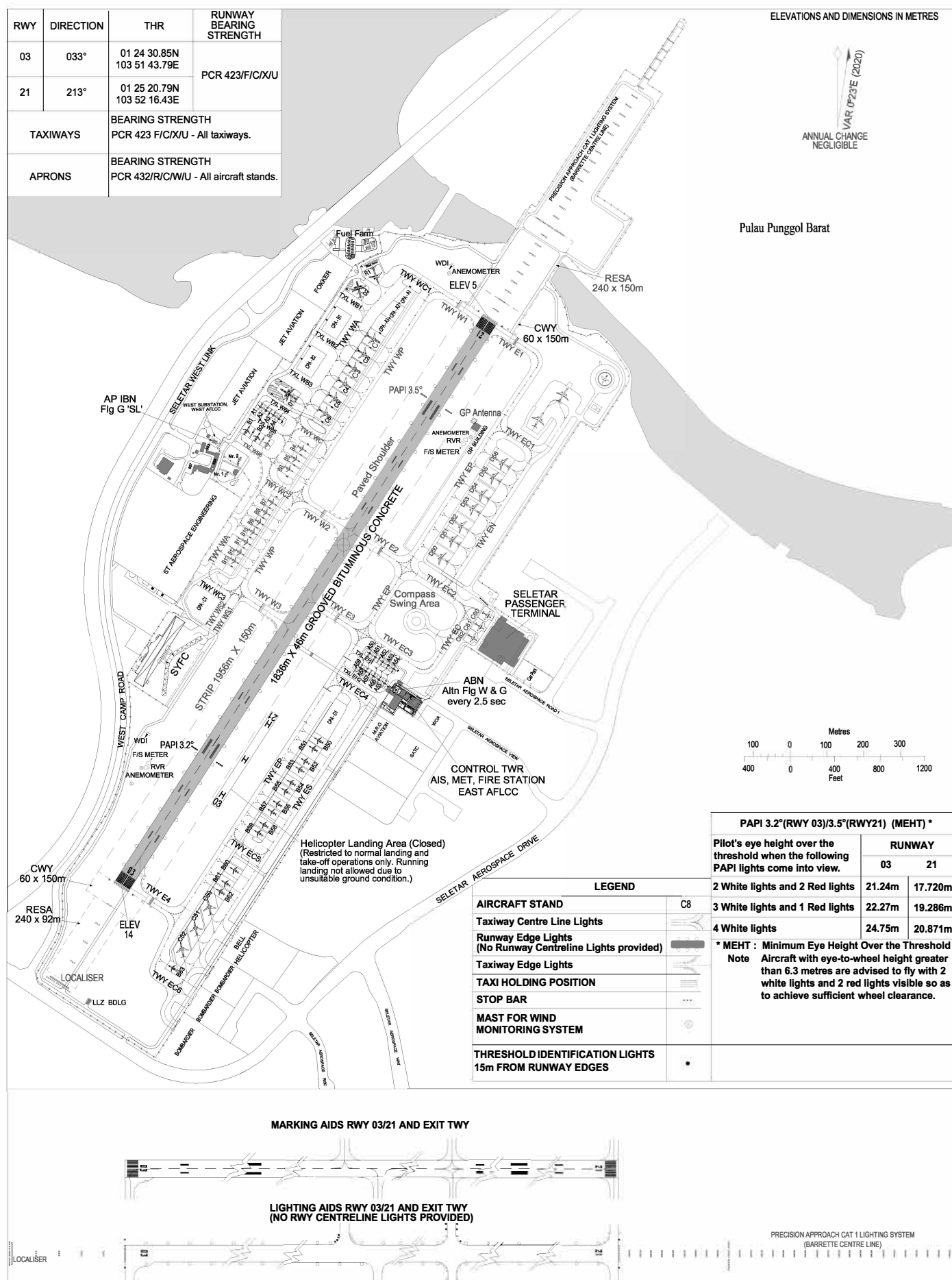
01° 25' 01.04"N
103° 52' 03.52"E

ELEV 14m

TWR	118.45
	121.6

SINGAPORE/SELETAR

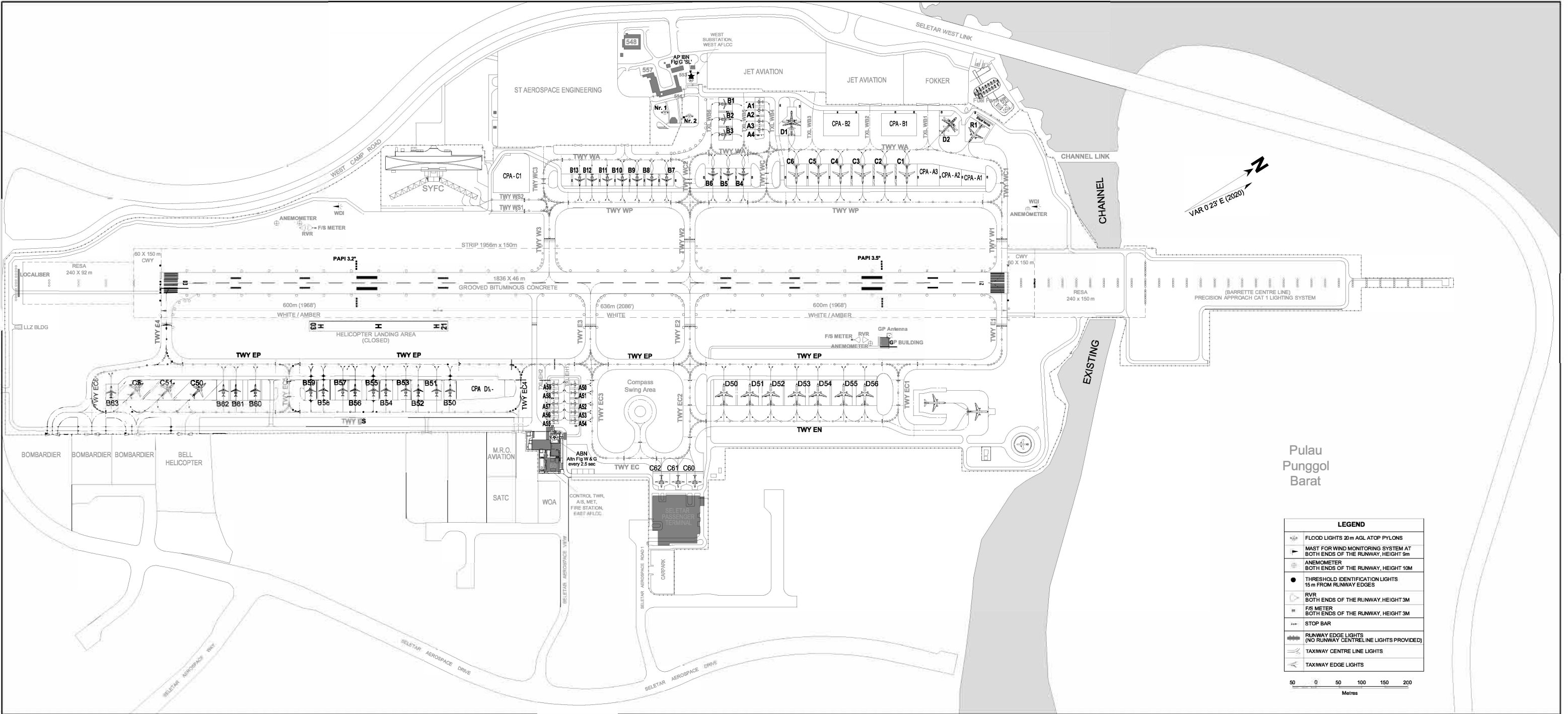
RWY	DIRECTION	THR	RUNWAY BEARING STRENGTH
03	033°	01 24 30.85N 103 51 43.79E	PCR 423/F/C/X/U
21	213°	01 25 20.79N 103 52 16.43E	
TAXIWAYS		BEARING STRENGTH PCR 423 F/C/X/U - All taxiways.	
APRONS		BEARING STRENGTH PCR 432/R/C/W/U - All aircraft stands.	



INS COORDINATES FOR AIRCRAFT STANDS

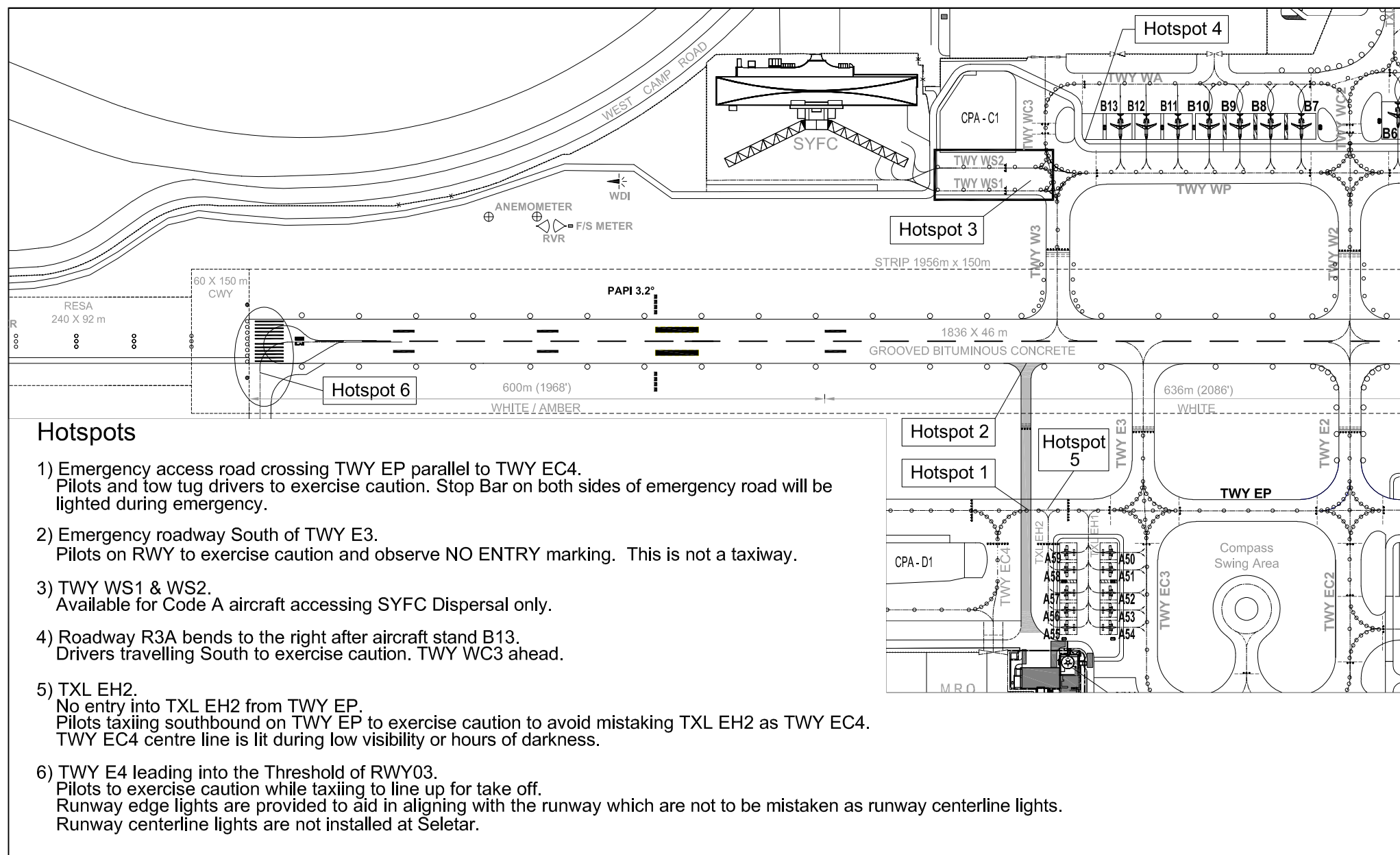
STAND NR	NORTH LATITUDE	EAST LONGITUDE	ELEVATION
A1	01 25 13.10	103 51 56.17	6.18m (20.28ft)
A2	01 25 12.78	103 51 56.65	6.34m (20.80ft)
A3	01 25 12.35	103 51 57.30	6.59m (21.61ft)
A4	01 25 12.03	103 51 57.79	6.76m (22.18ft)
A50	01 24 51.43	103 52 05.77	7.81m (25.62ft)
A51	01 24 51.11	103 52 06.25	7.95m (26.08ft)
A52	01 24 50.68	103 52 06.90	8.11m (26.59ft)
A53	01 24 50.36	103 52 07.39	8.21m (26.94ft)
A54	01 24 50.04	103 52 07.87	8.34m (27.35ft)
A55	01 24 48.59	103 52 06.93	8.75m (28.71ft)
A56	01 24 48.91	103 52 06.44	8.59m (28.17ft)
A57	01 24 49.24	103 52 05.96	8.40m (27.57ft)
A58	01 24 49.67	103 52 05.31	8.18m (26.84ft)
A59	01 24 49.99	103 52 04.82	8.01m (26.29ft)
B1	01 25 11.40	103 51 55.23	6.30m (20.67ft)
B2	01 25 10.82	103 51 56.12	6.64m (21.78ft)
B3	01 25 10.22	103 51 57.01	6.97m (22.86ft)
B4	01 25 09.18	103 52 00.36	7.70m (25.27ft)
B5	01 25 08.26	103 51 59.76	7.93m (26.03ft)
B6	01 25 07.35	103 51 59.16	8.16m (26.78ft)
B7	01 25 04.51	103 51 57.52	8.44m (27.70ft)
B8	01 25 03.64	103 51 56.95	8.41m (27.58ft)
B9	01 25 02.77	103 51 56.38	8.40m (27.55ft)
B10	01 25 01.89	103 51 55.81	8.38m (27.51ft)
B11	01 25 01.01	103 51 55.24	8.33m (27.33ft)
B12	01 25 00.11	103 51 54.65	8.45m (27.72ft)
B13	01 24 59.37	103 51 54.17	8.57m (28.12ft)
B50	01 24 43.89	103 52 00.88	8.75m (28.72ft)
B51	01 24 43.15	103 52 00.39	8.85m (29.03ft)
B52	01 24 42.06	103 51 59.68	8.99m (29.49ft)
B53	01 24 41.33	103 51 59.20	9.18m (30.13ft)
B54	01 24 40.15	103 51 58.44	9.36m (30.70ft)
B55	01 24 39.42	103 51 57.95	9.43m (30.95ft)
B56	01 24 38.35	103 51 57.25	9.59m (31.47ft)
B57	01 24 37.61	103 51 56.77	9.68m (31.76ft)
B58	01 24 36.46	103 51 56.02	9.81m (32.17ft)
B59	01 24 35.73	103 51 55.54	9.93m (32.58ft)
B60	01 24 32.42	103 51 53.38	10.09m (33.12ft)
B61	01 24 31.27	103 51 52.62	10.18m (33.39ft)
B62	01 24 30.53	103 51 52.14	10.25m (33.62ft)
B63	01 24 23.86	103 51 47.94	10.64m (34.91ft)
C1	01 25 18.80	103 52 06.63	5.11m (16.75ft)
C2	01 25 17.50	103 52 05.77	5.42m (17.79ft)
C3	01 25 16.19	103 52 04.92	5.76m (18.90ft)
C4	01 25 14.89	103 52 04.07	6.26m (20.53ft)
C5	01 25 13.58	103 52 03.21	6.82m (22.39ft)
C6	01 25 12.28	103 52 02.36	7.30m (23.96ft)
C50	01 24 29.48	103 51 51.40	10.38m (34.06ft)
C51	01 24 27.63	103 51 50.19	10.59m (34.74ft)
C52	01 24 25.78	103 51 48.98	10.77m (35.34ft)
C60	01 24 54.47	103 52 16.30	6.28m (20.60ft)
C61	01 24 53.48	103 52 15.65	6.30m (20.67ft)
C62	01 24 52.50	103 52 15.01	6.31m (20.71ft)
D1	01 25 14.66	103 51 58.15	6.41m (21.03ft)
D2	01 25 24.03	103 52 04.80	3.47m (11.39ft)
D50	01 25 00.06	103 52 11.56	6.68m (21.92ft)
D51	01 25 01.59	103 52 12.56	6.44m (21.13ft)
D52	01 25 02.83	103 52 13.37	6.28m (20.60ft)
D53	01 25 04.36	103 52 14.37	6.04m (19.82ft)
D54	01 25 05.60	103 52 15.18	5.82m (19.09ft)
D55	01 25 07.13	103 52 16.18	5.55m (18.21ft)
D56	01 25 08.37	103 52 17.00	5.32m (17.45ft)

SELETAR AERODROME
LAYOUT OF SIGNIFICANT AERODROME BUILDINGS AND APRON FACILITIES



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AERODROME HOTSPOTS

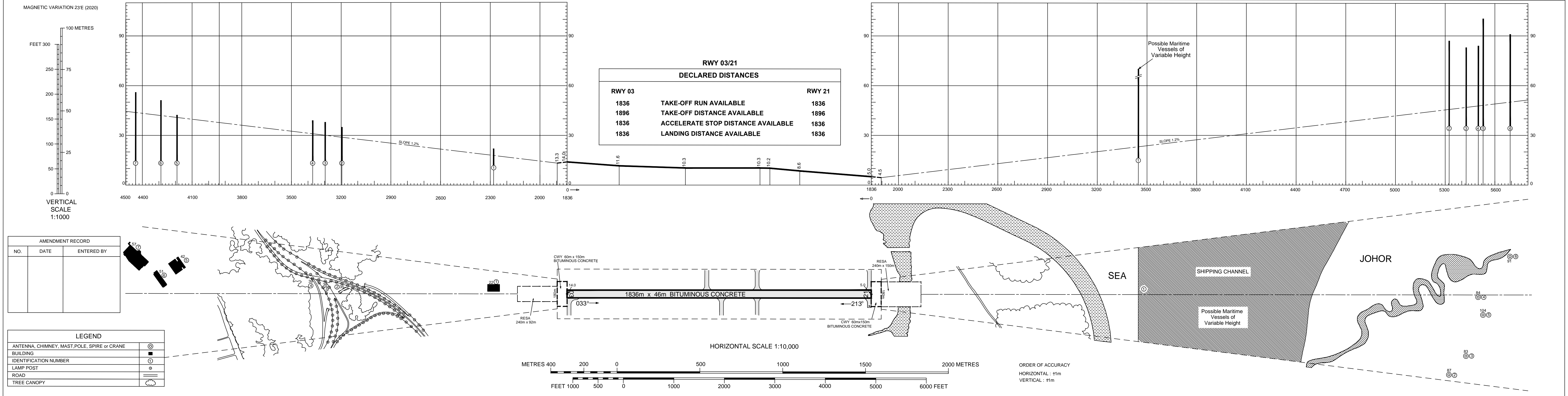


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DIMENSIONS AND ELEVATIONS IN METRES

AERODROME OBSTACLE CHART - ICAO
TYPE A (OPERATING LIMITATIONS)

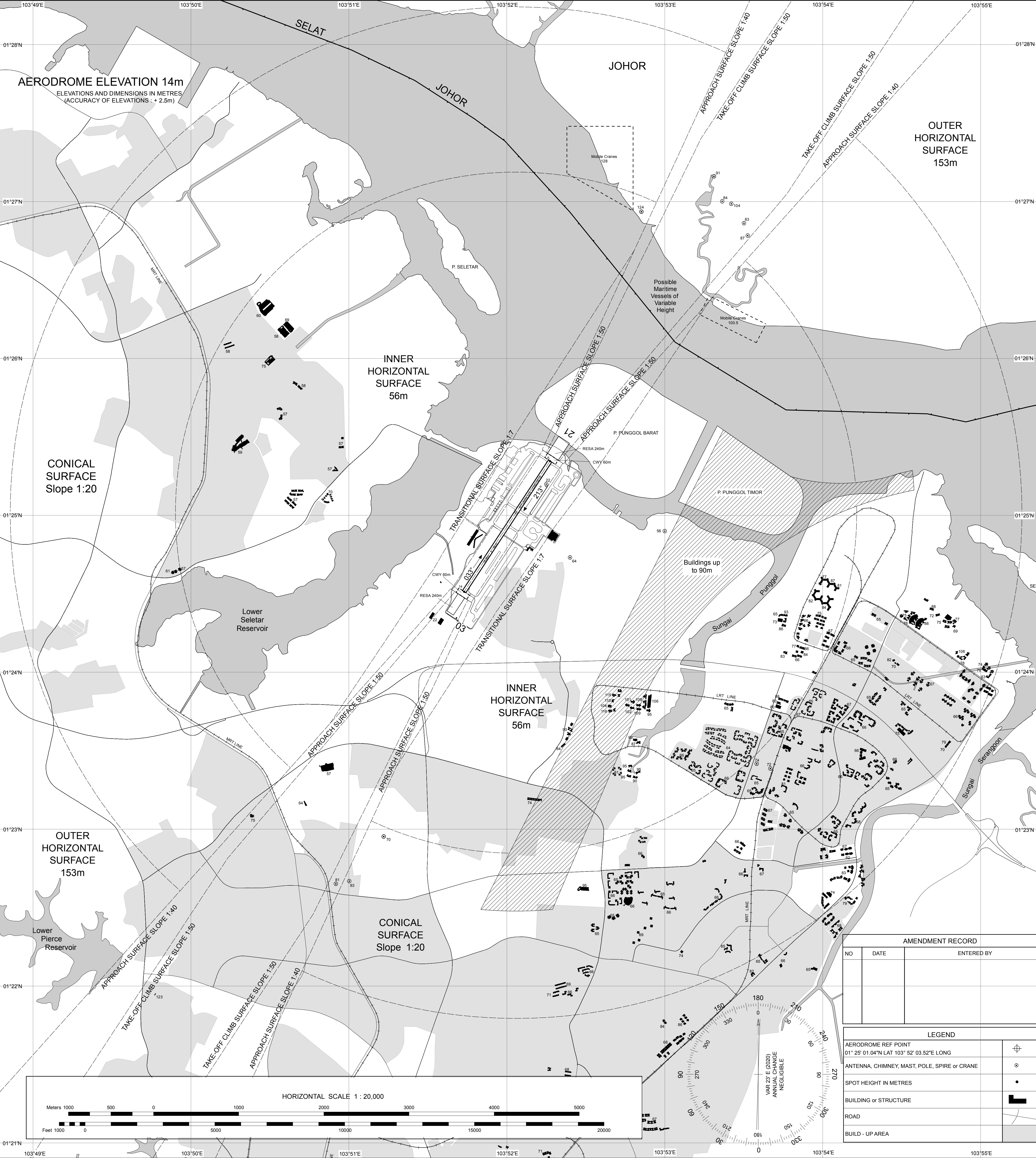
SINGAPORE/Singapore Seletar



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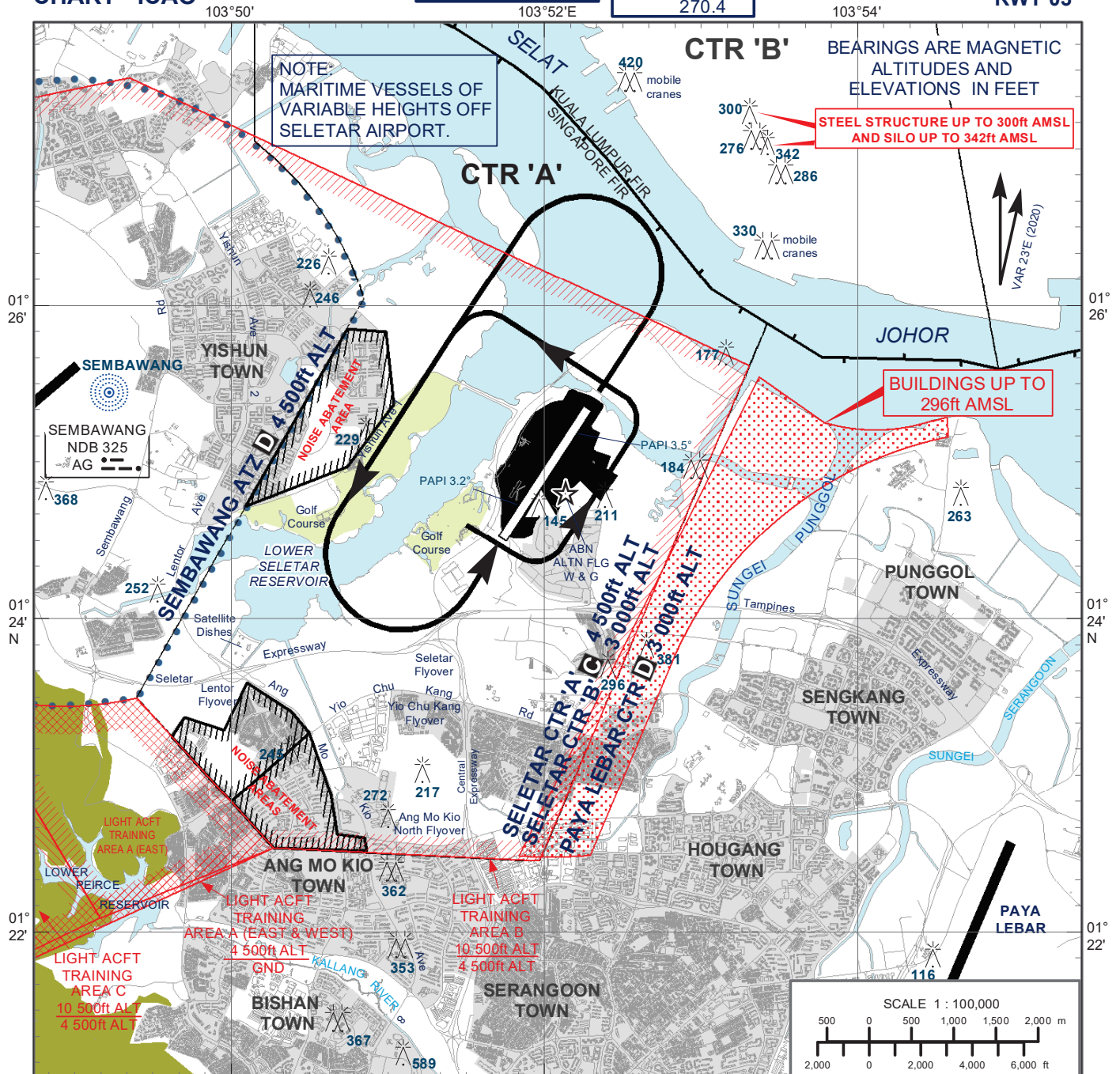
AERODROME OBSTACLE CHART - ICAO
TYPE B

SINGAPORE / Seletar



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RWY 03



- 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 Pava Lebar CTR.

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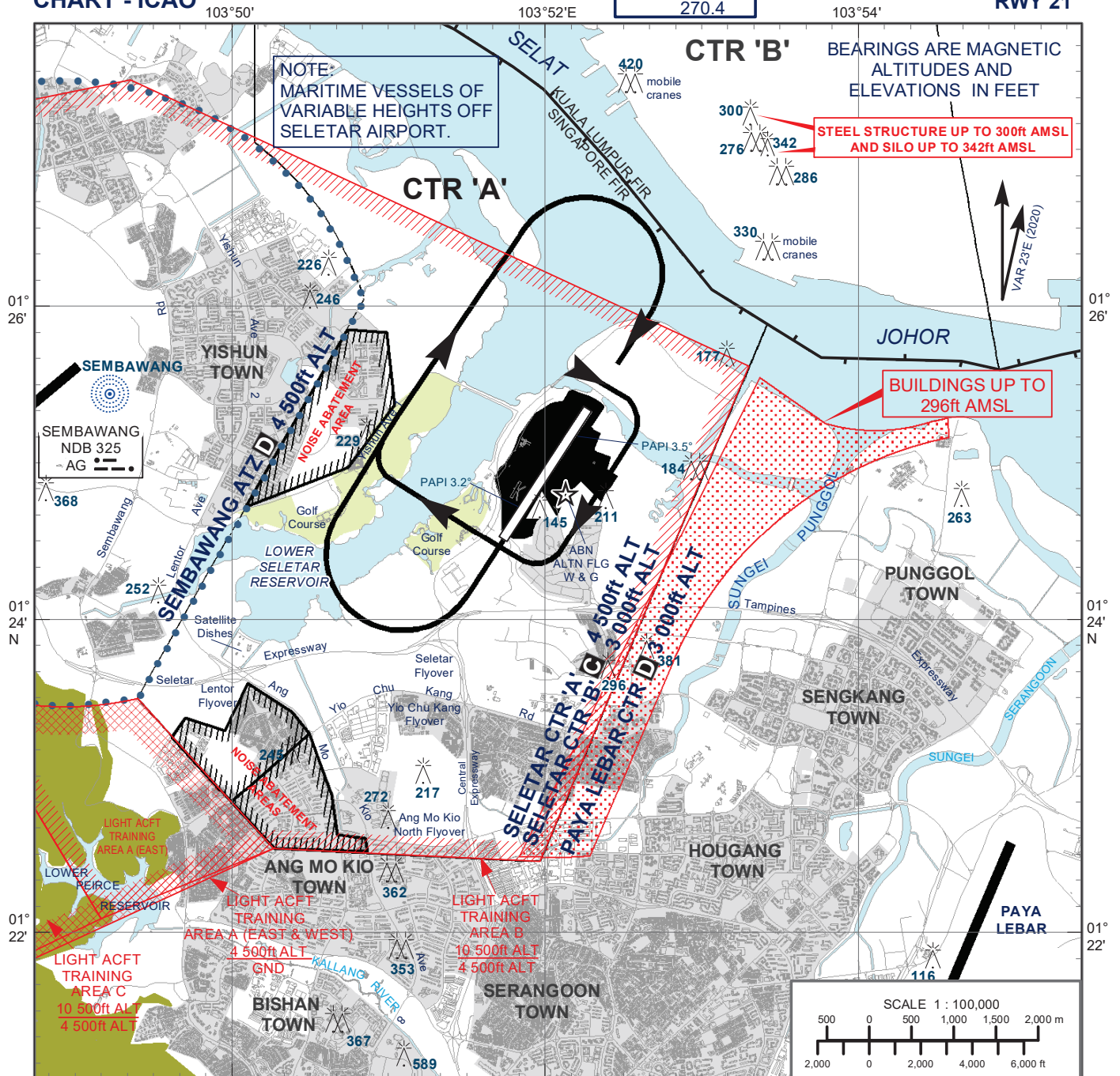
VISUAL
APPROACH
CHART - ICAO

AD ELEV 46 ft

ATIS AP ID-WSSL
128.425APP 124.05
126.025
TWR 118.45
270.4

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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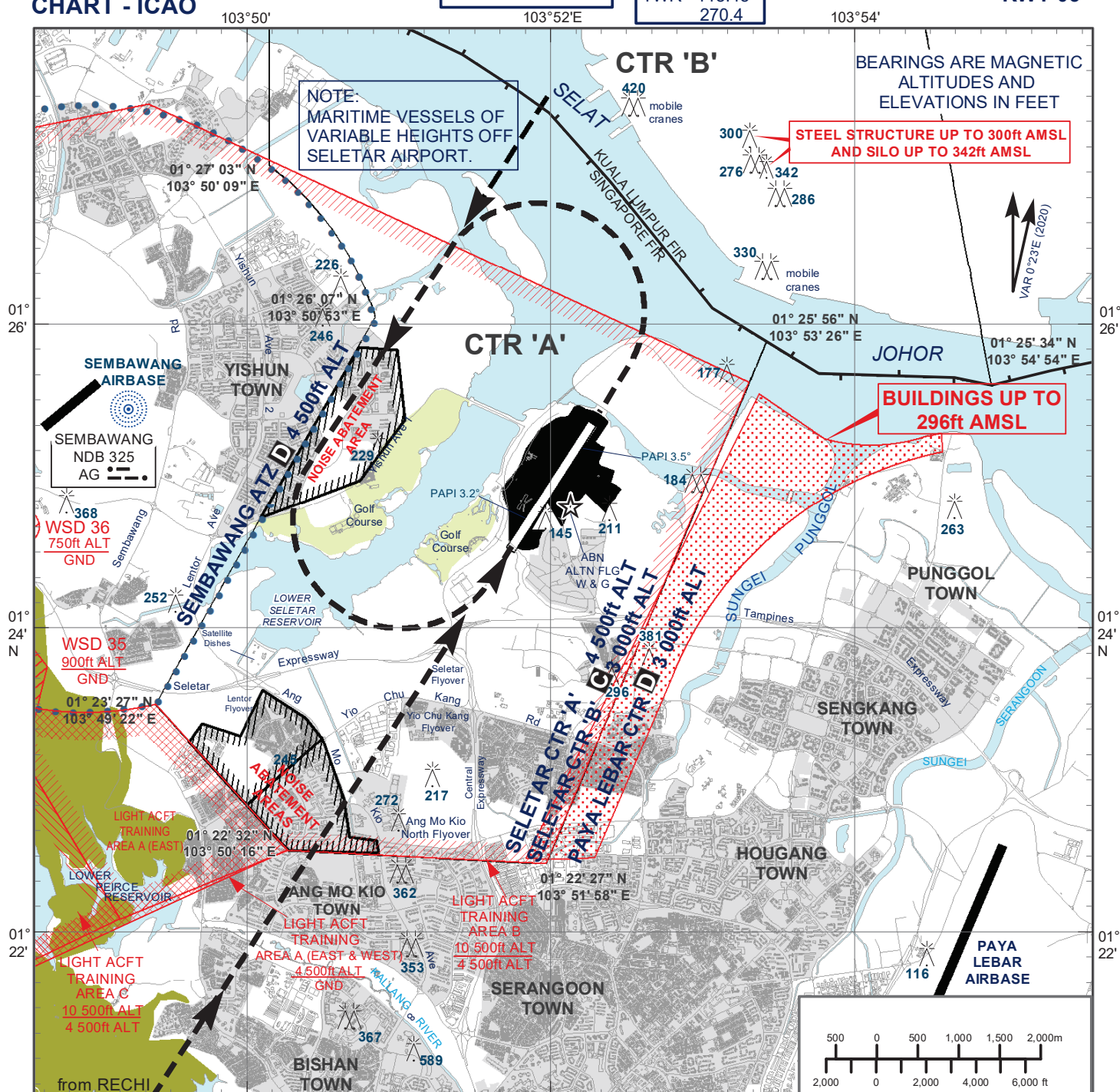
VISUAL
APPROACH
CHART - ICAO

AD ELEV 46 ft

ATIS AP ID-WSSL
128.425APP 124.05
126.025
TWR 118.45
270.4

SINGAPORE/SELETAR

RWY 03


ADVISORY JOINING PROCEDURES - RWY 03
Straight-in Approach

- 1) 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.
- 2) 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

- 1) 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.
- 2) 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.
- 3) Joining aircraft shall give way to circuit traffic already on downwind.

CAUTION

- a) Pilots are required to keep clear of Sembawang ATZ. Turns should therefore be kept within Seletar CTR.
- b) 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.
- c)  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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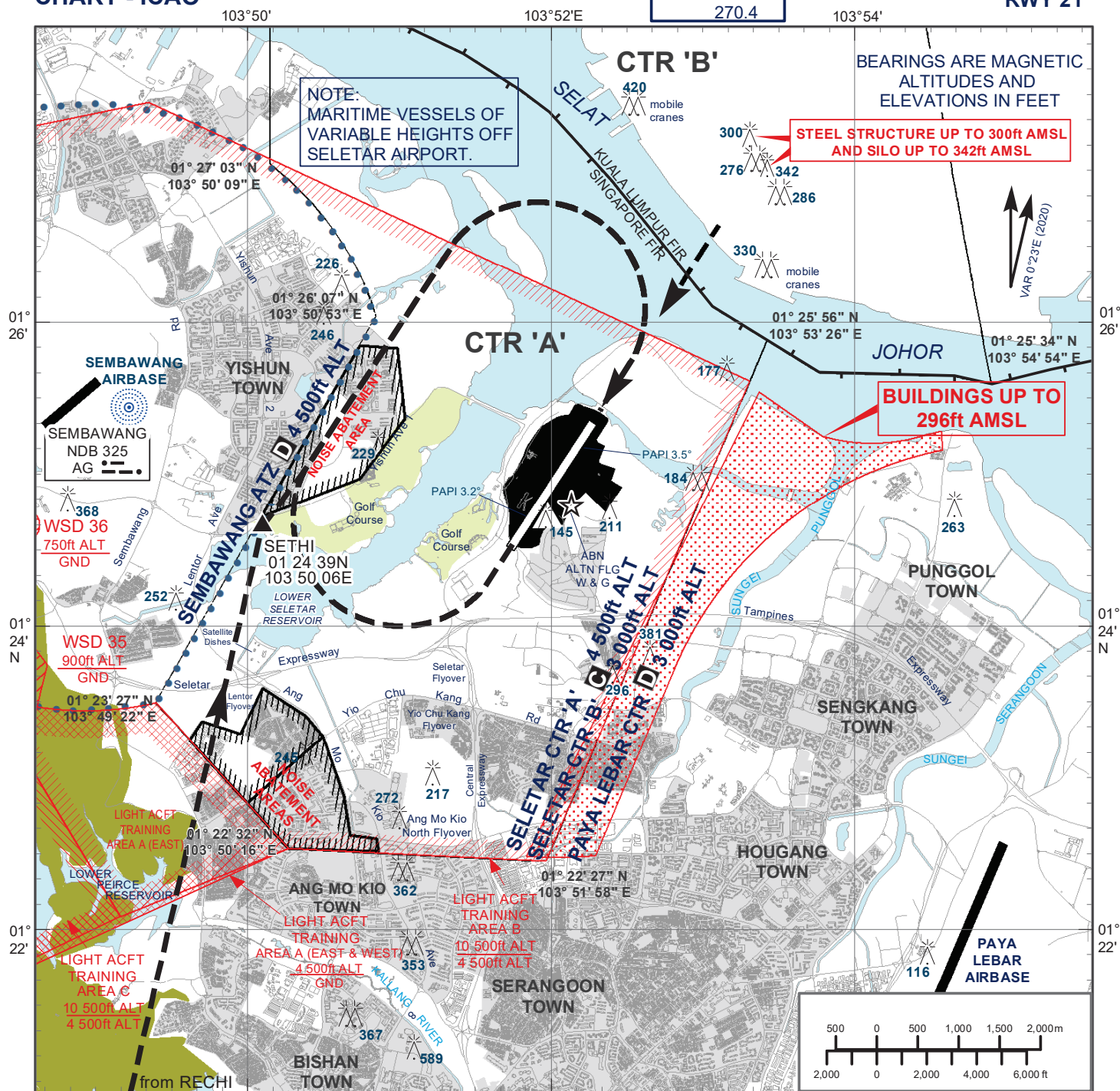
VISUAL
APPROACH
CHART - ICAO

AD ELEV 46 ft

ATIS AP ID-WSSL
128.425APP 124.05
126.025
TWR 118.45
270.4

SINGAPORE/SELETAR

RWY 21



ADVISORY JOINING PROCEDURES - RWY 21


Straight-in Approach

- 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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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

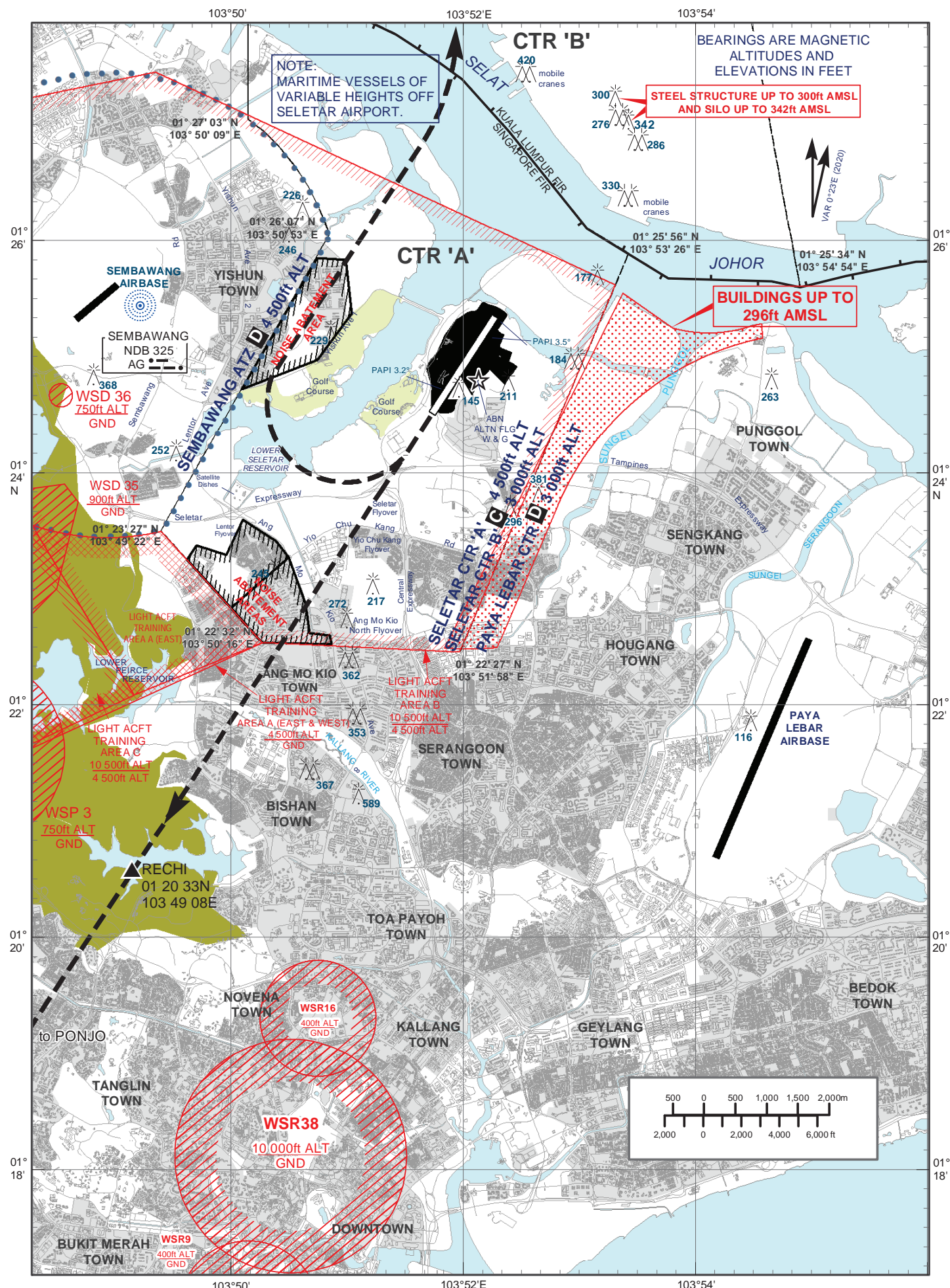
AD ELEV 46 ft

ATIS AP ID-WSSL
128.425

APP	124.05
TWR	118.45
	270.4

SINGAPORE/SELETAR

RWY 21




ADVISORY DEPARTURE PROCEDURES FOR RUNWAY 21

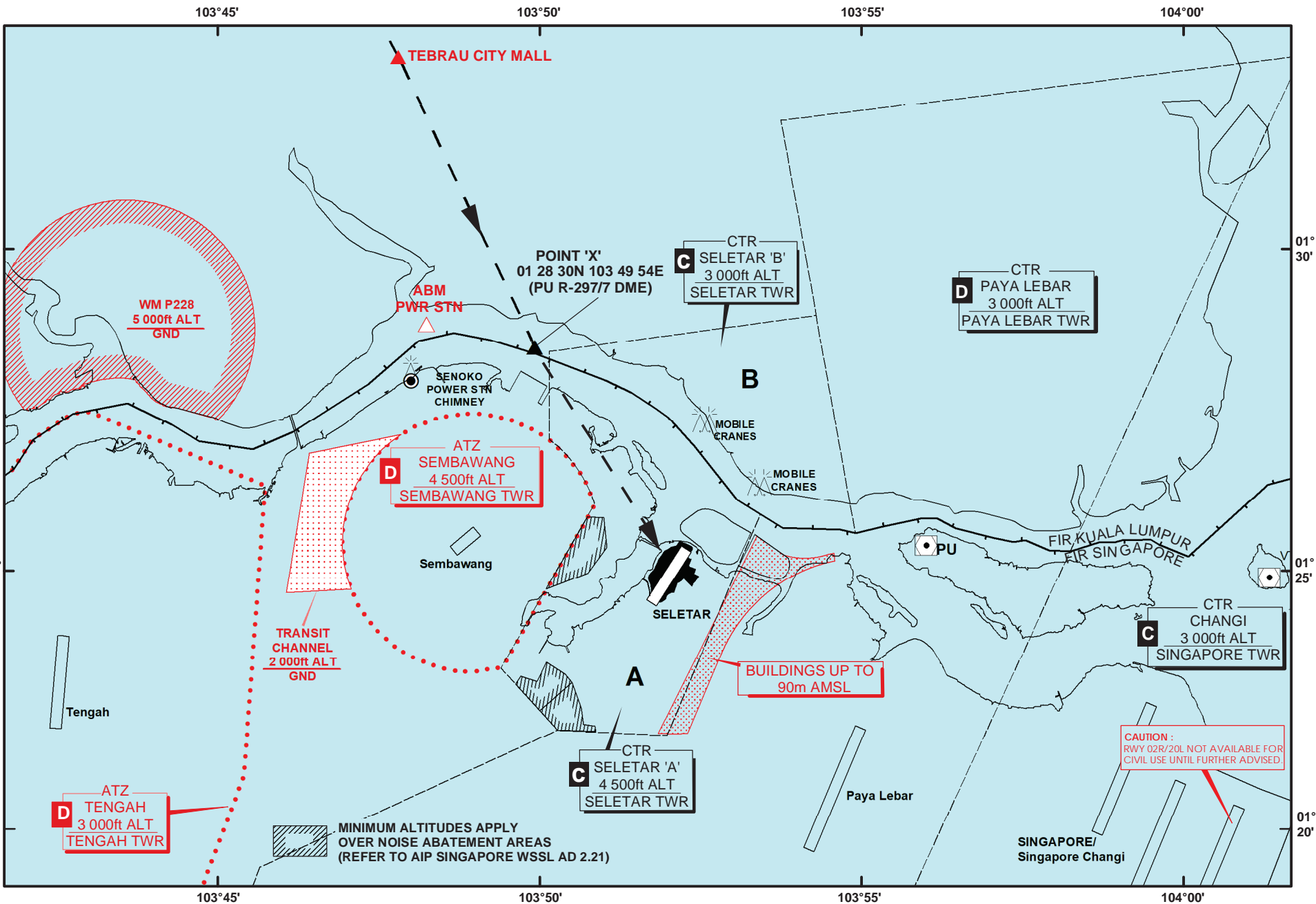
On departure, pilots can expect to climb to an initial altitude clearance by ATC. Pilots of fixed-wing aircraft navigating to OMKOM can expect to turn right to join the circuit till end of downwind and then expect a radar heading to leave Seletar CTR. Where a radar heading is not given, pilots shall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

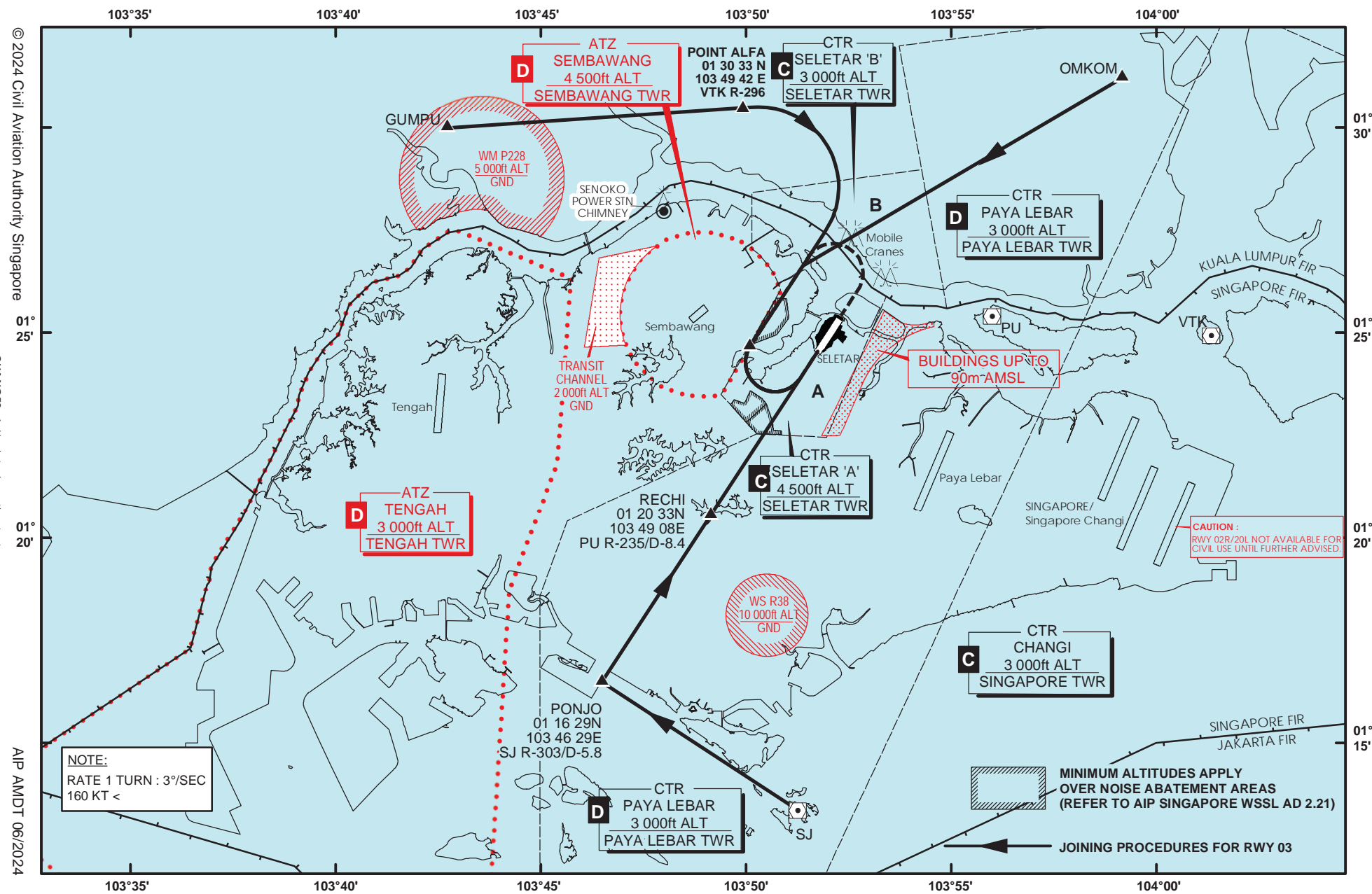
- a) Pilots are required to keep clear of Sembawang ATZ. Turns should therefore be kept within Seletar CTR.
- b) Pilots of fixed-wing aircraft should not fly to the east of the runway. This is to keep clear of tall buildings up to 296ft AMSL there. Pilots should have all relevant obstacles in sight, 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 (VFR FLIGHTS) FROM JOHOR BAHRU



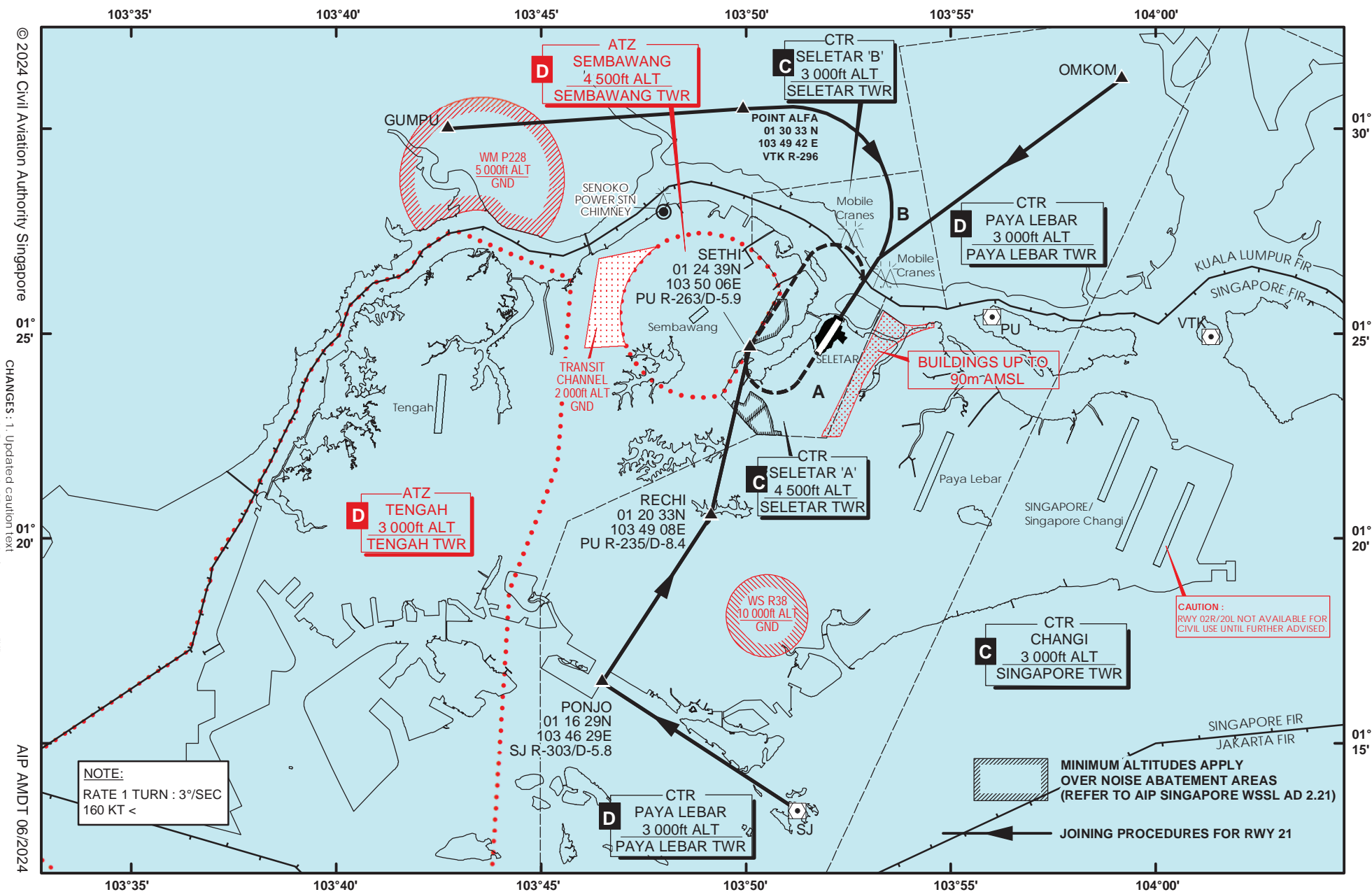
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SELETAR AERODROME JOINING PROCEDURE (IFR FLIGHTS) FROM GUMPU, OMKOM AND SJ - RUNWAY 03



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



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