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Email: caas_singaporeais@caas.gov.sgURL: www.caas.gov.sgURL: <https://fpl-1.caasaim.gov.sg>**AIP Supplement for
Singapore****AIP SUP****016/2019****Effective from 15 FEB 2019****PERM****Published on 15 FEB 2019****SINGAPORE CHANGI AIRPORT – UPDATED INFORMATION AND DATA FOR
RUNWAY 02R/20L****1 INTRODUCTION**

1.1 This AIP Supplement informs aircraft operators of the updated information and data for Runway 02R/20L.

1.2 Runway 02R/20L is open for operations since 31 July 2018, 2300 UTC, solely for use by the Republic of Singapore Air Force (RSAF) unless with prior coordination. Please see Annex A for the location of Runway 02R/20L.

2 RUNWAY 02R/20L INFORMATION AND DATA

2.1 The updated information and data for Runway 02R/20L will be incorporated into AIP Singapore Part 3 – AERODROMES (AD), section AD 2 AERODROMES – WSSS as follows:

WSSS AD 2.2 AERODROME GEOGRAPHICAL AND ADMINISTRATIVE DATA

AD Administration, address, telephone, telefax, AFS

For RWY 02R/20L

Republic of Singapore Air Force
Headquarters, Changi Air Base
508A, Cranwell Road
Singapore 509863
Tel: (65) 65864033 (Base Operations)

Remarks

RWY 02R/20L is solely for use by the Republic of Singapore Air Force (RSAF) aircraft, unless with prior coordination.

WSSS AD 2.3 OPERATIONAL HOURS

Aerodrome Administration:

For RWY 02R/20L

2300-1700 SUN/MON to TUE/WED.

2300-1100 WED/THU to TUE/FRI.

Prior permission required from RSAF Headquarters via Changi Base Operations for all flights.

WSSS AD 2.6 RESCUE AND FIRE FIGHTING SERVICES

AD category for fire fighting

For RWY 02R/20L

CAT 8 (No facilities for foaming of runways)

WSSS AD 2.8 APRONS, TAXIWAYS AND CHECK LOCATIONS/POSITIONS DATA			
Apron surface and strength	RWY 02R/20L	Surface: Strength:	Concrete and Asphalt PCN 74/R/C/W/T (Concrete) and 45/F/B/W/T (Asphalt)
Taxiway width, surface and strength	RWY 02R/20L	Width:	23m (75.5ft) for MY TWY and RETs MY2, MY3, MY4, MY5, MY6 and MY8. 50m (164.0ft) for perpendicular TWYs MY1, MY7, MY9 and MY10. TWY and accesses to the west of RWY 02R/20L are closed.
		Surface:	Asphalt
		Strength:	PCN 63/F/B/W/T

WSSS AD 2.9 SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM AND MARKINGS
RWY and TWY markings and LGT
<u>RWY 02R/20L</u>
RWY LGT: refer to WSSS AD 2.14 and WSSS AD 2.15.
TWY LGT: Blue LGT on TWY edges. Red stop bar LGT at TWY HLDG PSN entrances to RWY and are supplemented with elevated RWY guard LGT at the sides. Internally lighted mandatory or information TWY signboards. Yellow TWY centreline markings along rapid exit TWY centreline, taxi-routes to and from the main RWY and aprons.
MARKING AIDS: THR, touchdown zone, centreline, side stripe, RWY designations, aiming point markings, TWY centreline. The yellow hookwire markings on the RWY are done in accordance with the North Atlantic Treaty Organisation (NATO) Standardisation Agreement (STANAG) requirements. The eastern edge Distance-To-Go marker boards are done with reference to the Federal Aviation Administration (FAA) specifications.

WSSS AD 2.10 AERODROME OBSTACLES		
IN APPROACH / TKOF AREAS		
RWY/Area affected	Obstacles type, ELEV, Markings/LGT	Location of Obstacles
1	2	3
RWY 02R/20L APCH RWY 02R/20L TKOF	ILS LLZ co-located with LLZ antenna	Within the RWY strip.
RWY 20L APCH RWY 02R TKOF	Mast HGT ranging from 98ft AMSL and above.	Shipping channel APRX 2100m from THR RWY 20L.

IN CIRCLING AREA AND AT AERODROME	
Obstacles type, ELEV, Markings/LGT	Location of Obstacles
1	2
Surface wind direction sleeves and Anemometer masts. PAR installation. HGT 56ft AMSL, marked and LGTD.	Located at each end of RWY 02R/ 20L adjacent to GP antenna. 012029N 1040033E
Frangible PAR Moving Target Indicator (MTI) reflectors, HGT 32ft AMSL.	RWY 02R reflectors, located 129m east of centreline of RWY, 1230m from RWY 02R THR. RWY 20L reflectors, located 129m east of centreline of RWY, 480m from RWY 20L THR.
Arrestor hookwire, HGT 17ft AMSL (Retriever Unit).	Installed on RWY, Hookwire 490m from RWY 02R THR and RWY 20L THR. Within the RWY strip, Retriever Unit located 15m from both sides of the RWY edges.

WSSS AD 2.12 RUNWAY PHYSICAL CHARACTERISTICS					
Designations RWY NR	TRUE BRG	Dimensions of RWY	Strength (PCN) and surface of RWY and SWY	THR coordinates (THR Geoid Undulation)	THR elevation and highest elevation of TDZ of precision APCH RWY
1	2	3	4	5	6
02R	023.01°	4000 M X 60 M	82F/B/X/T Grooved Bituminous concrete	011920.59N 1035959.45E (10.32 M)	4.80m 4.80m
20L	203.01°	4000 M X 60 M	82F/B/X/T Grooved Bituminous concrete	012120.45N 1040050.05E (10.36 M)	4.80m 4.80m
Slope of RWY-SWY Transverse / Longitudinal	SWY Dimensions (m)	CWY Dimensions (m)	STRIP dimensions (m)	OFZ	Remarks
7	8	9	10	11	12
RWY 02R 1.29 / 0%	60 X 60	60 X 150	4240 X 300	Yes	-
RWY 20L 1.24 / 0.24%	60 X 60	60 X 150	4240 X 300		

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
20L	Full Length	4000	4060	4060	4000	NIL
	MY2	3170	3230	3230	3170	
	MY3	2710	2770	2770	2710	
	MY4	2360	2420	2420	2360	
02R	Full Length	4000	4060	4060	4000	NIL
	MY9	3440	3500	3500	3440	
	MY8	2900	2960	2960	2900	
	MY7	2590	2650	2650	2590	
	MY6	2220	2280	2280	2220	
	MY5	1770	1830	1830	1770	

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
02R	CAT II High Intensity Approach Lighting (900m) with red row barrettes, 2 crossbars, 2 Circling Guidance Light and Sequenced Flashing Lights.	Green supplemented by green wing-bar and 2 THR ident lights.	PAPI 003° located either side of RWY, 415m from THR. 2 White LGT and 2 Red LGT (19.7m), 3 White LGT and 1 Red LGT (23.6m), 4 White LGT (26.0m). ACFT with eye-to-wheel height greater than 8m are advised to fly with 2 White and 2 Red LGT visible so as to achieve sufficient wheel clearance.	White. 900m (From THR) TDZ. Every 60m from THR.	Inset High Intensity centreline Lights as follow: From THR to 900m from RWY end: White, 300m to 900m from RWY end: ALTN Red/White, 300m to RWY end: Red.	Bi-directional White/Amber edge lights as follow: From THR to 600m from RWY end: White, 600m to RWY end: Amber.	Red	Elevated Red
20L	CAT II High Intensity Approach Lighting (900m) with red row barrettes, 2 crossbars, 2 Circling Guidance Light and Sequenced Flashing Lights.	Green supplemented by green wing-bar and 2 THR ident lights.	PAPI 003° located either side of RWY, 415m from THR. 2 White LGT and 2 Red LGT (19.7m), 3 White LGT and 1 Red LGT (23.6m), 4 White LGT (26.0m). ACFT with eye-to-wheel height greater than 8m are advised to fly with 2 White and 2 Red LGT visible so as to achieve sufficient wheel clearance.	White. 900m (from THR) TDZ. Every 60m from THR.	Inset High Intensity centreline Lights as follow: From THR to 900m from RWY end: White, 300m to 900m from RWY end: ALTN Red/White, 300m to RWY end: Red.	Bi-directional White/Amber edge lights as follow: From THR to 600m from RWY end: White, 600m to RWY end: Amber.	Red	Elevated Red

WSSS AD 2.15 OTHER LIGHTING, SECONDARY POWER SUPPLY	
TWY Edge and Centreline Lighting	RWY 02R/20L: Blue lights on TWY edge.

WSSS AD 2.18 ATS COMMUNICATION FACILITIES				
Service Designation	Call Sign	Frequency (P-Pri, S-Sec)	Hours of operation	Remarks
TWR	Changi East Tower	122.25 MHz	2300-1700 SUN/MON to TUE/WED. 2300-1100 WED/THU to THU/FRI.	For TKOF/LDG. For ACFT operating on RWY 02R/ 20L.
	Changi East Ground	120.95 MHz	Prior permission required from RSAF Headquarters via Changi Base Operations for all flights.	For start-up / taxiing of all aircraft.
ATIS	Changi East Information (02R/ 20L)	139.95 MHz		-

WSSS AD 2.19 RADIO NAVIGATION AND LANDING AIDS					
Type of aid and Variation	Ident	Frequency	OPR Hr	Position of Transmitting Antenna Coordinates	DME Transmitting Antenna Elevation / Remarks
1	2	3	4	5	6 & 7
RWY 20L ILS LLZ	ICZ	108.55MHz	H24	011909.54N 1035954.79E	Located 367m (1204ft) from THR RWY 02R, along RWY centreline. Course width 2.80°. EM: A0/A2.
RWY 20L ILS GP	-	329.75MHz	H24	012108.89N 1040049.38E	Located 335m (1099ft) from THR RWY 20L on left side of the RWY, 120m (394ft) from RWY centreline. GP angle 3°. HGT of ILS REF datum: 16.8m (55ft). EM: A0/A2.
RWY 20L ILS DME	ICZ	CH22Y	H24	012108.89N 1040049.38E	DME co-located with GP. EM: P9.
RWY 20L ILS MM	-	75MHz	H24	012149.37N 1040102.55E	Located 968m (3176ft) from THR RWY 20L, along extended centreline of the RWY.
RWY 02R ILS LLZ	ICX	110.5MHz	H24	012131.46N 1040054.70E	Located 367m (1204ft) from THR RWY 20L, along RWY centreline. Course width 2.80°. EM: A0/A2.
RWY 02R ILS GP	-	329.6MHz	H24	011929.11N 1040007.26E	Located 335m (1099ft) from THR RWY 02R on right side of the RWY, 120m (394ft) from RWY centreline. GP angle 3°. HGT of ILS REF datum: 16.2m (53ft). EM: A0/A2.
RWY 02R ILS DME	ICX	CH42X	H24	011929.11N 1040007.26E	DME co-located with GP. EM: P9.
RWY 02R ILS MM	-	75MHz	H24	011851.60N 1035947.22E	Located 974m (3196ft) from THR RWY 02R, along extended centreline of the RWY.

3 CANCELLATION

3.1 This AIP Supplement supersedes AIP Supplement 031/2018 published on 22 Jun 2018.

3.2 This AIP supplement 016/2019 will be cancelled when the contents are incorporated into AIP Singapore.

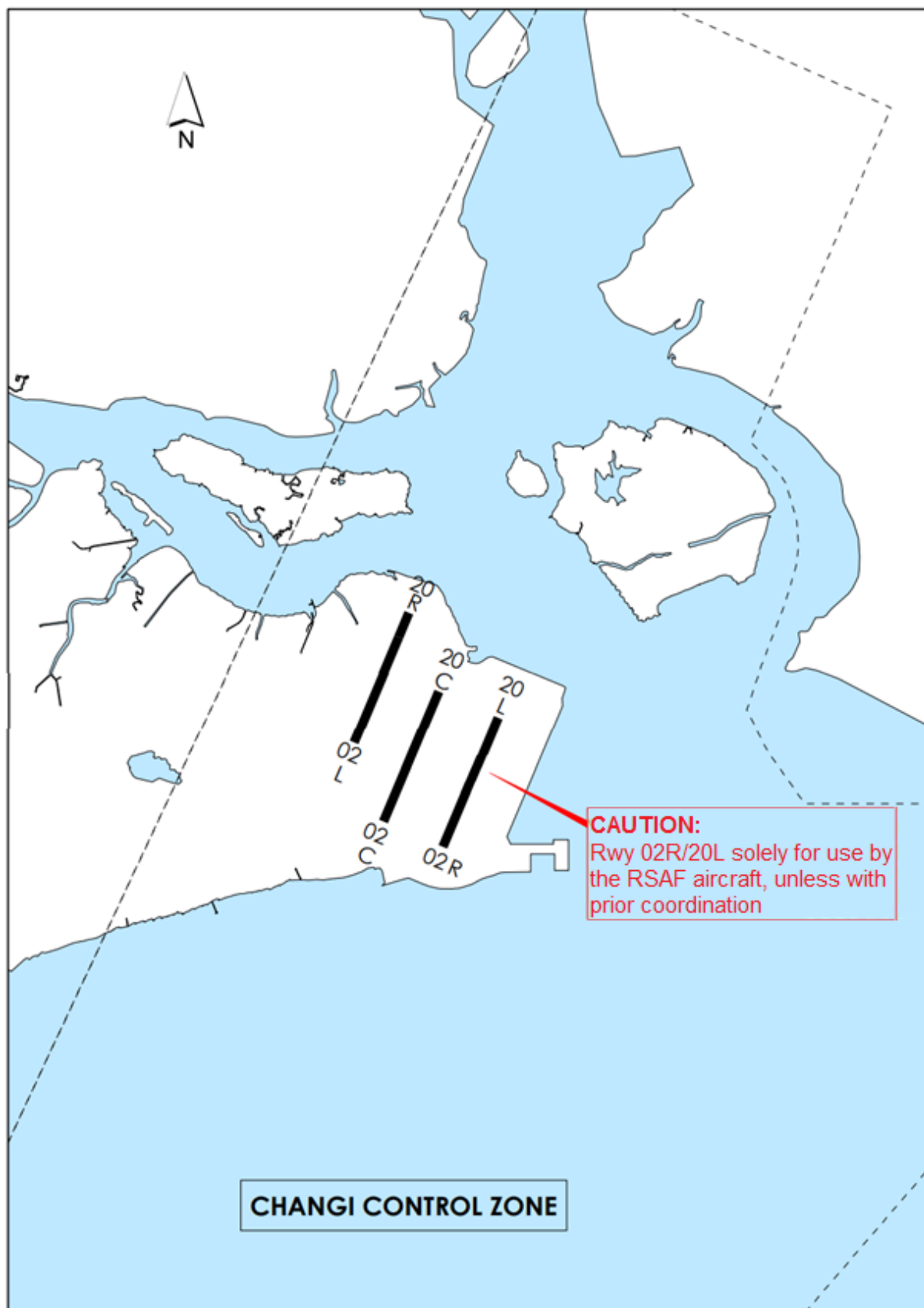
4 CONSULTATIONS

4.1 Please email cab_duty@defence.gov.sg if you have any queries regarding this AIP Supplement.

Location of Runway 02R/20L [Annex A](#)

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LOCATION OF RUNWAY 02R/20L IN RELATION TO
RUNWAY 02L/20R AND RUNWAY 02C/20C



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