

AD 2. AERODROMES**VOBL AD 2.1 AERODROME LOCATION INDICATOR AND NAME**

VOBL - KEMPEGOWDA INTERNATIONAL AIRPORT, BENGALURU / INTL

VOBL AD 2.2 AERODROME GEOGRAPHICAL AND ADMINISTRATIVE DATA

1	Aerodrome reference point coordinates and its site	131156N 0774220E 15 M East of Control TWR
2	Direction and distance of aerodrome reference point from the center of the city or town which the aerodrome serves	North-East 30 KM from City Railway station
3	Aerodrome elevation and reference temperature	3001 FT / 34.0 DEG C
4	Magnetic variation, date of information and annual change	2.00 DEG W (1995) /0.033 DEG E
5	Name of aerodrome operator, address, telephone, telefax, e-mail address, AFS address, website (if available)	Bangalore International Airport Limited, Administrative Block, Alpha 2, Kempegowda International Airport, Bengaluru-560300, Telephone: +91-80-66782425 +91-80-66782222 Fax: +91-80-66783366 AFS: ---- Email: aoccmanager@bialairport.com
6	Types of traffic permitted (IFR/VFR)	IFR/VFR
7	Remarks	NIL

VOBL AD 2.3 OPERATIONAL HOURS

1	Aerodrome Operator	MON-FRI 0300-1200 UTC (0830-1730 IST)
2	Custom and immigration	H24
3	Health and sanitation	H24
4	AIS briefing office	H24
5	ATS reporting office (ARO)	H24
6	MET Briefing office	H24
7	Air Traffic Service	H24
8	Fuelling	H24
9	Handling	H24
10	Security	H24
11	De-icing	NIL
12	Remarks	NIL

VOBL AD 2.4 HANDLING SERVICES AND FACILITIES

1	Cargo-handling facilities	AVBL
2	Fuel and Oil types	JET A1
3	Fuelling facilities and capacity	Fuel Hydrants, Fuel dispensers and Fuel bowlers.
4	De-icing facilities	NIL
5	Hangar space for visiting aircraft	NIL
6	Repair facilities for visiting aircraft	NIL
7	Remarks	NIL

VOBL AD 2.5 PASSENGER FACILITIES

1	Hotel(s) at or in the vicinity of aerodrome	At Airport in front of Passenger Terminal Building and in the city.
2	Restaurant(s) at or in the vicinity of aerodrome	At Aerodrome and in the city.
3	Transportation possibilities	Taxies, coaches & buses
4	Medical Facilities	At Airport
5	Bank and post office at or in the vicinity of aerodrome	Banks: At Airport Post office: At Airport
6	Tourist office	At Airport
7	Remarks	NIL

VOBL AD 2.6 RESCUE AND FIRE FIGHTING SERVICES

1	Aerodrome category for fire fighting	Within ATS HR: CAT-9
2	Rescue equipment	AVBL as per the Category
3	Capability for removal of disabled aircraft	-Arrangement with Air India/ Air India Express for IATA pool of equipment. -Arrangement with crane service providers in the city.
4	Remarks	NIL

VOBL AD 2.7 SEASONAL AVAILABILITY CLEARING

1	Type(s) of clearing equipment	NIL
2	Clearance priorities	NIL
3	Remarks	NIL

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

1	Designation, surface and strength of aprons	Designator: Apron Surface: Concrete Strength: PCN 80/R/B/W/T
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2	Designation, width, surface and strength of taxiways	Designator: A Width: 25 M Surface: Asphalt Strength: PCN 80/F/B/W/T Designator: A1 Width: 25 M Surface: Asphalt Strength: PCN 80/F/B/W/T Designator: A11 Width: 25 M Surface: Asphalt Strength: PCN 80/F/B/W/T Designator: A4 Width: 25 M Surface: Asphalt Strength: PCN 80/F/B/W/T Designator: A5 Width: 25 M Surface: Asphalt Strength: PCN 80/F/B/W/T Refer VOBL AD 2.23 for details Refer VOBL AD 2.23 for details Designator: A8 Width: 25 M Surface: Asphalt Strength: PCN 80/F/B/W/T Designator: A9 Width: 25 M Surface: Asphalt Strength: PCN 80/F/B/W/T Designator: D Width: 25 M Surface: Asphalt Strength: PCN 80/F/B/W/T Designator: H Width: 25 M Surface: Asphalt Strength: PCN 80/F/B/W/T Designator: K Width: 25 M Surface: Asphalt Strength: PCN 80/F/B/W/T
3	Location and elevation of altimeter checkpoints	Location All aircraft stands in apron Elevation 2955 FT
4	Location of VOR checkpoints	RWY holding positions at Taxiways A1 and A6
5	Position of INS checkpoints	NIL
6	Remarks	Refer AD 2.23 for additional information

VOBL AD 2.9 SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM AND MARKINGS

1	Use of aircraft stand identification signs, taxiway guidelines and visual docking/parking guidance system at aircraft stands	Illuminated stand identification boards displaying stand number and stand co-ordinates are available for stands 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 23, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 45, 47, 49, 51W, 51, 52W, 52, 53W, 53, 54W, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 68, 69, 71, 72, 74, 75, 77, 78, 80, 81, 83, 84 AND 86. Taxiing guidance signages's are provided on all TWY intersections and straight sections also provided. Advanced Visual Docking Guidance system installed on stand 02, 03, 05, 06, 08, 09, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20 ,22, 23,26 and 29. Aircraft to follow Advanced Visual Docking Guidance system for parking on these stands. Marshalling guidance available for parking in assigned stands through Authorized Ground Handling agents (GHA)
2	Runway and taxiway markings and lights	RWY Markings: Designation, THR, TDZ, Centreline, Aiming point , Side stripe. Lights THR, Edge & End lights TWY Marking:Edge & RWY Holding positions, Intermediate, TWY holding markings. Lights Only Edge lights.
3	Stop bars (if any)	Not provided
4	Remarks	Advanced Surface Movement Guidance and Control System (ASMGCS) provided.

VOBL AD 2.10 AERODROME OBSTACLES

In Approach/Take-off/Circling Area and at AD					
1	2	3	4	5	6
RWY/Area affected	Obstacle type	Coordinates	Elevation	Marking/LGT	Remarks
In circling area and at AD	OTHER	131155.9N 0774219.2E	3165 FT	LGTD	ATC TWR

VOBL AD 2.11 METEOROLOGICAL INFORMATION PROVIDED

1	Name of the associated meteorological office	Meteorological Centre, Bengaluru
2	Hours of service and, where applicable, the designation of the responsible meteorological office outside these hours	H24
3	Office responsible for preparation of TAFs and periods of validity and interval of issuance of the forecasts	Meteorological office at airport(IMD) 09 & 24 HRS
4	Availability of the trend forecast for the aerodrome and interval of issuance	Trend Trend Forecast appended to METAR/Met report
5	Information on how briefing and/or consultation is provided	H-24
6	Types of flight documentation supplied and language(s) used in flight documentation	Tabular and Chart Forms. English
7	Charts and other information displayed or available for briefing or consultation	Upper winds: FL050, FL100, FL140, FL180, FL240, FL300, FL340, FL390, FL450.

8	Supplementary equipment available for providing information on meteorological conditions, e.g. weather radar and receiver for satellite images;	Telefax
9	The air traffic services unit(s) provided with meteorological information	Bengaluru ATC and ACS
10	Additional information, e.g. concerning any limitation of service.	Automatic Weather Station available for both RWY 09 & 27. Integrated panel available at Met Briefing Room and Control Tower. Instrumental RVR reading for RWY 09 & 27 AVBL.

VOBL AD 2.12 RUNWAY PHYSICAL CHARACTERISTICS

Designations	TRUE Bearings	Dimensions of RWY (M)	Strength of pavement (PCN) and associated data) and surface of runway and associated stopways	Geographical coordinates for threshold and runway end
1	2	3	4	5
09	90.50 DEG	4000 x 45 M	80/F/B/W/T Asphalt	THR: 131225.78N 0774109.84E
27	270.50 DEG	4000 x 45 M	80/F/B/W/T Asphalt	THR: 131224.63N 0774322.67E

THR elevation and highest elevation of TDZ of precision APP RWY	Slope of runway and associated stopway	Dimensions of stopway (M)	Dimensions of clearway (M)	Dimensions of strips (M)
6	7	8	9	10
THR: 3000.3FT TDZ: 2996.1FT	0.63%	NIL	NIL	4120 x 300 M
THR: 2916.7FT TDZ: 2924.9FT	0.63%	NIL	NIL	4120 x 300 M

Dimensions of runway end safety areas	Location and description of arresting system (if any)	Existence of an obstacle-free zone	Remarks.
11	12	13	14
240M x 120M	NA	AVBL	NIL
240M x 120M	NA	AVBL	NIL

VOBL AD 2.13 DECLARED DISTANCES

RWY Designator	Take-off run available TORA (M)	Take-off distance available TODA (M)	Accelerate distance available ASDA (M)	Landing distance available LDA (M)	Remarks (including runway entry or start point where alternative reduced declared distances have been declared)
1	2	3	4	5	6
09	4000	4000	4000	4000	

RWY Designator	Take-off run available TORA (M)	Take-off distance available TODA (M)	Accelerate distance available ASDA (M)	Landing distance available LDA (M)	Remarks (including runway entry or start point where alternative reduced declared distances have been declared)
1	2	3	4	5	6
27	4000	4000	4000	4000	

VOBL AD 2.14 APPROACH AND RUNWAY LIGHTING

Runway Designator	Type, length and intensity of approach lighting system	Runway threshold lights, colour and wing bars	Type of visual slope indicator system	Length of runway touchdown zone lights
1	2	3	4	5
09	CAT I 900 M	Green	PAPI LEFT/3.00 DEG MEHT (63.75FT)	
27	CAT I 900 M	Green	PAPI LEFT/3.00 DEG MEHT (64.30FT)	

Length, spacing, colour and intensity of runway centre line lights	Length, spacing, colour and intensity of runway edge lights	Colour of runway end lights and wing bars	Length and colour of stopway lights	Remarks
6	7	8	9	10
	4000 M 60 M White	Red		NIL
	4000 M 60 M White	Red		NIL

VOBL AD 2.15 OTHER LIGHTING, SECONDARY POWER SUPPLY

1	Location, characteristics and hours of operation of aerodrome beacon/identification beacon (if any)	ABN	Top of the control tower - Green and white flashing lights. 24 FPM/12 rpm - during night/poor visibility conditions
		IBN	Not AVBL
2	Location and lighting (if any) of anemometer/ landing direction indicator;	LDI	Landing T provided south of taxiway "A" and east of taxiway "H" WDI provided at both ends of "RWY north of THR 09/27. AND East of TWY H and South of TWY A. Windsocks are illuminated
		Anemometer	Anemometer located on top of administrative block
3	Taxiway edge and taxiway centre line lights;	Edge	AVBL
		Centre Line	Not AVBL
4	Secondary power supply including switch-over time;	All ground lights are connected to UPS except TWY edge lights. Two 425KVA DG sets available one each at 09 and 27 stations for ground lighting. For apron lighting 1500KVA DG sets 05 nos. are available. DG Switch over time 15 Sec.	
5	Remarks	NIL	

VOBL AD 2.16 HELICOPTER LANDING AREA

1	Geographical coordinates of the geometric centre of touchdown and lift-off (TLOF) or of each threshold of final approach and take-off (FATO) area	Not Established
2	TLOF and/or FATO area elevation:	Not Established
3	TLOF and FATO area dimensions to the nearest metre or foot, surface type, bearing strength and marking;	Not Established
4	True bearings of FATO;	Not Established
5	Declared distances available	Not Established
6	Approach and FATO lighting;	Not Established
7	Remarks	Not Established

VOBL AD 2.17 AIR TRAFFIC SERVICE AIRSPACE

1	Airspace designation, geographical coordinates and lateral limits	CTR: Area bounded by 130100N 0771410E then along clockwise arc of 30NM centered at VOR BIA to 130000N 0781015E to 130000N 0780000E to 130100N 0773706E to 130100N 0771410E (except the restricted airspace of VOR 185A, VOR 185B and VOR185C)
2	Vertical limits	FL 95
3	Airspace classification	D
4	Call sign and language(s) of the air traffic services unit providing service;	Bengaluru Tower / Bengaluru Approach Radar/TAR, English
5	Transition altitude	7000 FT
6	Hours of applicability	H24
7	Remarks	NIL

VOBL AD 2.18 AIR TRAFFIC SERVICES COMMUNICATION FACILITIES

Service Designation	Call sign	Channel(s)	SATVOICE Number(s), if available
1	2	3	4
ACS	Bengaluru Control Radar	119.450 MHZ	
OTHER	Bengaluru Delivery	121.825 MHZ	
APP	Bengaluru Approach Radar/ TAR	121.250 MHZ	
APP	Bengaluru Approach Radar/ TAR	127.750 MHZ	
TWR	Bengaluru Tower	124.350 MHZ	
ATIS	Bengaluru information	128.675 MHZ	
ALRS	----	121.500 MHZ	
SMC	Bengaluru Ground	121.650 MHZ	

Logon address, as appropriate	Hours of operation	Remarks
5	6	7
	H24	NIL

Logon address, as appropriate	Hours of operation	Remarks
	H24	CLR delivery maybe combined with SMC 121.650 MHz During less traffic conditions & training purposes
	H24	(121.250 MHz BTN 0145–0500 & 1130–1445 UTC)
	H24	(121.250 MHz BTN 0145–0500 & 1130–1445 UTC)
	H24	NIL

VOBL AD 2.19 RADIO NAVIGATION AND LANDING AIDS

Type of aids, magnetic variation and type of supported operation for ILS/MLS, basic GNSS, SBAS and GBAS, and for VOR/ILS/MLS station used for technical lineup of the aid	Identification	Frequency(ies), Channel number(s), Service provider, and reference path identifier(s) (RPI), as appropriate	Hours of operation, as appropriate;
			1 2 3 4
LOC 27	IDEV	108.300 MHz	H24
LOC 09	IBAN	109.300 MHz	H24
GP 27		334.100 MHz	H24
GP 09		332.000 MHz	H24
DME ILS 09	IBAN	CH30X	
DME ILS 27	IDEV	CH20X	
VOR/DME	BIA	116.800 MHz CH115X	H24
VOR/DME	BIB	114.500 MHz CH92X	H24

Geographical coordinates of the position of the transmitting antenna	Elevation of transmitting antenna of DME/ elevation of GBAS reference point	Service volume radius from the GBAS reference point	Remarks
5	6	7	8
131225.9N 0774055.1E			
131224.5N 0774334.4E			
131228.6N 0774312.1E			
131229.6N 0774122.7E			
131229.6N 0774122.7E	3018 FT		Collocated with GP 09
131228.6N 0774312.1E	2944 FT		
131224.6N 0774355.9E	2916 FT		
132402.9N 0775456.0E	2995 FT		

VOBL AD 2.20 LOCAL AERODROME REGULATIONS

1. Yelahanka (VOYK)/Military Airbase exists at close proximity of South of Kempegowda International Airport, where Military Flying activities are conducted.

Orientation	Location	Helicopter Flying Activities
090/270 DEG MAG	4.3 NM South of extended centerline of VOBL RWY	Helicopter Traffic Circuit upto 1.5NM North of VOYK RWY
Remarks:		
(1) Pilots landing at VOBL to exercise caution as VOYK having similar RWY orientation and is 4.3 NM south of VOBL RWY (2) Visual operations by Military helicopters at VOYK, Height not exceeding 700ft AGL and circuit not exceeding 1.5NM North of VOYK RWY		

VOBL AD 2.21 NOISE ABATEMENT PROCEDURES

Consistent with safety of aircraft operations and in consideration of high intensity runway operations, pilots should minimize the use of reverse thrust after landing to reduce disturbance in areas adjacent to the aerodrome.

VOBL AD 2.22 FLIGHT PROCEDURES

I.TRANSPONDER OPERATING PROCEDURES ON GROUND

1.Introduction:

Advanced Surface Movement Guidance and Control System (A-SMGCS) using Mode-S Multi-lateration has been commissioned at Bangalore, Chennai, Delhi, Hyderabad, Kolkata & Mumbai International Airports.

The Aircraft Transponder Operating Procedures, particularly in the movement area of the airport(s), where A-SMGCS has been commissioned, is as given below:

2.DEPARTURE

i.At the Gate/Stand:

Select STBY. Enter the discrete SSR code received from Clearance Delivery/Surface Movement Control. Enter the three letter ICAO designator followed by the flight identification number (e.g. AIC748) through the FMS or the Transponder control panel, depending on the avionics.

ii.On requesting Pushback/Taxi (whichever is earlier):

Select Transponder or equivalent and AUTO if available. This action will enable the aircraft ID, used as the Call sign by ATC, to be displayed on the surveillance display of ATC. ATC can verify the data and use it for necessary identification.

iii.When Lining up:

Select TCAS. Select TCAS only after receiving the clearance to line up, to ensure that the performance of systems based on SSR frequencies (including airborne TCAS units, SSR and A-SMGCS) is not compromised.

3.ARRIVAL

1.When on the Runway:

Keep TCAS selected

2.After vacating the Runway:

Select Transponder or equivalent and AUTO if available. There is a need that the Transponder remains able to exchange data with the A-SMGCS system. However to ensure that the performance of systems based on SSR frequencies (including airborne TCAS Unit, SSR & A-SMGCS) is not compromised, TCAS shall be deselected when vacating the Runway.

3.Parked on Stand:

Select STBY. The Transponder will not reply to interrogation. The discrete SSR Code given to that particular flight can now be recycled for other flights.

Note:When on ground the aircraft must squawk Mode C, in order to provide the altitude information to the surveillance system, and thereby prevent:

- i)clutter on Terminal Approach Radar Display (and)
- ii)false automatic detection of departure for aircraft still on ground.

LOW VISIBILITY PROCEDURE

1. BACKGROUND:

Until the latest amendment of DGCA Civil Aviation Requirements (CAR) Section 8, Series 'C', Part-I on all-weather operations, Low Visibility Procedures were required at aerodromes for the purpose of ensuring safe operations during categories II and III approaches and/or Low Visibility Take-offs (LVTO). However, in latest amendment to CAR (Rev. 10) Para 5.3 following provision regarding Low Visibility Procedures is added.

Quote. **An operator shall not conduct take-off with RVR/Visibility less than standard Category I conditions of 550M RVR/800 M Visibility unless Low Visibility Procedures are enforced.** Unquote.

This provision necessitated the need of low visibility procedures for accommodating/permitting departures in visibility/RVR less than 800M/550M even at such airports

2. DEFINITIONS:

2.1 Low Visibility Procedures (LVP): Specific procedures applied at an aerodrome for the purpose of ensuring safe operations during Categories II and III approaches and/or low visibility take-offs.

Note: as per Para 5.3 of CAR on All Weather Operations, an operator shall not conduct Take-off with RVR/Visibility less than standard CAT-I conditions of 550m RVR/800m Visibility unless low visibility procedures are enforced.

2.2 Manoeuvring Area: That part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, excluding aprons.

2.3 Runway Visual Range: The range over which the pilot of an aircraft on the centreline of a runway can see the runway surface markings or the lights delineating the runway or identifying its centreline.

2.4 Aerodrome Operating Minima: The limits of usability of an aerodrome for:

- a. Take off, expressed in terms of runway visual range and / or visibility and, if necessary, cloud conditions.
- b. Landing in 2 D instrument approach operations, expressed in terms of visibility and/or runway visual range; minimum descent altitude/height (MDA/H) and, if necessary, cloud conditions; and
- c. Landing in 3D instrument approach operations, expressed in terms of visibility and/or runway visual range and decision altitude/height(DA/H) appropriate to the type and/or category of the operation.

2.5 Visibility - Visibility for aeronautical purposes is the greater of:

- a. the greatest distance at which a black object of suitable dimensions, situated near the ground, can be seen and recognized when observed against a bright background;
- b. The greatest distance at which lights in the vicinity of 1000 candelas can be seen and identified against an unlit background.

Note 1: The two distances have different values in air of a given extinction coefficient, and the latter b) varies with the background illumination. The former a) is represented by the meteorological optical range (MOR).

Note 2: The definition applies to the observations of visibility in local routine and special reports, to the observations of prevailing and minimum visibility reported in METAR and SPECI and to the observations of ground visibility.

3. GENERAL:

The Low Visibility Procedure (LVP) incorporates safeguarding measures to mitigate runway incursions and defines operational restrictions to ensure safe Airside Operations taking into account the available aerodrome facilities.

4. MINIMUM REQUIREMENTS:

The following Aeronautical Ground lights and RVR equipment shall be serviceable to the required standard to support Low Visibility Procedures.

- a. Runway edge lights,
- b. Runway end lights,
- c. Real time TDZ RVR.
- d. Standby Power supply to maintain switch over time of 1 Second for Runway Edge Lights and Runway End Lights. This requirement can be met with the help of DG Set and/or UPS.

4.1 Unserviceability of Aeronautical Ground Lights/ Equipment before Implementation of LVP.

Low Visibility Procedures will not be implemented when any of the light/equipment mentioned in Para 4 above is un-serviceable or is not maintained as per the required standard.

Aeronautical Ground Lighting Facility	Un-serviceability	Restrictions
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Runway Edge lights	More than 15% of all lights are unserviceable	LVP operations will be suspended
	Any two consecutive lights or more are unserviceable	
Runway End lights	More than 15% of all lights are unserviceable	LVP operations will be suspended
	Any two consecutive lights or more are unserviceable	
Standby Generators/UPS	Generator/UPS is unserviceable	LVP operations will be suspended

4.2 Unserviceability of Aeronautical Ground Lights/ Equipment after Implementation of LVP.

When any of the light/equipment mentioned in Para 4 above becomes un-serviceable or fails to meet the required standard during periods of LVP, TWR/SMC shall advise the aircraft accordingly and LVP shall be suspended and information to this effect shall be included in ATIS broadcast.

5. SAFEGUARDING PROCEDURES:

Safeguarding Procedures (SP) are instructions for relevant airport, departments and airside operators to prepare ground services and facilities for low visibility operations in order that when LVP are implemented all Safeguarding procedures are complete. Duty Officer Tower/Tower Supervisor will initiate and co-ordinate with all the concerned agencies for completion of safeguarding procedures before implementation of Low Visibility Procedures.

5.1 Safeguarding Procedures shall be initiated when:

- The Visibility/RVR is less than 1200 M and visibility/RVR is forecast to deteriorate to 800 M or less; and/or
- The cloud ceiling is less than 400 FT and forecast to fall to 200 FT or less.

5.2 Safeguarding procedures include:

- Positioning of 1 CFT each at the two predetermined positions Y Road and at straight leg of Y on fire access road.

- b. Stopping of all maintenance works on the manoeuvring area and the associated air strips as well as removal of all men and mobile equipment from the said area.
- c. Ensuring availability of secondary power supply for change over time of maximum one second for RWY Edge and Rwy End lights supported by UPS/DG set.

(Note: RWY Edge and Rwy End lights may continue to operate on main power supply during Safe Guarding Procedures.

Whenever, LVP is to be implemented as per para 6 below, the RWY Edge and Rwy End lights shall be put on Standby Power Supply (DG set or UPS). This operation need to be completed before LVP is implemented.

(As UPS is available at Bangalore Airport and is capable of maintaining the required AGL system (refer table under para 4.1) with one second of Switch Over time with Main Supply, the main supply can continue to be primary supply and the Generator Supply can be kept as Standby Power supply. In case of UPS is unserviceable, Generator supply will become primary source of power supply and Main power supply shall act as standby power supply.)

- d. The appropriate Aeronautical ground lights must have been inspected during the hour preceding implementation of LVP, and thereafter once every two-hour period. These lighting inspections should be accorded priority.
- e. All non-skid aircraft shall be provided with Follow-Me service.

6. LOW VISIBILITY PROCEDURES:

6.1 Implementation of Low Visibility Procedures:

Whenever Visibility/RVR reduces to 800 Meters or below and/ or cloud ceiling is at 200 FT or below, Tower Supervisor shall coordinate with AOCC and ARFF to confirm whether the Safeguarding procedures have been completed or not. When Visibility/RVR falls below 800m/550M and or Cloud Ceiling is 200 ft or below and safeguarding procedures are complete, Tower supervisor will implement Low Visibility Procedures. Duty Officer Tower/Tower Supervisor shall inform AOCC and ARFF of the imposition of low visibility procedures.

6.2 Action by various units during LVP:

- a. Duty MET Officer shall keep Duty Officer Tower/Tower Supervisor informed of any change in Visibility/ RVR.
- b. Apron Control shall ensure that the towing of aircraft is done under escort of "Follow Me" vehicles. "Follow Me" shall follow the route cleared by ATC. Only one towing at time shall be permitted.
- c. SMC shall not permit any ground run on the manoeuvring area except idle power run up on the stands, after coordination with AOCC
- d. SMC shall permit high power run up of Code C aircraft and below in the movement area under the guidance of Follow Me for positioning on Taxi lane L3 west of Stand 49 on the Apron taxi lane connecting the new West Apron to IPP / TWY K, as per the SOP for high power run up.
- e. Apron control shall ensure that mandatory "Follow Me" services are provided to pilots.
- f. The number of the vehicles operating on the manoeuvring area shall be restricted to bare minimum and records of all vehicles operating on the manoeuvring area shall be maintained by Apron control/AOCC.
- g. Vehicles fitted with a serviceable R/T and VEGA shall only be allowed to operate on the manoeuvring area. In case of extreme urgency, a vehicle without a VEGA may be permitted provided it is escorted by a Follow Me Vehicle with a serviceable R/T and VEGA
- h. Lane change from L1 to L3 and vice versa is not permitted for taxiing aircraft.
- i. Pushback shall be issued in such a manner that the aircraft movement on the apron is restricted to not more than three aircraft at a time except as described in sub-para 6.2 (j) and 6.2 (k)
- j. When ASMGCS is unserviceable aircraft movement shall be restricted to two aircraft at a time on the apron and one aircraft at a time in the manoeuvring area
- k. Aircraft movement shall be restricted to one aircraft in the manoeuvring area when RWY Guard Lights are unserviceable at any of the TWY/RWY intersection (A1/A4/A5/A6/A7/A8/A9/A11)
- l. The following shall be included in ATIS. "Low Visibility Procedures in force".
- m. TWR shall permit departures only from the beginning of the runway in use.
- n. whenever visibility/ rrv IS LESS THAN 800/550M, duty officer tower shall confirm from pilot that the reported RVR value is within minima before issuing take-off clearance.
- o. In-Charge Electrical shall continuously monitor the main and Standby Power supply to ensure change over time of maximum one second for RWY Edge and Rwy End lights during low visibility operations and report any unserviceability to Tower immediately.

7. TERMINATION OF LOW VISIBILITY PROCEDURES:

- a. When Visibility/RVR improves to 800M or more and cloud ceiling is 200 feet or Higher and trend is for improvement, Tower Supervisor/Duty Officer Tower would terminate operations of LVP. He may obtain advice from Duty Met. Officer regarding improvement in weather conditions before the termination of LVP.
- b. The Tower Supervisor will intimate ARFF and AOCC regarding the termination of LVP operations.
- c. On cancelling of LVP, following message shall be included in two subsequent ATIS broadcasts. "LOW VISIBILITY PROCEDURES CANCELLED".
- d. If SP are implemented and LVP are not subsequently implemented and the visibility/RVR improves and is more than 1200m and/or the cloud ceiling is 400ft or higher and both are forecast to remain above the required SP criteria, Tower Supervisor/Duty Officer Tower may cancel SP.\

8. ACTIONS BY OTHER AGENCIES (AIRLINES, REFUELING COMPANIES, CATERING AGENCIES, ETC.):

- a. Every year before commencement of monsoon/winter season, a meeting will be held by GM (CIC), to inform all airlines and agencies operating at airport about their roles/responsibilities and create awareness to ensure cooperation for safe airport operations during periods of low visibility.
- b. All the agencies shall ensure that staff and drivers are suitably trained during Low Visibility operations.
- c. A refresher program for ATCO's and personnel responsible for airside operations shall be conducted every year.
- d. All agencies operating in the operational area shall ensure that only those vehicles that are absolutely essential for aircraft operations operate in the operational area during periods of low visibility. The drivers of these vehicles should keep a look out for taxiing aircraft and other vehicles to prevent accidents.
- e. All the vehicles must have their obstruction lights "ON" during Low Visibility Procedures operations.
- f. All instructions/sign boards provided for vehicular movement area/service roads, must be followed while operating in the operational area.

VOBL AD 2.23 ADDITIONAL INFORMATION**1.DISTANCE OF TAXIWAYS FROM RUNWAY THRESHOLD**

TAXIWAY	FROM THR	DISTANCE
A8	27	2346 M
A9	27	2895 M
A5	09	2475 M
A4	09	2700 M

2.GROUND HANDLING ARRANGEMENTS

All operators, operating to/from Kempegowda International Airport, Bengaluru shall employ the services of ground handling agent authorized by BIAL. Operators should contact the Kempegowda International Airport, Bengaluru for further information on ground handling arrangements. The two Ground Handling Agents are Globe Ground India and Air India-SATS and their contact details are as follows:

Air India SATS Mobile Number: 9538925272 / 9538086027
Globe Ground India Mobile Number: 9741393114 / 9740433990

3.PARKING STANDS:

Surface: CONCRETE, Strength: 80/R/B/W/T

For Aircraft Stands 39 to 58:

Surface: Concrete, Strength: 92/R/B/W/T

Stand No	Coordinates	Elevation (ft)	Suitable for
01	131206.12N 0774248.06E	2946	A318, A319, A320, A321 B734, B735, B736, B737, B738, B739
02	131205.21N 0774247.44E	2946	A342, A343, A345, A346, A388, A332, A333, A30B, A310, B748, B744, B772, B77L, B773, B77W, B788, B789

03	131205.09N 0774246.99E	2947	A318, A319, A320, A321B734, B735, B736, B737, B738, B739
04	131206.14N 0774245.28E	2947	A318, A319, A320, A321B734, B735, B736, B737, B738, B739
05	131205.23N 0774244.62E	2948	A342, A343, A345, A346, A332, A333, A30B, A310, B744, B772, B77L, B773, B77W, B788, B789
06	131205.17N 0774244.16E	2948	A318, A319, A320, A321B734, B735, B736, B737, B738, B739
07	131206.18N 0774242.50E	2948	A318, A319, A320, A321B734, B735, B736, B737, B738, B739
08	131205.29N 0774241.83E	2949	A342, A343, A345, A346, A332, A333, A30B, A310, B744, B772, B77L, B773, B77W, B788, B789
09	131205.19N 0774241.38E	2949	A318, A319, A320, A321B734, B735, B736, B737, B738, B739
10	131206.11N 0774238.79E	2948	A318, A319, A320, A321, B717, B737 all series
11	131205.51N 0774238.30E	2949	A300, A330-200/300, A340-200 to 600, A380, B747-200 to 400, B757-200/300, B767-200 to 400, B777-0/300, B787
12	131205.68N 0774237.40E	2948	A318, A319, A320, A321, B717, B737 all series
13	131206.16N 0774235.93E	2948	A318, A319, A320, A321, B717, B737 all series
14	131205.54N 0774235.44E	2949	A300, A330-200/300, A340-200 to 600, B747-200 to 400, B757-200/300, B767-200 to 400, B777-200/300, B787
15	131205.70N 0774234.49E	2948	A318, A319, A320, A321, B717, B737 all series
16	131205.56N 0774233.04E	2949	A300, A318, A319, A320, A321, A330-200/300, A340-200 to 600, B747-200 to 400, B757-200/300, B767-200 to 400, B777-200/300, B787, B717, B737 all series
17	131205.73N 0774231.59E	2948	A318, A319, A320, A321, B717, B737 all series
18	131205.58N 0774230.63E	2949	A330-200/300, A340-200 to 600, B747-200 to 400, B757-200/300, B767-300/400, B777-200/300, B787
19	131205.74N 0774230.15E	2948	A318, A319, A320, A321, B717, B737 all series
20	131205.75N 0774228.71E	2948	A318, A319, A320, A321, B717, B737 all series
21	131205.60N 0774227.83E	2949	A300, A330-200/300, A340-200 to 600, AN12, MD11, B747-200 to 400, B757-200/300, B767-200 to 400, B777-200/300, B787
22	131205.76N 0774227.35E	2948	ATR42, 72, A318, A319, A320, A321, B717, B737 all series, CRJ200, ERJ 170, 190
23	131206.25N 0774225.42E	2948	ATR42, 72, A318, A319, A320, A321, B717, B737 all series, CRJ200, ERJ170, 190
24	131205.63N 0774224.85E	2949	A300, A330-200/300, A340-200 to 600, AN12, MD11, B747-200 to 400, B757-200/300, B767-200 to 400, B777-200/300, B787
25	131206.14N 0774223.99E	2949	ATR42, 72, A318, A319, A320, A321, B717, B737 all series, CRJ200, ERJ170, 190
26	131206.16N 0774222.54E	2949	ATR42, 72, A318, A319, A320, A321, B717, B737 all series, CRJ200, ERJ170, 190
27	131205.65N 0774222.06E	2950	A300, A330-200/300, A340-200 to 600, AN12, MD11, B747-200 to 400, B757-200/300, B767-200 to 400, B777-200/300, B787
28	131205.98N 0774221.10E	2950	ATR42, 72, A318, A319, A320, A321, B717, B737 all series, CRJ200, ERJ170, 190

29	131206.18N0774219.65E	2950	ATR42,72,A318,A319,A320,A321,B717,B737allseries, CRJ200,ERJ170,190
30	131205.68N0774219.17E	2951	A300,A330-200/300,A340-200 to 600, ANT2,MD11, B747-200 to 400, B757-200/300,B767-200 to 400, B777- 200/300, B787
31	131206.01N0774218.21E	2951	ATR42,72,A318,A319,A320,A321,B717,B737allseries, CRJ200,ERJ170,190
32	131206.02N0774216.76E	2952	ATR42,72,A318,A319,A320,A321,B717,B737allseries,C RJ200,ERJ170,190
33	131206.07N0774211.27E	2957	ATR42,72,A318,A319,A320,A321,B717,B737allseries,C RJ200,ERJ170,190
34	131205.75N0774210.30E	2958	A300,A330-200/300,A340-200 to 600, MD11 ,B747-200 to400, B757-200/300, B767-200 to 400,B777-200/ 300,B787
35	131206.08N0774209.82E	2958	ATR42, 72, A318, A319, A320, A321, B717, B737 all series, CRJ200, ERJ170, 190
36	131206.28N0774208.38E	2958	ATR42, 72, A318, A319, A320, A321, B717, B737 all series, CRJ200, ERJ170, 190
37	131205.78N0774207.89E	2959	A300,A330-200/300,A340-200 to 600, ANT2, MD11, B747-200 to 400,B757-200/300,B767-200 to 400,B777- 200/300, B787
38	131206.11N0774206.93E	2959	ATR42,72,A318,A319,A320,A321,B717B737 all series,CRJ200,ERJ170,190
39	131205.86N 0774204.07E	2960	Code A, B and C
40	131205.87N0774202.73E	2961	Code A, B, C, D, E
41	131205.88N0774201.38E	2962	Code A, B and C
42	131205.89N0774200.04E	2964	Code A, B, C, D, E
43	131205.91N0774158.69E	2965	Code A, B and C
45	131205.95N0774153.61E	2967	Code Letter A, B, C, D, E
47	131205.97N0774150.89E	2968	Code A, B, C, D, E
49	131206.00N0774148.16E	2969	Code A, B, C, D, E and F (Only B748 and A124 for Code- F).
51	131213.55N0774148.03E	2972	Code A, B, C, D and E (Only A332, A342 for Code-E)
51W	131213.49N0774146.46E	2972	CODE A,B,C
52	131213.52N0774150.97E	2971	Code A, B, C, D and E (Only A332, A342 for Code-E)
52W	131213.47N0774149.40E	2971	CODE A,B,C
53	131213.50N0774153.91E	2970	Code A, B, C, D and E (Only A332, A342 for Code-E)
53W	131213.44N 0774152.33E	2970	CODE A,B,C
54	131213.46N0774157.99E	2969	Code A, B and C
54W	131213.42N 0774155.29E	2969	CODE A,B,C
55	131213.45N0774159.59E	2967	Code A, B, C, D and E (Only A332, A342 for Code-E)
56	131213.44N0774200.94E	2966	Code A, B and C
57	131213.42N0774202.53E	2965	Code A, B, C, D and E (Only A332, A342 for Code-E)
58	131213.41N0774203.87E	2964	Code A, B and C
59	131213.22N 0774206.81E	2963	ATR42,72,A318,A319,A320,A321, B717,B737all series, CRJ200,ERJ170,190
60	131213.22N 0774207.03E	2962	ATR42,72,A318,A319,A320,A321,A300,AN12,B717,B7 37allseries, B757-200/300,B767-200/ 300,CRJ200,ERJ170, 190,MD11.

61	131213.21N 0774208.16E	2962	ATR42,72,A318,A319,A320,A321,B717B737all series,CRJ200,ERJ170,190
62	131213.21N 0774209.00E	2962	A300,AN12,B757-200/300,B767-200 to 400,MD11
63	131213.20N 0774209.84E	2961	ATR42,72,A318,A319,A320,A321,B717,B737all series,CRJ200,ERJ170,190
64	131213.19N 0774210.98E	2961	A300,AN12,B757-200/300, B767-200 to 400,MD11,
65	131213.19N 0774211.18E	2961	ATR42,72,A318,A319,A320,A321, B737all series except 900 Winglet, CRJ200, ERJ170,190
66	131212.90N 0774217.56E	2955	ATR42,72,A318,A319,A320,A321,B717,B737all series,CRJ200,ERJ170,190
67	131213.13N 0774218.23E	2955	A300,A330-200/300,A340-200/300,AN12,B757-200/ 300,B767-200 to 400,MD11,,
68	131212.89N 0774218.90E	2954	ATR42,72,A318,A319,A320,A321,B717,B737allseries,C RJ200,ERJ170,190
69	131212.88N 0774220.89E	2953	ATR42,72,A318,A319,A320,A321,B717 B737allseries,CRJ200,ERJ170,190
70	131213.20N 0774221.57E	2953	A300,A330-200/300,A340-200/300,AN12, B757-200/ 300,B767-200to400,MD11,,
71	131212.86N 0774222.24E	2953	ATR42,72,A318,A319,A320,A321,B717 B737allseries,CRJ200,ERJ170,190
72	131212.85N 0774224.23E	2952	ATR42,72,A318,A319,A320,A321,B717 B737allseries,CRJ200,ERJ170,190
73	131213.17N 0774224.90E	2952	A300,A330-200/300,A340-200/300,AN12,B757-200/ 300, B767-200 to 400,MD11,,
74	131212.84N 0774225.57E	2952	ATR42,72,A318,A319,A320,A321,B717 ,B737all series,CRJ200,ERJ170,190
75	131212.82N 0774227.57E	2951	ATR42,72,A318,A319,A320,A321,B717 B737all series,CRJ200,ERJ170,190
76	131213.14N 0774228.24E	2951	A300,A330-200/300,A340-200/300,AN12, B757-200/ 300,B767-200 to 400,MD11,,
77	131212.81N 0774228.91E	2950	ATR42,72,A318,A319,A320,A321,B717 ,B737all series,CRJ200,ERJ170,190
78	131212.90N 0774230.90E	2950	ATR42,72,A318,A319,A320,A321,B717, B737allseries,CRJ200,ERJ170,190
79	131213.11N 0774231.58E	2949	A300,A330-200/300,A340-200/300,AN12, B757-200/ 300, B767-200 to 400,MD11,,
80	131212.78N 0774232.25E	2949	ATR42,72,A318,A319,A320,A321,B717 ,B737all series,CRJ200,ERJ170,190
81	131212.88N 0774234.24E	2948	ATR42,72,A318,A319,A320,A321,B717 ,B737all series,CRJ200,ERJ170,190
82	131213.08N 0774234.92E	2948	A300,A330-200/300,A340-200/300,AN12, B757-200/ 300,B767-200 to 400,MD11,,
83	131212.75N 0774235.59E	2948	ATR42,72,A318,A319,A320,A321, B717, B737all series,CRJ200,ERJ170,190
84	131212.73N 0774237.58E	2947	ATR42,72,A318,A319,A320,A321,B717, B737all series,CRJ200,ERJ170,190
85	131213.05N 0774238.25E	2947	A300,A330-200/300,A340-200/300,AN12, B757-200/ 300,B767-200 to 400,MD11,,
86	131212.72N 0774238.92E	2946	ATR42,72,A318,A319,A320,A321,B717, B737 all series, CRJ200, ERJ170,190

NOTE: -

- i.All Parking Stands are of MARS (Multiple Aircraft Ramp System) type and the pattern of Taxi Lead-in-lines require nose wheel steering while taxiing into the stand.
- ii.Pilots should exercise caution when manoeuvring on the apron due to the proximity of other aircraft, ground staff and equipment. Engine power should be restricted to the minimum required to reduce the adverse effect of jet blast.
- iii. Aircraft Stands 51W to 86 are North stands.
- iv. Aircraft Stands 01 to 49 are South stands.
- v. Fixed Electrical Ground Power (FEGP) - All stands are equipped with Ground Hatch pits which will supply power at 50 Hz, 415 V, and 3 Phase with the following outputs:
 - 1 x 90 KVA for each aircraft stand: Code C
 - 2 x 90 KVA for each aircraft stand: Code D/E
- vi.Stand nos. 44, 46, 48, 50 are kept as reserve for the future requirements based on demand.

4.PARKING RESTRICTIONS ON AIRCRAFT STANDS:

STAND NO.	NO PARKING						
1	2	23	24	47	-	67	66, 68
2	1, 3	24	23, 25	49	-	68	67
3	2	25	24	51W	-	69	70
4	5	26	27	51	51W, 52W	70	69, 71
5	4, 6	27	26, 28	52W		71	70
6	5	28	27	52	52W, 53W	72	73
7	8	29	30	53W	-	73	72, 74
8	7, 9	30	29, 31	53	53W, 54W	74	73
9	8	31	30	54W	-	75	76
10	11	32	-	54	-	76	75, 77
11	10, 12	33	34	55*	54, 56	77	76
12	11	34	33, 35	56	-	78	79
13	14	35	34	57*	56, 58	79	78, 80
14	13, 15	36	37	58	-	80	79
15	14, 16*	37	36, 38	59	60	81	82
16*	15, 17	38	37	60	59, 61	82	81, 83
17	18, 16*	39	-	61	62	83	82
18	17, 19	40*	39, 41	62	61, 63	84	85
19	18	41	-	63	62	85	84, 86
20	21	42*	41, 43	64	63, 65	86	85
21	20, 22	43	-	65	64		
22	21	45	-	66	67		

* If code D/E (wide body) type of aircraft parked on these stands adjacent stands to be kept vacant. If Code C type of aircraft is parked on these stands, no restriction on adjacent stands.

5.PUSH BACK RESTRICTIONS:

A.Minimum Separation of stands required for simultaneous push-back and startup of aircraft:

a)For the same direction pushback and start up, the following minimum separation is applicable:

- 1.Between Code A/B/C & Code A/B/C ±5 Stands
- 2.Between Code D/E & Code D/E ±11 Stands

- 3.Between code A/B/C & code D/E
- i.Code A/B/C in front of Code D/E ± 5 stands
 - ii.Code D/E in front of Code A/B/C ± 11 stands
- b)For opposite direction pushback and start up:

- 1.Tail to Tail:
- i.Between Code A/B/C & Code A/B/C ± 5 Stands
 - ii.Between Code D/E & Code A/B/C/D/E ± 11 Stands
- 2.Nose to Nose (only for Code C or smaller type aircraft, Taxi out with follow-me service to change lane L1 to L3 or vice versa):
- i.Between Code A/B/C & Code A/B/C aircraft ± 3 stands

c)For Departure & Arrival:

- 1.When arrival coming to a stand behind the aircraft pushing back
 - i.Code A/B/C pushback - Arrival Code A/B/C ± 3 stands
 - ii.Code A/B/C pushback - Arrival Code D/E ± 4 stands
 - iii.Code D/E pushback - Arrival Code A/B/C/D/E ± 5 stands

Note:Care should be taken not to permit arrival to stand with ‘Follow-Me’ service, behind an aircraft pushed back, if the aircraft which has pushed back has been given taxi clearance. This is to prevent the ‘Follow-Me’ vehicle from the Jet Blast of the aircraft taxiing out.

- 2.When arrival coming to a stand in front of aircraft pushed back
 - i.Code A/B/C pushback – Arrival code A/B/C ± 2 stand
 - ii.Code A/B/C pushback – Arrival code D/E ± 2 stands
 - iii.Code D/E pushback – Arrival code A/B/C/D/E ± 2 stands

Note: Care should be taken not to permit simultaneous taxi in and push back when only the minimum separation mentioned in clause (2) i-iii above is available. In such cases, arrival should be allowed to taxi in to the stand only after the push back is completed.

- B.Minimum separation of stands required for simultaneous push back (one behind another in same direction) without engine startup of aircraft in front:
- a)Between Code A/B/C – Code A/B/C ± 3 stands
 - b)Between Code D/E – Code A/B/C/D/E ± 4 stands
- Aircraft in the front shall be given engine start up only after the separation mentioned in the clause [A (a)] is achieved by pulling or pushing further the aircraft involved.

- C.Minimum separation of stands required for simultaneous push back (tail to tail in opposite direction) without engine startup of aircraft involved:
- a)Code A/B/C – Code A/B/C ± 5 stands
 - b)Code D/E – Code A/B/C/D/E ± 5 stands
- Aircraft involved shall be given engine start up only after the separation mentioned in clause [A (b)] is achieved by pulling further the aircraft involved.

- D.Restriction for simultaneous push back involving a Code D/E/F aircraft from any of the stands 45, 47, 49, 51, 52 & 53 in any direction shall be ± 5 stands. All other restrictions shall remain the same.
- E.When any aircraft is pushing back facing west from stands 33, 34, 64 and 65, the aircraft shall be pulled abeam the stands mentioned in the table below to ensure taxiway H is available for taxiing aircraft.

PUSH BACK FROM STAND	BEFORE START UP, PULL ABEAM
65	63
64	62
33	35
34	36

6.PUSHBACK PROCEDURES:

- i.All stands in the apron are power in / push back.
- ii.Power out is not permitted from any stand.
- iii.Special arrangements will be made by BIAL to facilitate aircraft parking and taxiing out on own power from a parking location due to operational requirements.
- iv.All aircraft shall contact SMC (Call-Sign: Bangalore Ground) on Freq.121.650 MHz for push back and start-up clearance.
- v.All code D/E/F aircraft shall push back on L2 only.
- vi.All code A/B/C aircraft shall push back on L3 only.
- vii.The push back separation requirement on apron incorporates jet blast clearance (minimum 250meters behind code D/E/F aircraft and 80meters behind code A/B/C aircraft).
- viii.Ensuring correct pushback on L1/L2/L3 as per instructions received from ATC is the responsibility of Airline operator.
All aircraft shall be pushed back up to the specified push back position marking (i.e., the nose wheel of the aircraft will be at the point where the stand lead in line from which the aircraft pushed back meets the aircraft stand taxi lane)
corresponding to the stand from which push back was commenced unless otherwise instructed by ATC.
- ix.Aircraft parked on stands 01, 02, 03, 04 and 05 shall push back facing west irrespective of runway in use.
- x.Aircraft on stand 06, 07, 08, 09, 10 and 11 should push back abeam stand 05 facing west or abeam stand 11 facing east as instructed by ATC depending on traffic to keep TWY 'D' clear for aircraft to taxi in/out via TWY 'D'.

7.TAXIING PROCEDURES:

- i.Apron is served with multiple parallel Aircraft Stand Taxi Lanes L1, L2 and L3 (numbered from North to South)
- ii.Apron east of Taxiway 'D' is served with parallel aircraft stand taxi lanes L2 and L3.
Note: L1 does not exist east of TWY D
- iii.Aircraft stand taxi lane L2 is a continuous line painted in Yellow and are to be used by Code D/E/F type of aircraft.
- iv.Aircraft Stand Taxi Lanes L1 and L3 are broken lines painted in Yellow and are to be used by Code A/B/C type of aircraft or the aircraft with wingspan lesser than 36m. L1 does not exist east of TWY D.
- v.Aircraft stand taxi lane L3 shall not be used for Code D/E/F type of aircraft.
- vi.Simultaneous parallel taxi is not permitted on L2 and L3.
- vii.All Code D/E/F type of aircraft taxiing into apron via Taxiway 'D' for stand 02 or 05 shall turn left on Taxi lane 'L2'.
- viii.All Code-C or smaller type of aircraft taxiing into apron via Taxiway 'D' for stands 01, 03, 04 and 06 shall turn left on Taxi lane 'L3'.
- ix.All aircraft proceeding for stands 07 and 08 to follow the appropriate stand lead in lines from Taxi way "D".
- x.Advanced Visual Docking Guidance System (AVDGS) is available for stands 02, 05, 06, 08 and 09. Marshalling service will be provided for other stands.
- xi.All Code-C aircraft shall exercise caution and strictly follow appropriate stand lead lines while taxiing into stands 03, 06 and 09, since the lead lines are inclined to facilitate PBB docking.
- xii.Pilots shall exercise caution when manoeuvring on the apron due to the proximity of other aircraft, ground staff and equipment. Engine power should be restricted to the minimum required, to reduce the adverse effect of jet blast.
- xiii.Aircraft stand taxi lane L1, L2 AND L3 intersection with TWY D, H and K on apron installed with centerline lights. L1 AND L3 installed with green light and L2 with alternate green and orange light. Pilots to exercise caution
- xiv.Marshaling service will be provided by Ground Handling Agent for all stands where Automatic Stand Guidance System not available.
- xv.Aircraft Stand Taxi Lane L1 and L3 cannot be used for Code D/E/F type of aircraft.
- xvi.Simultaneous parallel taxi is permitted for code C type or smaller type of aircrafts on Taxi Lane L1 and L3.

- xvii. Simultaneous parallel taxi is not permitted on L1 and L2 or L2 and L3.
- xviii. If a Code A/B/C aircraft is holding at taxi holding position B, a Code D/E/F aircraft shall not be permitted to taxi behind on taxiway A.
- xix. If a Code D/E/F aircraft is holding at taxi holding position B, a Code A/B/C/D/E/F aircraft shall not be permitted to taxi behind on taxiway A.
- xx. Changing of lanes from L1 to L3 and vice versa for taxiing Code A/B/C type aircraft is permitted only with the guidance of Follow-Me service or as instructed by ATC.
- xxi. If a Code D/E/F aircraft is vacating runway via exit taxiways A4, A5, A8 and A9, it is not simultaneously clear of both, the runway and parallel TWY A. The vacating aircraft is either clear of runway or clear of TWY A.
- xxii) Rapid Exit Taxiways (RETs) A5, A8 shall not be used for departures. (No entry signs, runway holding position markings and Runway Guard Lights are provided.
- xxiii) RETs of opposite runway shall not be used for vacating of aircraft (for runway 27 - do not vacate via A5 and for RWY 09- do not vacate via A8 / A9) since there is no fillet provided to account for the large turn.
- xxiv) Simultaneous use of taxiways A4 and A5 is not permitted for Code D/E/F type of aircraft.
- xxv) 180 degree turn for aircraft on apron / taxiways / Runway is not allowed. Under unavoidable circumstances, 180-degree turn may be allowed for Code C (or smaller) type of aircraft on runway, at the intersection of runway with taxiways A1 or A11.
- xxvi) Special arrangements will be made by BIAL to facilitate aircraft parking and taxiing out on own power from a parking location due to operational requirements.

8.TAXING OUT FROM APRON

- i. VIA TWY "D"
 - a. Code C or smaller type of aircraft taxiing out simultaneously on Taxi lane L1 and L3 for proceeding via Taxiway 'D' shall hold short of Stand Lead-in Line for stand 81 and 15 respectively to give way to aircraft in sequence.
 - b. All aircraft Taxiing towards east on L1, L2, L3 to turn left after crossing Stand Lead-in Lines for stand 86, 11 and 10 respectively for TWY 'D'.
 - c. All aircraft taxing towards west on L2, L3 to turn right for TWY 'D'.
 - d. All Code-F type of aircraft from stand 02/11 shall taxi out via TWY 'D' only, with outer engines on idle power.
- ii. VIA TWY "H"
 - a. Code C or smaller type of aircraft taxiing towards west simultaneously on Taxi lane L1 and L3 for proceeding via Taxiway 'H' shall hold short of Stand Lead-in Line for stand 69 and 28 respectively to give way to aircraft in sequence.
 - b. All aircraft Taxiing towards west on L1, L2, L3 to turn right after crossing Stand Lead-in Lines for stand 66, 67 and 32 respectively for Taxiway 'H'.
 - c. All Code-F type of aircraft from stand 34 shall taxi out via TWY 'H' only, with outer engines on idle power.
- iii. VIA TWY "K"
 - a. Code C or smaller type of aircraft taxiing out simultaneously on Taxi lane L1 and L3 for proceeding via Taxiway 'K' shall hold on intermediate holding position to give way to aircraft in sequence.
 - b. All Code-F type of aircraft from stand 49 shall taxi out via TWY 'K' only, with outer engines on idle power.

9.TAXIING INTO APRON:

- i. VIA TWY "D"
 - a. All Code A/B/C type of aircraft taxiing for Southern stands 09 to 49 shall turn right on Aircraft Stand Taxi lane "L3".
 - b. All Code A/B/C type of aircraft taxiing for stand 01, 02, 04 and 06 shall turn left on Taxi lane 'L3'.
 - c. All aircraft proceeding for stands 07 and 08 to follow the appropriate stand lead in lines from Taxi way "D".
 - d. All Code A/B/C type of aircraft taxiing for Northern stands 51W to 86 shall turn right on Aircraft Stand Taxi lane "L1".
 - e. All Code D/E/F type of aircraft taxiing for stand 02 or 05 shall turn left on Taxi lane 'L2'.
 - f. All Code D/E type of aircraft taxiing for stands 51 to 85 shall turn right on Aircraft Stand Taxi lane "L2".
 - g. All Code F type of aircraft for stand 02 and 11 shall taxi into apron via TWY 'D' only, with outer engines on idle power.

ii. VIA TWY "H"

- a.All Code A/B/C type of aircraft taxiing for Southern stands 01 to 32 shall turn left on Aircraft Stand Taxi lane "L3".
- b.All Code A/B/C type of aircraft taxiing for Southern stands 33 to 49 shall turn right on Aircraft Stand Taxi lane "L3".
- c.All Code-A/B/C type of aircraft taxiing for Northern stands 51W to 65 shall turn right on Aircraft Stand Taxi lane "L1".
- d.All Code-A/B/C type of aircraft taxiing for Northern stands 66 to 86 shall turn left on Aircraft Stand Taxi lane "L1".
- e.All Code-D/E type of aircraft taxiing for stands 02 to 30 and 67 to 85 shall turn left on Aircraft Stand Taxi lane "L2".
- f.All Code-D/E type of aircraft taxiing for stands 34 to 49 and 51 to 64 shall turn right on Aircraft Stand Taxi lane "L2".

iii. VIA TWY "K"

- a.All Code-A/B/C type of aircraft taxiing for Northern stands shall turn left on Aircraft Stand Taxi lane "L1".
- b.All Code A/B/C type of aircraft taxiing for Southern stands shall turn left on Aircraft Stand Taxi lane "L3".
- c.All Code D/E/F type of aircraft taxiing to apron shall turn left to follow Aircraft Stand Taxi lane "L2" for allotted stand.
- d.All Code-F type of aircraft for stand 49 shall taxi into apron via TWY 'K' only, with outer engines on idle power.

10. MOVEMENT OF CODE- E/F AIRCRAFT:

B747 type of aircraft to exercise caution and use minimum power at the intersection of L2 and TWYD/H.

11. JET BLAST PRONE AREAS ON MAIN APRON:

a.Apron is linked with Taxiway A by Taxiway D, Taxiway H and Taxiway K. The Jet blast study conducted on the critical aircraft for VOBL, B747-400, shows the following observations:

Taxi Routes	Aircraft Position	Jet Blast Prone Area
Aircraft exiting Apron via TWY D	Taxiing – OUT	Stands 12, 11, 10, 09, 08, 07, 06
Aircraft entering Apron Via TWY D for stand no.5 & 02	Taxiing – IN	Stands 86, 85, 84
Aircraft exiting Apron via TWY H	Taxiing – Out	Stands 29, 30, 31, 32, 33, 34, 35, 36, 37, 38
Aircraft entering Apron via TWY H and turning left for stands 02 to 30 and 67 to 85	Taxiing – IN	Stands 63, 64, 65
Aircraft entering Apron Via TWY H and turning right for stands 34 to 49 and 51 to 64	Taxiing – IN	Stands 66, 67, 68

b.APRON AREA

Code D/E type aircraft are not permitted to stop while Taxiing on these Jet Blast Prone Areas to avoid jet blast damage to vehicles and aircraft parked on the above mentioned stands. If for any reason a B747 type of aircraft stops on these Jet Blast Prone Areas further taxi should be continued only when the affected stands are vacant and ground movement is regulated. All Jet Blast Prone Areas are well marked with apron markings to provide adequate information for all vehicles.

c.ARRIVING AIRCRAFT:

Aircraft can normally vacate the runway via designated exit taxiways:

RWY 09 – TWY A5, A4 or A1

RWY 27 – TWY A8, A9 or A11

d.DEPARTING AIRCRAFT

Aircraft can normally enter the runway for departure via the following taxiways:

RWY 09 – TWY A11, RET A9 (During day time & Visibility >1500mtrs)

RWY 27 – TWY A1, A4

12.TWY A9 intersection DEP may be permitted when RWY09 is in use during day time and visibility more than 1500m. TORA/TODA from TWY A9 intersection 2895m. RWY holding position marking provided.

13.RADAR Separation Minima of 3 NM is applicable within 30 nm of VOBL ASR/MSSR Head.

LOWER LIMIT: GND

UPPER LIMIT: FL140

14. All DEP ACFT shall contact Bengaluru APP 127.75 MHZ automatically after passing 3800 FT unless instructed to the contrary by tower.

15. Details of RET A6 and A7:

Designator	Location and Direction	PCN	Length (m)	Width (m)	Shoulder s (m)	C/L, RETIL & Edge Light Color, Spacing	Exit Speed
A6	1840 M from RWY 09	100/F/ D/W/T	91.10	25	17.5	C/L lights: N/A RETILS: Yellow color, providing a 3- 2-1 countdown Pattern (Elevated/inset) Edge Lights: Blue Omnidirectional spacing 30m Max.	Code C: 50 KTS Code D/E/F: 30 KTS
A7	1840 M from RWY 27	100/F/ D/W/T	91.10	25	17.5	C/L lights: N/A RETILS: Yellow color, providing a 3- 2-1 countdown Pattern (Elevated/inset) Edge Lights: Blue Omnidirectional spacing 30m Max.	Code C: 50 KTS Code D/E/F: 30 KTS

Note:

1. Taxiway intermediate holding position marking and lights provided on TWY A, short of RET A6 and RET A7.
2. Type 'A' Runway Guard lights are provided on RET A6 and A7 for RWY 09/27.

16. RETILS are provided for RET A5, RET A8 and RET A9. RETILS are Yellow in colour and is in 3-2-1 countdown pattern.

17. Taxiway intermediate holding position marking and lights provided on TWY A, short of all RETs and Link Taxiways.

18. There is no other change other than change in Taxiway Designator

19. Note: A2, A3, A10, A12 does not exist.

20. Preferred Exit Taxiway

- i) A7 is the preferred exit taxiway for RWY 27 for Code A, B and C aircraft in order to minimize Runway Occupancy time
- ii) A6 is the preferred exit taxiway for RWY 09 for Code A, B and C aircraft in order to minimize Runway Occupancy time

VOBL AD 2.24 CHARTS RELATED TO AN AERODROME

- 1.Aerodrome Chart
- 2.Aircraft Parking/Docking Chart
- 3.Aerodrome Obstacle Chart-Type A (Operating Limitations) RWY 09/27
- 4.Precision Approach Terrain Chart RWY 09
- 5.Precision Approach Terrain Chart RWY 27
- 6.Aerodrome Chart - Hot Spot
- 7.ILS (Z) Procedure RWY 09
- 8.ILS (Y) Procedure RWY 09
- 9.ILS (Z) Procedure RWY27
- 10.ILS (Y) Procedure RWY27
- 11.VOR Procedure RWY 09
- 12.VOR Procedure RWY 27

AERODROME CHART

13°11'55.92"N
077°42'19.70"E

ELEV. 3001 FT

TWR 124.350

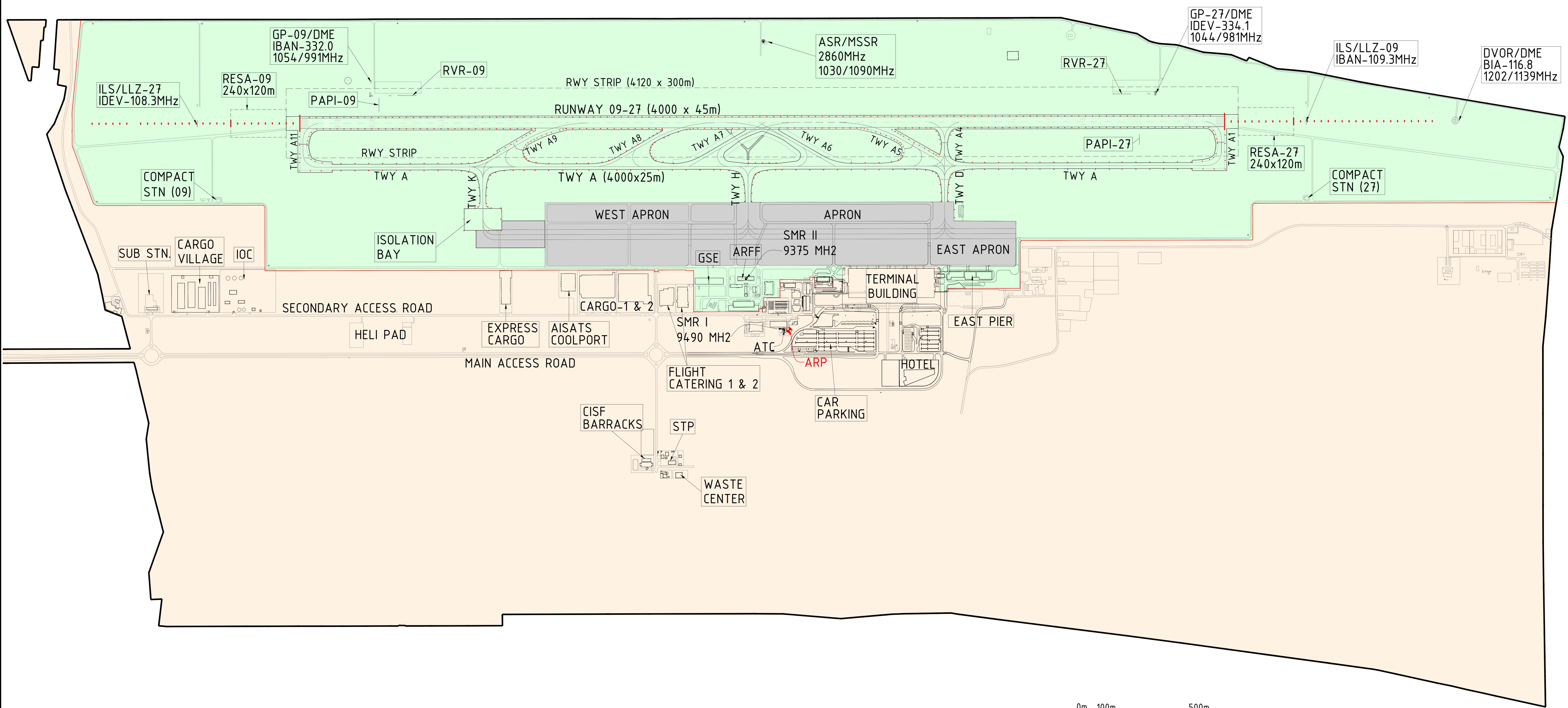
INDIA / BANGALORE (DEVANAHALLI)
KEMPEGOWDA INTERNATIONAL AIRPORT BENGALURU

RWY	DIRECTION	THR CO-ORDINATES	THR ELEV.	BEARING STRENGTH
09	092°	13°12'25.78"N 077°41'09.84"E	3000FT	80/F/B/W/T ASPHALT
27	272°	13°12'24.63"N 077°43'22.67"E	2917FT	

- * DATUM : WGS-84
- * ELEVATIONS IN FEET
- * DIMENSIONS IN METRES
- * BEARINGS ARE MAGNETIC

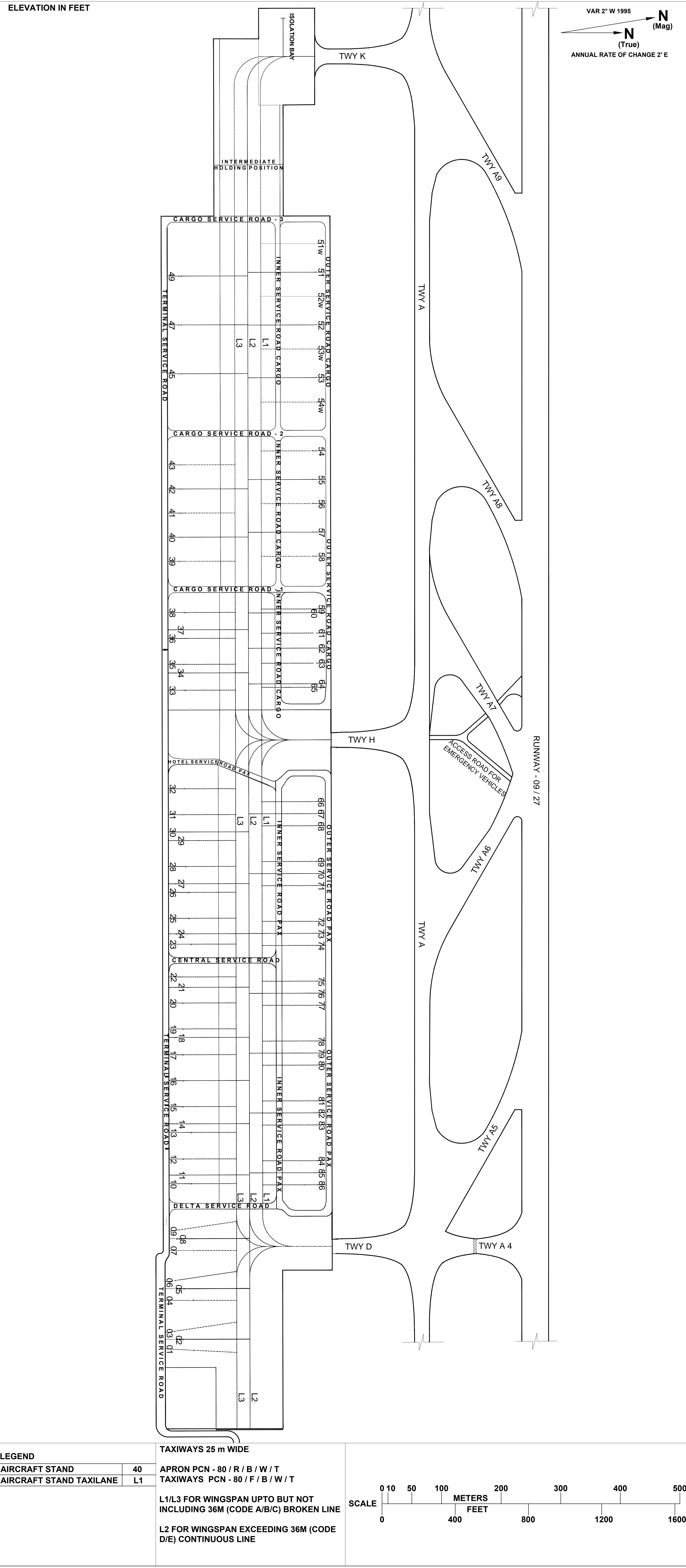
ELEV. OF RWY HOLDING POSITIONS (Nearest Feet)			
AT TWY A1	2915	AT TWY A9	2983
AT TWY A4	2939	AT TWY A8	2974
AT TWY A11	3000	AT TWY A7	2966
		AT TWY A6	2962
		AT TWY A5	2943

N(True)
N(Mag)
VAR 2°N 1995
ANNUAL RATE OF
CHANGE 2E



PRODUCING ORGANIZATION:

BANGALORE INTERNATIONAL AIRPORT LIMITED

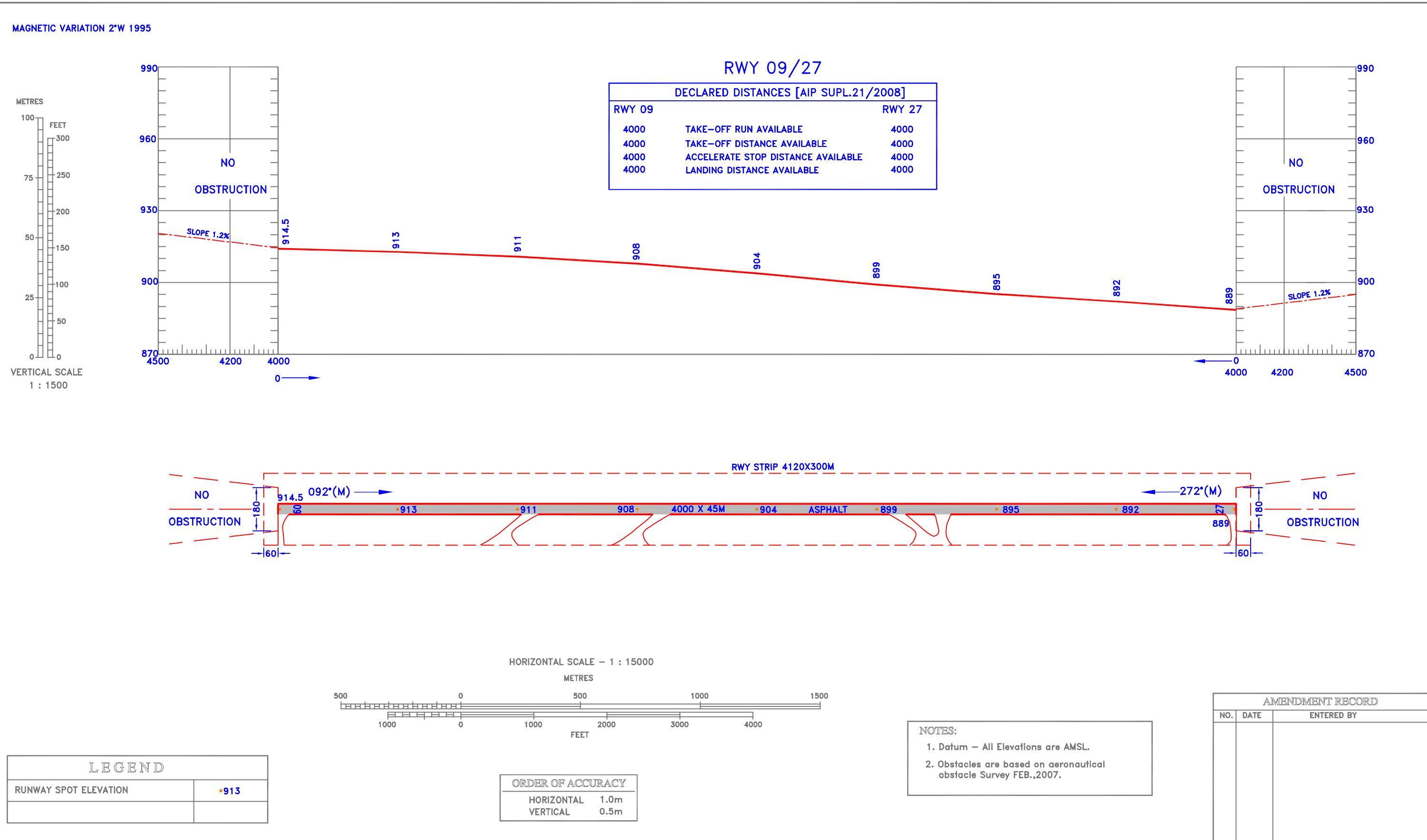
AIRCRAFT PARKING /
DOCKING CHARTAPRON ELEVATION
2946 FEET TO 2972 FEETTWR 124.350
SMC 121.650INDIA / BANGALORE (DEVANAHALLI)
KEMPEGOWDA INTERNATIONAL AIRPORT, BENGALURU

DIMENSIONS AND ELEVATIONS IN METRES

AERODROME OBSTACLE CHART

TYPE-A(OPERATING LIMITATIONS)

CONSULT NOTAM FOR LATEST INFORMATION

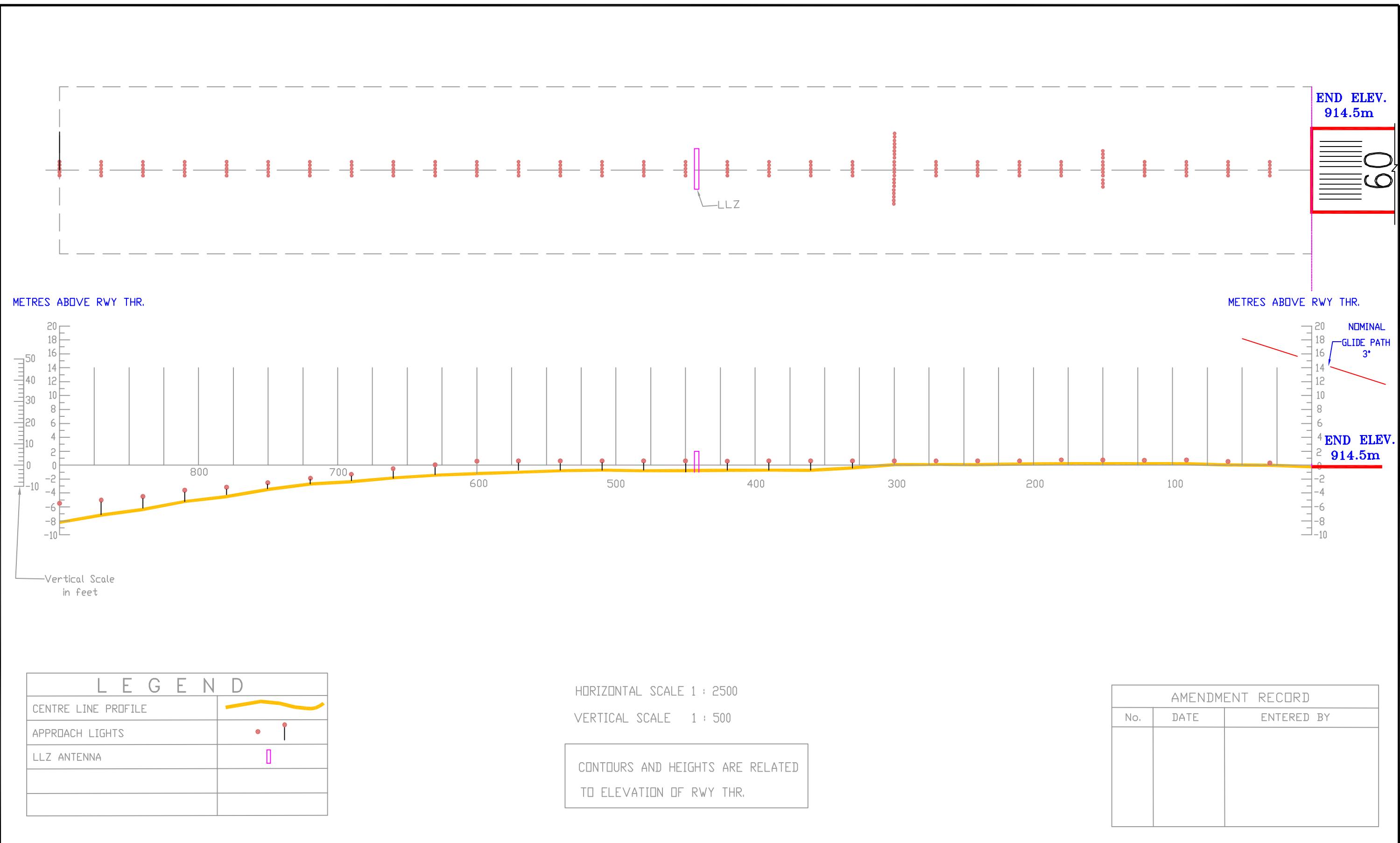
INDIA/BANGALORE (Devanahalli)
BANGALORE INT'L. AIRPORT
RWY 09/27

PRECISION APPROACH TERRAIN CHART

INDIA/BANGALORE
BANGALORE INTL. AIRPORT
RWY 09

DISTANCES AND ELEVATIONS IN METRES

CONSULT NOTAM FOR LATEST INFORMATION



Date of Aeronautical Information—April 2008

Consultant: Cartography unit, Airports Authority of India
Client : Bangalore International Airport Ltd.Based on AAI Survey Jan.–Feb 07
and BIAL data upto April 2008

PRECISION APPROACH TERRAIN CHART

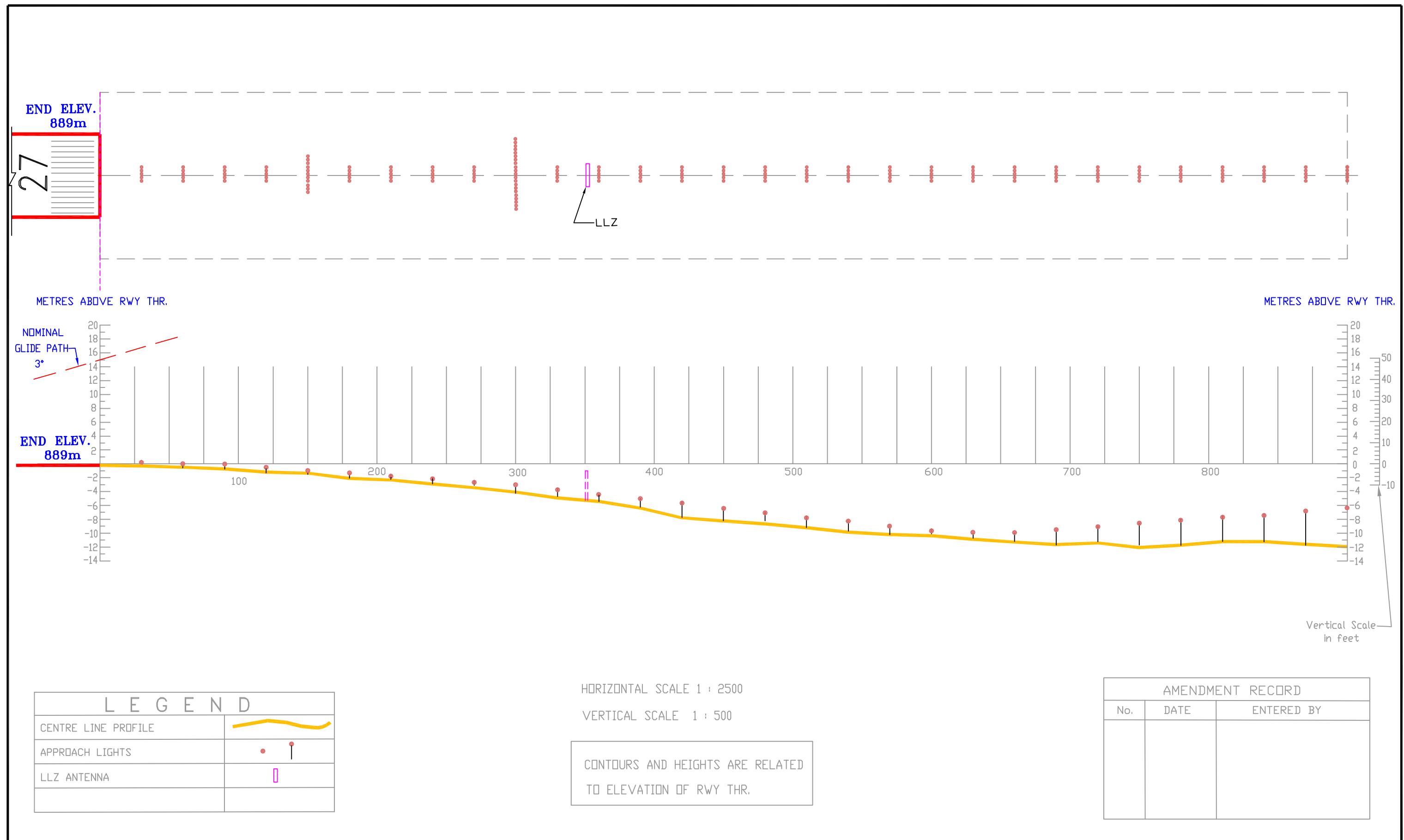
INDIA/BANGALORE

BANGALORE INTL. AIRPORT

RWY 27

DISTANCES AND ELEVATIONS IN METRES

CONSULT NOTAM FOR LATEST INFORMATION



Date of Aeronautical Information—April 2008

Consultant: Cartography unit, Airports Authority of India
Client : Bangalore International Airport Ltd.Based on AAI Survey Jan.—Feb 07
and BIAL data upto April 2008

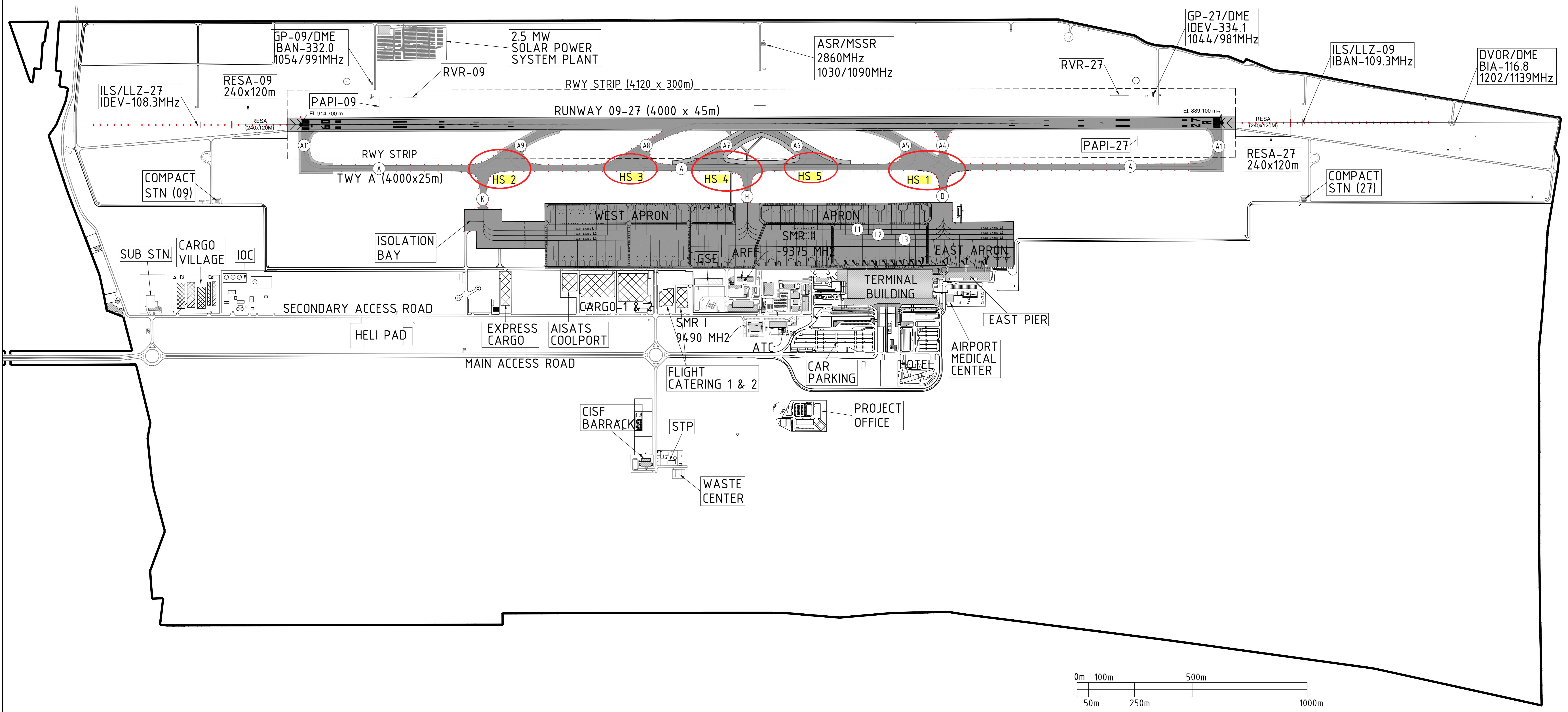
AERODROME CHART - HOT SPOTS

013°11'55.92"N
077°42'19.70"EELEV. 3001 FT
TWR 124.350INDIA / BANGALORE (DEVANAHALLI)
KEMPEGOWDA INTERNATIONAL AIRPORT BENGALURU

RWY	DIRECTION	THR CO-ORDINATES	THR ELEV.	BEARING STRENGTH	HOT SPOTS		ELEV. OF RWY HOLDING POSITIONS (Nearest Feet)
					HS 1	INTERSECTION OF TWY A4 & A WITH RAPID TWY EXIT E. DO NOT ENTER OR CROSS A, WITHOUT POSITIVE TOWER CLEARANCE. ENTRY INTO A5 FROM TXIWAY A IS PROHIBITED. (NO ENTRY SIGNBOARDS PROVIDED)	
09	092°	13°12'25.78"N 077°41'09.84"E	3000FT	80/F/B/W/T ASPHALT	HS 2	INTERSECTION OF TWY K AND A WITH RAPID EXIT A9 .DO NOT ENTER A WITHOUT POSITIVE TOWER CLEARANCE. ENTRY INTO TWY A9 FROM A PROHIBITED.(NO ENTRY SIGNBOARDS PROVIDED)	AT TWY A1 2915 AT TWY A9 2983
27	272°	13°12'24.63"N 077°43'22.67"E	2917FT		HS 3	INTERSECTION OF RAPID EXIT A8 WITH TWY A. DO NOT ENTER A WITHOUT POSITIVE CLEARANCE . ENTRY INTO A8 FROM TWY A IS PROHIBITED.(NO ENTRY SIGNBOARDS PROVIDED)	AT TWY A4 2939 AT TWY A8 2974
					HS 4	INTERSECTION OF TWY H & A WITH RAPID TWY EXIT A7. DO NOT ENTER OR CROSS A, WITHOUT POSITIVE TOWER CLEARANCE. ENTRY INTO TWY A7 FROM TWY A IS PROHIBITED (NO ENTRY SIGNBOARDS PROVIDED) CAUTION FOR ARFF ROADS WEST OF TWY H NORTH OF TWY A ABEAM TWY H.	AT TWY A11 3000 AT TWY A7 2966
					HS 5	INTERSECTION OF RAPID EXIT A6 WITH TWY A. DO NOT ENTER OR CROSS A WITHOUT POSITIVE CLEARANCE . ENTRY INTO A6 FROM TWY A IS PROHIBITED.(NO ENTRY SIGNBOARDS PROVIDED).	AT TWY A6 2962 AT TWY A5 2943

- * DATUM : WGS-84
- * ELEVATIONS IN FEET
- * DIMENSIONS IN METRES
- * BEARINGS ARE MAGNETIC

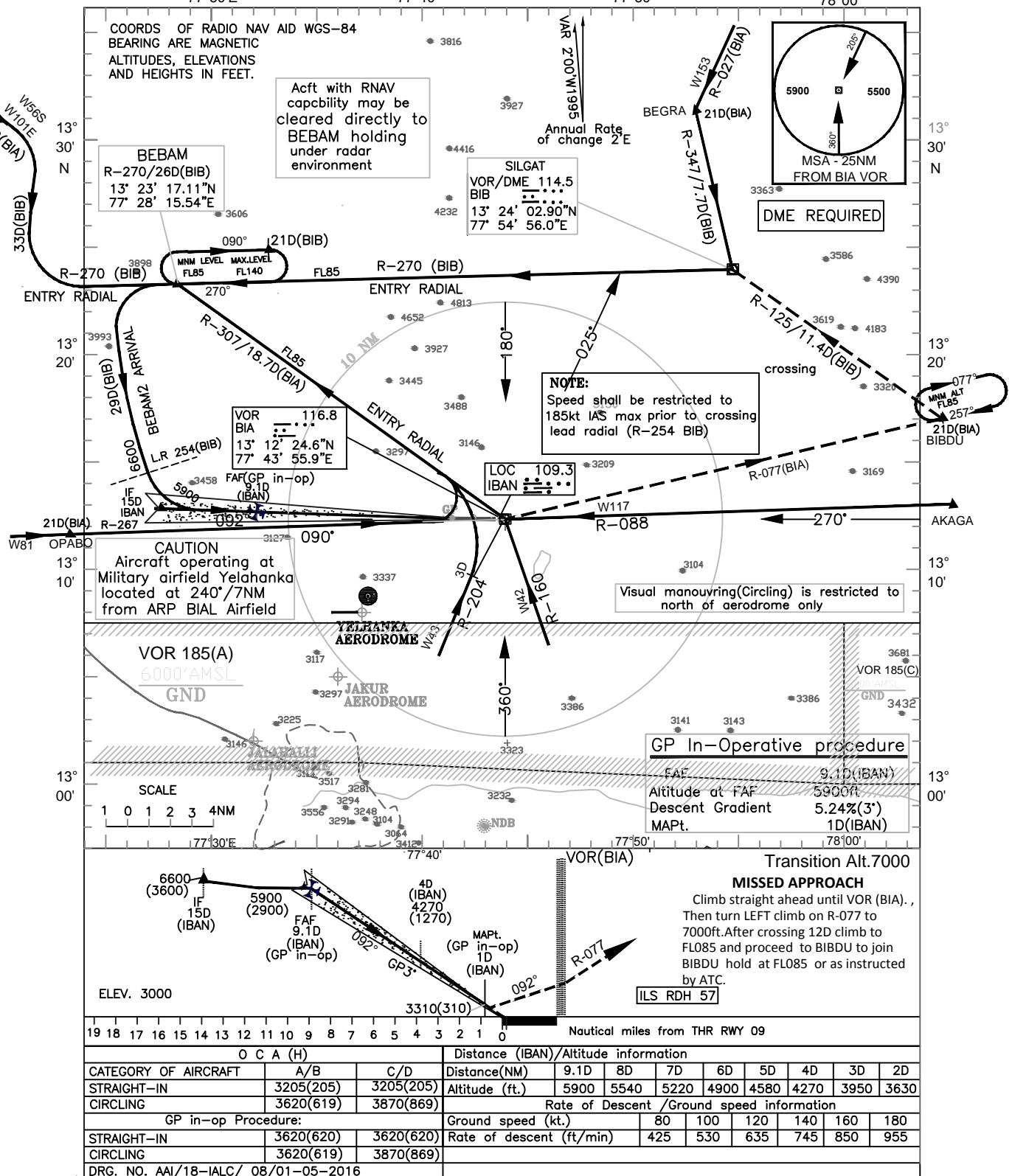
N(True)
N(Mag)
VAR 2°W 1995
ANNUAL RATE OF
CHANGE 2°E



PRODUCING ORGANIZATION:
BANGALORE INTERNATIONAL AIRPORT LIMITED

INSTRUMENT
APPROACH
CHARTAERODROME ELEV. 3001ft.
HEIGHTS RELATED TO
THR RWY 09 ELEV.3000ftAPP. 121.25
127.75
TWR. 124.35
TAR 119.45

BANGALURU INT.

INDIA
ILS (Z) RWY 09
78°00'

INSTRUMENT
APPROACH
CHARTAERODROME ELEV. 3001ft.
HEIGHTS RELATED TO
THR RWY 09 ELEV. 3000ftAPP. 121.25
127.75
TWR. 124.35
TAR 119.45

BANGALURU INT.

INDIA

ILS (Y) RWY 09

78°00'

