# AD 2. AERODROME

## VNVT AD 2.1 AERODROME LOCATION INDICATOR AND NAME

**VNVT – BIRATNAGAR / Domestic**

## VNVT AD 2.2 AERODROME GEOGRAPHICAL AND ADMINISTRATIVE DATA

| | | |
|---|---|---|
| 1. | ARP Coordinates and site at AD | 262903N 0871552E*[*] |
| 2. | Direction and Distance from (city) | 5. Km, North West of Biratnagar City |
| 3. | Elevation/Reference Temperature | 73.8m. (242ft.), 40°C (June) |
| 4. | MAG VAR/Annual Change | 0 ° W |
| 5. | AD Administration, address<br>Telephone, Telefax, Telex AFS | Civil Aviation Authority of Nepal<br>Biratnagar Civil Aviation Office, Biratnagar, Morang.<br>Te1- 977-021-461641, 977-021- 461424<br>Fax - 977-021- 460155<br>AFS - VNVTYDYX, VNVTZTZX |
| 6. | Types of traffic permitted (IFR/VFR) | IFR / VFR |
| 7. | Remarks | - |

## VNVT AD 2.3 OPERATIONAL HOURS

| | | |
|---|---|---|
| 1. | AD Administration | SUN-THU 10:00 -17:00 LT (SUMMER),<br>10:00-1600 LT (WINTER),<br>FRI 10:00-1500 LT |
| 2. | Customs and immigration | NIL |
| 3. | Health and sanitation | NIL |
| 4. | AIS Briefing Office | NIL |
| 5. | ATS Reporting Office (ARO) | NIL |
| 6. | MET Briefing | Half Hourly METAR provided during ATS Operation Hours |
| 7. | ATS | *1) From 16 Feb - 15 Nov (0015 - 1815) UTC*<br>*2) From 16 Nov - 15 Feb (0045 - 1815) UTC* |
| 8. | Fuelling | Jet A1 during Operation Hours |
| 9. | Handling (Cargo) | NIL |
| 10. | Security | H-24 |
| 11. | Remarks | Any change will be notified by NOTAM |

[*] *WGS -84 Coordinates*

## VNVT AD 2.4 HANDLING SERVICES AND FACILITIES

| | | |
|---|---|---|
| 1 | Cargo-handling facilities | Available with local airlines operator |
| 2. | Fuel/Oil Types | JET A-1 / Not available |
| 3. | Fuelling facilities/capacity | **Storage Capacity (KL):**<br>Physical -210, Mobile-22<br>**Storage Type:**<br>UG Tank (70×3)<br>**Refueller Details:**<br>AR15(11KL), AR33 (11KL) |
| 4. | De-icing facilities | NIL |
| 5. | Hangar space for visiting aircraft | NIL |
| 6. | Repair facilities for visiting aircraft | NIL |
| 7. | Remarks | - |

## VNVT AD 2.5 PASSENGER FACILITIES

| | | |
|---|---|---|
| 1. | Hotels | Near by Airport and in the city |
| 2. | Restaurants | Near by Airport and in the city |
| 3. | Transportation | Taxi Service, Rickshaw from AD |
| 4. | Medical Facilities | First Aid at AD, Hospitals in the city |
| 5. | Bank and Post Office | ATM (Sunrise Bank) Availbale |
| 6. | Tourist Office | In the city. |
| 7. | Remarks | - |

## VNVT AD 2.6 RESCUE AND FIRE FIGHTING SERVICE

| | | |
|---|---|---|
| 1. | AD Category for firefighting | Category V |
| 2. | Rescue equipment | Available |
| 3. | Capability for removal of disabled aircraft | NIL |
| 4. | Remarks | Complementary Extinguishing Agents Available, Fire Extinguishers (wheel type fire extinguishers also Available)<br>2 Fire vehicle (1 large and 1 medium) 2 Ambulance Available |

## VNVT AD 2.7 SEASONAL AVAILABILITY

| |
|---|
| Aerodrome is available throughout the year. |

## VNVT AD 2.8 APRONS, TAXIWAYS AND CHECK LOCATION DATA

| | | |
|---|---|---|
| 1. | Apron surface and strength | Surface - Asphalt Concrete,<br>Strength - ... |
| 2. | Taxiway width, surface and strength | Width -TWY A 17m, TWY B 16m, Surface - Bitumen<br>Strength - 20/F/D/Y/T |
| 3. | Altimeter check point location and elevation | Location: - At Apron<br>Elevation:- 246 ft. |
| 4. | VOR/DME checkpoints | VOR:- Taxi holding position. |
| 5. | Remarks | Total APRON area = Flexible 180m × 63m + Rigid 69m x 40m |

## VNVT AD 2.9 SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM AND MARKINGS

| | | |
|---|---|---|
| 1. | Use of aircraft stand ID signs, TWY guide lines and visual docking/parking guidance system of aircraft stands | Taxiing guidance signs at intersections with TWY and RWY and at holding positions. Guide lines at apron. |
| 2. | RWY and TWY markings and LGT | RWY: 09/27, THR, TDZ, Center line, RWY edge marked and RWY END, THR, RWY edge have lights.<br>TWY: Center line, holding positions at all TWY/RWY intersections marked and edge with blue lights. |
| 3. | Stop bars | Not Available |
| 4. | Remarks | - |

## VNVT AD 2.10 AERODROME OBSTACLES

| Obstacle ID | Obstacle Name | WGS84 coordinates | | Elevation (M/Ft) | Remarks |
|---|---|---|---|---|---|
| | | Longitudes | Latitudes | | |
| VT0001 | Makalu FM | 26°26'58.8"N | 87°16'41.2"E | 106/346 | |
| VT0002 | Telecom Tower | 26°27'06.4"N | 87°16'47.0"E | 120/395 | |
| VT0003 | Water Tank | 26°27'36.1"N | 87°17'08.8"E | 98/322 | |
| VT0004 | Telecom Tower (NTC) | 26°27'40.7"N | 87°17'09.4"E | 136/448 | |
| VT0005 | NDB | 26°29'07.0"N | 87°15'59.4"E | 104/342 | |
| VT0006 | NDB-SML | 26°29'05.6"N | 87°15'59.6"E | 95/313 | |
| VT0007 | ATC Tower | 26°29'02.2"N | 87°15'57.5"E | 95/313 | |
| VT0008 | Noble Medical College Hostel | 26°29'27.5"N | 87°16'00.5"E | 96/313 | |
| VT0009 | Noble Medical College Hostel (Right) | 26°29'27.4"N | 87°16'01.5"E | 96/314 | |
| VT0010 | FM Tower | 26°29'02.7"N | 87°16'00.3"E | 97/319 | |
| VT0011 | House | 26°28'58.7"N | 87°16'16.4"E | 84/277 | |
| VT0012 | House | 26°29'02.1"N | 87°16'15.3"E | 87/287 | |
| VT0013 | House | 26°29'02.9"N | 87°16'16.0"E | 87/284 | |
| VT0014 | House | 26°29'01.4"N | 87°16'18.1"E | 87/285 | |
| VT0015 | Tree | 26°28'58.9"N | 87°16'18.9"E | 84/275 | |
| VT0016 | House | 26°28'59.6"N | 87°16'19.4"E | 86/281 | |
| VT0017 | House | 26°28'59.2"N | 87°16'19.3"E | 83/273 | |
| VT0018 | House | 26°28'58.4"N | 87°16'20.3"E | 82/270 | |
| VT0019 | House | 26°29'01.3"N | 87°16'21.5"E | 85/279 | |
| VT0020 | House | 26°28'59.1"N | 87°16'21.4"E | 83/271 | |
| VT0021 | House | 26°28'58.4"N | 87°16'21.1"E | 81/265 | |
| VT0022 | House | 26°29'00.6"N | 87°16'22.5"E | 86/281 | |
| VT0023 | Tree | 26°29'02.5"N | 87°16'23.3"E | 89/292 | |
| VT0024 | Tree | 26°29'02.6"N | 87°16'22.5"E | 88/289 | |
| VT0025 | Hotel Asiatique Pvt. Ltd | 26°29'05.6"N | 87°16'25.7"E | 97/319 | |
| VT0026 | Tree | 26°28'58.3"N | 87°16'22.6"E | 89/292 | |
| VT0027 | House | 26°28'59.2"N | 87°16'23.3"E | 83/272 | |
| VT0028 | House | 26°28'59.6"N | 87°16'24.3"E | 83/271 | |

| | | | | | |
|---|---|---|---|---|---|
| VT0029 | House | 26°29'01.3"N | 87°16'26.0"E | 85/280 | |
| VT0030 | Tree | 26°29'00.2"N | 87°16'27.8"E | 94/308 | |
| VT0031 | House | 26°29'00.3"N | 87°16'32.2"E | 91/299 | |
| VT0032 | House | 26°29'00.7"N | 87°16'31.3"E | 87/286 | |
| VT0033 | House | 26°29'01.6"N | 87°16'32.3"E | 91/300 | |
| VT0034 | House | 26°28'57.3"N | 87°16'32.2"E | 89/291 | |
| VT0035 | Tree | 26°28'57.5"N | 87°16'31.2"E | 88/288 | |
| VT0036 | House | 26°28'57.1"N | 87°16'33.4"E | 90/295 | |
| VT0037 | House | 26°28'56.3"N | 87°16'32.1"E | 88/288 | |
| VT0038 | Tree | 26°28'55.0"N | 87°16'31.7"E | 91/297 | |
| VT0039 | House | 26°28'55.5"N | 87°16'32.3"E | 85/280 | |
| VT0040 | House | 26°28'54.0"N | 87°16'32.0"E | 86/282 | |
| VT0041 | House | 26°28'52.4"N | 87°16'32.4"E | 86/281 | |
| VT0042 | Tree | 26°28'53.0"N | 87°16'31.1"E | 88/288 | |
| VT0043 | House | 26°28'51.6"N | 87°16'32.5"E | 87/286 | |
| VT0044 | Tree | 26°28'51.7"N | 87°16'30.4"E | 89/290 | |
| VT0045 | Tree | 26°28'50.0"N | 87°16'29.1"E | 87/286 | |
| VT0046 | Tree | 26°28'49.3"N | 87°16'28.9"E | 85/280 | |
| VT0047 | House | 26°28'46.0"N | 87°16'30.3"E | 95/313 | |
| VT0048 | House | 26°28'50.6"N | 87°16'26.8"E | 83/273 | |
| VT0049 | Tree | 26°28'51.2"N | 87°16'25.1"E | 87/286 | |
| VT0050 | Tree | 26°28'50.6"N | 87°16'25.1"E | 82/270 | |
| VT0051 | House | 26°28'50.8"N | 87°16'23.3"E | 82/270 | |
| VT0052 | House | 26°28'51.1"N | 87°16'22.1"E | 83/272 | |
| VT0053 | House | 26°28'51.2"N | 87°16'21.1"E | 84/275 | |
| VT0054 | House | 26°28'51.2"N | 87°16'21.4"E | 83/272 | |
| VT0055 | House | 26°28'51.2"N | 87°16'19.4"E | 86/281 | |
| VT0056 | House | 26°28'48.5"N | 87°16'16.7"E | 85/277 | |
| VT0057 | House | 26°28'51.2"N | 87°16'17.4"E | 83/271 | |
| VT0058 | House | 26°28'50.2"N | 87°16'15.7"E | 86/282 | |
| VT0059 | House | 26°28'51.4"N | 87°16'16.2"E | 80/263 | |
| VT0060 | House | 26°28'56.9"N | 87°16'38.5"E | 96/314 | |
| VT0061 | Tree | 26°28'50.3"N | 87°15'24.8"E | 84/275 | |
| VT0062 | Tree | 26°28'48.8"N | 87°15'24.7"E | 88/289 | |
| VT0063 | Tree | 26°28'48.5"N | 87°15'20.2"E | 86/284 | |
| VT0064 | Tree | 26°28'48.9"N | 87°15'18.5"E | 86/283 | |
| VT0065 | Windshock | 26°28'58.6"N | 87°15'23.2"E | 81/266 | |
| VT0066 | Tree | 26°29'03.1"N | 87°15'19.0"E | 91/299 | |
| VT0067 | Tree | 26°29'02.4"N | 87°15'17.2"E | 86/281 | |
| VT0068 | Tree | 26°29'02.7"N | 87°15'13.1"E | 92/301 | |
| VT0069 | Tree | 26°29'02.7"N | 87°15'13.3"E | 92/301 | |
| VT0070 | Tree | 26°28'59.4"N | 87°15'11.9"E | 83/273 | |
| VT0071 | Tree | 26°28'58.9"N | 87°15'11.8"E | 85/280 | |
| VT0072 | Tree | 26°28'58.5"N | 87°15'11.4"E | 84/277 | |

| | | | | | |
|---|---|---|---|---|---|
| VT0073 | Tree | 26°28'59.9"N | 87°15'06.9"E | 92/301 | |
| VT0074 | Tree | 26°28'51.2"N | 87°15'10.9"E | 89/293 | |
| VT0075 | Tree | 26°28'58.4"N | 87°15'05.2"E | 85/280 | |
| VT0076 | Tree | 26°28'57.7"N | 87°15'03.2"E | 83/273 | |
| VT0077 | Tree | 26°28'48.8"N | 87°14'59.2"E | 88/290 | |
| VT0078 | Tree | 26°28'48.8"N | 87°14'59.1"E | 87/285 | |
| VT0079 | Tree | 26°28'46.5"N | 87°14'52.6"E | 90/296 | |
| VT0080 | Tree | 26°28'49.1"N | 87°14'49.6"E | 86/281 | |
| VT0081 | Tree | 26°29'00.5"N | 87°14'42.0"E | 90/296 | |
| VT0082 | House | 26°29'02.6"N | 87°14'45"E | 88/289 | |
| VT0083 | Tree | 26°29'02.6"N | 87°14'50.2"E | 90/296 | |
| VT0084 | Tree | 26°28'54.6"N | 87°14'41.2"E | 89/293 | |
| VT0085 | Tree | 26°29'06.7"N | 87°14'58"E | 91/297 | |
| VT0086 | Tree | 26°29'06.8"N | 87°15'4.3"E | 92/302 | |
| VT0087 | VOR | 26°28'58.2"N | 87°14'58.3"E | 86/283 | |
| VT0088 | VOR | 26°28'57.5"N | 87°14'58.5"E | 86/283 | |
| VT0089 | VOR | 26°28'57.6"N | 87°14'57.7"E | 86/283 | |
| VT0090 | Telecom Tower | 26°29'12.3"N | 87°16'40.0"E | 99/325 | |
| VT0091 | Telecom Tower | 26°29'10.5"N | 87°16'33.1"E | 96/314 | |
| VT0092 | House | 26°29'11.1"N | 87°16'01.4"E | 89/293 | |
| VT0093 | House | 26°29'11.3"N | 87°16'04.5"E | 86/282 | |
| VT0094 | Telecom Tower(NTC) | 26°30'47.3"N | 87°13'46.4"E | 104/341 | |
| VT0095 | Telecom Tower | 26°30'10.6"N | 87°13'48.3"E | 110/361 | |
| VT0096 | Noble Medical College | 26°29'21.7"N | 87°16'12.4"E | 99/326 | |
| VT0097 | House | 26°30'56.8"N | 87°16'45.8"E | 111/364 | |
| VT0098 | House | 26°30'50.8"N | 87°17'07.3"E | 135/443 | |
| VT0099 | House | 26°30'58.0"N | 87°16'45.8"E | 102/335 | |
| VT0100 | Telecom Tower | 26°31'06.3"N | 87°16'48.3"E | 114/373 | |
| VT0101 | Chimney | 26°31'04.3"N | 87°16'43.9"E | 111/364 | |
| VT0102 | Chimney | 26°31'04.6"N | 87°16'23.0"E | 117/383 | |
| VT0103 | Chimney | 26°31'06.9"N | 87°16'23.1"E | 110/361 | |
| VT0104 | Telecom Tower | 26°31'26.0"N | 87°16'42.9"E | 136/446 | |
| VT0105 | Water Tank | 26°30'07.8"N | 87°17'15.8"E | 106/348 | |
| VT0106 | Water Tank | 26°29'51.9"N | 87°17'23.5"E | 102/336 | |
| VT0107 | Chimney | 26°30'19.9"N | 87°18'24.9"E | 111/363 | |
| VT0108 | Telecom Tower | 26°29'44.2"N | 87°18'22.7"E | 102/334 | |
| VT0109 | Telecom Tower | 26°28'46.3"N | 87°18'0.8"E | 92/303 | |
| VT0110 | Water Tank | 26°28'21.9"N | 87°17'4.6"E | 103/338 | |
| VT0111 | FM | 26°28'05.6"N | 87°17'01.0"E | 113/370 | |
| VT0112 | House | 26°28'03.8"N | 87°17'07.0"E | 113/370 | |
| VT0113 | Wi-Fi | 26°28'02.5"N | 87°17'02.1"E | 101/331 | |
| VT0114 | Telecom Tower | 26°27'51.0"N | 87°16'58.0"E | 108/354 | |
| VT0115 | Wi-Fi | 26°27'53.5"N | 87°16'57.5"E | 108/354 | |
| VT0116 | Panchmukhi Hanuman Mandir | 26°27'21.7"N | 87°16'48.2"E | 92/301 | |

| | | | | | |
|---|---|---|---|---|---|
| VT0117 | Wi-Fi | 26°27'22.6"N | 87°16'49.3"E | 107/349 | |
| VT0118 | Wi-Fi | 26°27'26.3"N | 87°16'49.6"E | 102/336 | |
| VT0119 | Telecom Tower | 26°27'27.7"N | 87°16'48.7"E | 110/360 | |
| VT0120 | Bhatbhateni Supermarket | 26°27'35.2"N | 87°16'40.2"E | 102/333 | |
| VT0121 | Golcha House | 26°27'56.8"N | 87°16'37.4"E | 91/299 | |
| VT0122 | NHC | 26°27'46.1"N | 87°16'39.4"E | 94/309 | |
| VT0123 | Telecom Tower | 26°27'59.5"N | 87°16'40.2"E | 106/349 | |
| VT0124 | Water Tank | 26°28'12.3"N | 87°16'38.7"E | 106/348 | |
| VT0125 | Telecom Tower (Ncell) | 26°28'06.4"N | 87°16'39.2"E | 100/328 | |
| VT0126 | Telecom Tower | 26°28'33.7"N | 87°16'04.3"E | 94/307 | |
| VT0127 | Telecom Tower | 26°28'34.6"N | 87°15'58.8"E | 96/314 | |
| VT0128 | Water Tank | 26°28'34.1"N | 87°16'11.8"E | 98/322 | |
| VT0129 | FM | 26°28'20.8"N | 87°16'22.4"E | 120/392 | |
| VT0130 | Telecom Tower | 26°29'32.2"N | 87°16'53.6"E | 98/321 | |
| VT0131 | Telecom Tower | 26°29'32.0"N | 87°16'51.3"E | 106/346 | |
| VT0132 | Chimney | 26°29'56.8"N | 87°16'43.2"E | 108/354 | |

## VNVT AD 2.11 METEOROLOGICAL INFORMATION PROVIDED

| | | |
|---|---|---|
| 1. | Associated MET Office | MET office, BIRATNAGAR AIRPORT |
| 2. | Hours of service MET office outside hours | Available during Operation Hrs. |
| 3. | Office responsible for TAF preparation periods of validity | NIL |
| 4. | Type of landing forecast interval of issuance | NIL |
| 5. | Briefing/Consultation provided | METAR |
| 6. | Flight documentation language(s)used | Charts or Tabular forms Text English |
| 7. | Charts and other information available for briefing or consultation | Personnel consultation based on past data logbook |
| 8. | Supplementary equipment available for providing information | AFS : VNVTYMYX |
| 9. | ATS units provided with information | Biratnagar TWR |
| 10. | Additional information (limitation of service, etc.) | MET Office Tel: 977 - 021-461276 |

## VNVT AD 2.12 RUNWAY PHYSICAL CHARACTERISTICS

| Designation RWY NR | TRUE & MAG BRG | Dimensions of RWY (M) | Strength(PCN) and surface of RWY and SWY | THR Coordinates | THR elevation |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 09 | 092° | 1500 x 30 | 37/F/D/Y/T Bitumen | 262856.88N * 0871522.25E | 73.7m (242 ft.) |
| 27 | 272° | 1500 x30 | 37/F/D/Y/T Bitumen | 262855.06N* 0871616.34E | 73.8 m (242 ft.) |
| Slope of RWY-SWY | SWY Dimensions (M) | CWY Dimensions (M) | Strip Dimensions (M) | OFZ | Remarks |
| 7 | 8 | 9 | 10 | 11 | 12 |
| ……. | ……. | ……. | . . . …. | ……. | ……. |

## VNVT AD 2.13 DECLARED DISTANCES

| RWY Designator | TORA (m) | TODA m) | ASDA (m) | LDA (m) | Remarks |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 09 | 1500 | 1500 | 1500 | 1500 | |
| 27 | 1500 | 1500 | 1500 | 1500 | |

## VNVT AD 2.14 APPROACH AND RUNWAY LIGHTING

| RWY Designator | APCH LGT type LEN INTST | THR LGT color WBA R | VASIS PAPI | LEN | RWY Center Line LGT Length, spacing color, INTST | RWY edge LGT LEN, spacing color INTST | RWY End LGT color | SWY LGT LEN (M) color | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 09 | SALS 420 M LIM | Green | PAPI Left/3.15° | NIL | NIL | 1500m 60m White, LIM | Red | NIL | NIL |
| 27 | NIL | Green | PAPI Left/3.00° | NIL | NIL | 1500m 60m White, LIM | Red | NIL | |

** WGS 84 Coordinates*

## VNVT AD 2.15 OTHER LIGHTING, SECONDARY POWER SUPPLY

| | | |
|---|---|---|
| 1. | ABN /IBN Location, characteristics and hours of operation | ABN: at Tower Building, G FLG ALTN with W EV 2 SEC/IBN: NIL<br>H12 |
| 2. | LDI Location and LGT Anemometer Location and LGT | NIL |
| 3. | TWY edge and Centre line lighting | Edge: All TWY<br>Centre Line : NIL |
| 4. | Secondary power supply / switch over time | Secondary power supply available for all lighting at AD. Additional UPS available forairfield lighting system.<br>Switch over time: Automatic |
| 5. | Remarks | NIL |

## VNVT AD 2.16 HELICOPTER LANDING AREA

Helicopter landing area - RWY or TWY A and RWY intersection or paralled TWY B

## VNVT AD 2.17 ATS AIRSPACE

| | | |
|---|---|---|
| 1. Designation and lateral limits | Biratnagar CTR: An area bounded by VNSM boundary to the south and an arc of a circle 20 NM in radius centered at 'BRT' VOR (262858N, 0871458E*) plus an area enclosed by R295 BRT – R345 BRT upto 30 NM<br>Biratnagar ATZ: An area of a circle of radius 5 NM centered at 'ARP' and to the south bounded by VNSM boundary. | |
| 2. Vertical Limits | CTR | ATZ |
| | 10500' MSL<br>GND | 2000' AGL<br>GND |
| 3. Airspace classification | C | |
| 4. ATS units call sign/languages(s) | Biratnagar TWR/English | |
| 5. Transition Altitude | 13500' AMSL | |
| 6. Remarks | - | |

## VNVT AD 2.18 ATS COMMUNICATION FACILITIES

| Service Designation | Call Sign | Frequency | Hours of Operation** | Remarks |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| TWR | Biratnagar Tower | 123.8 MHZ | As ATS | |

* WGS 84 Coordinates

## VNVT AD 2.19 RADIO NAVIGATION AND LANDING AID

| Type of Aid MAG VAR Type of supported OP (for VOR/ILS/MLS give declinations) | ID | Frequency | OPR Hours | Position of Transmitting Antenna Coordinates | Elevation of DME Transmitting Antenna | Remarks |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| DVOR/DME<br>0° W | BRT | 114.1 MHZ<br>CHN 88 X | H24 | 262858N*<br>0871458E | 87 m | DVOR Range 100NM<br>DME Range 100NM |

## VNVT AD 2.20 LOCAL TRAFFIC REGULATIONS

To be Developed

## VNVT AD 2.21 NOISE ABATEMENT PROCEDURES

NIL

** WGS -84 Coordinates*

# VNVT AD 2.22 FLIGHT PROCEDURES

## Intentionally Blank

# VNVT AD 2.23 ADDITIONAL INFORMATION

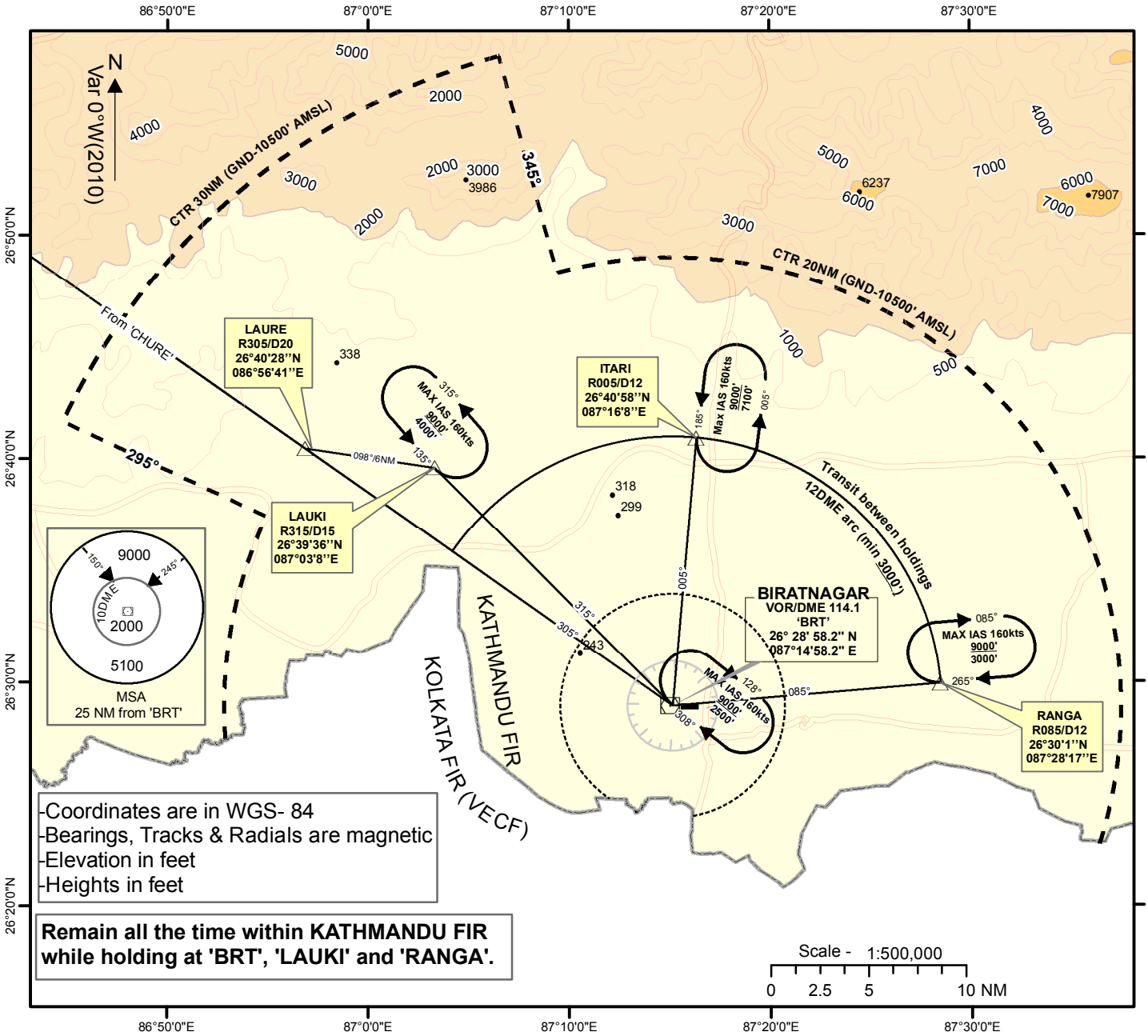
### 1. Bird Activity

a) Sometimes cases of bird concentrations in the vicinity of aerodrome may be encountered.
b) 2. No Special procedures have been adopted to control these bird concentrations except driving them through guards and security personnel.

VNVT AD 2.24 CHARTS RELATED TO BIRATNAGAR AIRPORT

| | | |
|---|---|---|
| **AERODROME ELEV 246'**<br>**TRANS LEVEL: FL150**<br>**TRANS ALT: 13500 ft.**<br>**Mag Var. 0°W (2010)** | **TWR 123.8** | **BIRATNAGAR, NEPAL**<br>**Biratnagar Airport**<br>**VOR 'BRT' 114.1**<br>**NDB 'VTN' 358** |

# CONTROL ZONE AND IFR HOLDING POINTS




-Coordinates are in WGS- 84
-Bearings, Tracks & Radials are magnetic
-Elevation in feet
-Heights in feet

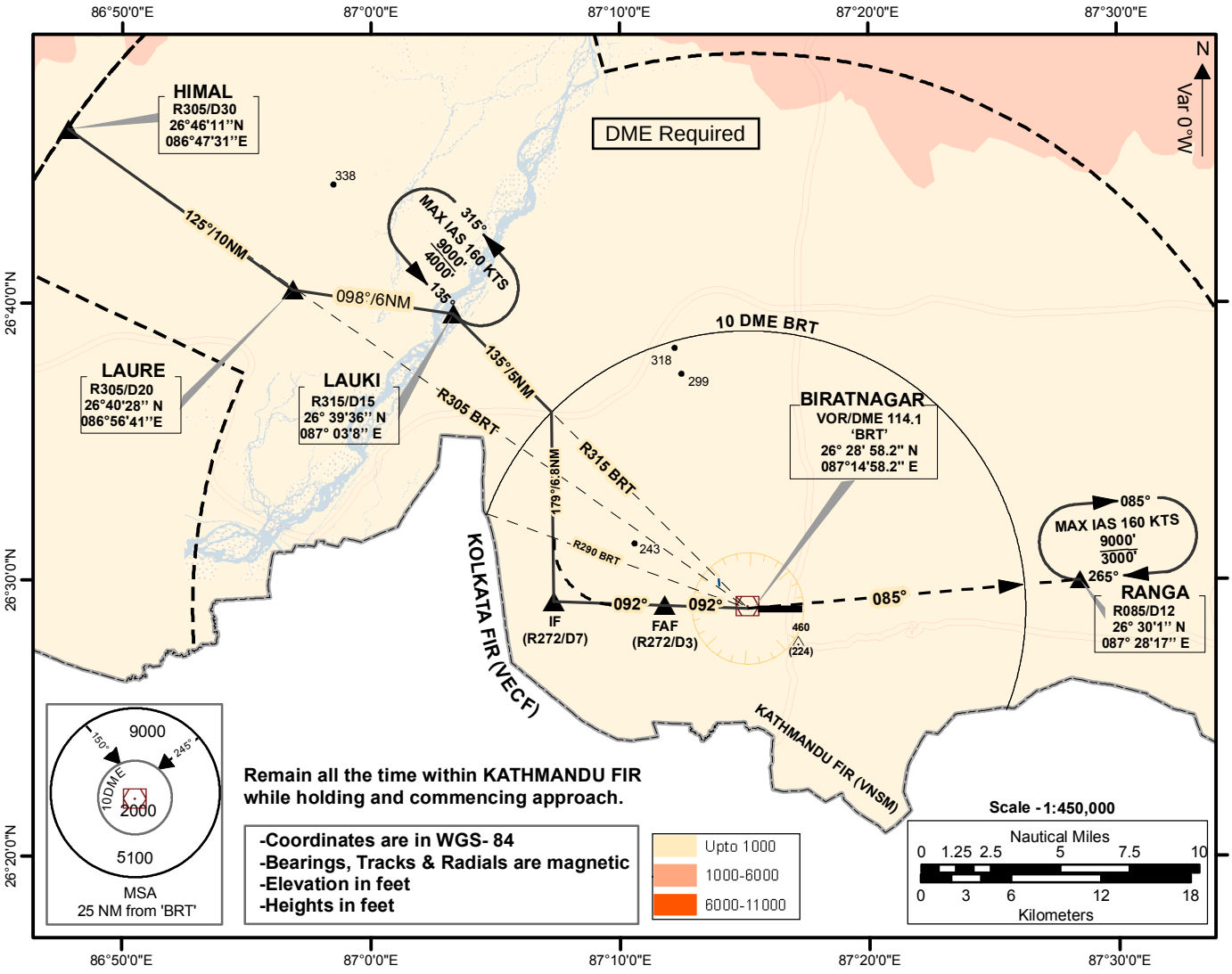
**Remain all the time within KATHMANDU FIR while holding at 'BRT', 'LAUKI' and 'RANGA'.**

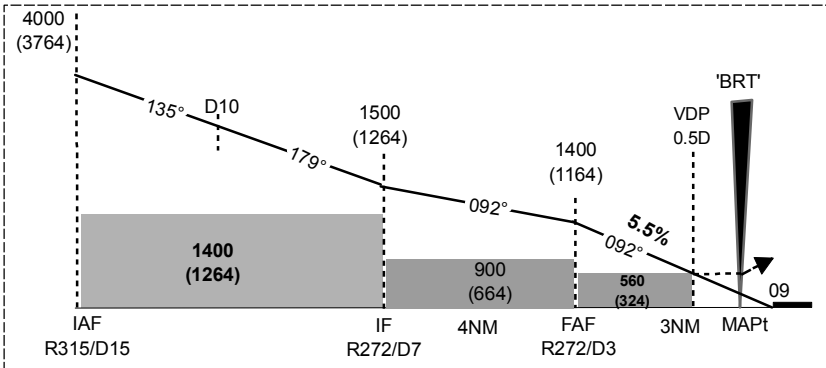
-'LAUKI' and 'RANGA' holdings are laterally separated from each other

- 'LAUKI' and 'BRT' holdings are laterally separated from each other

| NAV FAC | FRQ | COORDINATE |
|---|---|---|
| DVOR/DME 'BRT' | 114.1MHz/88X | 26°28'58.2''N 087°14'58.2''E |
| | | |

| INSTRUMENT APPROACH CHART - ICAO | AERODROME ELEV 246'<br>TRANS LEVEL: FL150<br>TRANS ALT: 13500 ft.<br>Mag Var. 0°W (2010) | TWR 123.8 | BIRATNAGAR, NEPAL<br>Biratnagar Airport<br>VOR Z RWY 09<br>VOR 'BRT' 114.1 |
|---|---|---|---|




**MISSED APPROACH**
**AT 'BRT', TURN LEFT TO INTERCEPT R085**
**OUTBOUND TO RANGA. REACH RANGA**
**AT OR ABOVE 3000' or as instructed by ATC**

| OCA (H) - Visibility | | | | |
|---|---|---|---|---|
| Cat of ACFT | A | B | C | D |
| ST-IN RWY 09 | 560(324)-1600mt | | 560(324)-2000mt | NA |
| | ALS OUT - 2000mt | | ALS OUT - 2400mt | |
| Circling | 1400(1264)-2000mt | 1400(1264)-2800mt | 1500(1264)-3700mt | NA |
| | NOT AUTHORIZED AT NIGHT | | | |

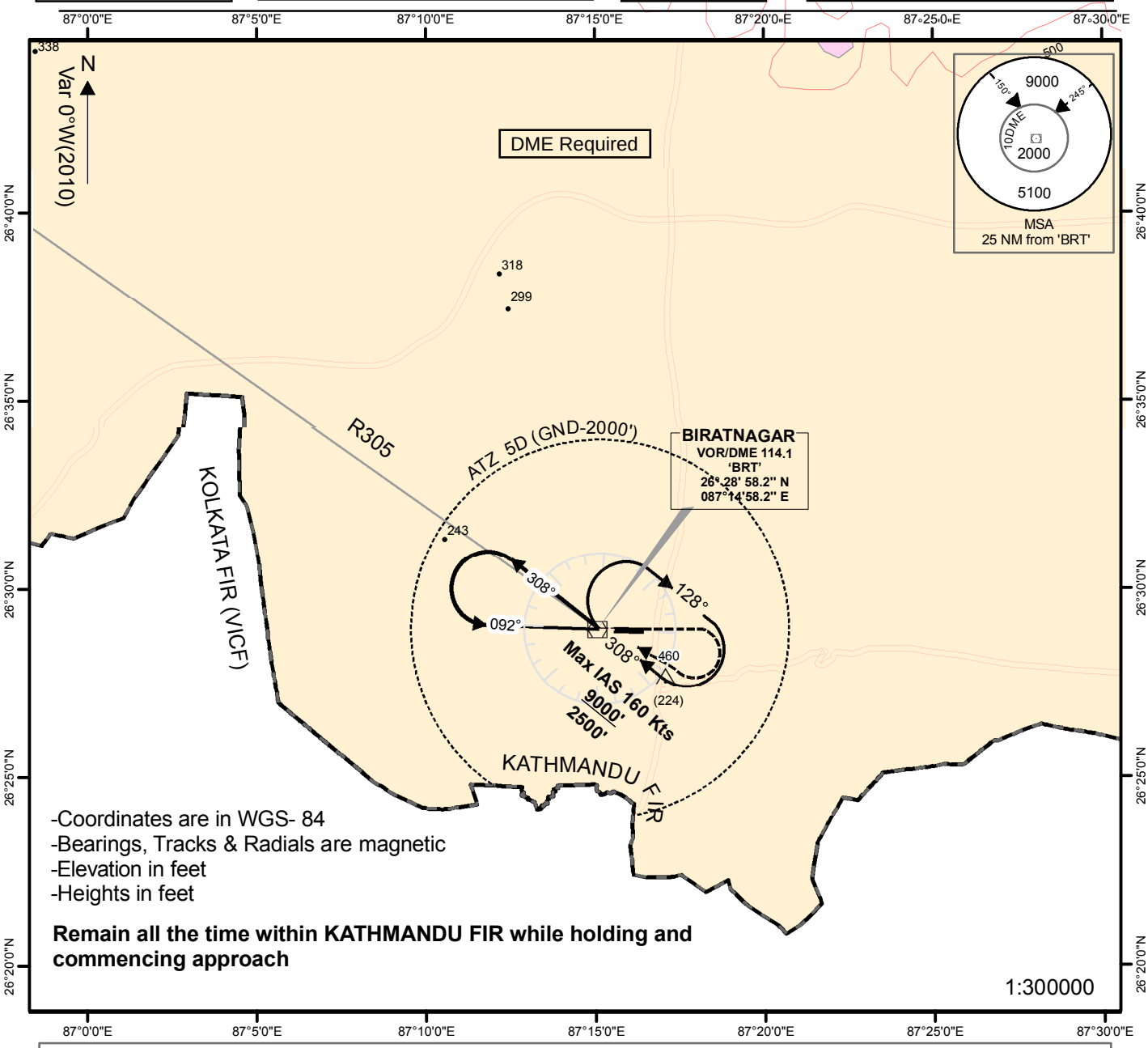
| FAF to TH09 3.3 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 3:18 | 2:12 | 1:39 | 1:19 | 1:06 |
| Ft/ min @5.5% | 330 | 500 | 670 | 840 | 1000 |

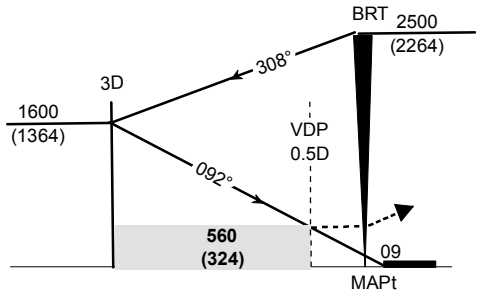
**INSTRUMENT APPROACH CHART - ICAO**

**AERODROME ELEV 246'**
**TRANS LEVEL: FL150**
**TRANS ALT: 13500 ft.**
**Mag Var. 0°W (2010)**

**TWR 123.8**

**BIRATNAGAR, NEPAL**
**Biratnagar Airport**
**VOR Y RWY 09**
**VOR 'BRT' 114.1**

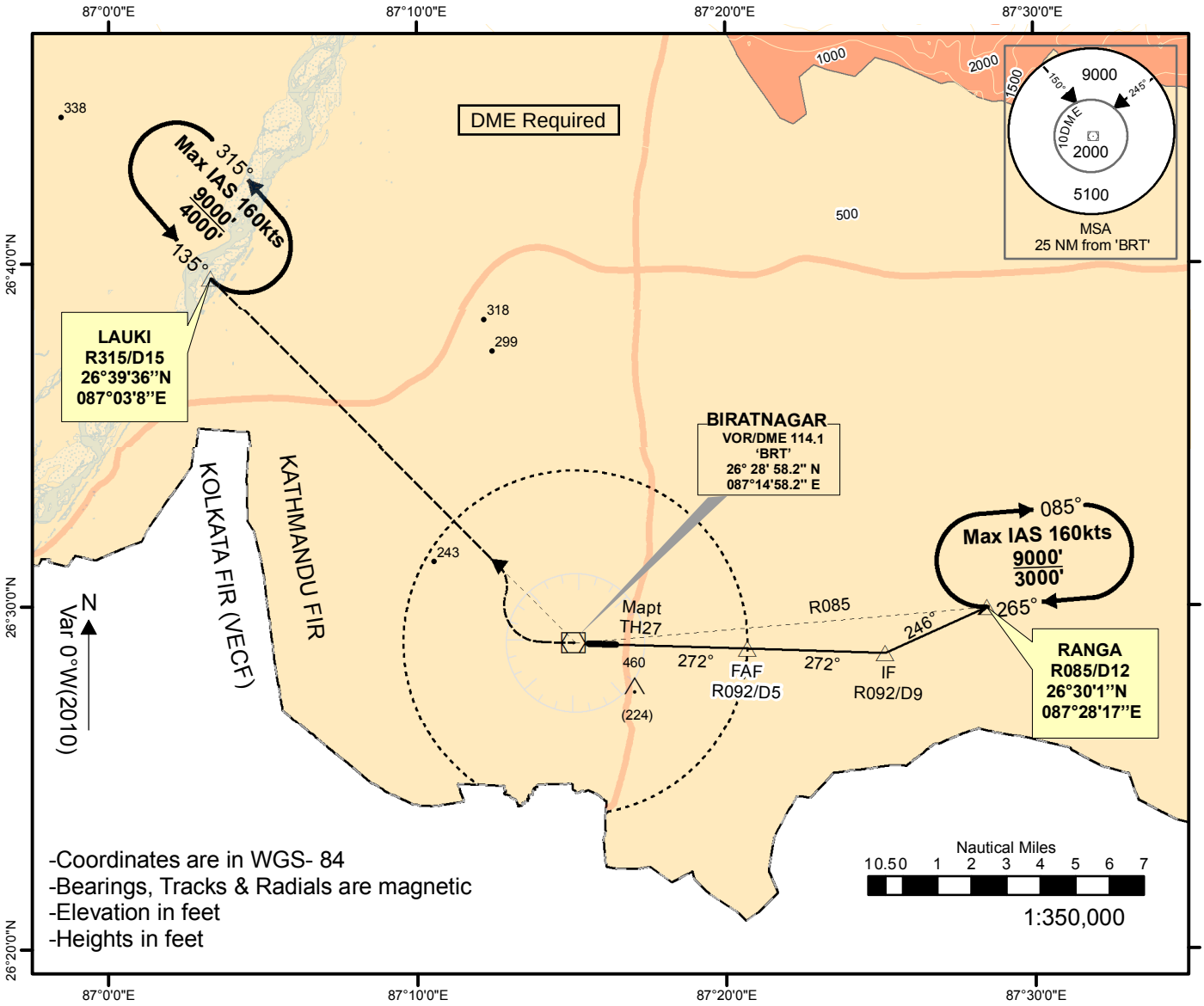


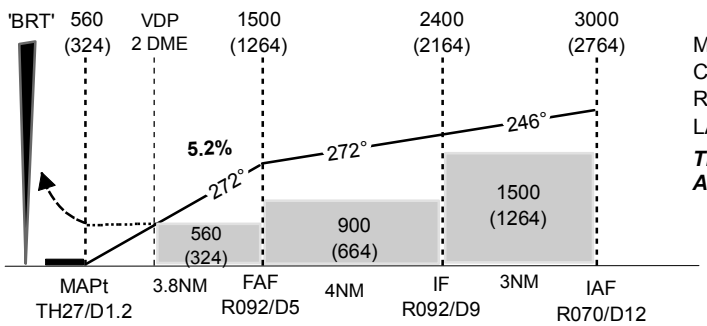




**MISSED APPROACH**
**CLIMB STRAIGHT AHEAD TO 1000'. TURN RIGHT TO JOIN 'BRT' HOLDING PATTERN. REACH 'BRT' AT OR ABOVE 2500'**

| OCA (H) - Visibility | | | | |
|---|---|---|---|---|
| Cat of ACFT | A | B | C | D |
| ST-IN RWY 09 | 560(324)-1600mt | | 560(324)-2000mt | NA |
| | ALS OUT - 2000mt | | ALS OUT - 2400mt | |
| Circling | 1400(1264)-2000mt | 1400(1264)-2800mt | 1500(1264)-3700mt | |
| | **NOT AUTHORIZED AT NIGHT** | | | |

| INSTRUMENT APPROACH CHART - ICAO | AERODROME ELEV 246'<br>TRANS LEVEL: FL150<br>TRANS ALT: 13500 ft. Var 0°W (2010) | TWR 123.8 | BIRATNAGAR, NEPAL<br>Biratnagar Airport<br>VOR RWY 27<br>VOR 'BRT' 114.1 |
|---|---|---|---|



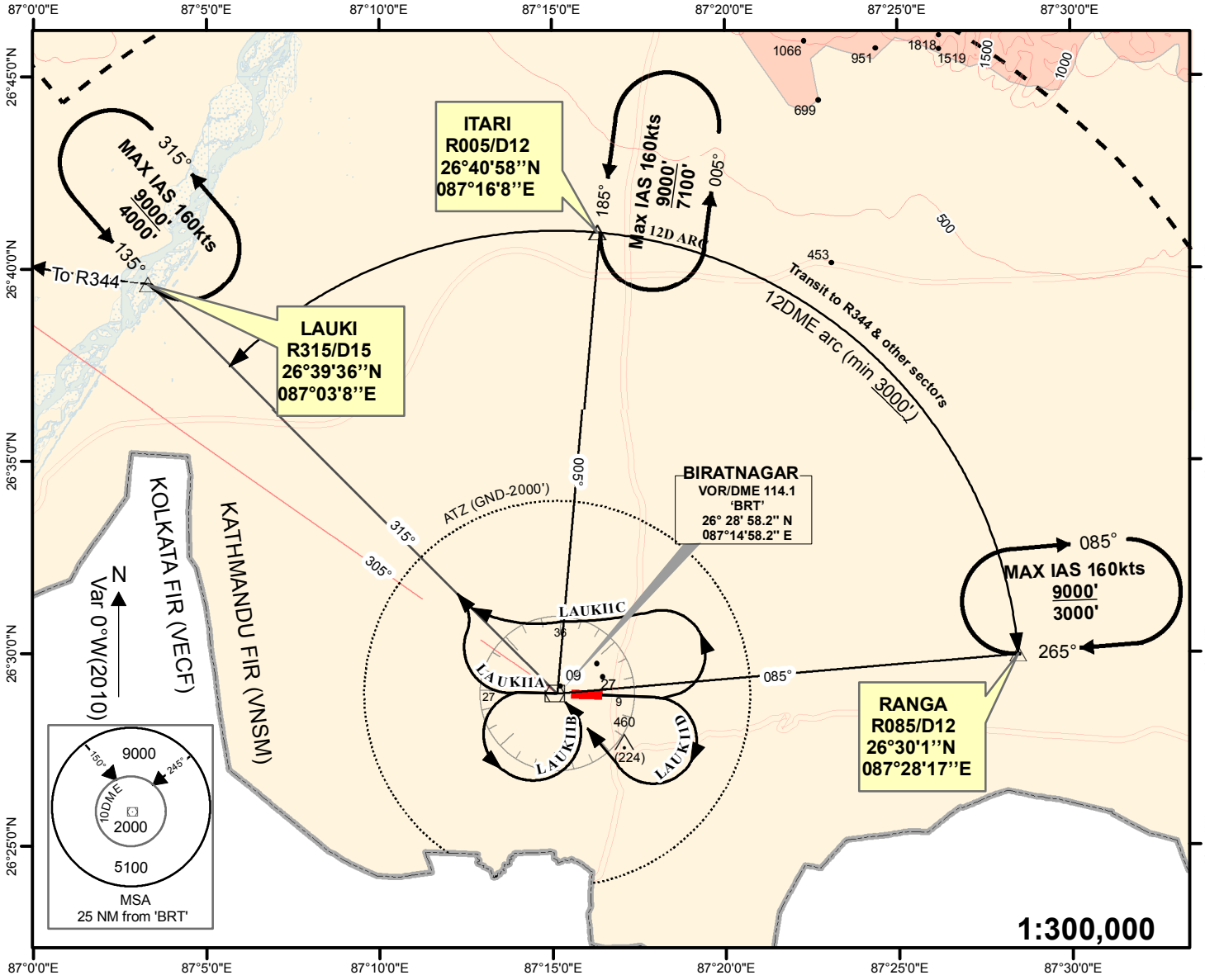




MISSED APPROACH
CLIMB STRAIGHT AHEAD TO 'BRT'. TURN RIGHT TO INTERCEPT R315 OUTBOUND TO LAUKI. REACH LAUKI AT OR ABOVE 4000'.

***THIS PROCEDURE REQUIRES A MISSED APPROACH GRADIENT OF 4.8%***

| OCA (H) - Visibility | | | | | FAF to TH27 3.8 NM | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Cat of ACFT | A | B | C | D | Knots | 60 | 90 | 120 | 150 | 180 |
| ST-IN RWY 27 | 560(324)-2000mt | | 560(324)-2400mt | NA | Min:Sec | 3:50 | 2:33 | 1:55 | 1:32 | 1:17 |
| Circling | 1400(1264)-2000mt | 1400(1264)-2800mt | 1500(1264)-3700mt | NA | Ft/ min | 316 | 474 | 632 | 790 | 948 |
| | NOT AUTHORIZED AT NIGHT | | | | | | | | | |

| STANDARD DEPARTURE CHART - INSTRUMENT (SID) - ICAO | AERODROME ELEV 246'<br>TRANS LEVEL: FL150<br>TRANS ALT: 13500 ft.<br>TWR 123.8 | BIRATNAGAR, NEPAL<br>Biratnagar Airport<br>LAUKI 1A, LAUKI 1B,<br>LAUKI 1C, LAUKI 1D<br>'BRT' VOR 114.1 |
|---|---|---|

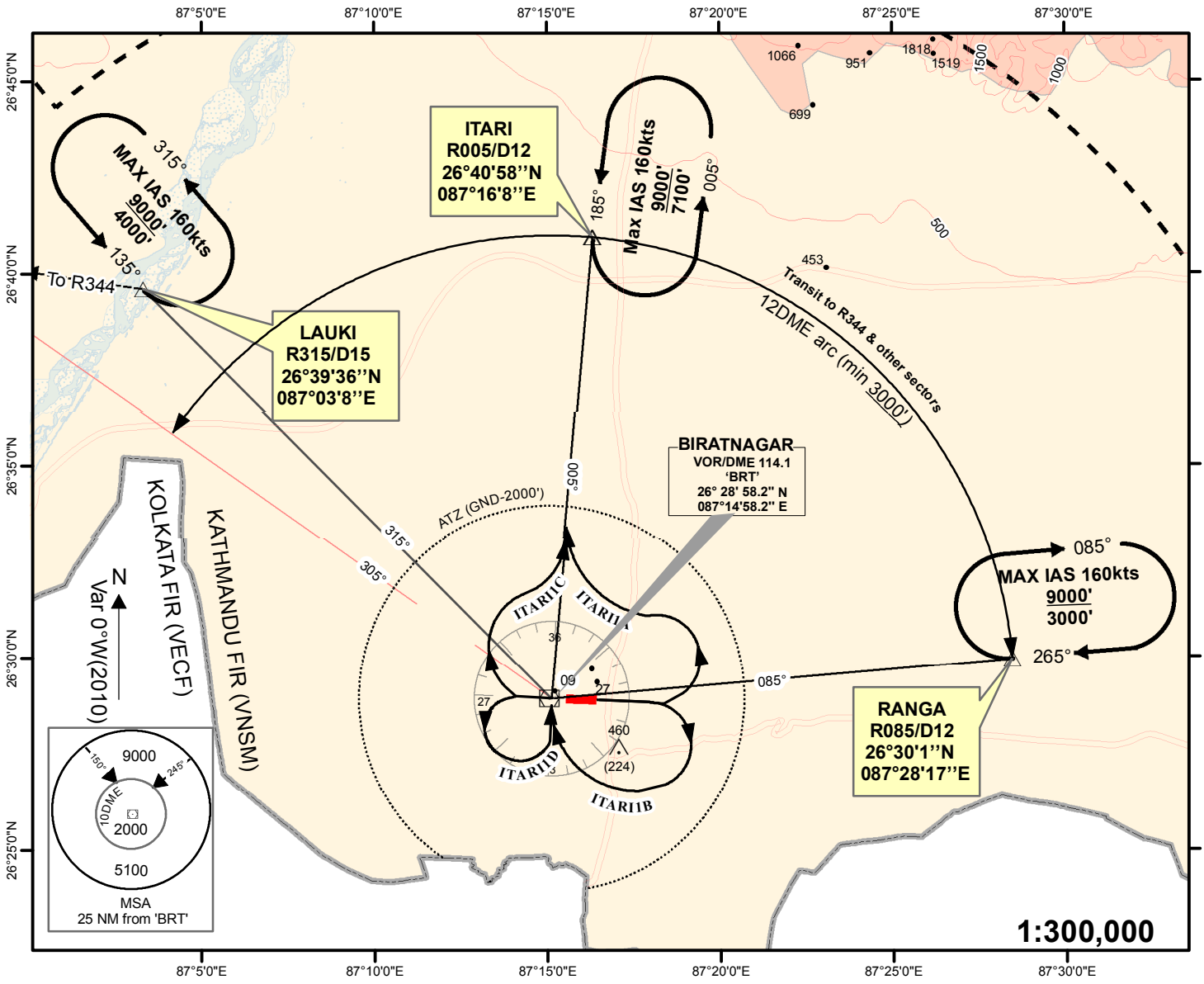



**Minimum visibility required - 1600 m**

| | |
|---|---|
| **RWY 27** | **LAUKI 1A PDG = 5% Max IAS 180Kts**<br>CLIMB STRAIGHT AHEAD. AT 1DME, TURN RIGHT TO INTERCEPT R315 OUTBOUND TO LAUKI (R315/D15) REACH LAUKI AT OR ABOVE 4000'<br>**LAUKI 1B PDG = 5% Max IAS 180Kts**<br>CLIMB STRAIGHT AHEAD. AT 1DME, TURN LEFT (REMAINING WITHIN 4 DME ARC) TO 'BRT'. FOLLOW OUTBOUND R315 TO LAUKI (R315/D15). REACH LAUKI AT OR ABOVE 4000' |
| **RWY 09** | **LAUKI 1C PDG = 5% Max IAS 180Kts**<br>CLIMB STRAIGHT AHEAD. AT 2.5DME, TURN LEFT TO INTERCEPT R315 OUTBOUND TO LAUKI (R315/D15) REACH LAUKI AT OR ABOVE 4000'<br>**LAUKI 1D PDG = 5% Max IAS 180Kts**<br>CLIMB STRAIGHT AHEAD. AT 2.5DME, TURN RIGHT (REMAINING WITHIN 4 DME ARC) TO INTERCEPT R135 TO 'BRT'. FOLLOW OUTBOUND R315 TO LAUKI (R315/D15). REACH LAUKI AT OR ABOVE 4000' |

**Note: At LAUKI climb to 5000 ft then set course to R344 via LAURE at 4% climb gradient till reaching MEA.**

| STANDARD DEPARTURE CHART - INSTRUMENT (SID) - ICAO | AERODROME ELEV 246'<br>TRANS LEVEL: FL150<br>TRANS ALT: 13500 ft.<br>TWR 123.8 | BIRATNAGAR, NEPAL<br>Biratnagar Airport<br>ITARI 1A, ITARI 1B,<br>ITARI 1C, ITARI 1D<br>'BRT' VOR 114.1 |
|---|---|---|



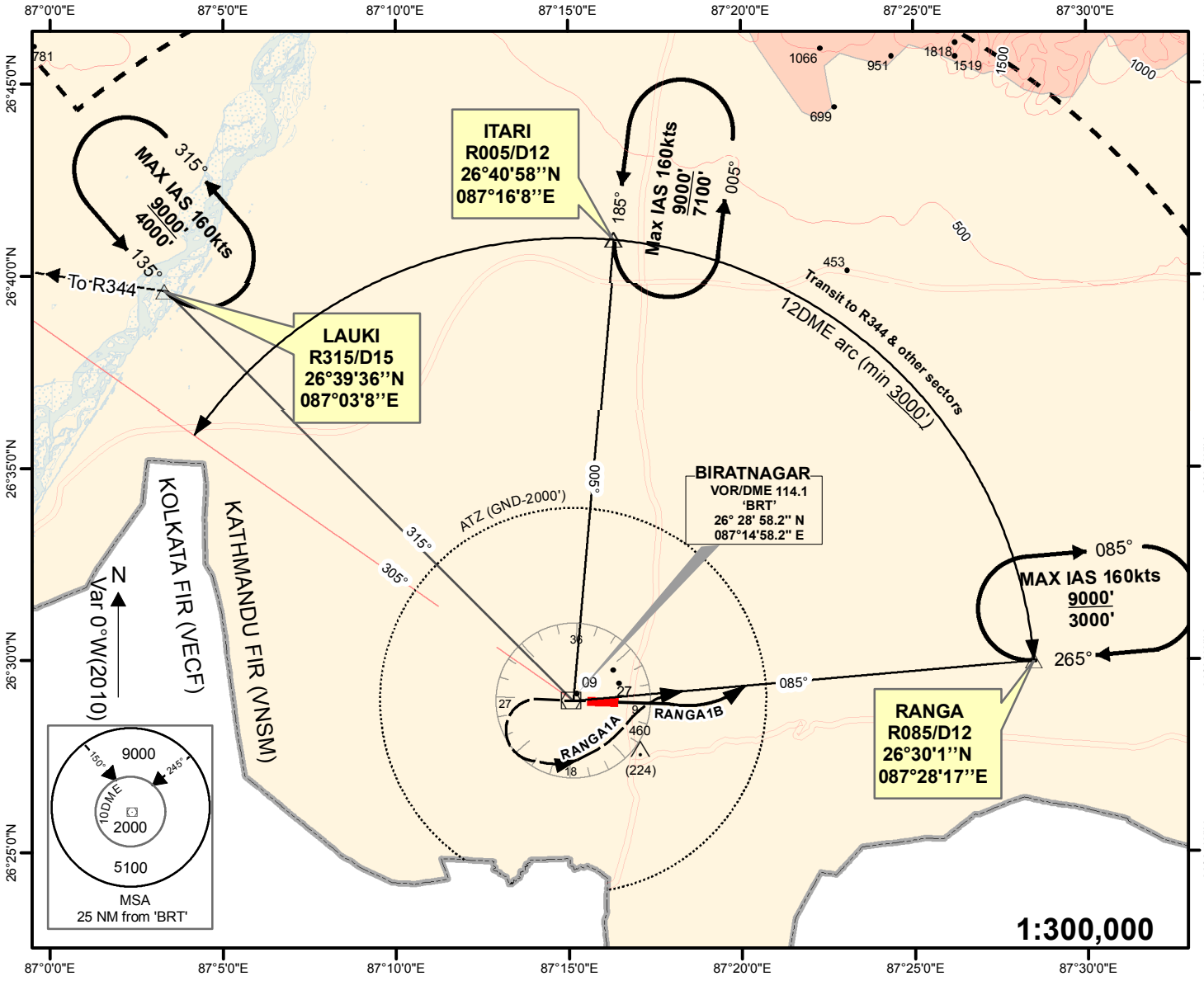

**Minimum visibility required - 1600 m**

| | |
|---|---|
| **RWY 27** | **ITARI 1C PDG = 9% Max IAS 180Kts**<br>CLIMB STRAIGHT AHEAD. AT 1DME, TURN RIGHT TO INTERCEPT R005 TO 'ITARI' (R005/D12). REACH ITARI AT OR ABOVE 7100'<br>**ITARI 1D PDG = 7% Max IAS 180Kts**<br>CLIMB STRAIGHT AHEAD. AT 1DME, TURN LEFT (REMAINING WITHIN 4 DME ARC) TO 'BRT'. THEN INTERCEPT R005 TO 'ITARI' (R005/D12). REACH ITARI AT OR ABOVE 7100' |
| **RWY 09** | **ITARI 1A PDG = 9% Max IAS 180Kts**<br>CLIMB STRAIGHT AHEAD. AT 2.5DME, TURN LEFT TO INTERCEPT R005 TO 'ITARI' (R005/D12). REACH ITARI AT OR ABOVE 7100'<br>**ITARI 1B PDG = 7% Max IAS 180Kts**<br>CLIMB STRAIGHT AHEAD. AT 2.5DME, TURN RIGHT (REMAINING WITHIN 4 DME ARC) TO 'BRT'. THEN INTERCEPT R005 TO 'ITARI' (R005/D12). REACH ITARI AT OR ABOVE 7100' |

**STANDARD DEPARTURE CHART - INSTRUMENT (SID) - ICAO**

**AERODROME ELEV 246'**
**TRANS LEVEL: FL150**
**TRANS ALT: 13500 ft.**
**TWR 123.8**

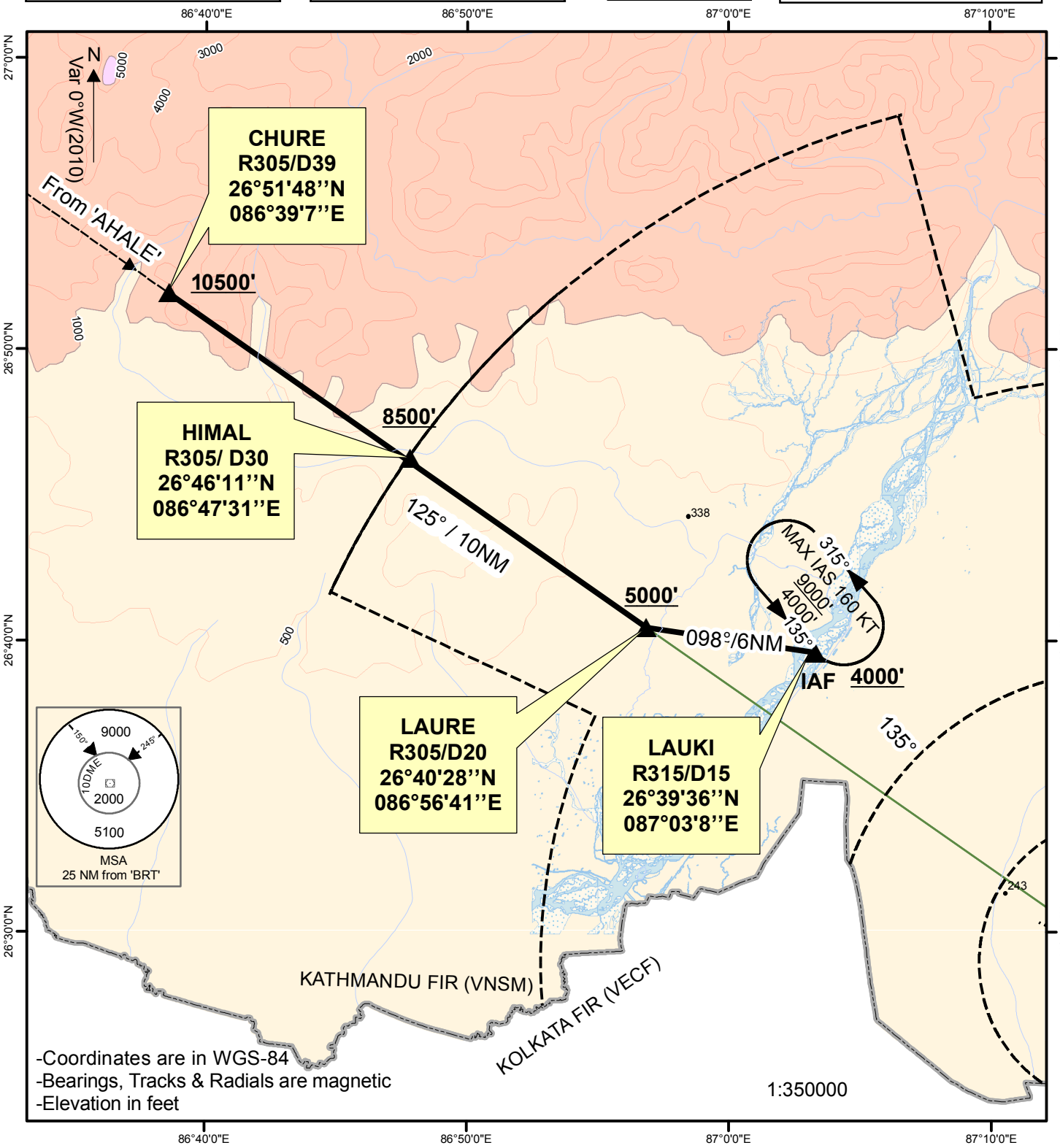
**BIRATNAGAR, NEPAL**
**Biratnagar Airport**
**RANGA 1A, RANGA 1B**
**'BRT' VOR 114.1**




**Minimum visibility required - 1600 m**

| | |
|---|---|
| **RWY 27** | **RANGA 1A PDG = 5% Max IAS 180Kts**<br>CLIMB STRAIGHT AHEAD. AT 1DME, TURN LEFT (REMAINING WITHIN 4D ARC)TO INTERCEPT R085 OUTBOUND TO RANGA(R085/D12). REACH RANGA AT OR ABOVE 3000' |
| **RWY 09** | **RANGA 1B (PDG 4%)**<br>CLIMB STRAIGHT AHEAD TO INTERCEPT R085 TO RANGA (R085/D12). REACH RANGA AT OR ABOVE 3000' |

| STANDARD ARRIVAL CHART - INSTRUMENT (STAR) - ICAO | AERODROME ELEV 246'<br>TRANS LEVEL: FL150<br>TRANS ALT: 13500 ft.<br>Var 0°W (2010) | TWR 123.8 | BIRATNAGAR, NEPAL<br>Biratnagar Airport<br>CHURE ARRIVAL<br>VOR 'BRT' 114.1 |
|---|---|---|---|




**Routing: From 'CHURE'(R305/D39 'BRT'), track to 'LAURE' (R305/D20 'BRT') via HIMAL then track H098° to 'LAUKI' (R315/D15 'BRT').**

**Altitude: Maintain A105 or above till 'CHURE', Then descend to 8500' to 'HIMAL'. Reach 'LAURE' at or above 5000' then descend to 4000' to LAUKI**

# RNAV GNSS approach procedure at BIRATNAGAR AIRPORT (VNVT)

## 1. INTRODUCTION

1.1 The following RNP Approach (RNAV GNSS) Procedure is designed for VNVT in accordance with the criteria as stipulated in the ICAO PANS-OPS (DOC 8168) Vol. II.

1.2 The RNAV (GNSS) Instrument Approach Procedure to VNVT is designed to enhance the safety and efficiency of the aircraft operations with an alternative approach procedure to access the airport.

1.3 This procedure provides an alternate to the existing VNVT VORDME z RWY 09 approach procedure to the aircraft with the RNP APCH capability

1.4 This RNAV GNSS approach procedure along with RNP1 STAR has been designed with LNAV Specifications only and utilizes GNSS as primary navigation system as stipulated in ICAO PBN Manual DOC 9613.

1.5 A full arrival, approach and missed approach trajectories have been designed. However, existing conventional holdings-LAUKI and RANGA shall be used for RNP approach and missed approach.

## 2. APPROVED USERS, EQUIPMENT AND OPERATIONS

2.1 For the RNAV (GNSS) Approach Procedure, the operators shall ensure that they hold the all necessary operational approvals from Civil Aviation Authority of Nepal (CAAN).

2.2 The aircraft shall be equipped with GNSS as specified in Nepalese Flight Operations Requirements (FOR) and governed by the AIC 001/2011 dated 01 August 2011 (ATS Requirements for PBN in Nepalese Airspace)

2.3 All necessary navigation system are to installed onboard so as to keep the track keeping accuracy while commencing RNP1, RNP Approach and associated Missed Approach.

2.4 Before commencing the procedure, pilot in command must ensure that the navigation database is current and the aircraft's capability of conducting the procedure like GNSS availability, system performance, etc.

## 3. NAMING OF RNAV (GNSS) APPROACH PROCEDURES

There is one RNP1 STAR and one RNP Approach (LNAV only) procedure to Biratnagar Runway 09 and are named in accordance with the ICAO naming convention as tabulated below.

| RWY | STAR | RNP Approach |
|---|---|---|
| 09 | CHURE 1 | RNP RWY09 (LNAV Only) |

## 4. RNP CAPABILITY LOST

If the RNP APCH capability is lost, ATC shall be informed as soon as possible the alternate course of action from the pilots of the concerned aircraft.

## 5. List of Significant point

| W/P ID | Latitude | Longitude |
|---|---|---|
| CHURE | 26°51'48.0" N | 086°39'07.0" E |
| HIMAL | 26°46'05.3" N | 086°47'26.1" E |
| LAUKI (IAF) | 26°39'33.7" N | 087°03'05.1E |
| INAWA | 26°37'26.6" N | 087°05'27.7" E |
| VT102 (IF) | 26°29'10.1" N | 087°08'17.0" E |
| FAF (VT104) | 26°29'04.2" N | 087°11'37.5" E |
| VT106 (MAPT) | 26°28'58.3" N | 087°14'58.0" E |
| RANGA | 26°30'03.4" N | 087°28'17.2" E |

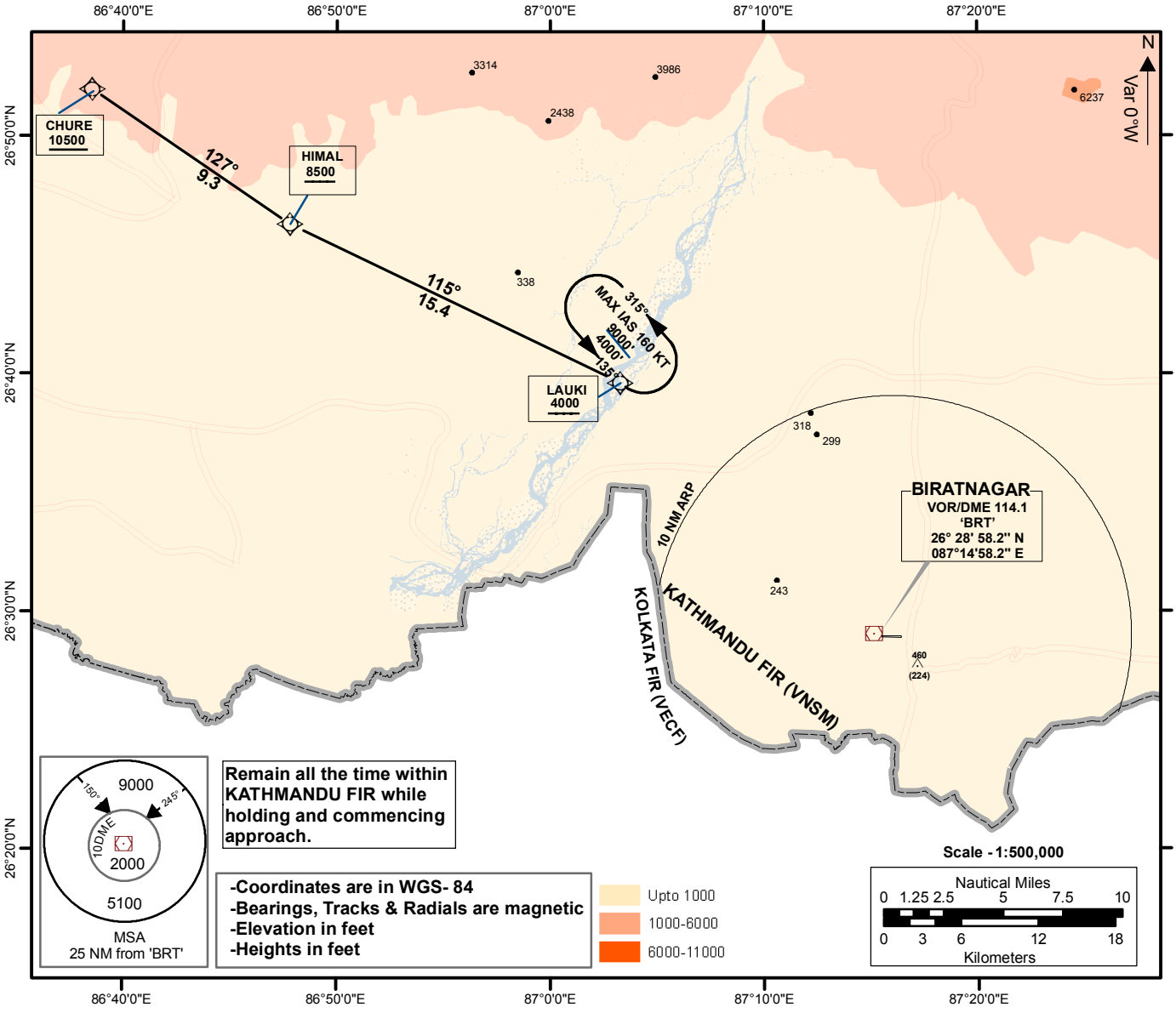
## 6. STAR coding Table

| W/P ID | W/P Description | Path Terminator | TD | CRS (°) mag | DIST (NM) | ALT (FT) | SPD (KTS) | Remarks |
|---|---|---|---|---|---|---|---|---|
| CHURE | - | IF | | | | AA 10500 | | |
| HIMAL | - | TF | | 127° | 9.3 | AA 8500 | | |
| LAUKI | - | TF | | 115 ° | 15.3 | AA 4000 | Max IAS 160Kts | |

## 7. RNP APCH coding Table

| W/P ID | W/P Description | Path Terminator | TD | CRS (°) mag? | DIST (NM) | ALT (FT) | SPD (KTS) | Remarks |
|---|---|---|---|---|---|---|---|---|
| LAUKI (IAF) | - | IF | | | | AA 4000 | | |
| INAWA | - | TF | R | 135° | 3 | | | |
| VT102 (IF) | - | TF | L | 163° | 8.6 | AA 1500 | Max IAS 180kts | |
| VT104 (FAF) | - | TF | | 092° | 3 | AA 1400 | | |
| VT106 (MAPT) | Y | TF | | 092° | 3 | 0560 | | |
| RANGA | - | TF | L | 085° | 12 | AA 3000 | | |
| RANGA | - | HM | R | | | AA 3000 | Max IAS 160kts | |

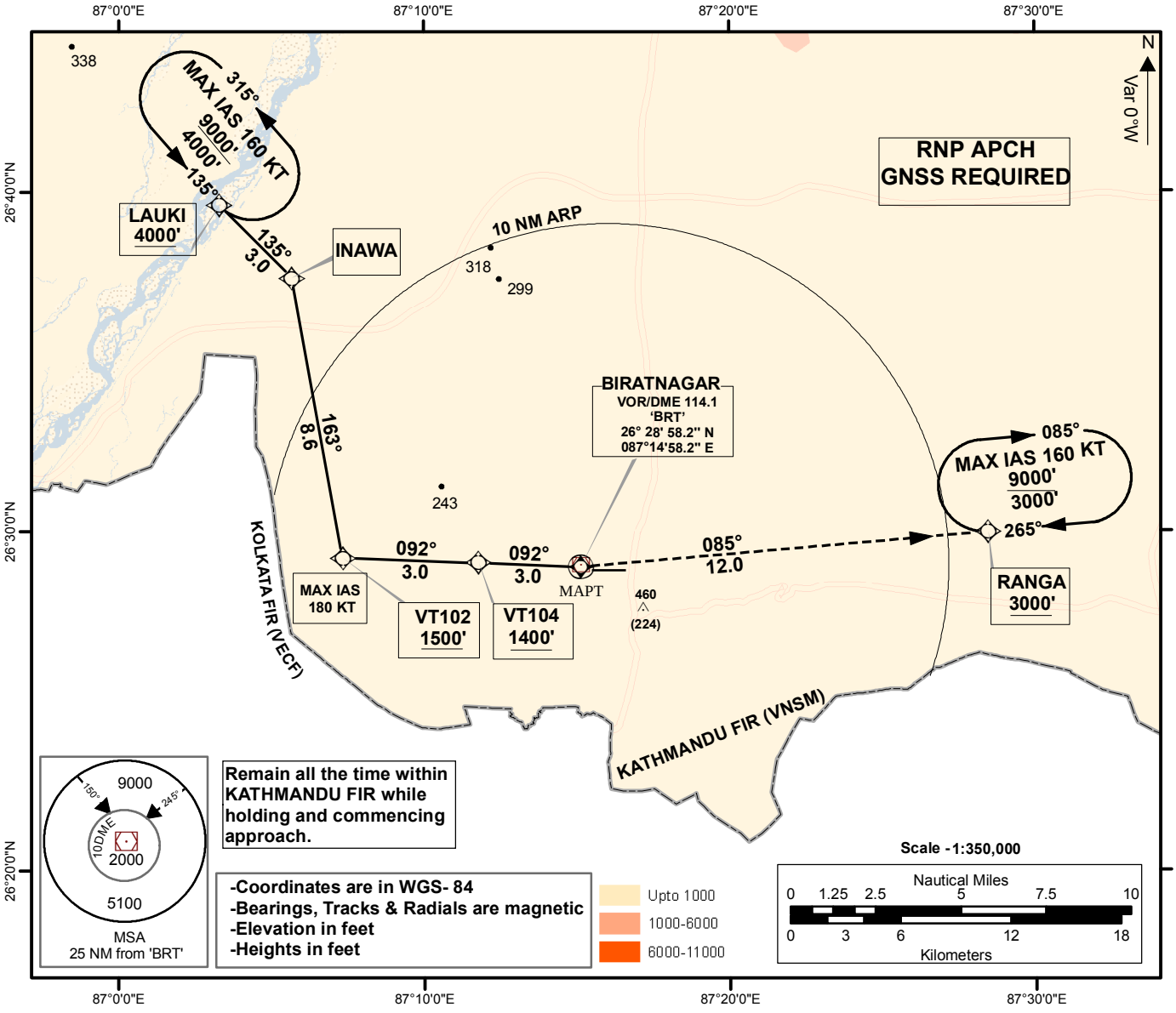
| STANDARD ARRIVAL CHART - INSTRUMENT (STAR) - ICAO | AERODROME ELEV 246'<br>TRANS LEVEL: FL150<br>TRANS ALT: 13500 ft.<br>Mag Var. 0°W (2010) | TWR 123.8 | BIRATNAGAR, NEPAL<br>Biratnagar Airport<br>BASIC RNP-1 STAR<br>CHURE 1 ARRIVAL |
|---|---|---|---|

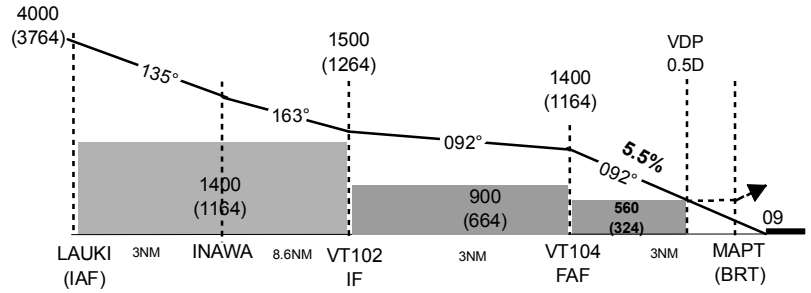



## CHURE 1 ARRIVAL

FROM CHURE DESCEND HDG 127° TO HIMAL AT OR ABOVE 8500 FT. FROM HIMAL DESCEND HDG 115° TO LAUKI AT OR ABOVE 4000 FT.

| INSTRUMENT APPROACH CHART - ICAO | AERODROME ELEV 246'<br>TRANS LEVEL: FL150<br>TRANS ALT: 13500 ft.<br>Mag Var. 0°W (2010) | TWR 123.8 | BIRATNAGAR, NEPAL<br>Biratnagar Airport<br>RNP Rwy 09 (LNAV Only) |
|---|---|---|---|



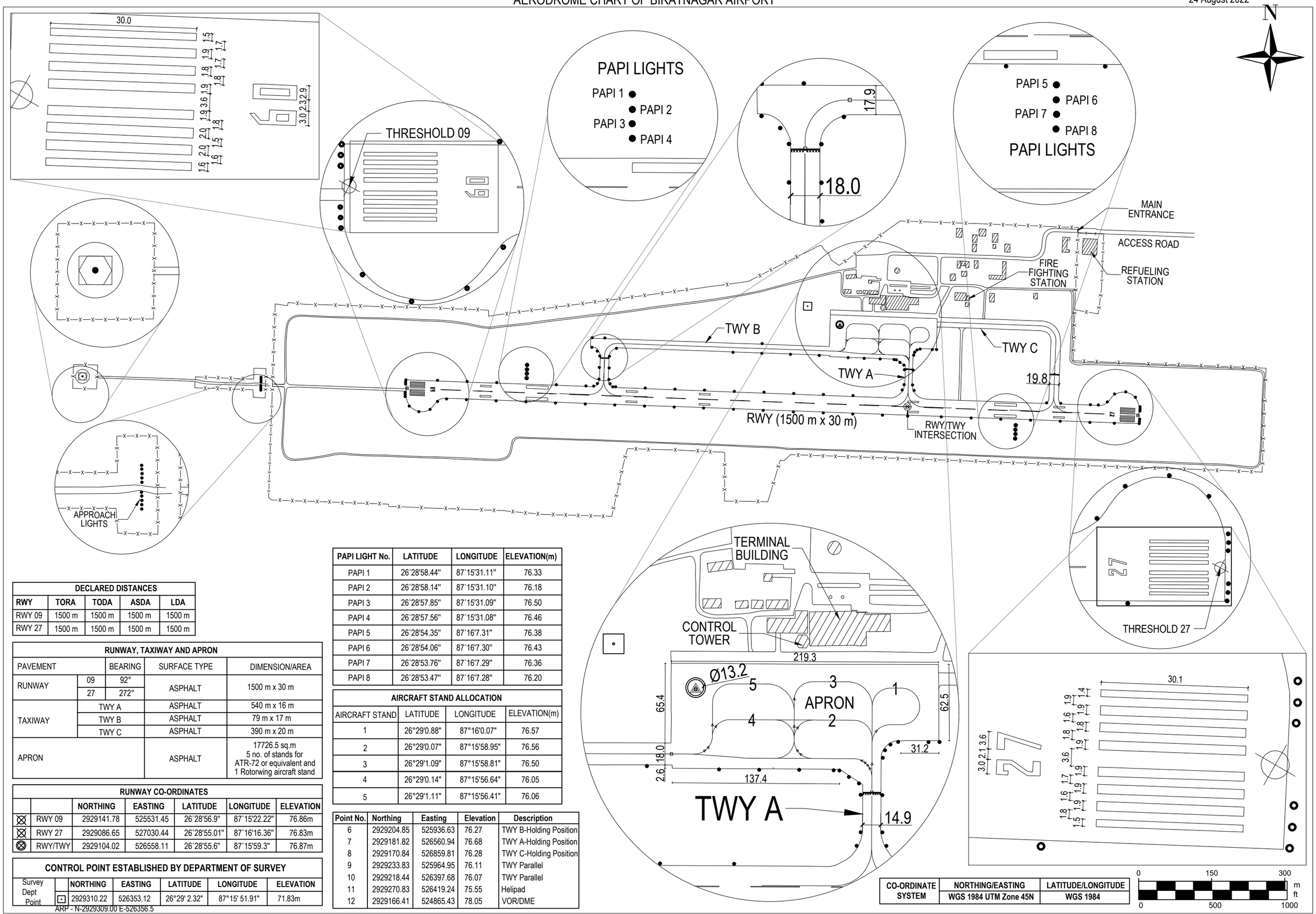




**MISSED APPROACH: (Climb Gradient 4%). AT MAPT, TURN LEFT HDG 085° TO RANGA. REACH RANGA AT OR ABOVE 3000' OR AS INSTRUCTED BY ATC.**

| OCA (H) - Visibility | | | | |
|---|---|---|---|---|
| Cat of ACFT | A | B | C | D |
| ST-IN RWY 09 | 560(324)-1600mt | | 560(324)-2000mt | NA |
| | ALS OUT - 2000mt | | ALS OUT - 2400mt | |
| Circling | 1400(1264)-2000mt | 1400(1264)-2800mt | 1500(1264)-3700mt | NA |
| | NOT AUTHORIZED AT NIGHT | | | |

| FAF to TH09 3.3 NM | | | | | |
|---|---|---|---|---|---|
| Knots | 60 | 90 | 120 | 150 | 180 |
| Min:Sec | 3:18 | 2:12 | 1:39 | 1:19 | 1:06 |
| Ft/ min @5.5% | 330 | 500 | 670 | 840 | 1000 |

# AERODROME CHART OF BIRATNAGAR AIRPORT




| DECLARED DISTANCES | | | | |
|---|---|---|---|---|
| RWY | TORA | TODA | ASDA | LDA |
| RWY 09 | 1500 m | 1500 m | 1500 m | 1500 m |
| RWY 27 | 1500 m | 1500 m | 1500 m | 1500 m |

| RUNWAY, TAXIWAY AND APRON | | | | |
|---|---|---|---|---|
| PAVEMENT | | BEARING | SURFACE TYPE | DIMENSION/AREA |
| RUNWAY | 09 | 92° | ASPHALT | 1500 m x 30 m |
| | 27 | 272° | | |
| TAXIWAY | TWY A | | ASPHALT | 540 m x 16 m |
| | TWY B | | ASPHALT | 79 m x 17 m |
| | TWY C | | ASPHALT | 390 m x 20 m |
| APRON | | | ASPHALT | 17726.5 sq.m<br>5 no. of stands for ATR-72 or equivalent and<br>1 Rotorwing aircraft stand |

| RUNWAY CO-ORDINATES | | | | | | |
|---|---|---|---|---|---|---|
| | | NORTHING | EASTING | LATITUDE | LONGITUDE | ELEVATION |
| ⊠ | RWY 09 | 2929141.78 | 525531.45 | 26°28'56.9" | 87°15'22.22" | 76.86m |
| ⊠ | RWY 27 | 2929086.65 | 527030.44 | 26°28'55.01" | 87°16'16.36" | 76.83m |
| ⊗ | RWY/TWY | 2929104.02 | 526558.11 | 26°28'55.6" | 87°15'59.3" | 76.87m |

| CONTROL POINT ESTABLISHED BY DEPARTMENT OF SURVEY | | | | | | |
|---|---|---|---|---|---|---|
| Survey Dept Point | | NORTHING | EASTING | LATITUDE | LONGITUDE | ELEVATION |
| | ⊡ | 2929310.22 | 526353.12 | 26°29' 2.32" | 87°15' 51.91" | 71.83m |

ARP - N-2929309.00 E-526356.5

| PAPI LIGHT No. | LATITUDE | LONGITUDE | ELEVATION(m) |
|---|---|---|---|
| PAPI 1 | 26°28'58.44" | 87°15'31.11" | 76.33 |
| PAPI 2 | 26°28'58.14" | 87°15'31.10" | 76.18 |
| PAPI 3 | 26°28'57.85" | 87°15'31.09" | 76.50 |
| PAPI 4 | 26°28'57.56" | 87°15'31.08" | 76.46 |
| PAPI 5 | 26°28'54.35" | 87°16'7.31" | 76.38 |
| PAPI 6 | 26°28'54.06" | 87°16'7.30" | 76.43 |
| PAPI 7 | 26°28'53.76" | 87°16'7.29" | 76.36 |
| PAPI 8 | 26°28'53.47" | 87°16'7.28" | 76.20 |

| AIRCRAFT STAND ALLOCATION | | | |
|---|---|---|---|
| AIRCRAFT STAND | LATITUDE | LONGITUDE | ELEVATION(m) |
| 1 | 26°29'0.88" | 87°16'0.07" | 76.57 |
| 2 | 26°29'0.07" | 87°15'58.95" | 76.56 |
| 3 | 26°29'1.09" | 87°15'58.81" | 76.50 |
| 4 | 26°29'0.14" | 87°15'56.64" | 76.05 |
| 5 | 26°29'1.11" | 87°15'56.41" | 76.06 |

| Point No. | Northing | Easting | Elevation | Description |
|---|---|---|---|---|
| 6 | 2929204.85 | 525936.63 | 76.27 | TWY B-Holding Position |
| 7 | 2929181.82 | 526560.94 | 76.68 | TWY A-Holding Position |
| 8 | 2929170.84 | 526859.81 | 76.28 | TWY C-Holding Position |
| 9 | 2929233.83 | 525964.95 | 76.11 | TWY Parallel |
| 10 | 2929218.44 | 526397.68 | 76.07 | TWY Parallel |
| 11 | 2929270.83 | 526419.24 | 75.55 | Helipad |
| 12 | 2929166.41 | 524865.43 | 78.05 | VOR/DME |

| CO-ORDINATE SYSTEM | NORTHING/EASTING | LATITUDE/LONGITUDE |
|---|---|---|
| | WGS 1984 UTM Zone 45N | WGS 1984 |

0 150 300 m
0 500 1000 ft