

EHGG — GRONINGEN/Eelde

Note: the following sections in this chapter are intentionally left blank:
AD 2.16, AD 2.21.

EHGG AD 2.1 AERODROME LOCATION INDICATOR AND NAME

EHGG — GRONINGEN/Eelde

EHGG AD 2.2 AERODROME GEOGRAPHICAL AND ADMINISTRATIVE DATA

| | | |
|---|--|---|
| 1 | ARP co-ordinates and site at AD | 530730N 0063500E 216 DEG GEO 499 M from TWR. |
| 2 | Direction and distance from (city) | 4.8 NM S from Groningen. |
| 3 | Elevation/reference temperature | 18 FT AMSL/20.9°C (JUL). |
| 4 | Geoid undulation at AD ELEV PSN | 135 FT. |
| 5 | MAG VAR/annual change | 2°E (2020)/10'E. |
| 6 | AD operator, postal address, telephone, telefax, email, AFS, website | Post: Groningen Airport Eelde P.O. Box 50 9765 ZH Paterswolde The Netherlands Tel: +31 (0)50 309 7070 +31 (0)50 309 7014 (airport authority) +31 (0)50 309 7016 (only outside OPR HR for emergencies and medical flights) Email: operations@gae.nl URL: https://www.groningenaairport.nl |
| 7 | Types of traffic permitted (IFR/VFR) | IFR/VFR |
| 8 | Remarks | NIL |

EHGG AD 2.3 OPERATIONAL HOURS

| | | |
|----|----------------------------|--|
| 1 | AD operator | MON-FRI: 0530-2200 (0430-2100); SAT, SUN and HOL: 0630-2100 (0530-2000) ¹⁾ . For ambulance flights only: MON-FRI 2200-0530 (2100-0430) and SAT, SUN and HOL 2100-0630 (2000-0530). |
| 2 | Customs and immigration | Customs: limited AVBL; during AD OPR HR 3 HR PN, TEL +31 (0)88 622 3100. Immigration: AD OPR HR. |
| 3 | Health and sanitation | PN ²⁾ |
| 4 | AIS briefing office | H24 Tel: +31 (0)20 406 2315 URL: https://www.homebriefing.nl |
| 5 | ATS reporting office (ARO) | Competent ATS unit: ARO Schiphol, see EHAM AD 2.3. |
| 6 | MET briefing office | AD OPR HR, outside OPR HR: MWO De Bilt (see EHGG AD 2.11). |
| 7 | ATS | AD OPR HR. |
| 8 | Fuelling | AD OPR HR. |
| 9 | Handling | AD OPR HR. Compulsory for visiting ACFT MTOM >= 3000 KG, for details see EHGG AD 2.23. |
| 10 | Security | AD OPR HR. |
| 11 | De-icing | AD OPR HR. |
| 12 | Remarks | ¹⁾ MIL flights PPR from airport authority. ²⁾ PN means permission from and/or in case of customs etc. notification other than by (VFR) flight plan to aerodrome authority as appropriate. |

EHGG AD 2.4 HANDLING SERVICES AND FACILITIES

| | | |
|---|---------------------------|-------------------------------|
| 1 | Cargo-handling facilities | For details see EHGG AD 2.23. |
|---|---------------------------|-------------------------------|

| | | |
|---|---|--|
| 2 | Fuel/oil types | AVGAS 100LL, Jet A-1/-. |
| 3 | Fuelling facilities/capacity | AVGAS 100LL: self-service; payment only via credit card or Shell carnet at fuel station terminal. Jet A-1: self-service; ACFT with wingspan < 15 M must use self-service; payment only via credit card or Shell carnet at fuel station terminal. 2 trucks. |
| 4 | De-icing facilities | Equipment AVBL, Type II de-icing fluid ABC-K Plus. |
| 5 | Hangar space for visiting aircraft | Light aircraft only. |
| 6 | Repair facilities for visiting aircraft | General Enterprises, TEL: +31 (0)50 309 6060 |
| 7 | Remarks | NIL |

EHGG AD 2.5 PASSENGER FACILITIES

| | | |
|---|----------------------|--|
| 1 | Hotels | Hotels in Groningen, Eelde and Haren. |
| 2 | Restaurants | At the airport (116 seats) and unlimited in Groningen. |
| 3 | Transportation | Buses, taxis and rental cars. |
| 4 | Medical facilities | First aid treatment, hospitals in Groningen and Assen. |
| 5 | Bank and post office | Cashpoint in terminal building. |
| 6 | Tourist office | NIL |
| 7 | Remarks | NIL |

EHGG AD 2.6 RESCUE AND FIRE FIGHTING SERVICES

| | | |
|---|---|---|
| 1 | AD category for fire fighting | CAT 5; CAT 6, 7, 8 and 9 AVBL O/R (24 HR PN). |
| 2 | Rescue equipment | 3 crash-tenders with portable hydraulic rescue tools and mobile lighting. |
| 3 | Capability for removal of disabled aircraft | Cranes AVBL via contractors. |
| 4 | Remarks | NIL |

EHGG AD 2.7 SEASONAL AVAILABILITY - CLEARING

| | | |
|---|-----------------------------|---|
| 1 | Types of clearing equipment | 3 snowsweep combinations with ploughs, 1 snowblower, 1 spray vehicle. |
| 2 | Clearance priorities | RWY, TWY and apron simultaneously. |
| 3 | Remarks | 1. Responsible authority: airport authority. 2. No specially prepared winter runways AVBL. 3. Methods of snow removal: snowploughs and sweeping machines. 4. Chemical treatment of runway surface by KFOR. NAAC only locally used at aprons. 5. Assessment and measuring of contamination: observation by own experienced staff. 6. Runway condition is determined and reported according to the global reporting format and broadcast via ATIS. 7. Information of the runway condition is published by: a. SNOWTAM via the international NOTAM office at Schiphol. b. RCR via ATIS and RTF on TWR frequency. |

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

| | | |
|---|----------------------------|--|
| 1 | Apron surface and strength | A-apron: Surface: CONC Strength: PCN 68/R/B/W/T J-apron: Surface: ASPH Strength: PCN 36/F/B/W/T K-apron: Surface: CONC Strength: PCN 98/R/B/W/T L-apron: Surface: CONC Strength: PCN 37/R/B/W/T |
|---|----------------------------|--|

| | | | | | |
|---|--|--|--------------|----------------|-----------------------|
| 2 | Taxiway width, surface and strength | TWY | Width | Surface | Strength (PCN) |
| | | A ¹⁾ | 23 M | Asphalt | 53.0/F/B/W/T |
| | | B (NORTH OF W1) ²⁾³⁾⁴⁾ | 18 M | Asphalt | 51.0/F/B/W/T |
| | | B (SOUTH OF W1) | 43.5 M | Asphalt | 59.0/F/B/W/T |
| | | C ²⁾³⁾ | 18 M | Asphalt | 63.0/F/B/W/T |
| | | G ⁵⁾⁶⁾ | 10.5 M | Asphalt | 33.0/F/A/W/T |
| 3 | Altimeter checkpoint location and elevation | Location: apron. Elevation: 13 FT AMSL. | | | |
| 4 | VOR checkpoints | See AD 2.EHGG-APDC. | | | |
| 5 | INS checkpoints | See AD 2.EHGG-APDC. | | | |
| 6 | Remarks | ¹⁾ Outer main gear wheel span up to but not including 15 M. ²⁾ MAX wingspan 36 M. ³⁾ Outer main gear wheel span up to but not including 9 M. ⁴⁾ Use of TWY B limited north of W1. See AD 2.20 paragraph 8. ⁵⁾ MAX wingspan 24 M. ⁶⁾ Outer main gear wheel span up to but not including 6 M. | | | |

EHGG 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 at aircraft stands | Aircraft stand ID signs: <ul style="list-style-type: none"> A-apron: stand identification marking. TWY guide lines: <ul style="list-style-type: none"> A-apron: lead-in, stop position and lead-out marking. Yellow guide lines on TWY and aprons. Taxi guidance signs illuminated. Follow-me cars AVBL on request for guidance on aprons and TWYs. Visual parking guidance system at aircraft stands: <ul style="list-style-type: none"> Marshaller. General use of aprons: <ul style="list-style-type: none"> A-apron: commercial PAX ACFT, taxi-in/taxi-out (ACFT with wingspan > 36 M must use stand A11 and follow dashed lead-in and lead-out lines). J-apron: general aviation ACFT MAX wingspan 24 M K-apron: general aviation ACFT MAX wingspan 15 M. L-apron: commercial PAX ACFT MAX wingspan 36 M. |
| 2 | RWY and TWY markings and LGT | RWY: THR, centre line, aiming point, RWY designations, edge, TDZ, turnpad. Edge lights, centre line lights, THR lights, RWY-end lights; blue turnpad edge lights, green turnpad centre line lights (at end of RWY 23 only). TWY: Holding positions, centre line and edge marking. Mandatory instruction signs at all RWY holding positions. Edge lights; runway guard lights at holding S2. |
| 3 | Stop bars | NIL |
| 4 | Remarks | NIL |

EHGG AD 2.10 AERODROME OBSTACLES

All obstacles are day and night marked and lighted. For obstacles in take-off area see AD 2.EHGG-AOC-05-23.

EHGG AD 2.11 METEOROLOGICAL INFORMATION PROVIDED

| | | |
|---|---|------------------|
| 1 | Associated MET office | De Bilt |
| 2 | Hours of service MET office outside hours | H24 - |
| 3 | Office responsible for TAF preparation Periods of validity | De Bilt 30 HR |

| | | |
|----|--|---|
| 4 | Trend forecast Interval of issuance | TREND MON-FRI: 0525-2155 (0425-2055); SAT, SUN and HOL: 0625-2025 (0525-1925). |
| 5 | Briefing/consultation provided | Self-briefing; briefing on request from MWO-De Bilt by telephone after self-briefing (see item 10). |
| 6 | Flight documentation Language(s) used | Reports, forecasts, charts. English, Dutch. |
| 7 | Charts and other information available for briefing or consultation | S, P, W, T |
| 8 | Supplementary equipment available for providing information | WXR, APT |
| 9 | ATS units provided with information | Eelde TWR, Eelde APP. |
| 10 | Additional information (limitation of service, etc.) | TEL: 0900 202 3341 Briefing low level flights (IFR/VFR). TEL: 0900 202 3343 Briefing IFR flights above FL 100. TEL: 0900 202 3340 Briefing balloon flights within Amsterdam FIR. Note: charge for TEL briefings and consultations is € 0,50/MIN. 1) Weather bulletin (Dutch language) and METARs via Dutch public TV 'Teletekst', page 707. |

EHGG AD 2.12 RUNWAY PHYSICAL CHARACTERISTICS

| Designations RWY NR | True BRG | Dimensions of RWY (M) | Strength (PCN) and sur- face of RWY and SWY | THR co-ordinates RWY end co-ordinates THR GUND | THR elevation and highest elevation of TDZ of precision APCH RWY |
|------------------------|----------|--------------------------|--|--|--|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 05 | 051.85° | 2500 x 45 | 62/F/B/W/T ASPH | 530639.90N 0063339.23E 530729.84N 0063524.96E 135 FT | 13.4 FT NA |
| 23 | 231.88° | 2500 x 45 | 62/F/B/W/T ASPH | 530729.84N 0063524.96E 530639.90N 0063339.23E 135 FT | 12.5 FT 17.6 FT |

| Designations RWY NR | Slope of RWY-SWY | SWY dimensions (M) | CWY dimen- sions (M) | Strip dimen- sions (M) | RESA dimen- sions (M) | Location and type of arresting system | OFZ |
|------------------------|---------------------|-----------------------|-------------------------|---------------------------|--------------------------|--|-----|
| 1 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 05 | 0.01% | NIL | 60 x 300 | 2620 x 300 | 230 x 150 | NIL | NA |
| 23 | 0.01% | NIL | 60 x 300 | 2620 x 300 | 240 x 150 | NIL | NA |

Remarks

14

NIL

EHGG AD 2.13 DECLARED DISTANCES

| RWY Designator | TORA (M) | TODA (M) | ASDA (M) | LDA (M) | Remarks |
|----------------|----------|----------|----------|---------|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 05 | 2500 | 2560 | 2500 | 2500 | NIL |
| | 1798 | 1858 | 1798 | 1798 | HLDG PSN S3. LDA for short circuits. |
| | 1119 | 1179 | 1119 | NA | HLDG PSN S2. |
| 23 | 2500 | 2560 | 2500 | 2500 | NIL |
| | 1487 | 1547 | 1487 | NA | HLDG PSN S2. |

EHGG AD 2.14 APPROACH AND RUNWAY LIGHTING

| RWY Des-ignator | APCH LGT type, length, INTST | THR LGT colour, WBAR | VASIS (MEHT) PAPI | TDZ LGT length | RWY centre line LGT length, spacing, colour, INTST | RWY edge LGT length, spacing, colour, INTST | RWY end LGT colour, WBAR | SWY LGT length, colour |
|-----------------|------------------------------|----------------------|----------------------------|----------------|--|---|--------------------------|------------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 05 | SALS 420 M LIH | G - | PAPI left/3° (74 FT) | NIL | 2500 M 30 M ¹⁾ LIH | 2500 M 60 M ²⁾ LIH | R - | NIL |
| 23 | CAT I 900 M LIH | G - | PAPI left/3° (66 FT) | NIL | 2500 M 30 M ¹⁾ LIH | 2500 M 60 M ²⁾ LIH | R - | NIL |

Remarks

10

¹⁾ White from THR to 900 M from RWY end; white/red from 900 M from RWY end to 300 M from RWY end; red from 300 M from RWY end to RWY end.

²⁾ White; last 600 M yellow.

EHGG AD 2.15 OTHER LIGHTING, SECONDARY POWER SUPPLY

| | | |
|---|--|---|
| 1 | ABN/IBN location, characteristics and hours of operation | NIL |
| 2 | LDI location and LGT Anemometer location and LGT | LDI: NIL. Anemometer: see GEN 3.5 paragraph 3. |
| 3 | TWY edge and centre line lighting | TWY edge lights. |
| 4 | Secondary power supply Switch-over time | AVBL Within 7 seconds. |
| 5 | Remarks | NIL |

EHGG AD 2.17 ATS AIRSPACE

| | | |
|---|-----------------------------------|--|
| 1 | Designation and lateral limits | EELDE CTR: 530228N 0061617E - 530618N 0062424E - along clockwise arc (radius 6.5 NM, centre 530730N 0063500E) - 531324N 0063929E - 531713N 0064740E - 531230N 0065349E - 530841N 0064537E - along clockwise arc (radius 6.5 NM, centre 530730N 0063500E) - 530136N 0063032E - 525745N 0062224E - 530228N 0061617E. |
| 2 | Vertical limits | GND to 3000 FT AMSL. |
| 3 | Airspace classification | C |
| 4 | ATS unit call sign Language(s) | Eelde Tower ¹⁾ English |
| 5 | Transition altitude | IFR: 3000 FT AMSL; VFR: 3500 FT AMSL. |
| 6 | Hours of applicability | AD OPR HR |
| 7 | Remarks | ¹⁾ Outside OPR HR contact Dutch MIL Info on 132.350. |

EHGG AD 2.18 ATS COMMUNICATION FACILITIES

| Service designation | Call sign | Channel(s) | SATVOICE NR | Logon address | Hours of operation | Remarks |
|---------------------|-------------------|------------|-------------|---------------|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| APP | Eelde Approach | 120.305 | NIL | NIL | MON-FRI: 0800-1800 (0700-1700) | TAR. VDF. |
| | | 282.350 | NIL | NIL | | NIL |
| | | 119.705 | NIL | NIL | | Regional Guard. O/R or at ATC discretion. VDF. |
| TWR | Eelde Tower | 118.705 | NIL | NIL | AD OPR HR | Primary. VDF. |
| | | 362.875 | NIL | NIL | | NIL |
| | | 119.705 | NIL | NIL | | Regional Guard. O/R or at ATC discretion. VDF. |
| | | | | | Outside OPR HR contact Dutch MIL Info on 132.350. | |
| | Eelde Delivery | 121.705 | NIL | NIL | AD OPR HR | Start-up control and clearance delivery. Pre-flight information. IFR/VFR-traffic (incl. training flights). VDF. |
| ATIS | Eelde Information | 133.555 | NIL | NIL | AD OPR HR | NIL |
| - | As appropriate. | 121.500 | NIL | NIL | As appropriate. | Emergency. VDF. |

EHGG AD 2.19 RADIO NAVIGATION AND LANDING AIDS

| Type of aid, MAG VAR, Type of supported OPS (VOR/ILS/MLS: declination) | ID | Frequency CH service provider and reference path identifier | Hours of operation | Position of transmitting antenna co-ordinates | Elevation of DME transmitting antenna or GBAS: elevation, ellipsoid height of reference point SBAS: ellipsoid height of LTP/FTP | Service volume radius from the GBAS reference point | Remarks |
|--|-----|---|--------------------|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| DVOR/DME (2°E/2020) | EEL | 112.400 MHz CH71X | H24 | 530951.0N 0064000.3E | 0 FT | NA | Designated operational coverage: BTN 165°-285° MAG 70 NM/FL 500; BTN 285°-165° MAG 150 NM/FL 500. |
| LOC 23 ILS CAT I/C/1 (2°E/2020) | GRO | 109.900 MHz | H24 | 530635.1N 0063329.1E | NA | NA | NIL |
| DME 23 | GRO | CH36X | H24 | 530720.2N 0063515.0E | 0 FT | NA | NIL |
| GP 23 | - | 333.800 MHz | H24 | 530720.2N 0063515.0E | NA | NA | NIL |
| GPS | NA | L1 1575.42 MHz | H24 | NA | NA | NA | NIL |
| EGNOS | NA | L1 1575.42 MHz ¹⁾ | H24 | NA | ¹⁾ | NA | ¹⁾ See EHGG AD 2.22 for FAS data block |

EHGG AD 2.20 LOCAL AERODROME REGULATIONS

1 GENERAL

Monitoring the Eelde Tower channel is mandatory for all aircraft on the ground that have an engine running.

2 TRAINING FLIGHTS

1. Training flights are prohibited for jet aircraft and aircraft with a MTOM \geq 6000 KG.
2. Training flights are prohibited during the following periods:
 - MON-SAT: before 0700 (0600) and after 2100 (2000).
 - SUN and HOL: before 0900 (0800) and after 1800 (1700).
3. IFR training flights outside operational hours Eelde Approach: PPR from ATC, TEL: +31 (0)50 309 9229.

3 TEST AND TECHNICAL FLIGHTS

Test or technical flights PPR from airport authority.

4 FORMATION TAKE-OFFS AND LANDINGS

Formation take-offs and landings are not allowed except with a pre-arranged operational agreement with ATC. Contact atmprocedureservices@lvnl.nl for such an agreement.

5 REDUCED RUNWAY SEPARATION

1. Reduced runway separation may be applied between CAT 1 and 2 aircraft in accordance with AD 1.1 paragraph 5.3.
2. Minimum separation applicable for RWY 05 and RWY 23:
 - a. between a landing CAT 1 aircraft and a preceding CAT 1 or 2 aircraft: 600 M.
 - b. between a landing CAT 2 aircraft and a preceding CAT 1 or 2 aircraft: 1500 M.
 - c. between a departing CAT 1 aircraft and a preceding CAT 1 or 2 aircraft: 600 M.
 - d. between a departing CAT 2 aircraft and a preceding CAT 1 or 2 aircraft: 1500 M.

6 GROUND HANDLING

Handling is compulsory for all visiting ACFT MTOM \geq 3000 KG, for details see EHGG AD 2.23.

7 USE OF APU

Flight crew are urgently requested to limit the use of the auxiliary power unit (APU) as much as possible to reduce environmental and noise burden.

When it is necessary to use the APU to ensure safety on board, to diagnose and/or rectify defects or in case no ground power unit (GPU) is available, please inform the airport authority on TEL: +31 (0)50 309 7014 as soon as practicable.

8 USE OF TWY B (NORTH OF W1)

Usage of TWY B north of W1 limited: PPR by airport authority for all non-based jet aircraft, turboprop aircraft and helicopters.

9 USE OF ENGINE RUN-UP AREA

A public engine test and compass swing platform is available alongside TWY A, opposite the entry to the J-apron. The platform is intended for fixed wing non-turbine propeller aircraft with a MAX outer main gear wheel span of 4.5 M and a MAX wingspan of 15 M. Usage of this run-up area is possible MON-FRI 0600-1800 (0500-1700) and requires PPR by the airport authority.

EHGG AD 2.22 FLIGHT PROCEDURES

1 INSTRUMENT DEPARTURE PROCEDURES

1.1 Introduction

The instrument departure procedures are based on ICAO Annex 2 and on ICAO Documents 4444-ATM/501 (PANS-ATM), 7030 (SUPPS) and 8168-OPS/611 (PANS-OPS).

Note: in the Eelde TMA VFR flights without ATC clearance are permitted. For instrument training procedures see EHGG AD 2.22 paragraph 4.

Note: to avoid noise disturbances pilots shall adhere to the IFR departure procedures as depicted.

1.2 Instrument departure procedures

1.2.1 Start-up permission

Pilots of aircraft must have obtained permission for start-up from ATC before starting their engines and when applicable report a cross-bleed start. A request for start-up shall be made to Eelde Delivery after all preparations for departure have been made (doors closed etc.) and shall include:

- aircraft identification (e.g. PH-SPY).
- position (e.g. in front of terminal).
- ATIS information (e.g. information S).

- flight rules (e.g. IFR).
- destination (e.g. Amsterdam).
- request start-up.

Due to the short flying time to the FIR boundary, pilots of aircraft departing direction Germany/Denmark may request start-up permission before all preparations have been made, indicating the time at which they will be ready to start engines: ".....destination.....ready to start engines at.....".

Permission for start-up will either be issued immediately or at a specified time. The pilot shall be able to comply with start-up and taxi permission, since ATC planning of outbound traffic (involving en-route clearance and co-ordination with adjacent ACCs) is based on the start-up time. Any delay in start-up or taxiing shall be reported to ATC immediately.

In case of indefinite delay the probable duration of the delay will be given.

During the hours of the ATIS broadcast, no MET information will be issued to departing aircraft except RVR (see EHGG AD 2.18).

1.2.2 En-route clearance

1.2.2.1 Contents

The en-route clearance will be issued after start-up clearance has been given by Eelde Delivery. An en-route clearance contains:

- a. Clearance limit: airport of destination.
- b. Standard instrument departure (SID).
- c. Level instructions if applicable.
- d. SSR code.
- e. Departure instructions if applicable.
- f. CTOT if applicable.

Example of an en-route clearance: "PHCTG cleared to Paris, PAM 4C departure, FL 070, squawk 2136, slot 25".

1.2.2.2 Standard instrument departures

The instrument departure procedures are laid down in standard instrument departures (SIDs). SIDs are designated in accordance with ICAO Annex 11. SID designation is composed of the following elements:

- a basic indicator, i.e. a significant point.
- a validity indicator, i.e. a number from 1 to 9 indicating the valid version of a specific SID.
- a route indicator, i.e. a letter representing the runway where the SID begins.

SIDs are published for RWYs 05 and 23.

1.2.2.3 Departure instructions (paragraph 1.2.2.1 item d.)

Instructions containing deviations from the standard instrument departure may be added to the en-route or take-off clearance. These instructions may comprise an opposite turn after take-off, maintaining a specified heading or temporary altitude restrictions; they amend the relevant part of the SID only.

1.2.2.4 General instructions

- a. Climb as rapidly as practicable to at least 2000 FT AMSL.
- b. VOR radial interception angle: in principle 45°. If the indicated angle exceeds 45° initiate turn in due time in order not to overshoot the radial.

1.2.3 Taxi procedures

Aircraft shall request taxi clearance on the Tower frequency (see EHGG AD 2.18).

1.3 Communication failure

See ENR 1.3.

1.4 SID descriptions

1.4.1 General remarks

- Transition altitude: 3000 FT AMSL.
- SIDs are based on an average climb rate of 2000 FT/min.
- SIDs have to be considered as minimum noise routings.
- Turn radii based on a 25° bank angle.
- Radial interception angle: 45°.
- MAX 250 KIAS below FL 100 unless otherwise instructed.
- Additional departure instructions: especially propeller-driven aircraft can expect additional departure instructions. These instructions may be added to the en-route or take-off clearance and may comprise a specific heading or temporary altitude restriction. Such additives amend the relevant part of the SID only.
- **RNAV:** The Netherlands encourages the use of RNAV routes stored in a pre-programmed navigation database on board of aircraft. Although there may be differences between the RNAV and conventional description of a route (vertically: turn altitudes and/or laterally: turn anticipation effects), the resulting flight paths are considered identical by ATC. Therefore, flying the route using the RNAV coding from the navigation database will not result in route violations.
Furthermore:
 - Connect FMS as early as possible.
 - Turn anticipation is mandatory for all waypoints except those which are underlined, these waypoints shall be overflown.
 - The navigation aid (e.g. VOR) mentioned in the column "Expected path terminator" is for selection of MAG station declination only.

1.4.2 Specific remarks

1. ENKOS departure only available for DEST EHRD.
2. NOVEN departure only available for DEST EHAM and intending to operate above FL 070.
3. ROLDU departure only available for DEST EHLE.
4. RUMER departure only available for flights operating MAX FL 095 to DEST EHEH, EHBD and EHBK.
5. TEBRO departure only available for DEST EDDL, EDLN and EDLV.
6. RNAV 1 required.
7. Initial turn: climb to 500 FT AMSL before turning, due to obstacles.

1.4.3 Continuous routings for SIDs with crossing conditions on ATS routes as applicable

Note: REF EHGG AD 2.22 paragraph 1.2.2 "En-route clearance"-: if not able to comply with the crossing conditions prescribed in the SIDs, inform Eelde Delivery before departure.

Note: Aircraft may only continue to climb above FL 060 or FL 070 after an ATC clearance has been received.

| NAPRO Departures | |
|------------------|--|
| Z739 | If the requested flight level is a level above FL 245, cross AMOSU at or above FL 250. |

1.4.4 SIDs RWY 05

See chart AD 2.EHGG-SID-05.

| DOBAK 2C | | | | |
|---|---|-------------------------|--------------------------|-------------------|
| See paragraph 1.4.2 specific remark: 7. After departure climb to FL 060. MNM required climb gradient 4.0% to FL 060 due to ATC restrictions. | | | | |
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [DOBA2C] | To EEL on course 050° MAG | EEL [M050] | CF (EEL) | N |
| | To DOBAK at or above FL 060 | DOBAK [F060+] | TF | N |
| Conventional description | Lateral: Proceed to EEL VOR. Over EEL VOR intercept EEL 079 to DOBAK. Vertical: Cross 20.1 EEL at or above FL 060. | | | |

| ENKOS 4C | | | | |
|---|-----------------------------|-------------------------|--------------------------|-------------------|
| See paragraph 1.4.2 specific remark: 1, 6, 7. After departure climb to FL 070. | | | | |
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [ENKO4C] | To EEL on course 050° MAG | EEL [M050] | CF (EEL) | N |
| | To GG516 | GG516 | TF | N |
| | To GG527 | GG527 | TF | N |
| | To OSTIR at or above FL 070 | OSTIR [F070+] | TF | N |
| | To ENKOS | ENKOS | TF | N |

| NAPRO 3C | | | | |
|--|-----------------------------|-------------------------|--------------------------|-------------------|
| See paragraph 1.4.2 specific remark: 6, 7. After departure climb to FL 070. | | | | |
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [NAPR3C] | To EEL on course 050° MAG | EEL [M050] | CF (EEL) | N |
| | To GG516 | GG516 | TF | N |
| | To GG527 | GG527 | TF | N |
| | To VEROR at or above FL 070 | VEROR [F070+] | TF | N |
| | To GG521 | GG521 | TF | N |
| | To GG522 at or above FL 110 | GG522 [F110+] | TF | N |
| | To TENLI | TENLI | TF | N |
| | To NAPRO | NAPRO | TF | N |

| NOVEN 3C | | | | |
|---|-----------------------------|-------------------------|--------------------------|-------------------|
| See paragraph 1.4.2 specific remark: 2, 6, 7. After departure climb to FL 070. | | | | |
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [NOVE3C] | To EEL on course 050° MAG | EEL [M050] | CF (EEL) | N |
| | To GG516 | GG516 | TF | N |
| | To GG527 | GG527 | TF | N |
| | To OSTIR at or above FL 070 | OSTIR [F070+] | TF | N |
| | To NOVEN | NOVEN | TF | N |
| | To ARTIP | ARTIP | TF | N |

| | | | | |
|-------------------------|--|--------------------------------|---------------------------------|--------------------------|
| OLWOF 1C | See paragraph 1.4.2 specific remark: 6, 7. After departure climb to FL 060. MNM required climb gradient 4.3% to FL 060 due to ATC restrictions. | | | |
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [OLWO1C] | To EEL on course 050° MAG | EEL [M050] | CF (EEL) | N |
| | To OLWOF at or above FL 060 | OLWOF [F060+] | TF | N |

| | | | | |
|-------------------------|--|--------------------------------|---------------------------------|--------------------------|
| PAM 4C | See paragraph 1.4.2 specific remark: 6, 7. After departure climb to FL 070. | | | |
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [PAM4C] | To EEL on course 050° MAG | EEL [M050] | CF (EEL) | N |
| | To GG516 | GG516 | TF | N |
| | To GG527 | GG527 | TF | N |
| | To OSTIR at or above FL 070 | OSTIR [F070+] | TF | N |
| | To GG528 | GG528 | TF | N |
| | To PAM | PAM | TF | N |

| | | | | |
|-------------------------|--|--------------------------------|---------------------------------|--------------------------|
| ROLDU 4C | See paragraph 1.4.2 specific remark: 3, 6, 7. After departure climb to maintain FL 050. | | | |
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [ROLD4C] | To EEL on course 050° MAG | EEL [M050] | CF (EEL) | N |
| | To GG516 | GG516 | TF | N |
| | To GG527 | GG527 | TF | N |
| | To OSTIR | OSTIR | TF | N |
| | To ROLDU at FL 050 | ROLDU [F050] | TF | N |

| | | | | |
|-------------------------|---|--------------------------------|---------------------------------|--------------------------|
| RUMER 4C | See paragraph 1.4.2 specific remark: 4, 6, 7. After departure climb to FL 070. | | | |
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [RUME4C] | To EEL on course 050° MAG | EEL [M050] | CF (EEL) | N |
| | To GG516 | GG516 | TF | N |
| | To GG527 | GG527 | TF | N |
| | To VEROR at or above FL 070 | VEROR [F070+] | TF | N |
| | To GG521 | GG521 | TF | N |
| | To TENLI | TENLI | TF | N |
| | To NIHOF | NIHOF | TF | N |
| | To BASGU | BASGU | TF | N |
| To RUMER | RUMER | TF | N | |

| | | | | |
|-------------------------|--|--------------------------------|---------------------------------|--------------------------|
| SONEB 4C | See paragraph 1.4.2 specific remark: 6, 7. After departure climb to FL 070. | | | |
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [SONE4C] | To EEL on course 050° MAG | EEL [M050] | CF (EEL) | N |
| | To GG516 | GG516 | TF | N |
| | To GG527 | GG527 | TF | N |
| | To VEROR at or above FL 070 | VEROR [F070+] | TF | N |
| | To GG521 | GG521 | TF | N |
| | To TENLI | TENLI | TF | N |
| To SONEB | SONEB | TF | N | |

| | | | | |
|-------------------------|--|--------------------------------|---------------------------------|--------------------------|
| SPY 4C | See paragraph 1.4.2 specific remark: 6, 7. After departure climb to FL 070. | | | |
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [SPY4C] | To EEL on course 050° MAG | EEL [M050] | CF (EEL) | N |
| | To GG516 | GG516 | TF | N |
| | To GG527 | GG527 | TF | N |
| | To OSTIR at or above FL 070 | OSTIR [F070+] | TF | N |
| | To SPY | SPY | TF | N |

| | | | | |
|-------------------------|---|--------------------------------|---------------------------------|--------------------------|
| TEBRO 4C | See paragraph 1.4.2 specific remark: 5, 6, 7. After departure climb to FL 070. | | | |
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [TEBR4C] | To EEL on course 050° MAG | EEL [M050] | CF (EEL) | N |
| | To GG516 | GG516 | TF | N |
| | To GG527 | GG527 | TF | N |
| | To VEROR at or above FL 070 | VEROR [F070+] | TF | N |
| | To GG521 | GG521 | TF | N |
| | To TENLI | TENLI | TF | N |
| | To TEBRO | TEBRO | TF | N |

| | | | | |
|-------------------------|--|--------------------------------|---------------------------------|--------------------------|
| TEMLU 2C | See paragraph 1.4.2 specific remark: 6, 7. After departure climb to FL 060. MNM required climb gradient 4.0% to FL 060 due to ATC restrictions. | | | |
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [TEML2C] | To EEL on course 050° MAG | EEL [M050] | CF (EEL) | N |
| | To TEMLU at or above FL 060 | TEMLU [F060+] | TF | N |

1.4.5 SIDs RWY 23

See chart AD 2.EHGG-SID-23.

| | | | | |
|---------------------------------|--|--------------------------------|---------------------------------|--------------------------|
| DOBAK 3D | See paragraph 1.4.2 specific remark: 7. After departure climb to FL 060. | | | |
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [DOBA3D] | To GG529 on course 230° MAG | GG529 [M230] | CF (EEL) | N |
| | To GG533 | GG533 | TF | N |
| | To GG536 | GG536 | TF | N |
| | To DOBAK at or above FL 060 | DOBAK [F060+] | TF | N |
| Conventional description | Lateral: Track 230° MAG. At 6.2 EEL turn left to 132° MAG. At EEL 189 turn left to 035° MAG to intercept EEL 079 to DOBAK. Vertical: Cross 20.1 EEL at or above FL 060. | | | |

| | | | | |
|-------------------------|---|--------------------------------|---------------------------------|--------------------------|
| ENKOS 2D | See paragraph 1.4.2 specific remark: 1, 6, 7. After departure climb to FL 070. MNM required climb gradient 7.5% to FL 070 due to ATC restrictions. | | | |
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [ENKO2D] | To GG529 on course 230° MAG | GG529 [M230] | CF (EEL) | N |
| | To GG530 | GG530 | TF | N |
| | To DIVPA at or above FL 070 | DIVPA [F070+] | TF | N |
| | To ENKOS | ENKOS | TF | N |

| | | | | |
|-------------------------|--|--------------------------------|---------------------------------|--------------------------|
| NAPRO 2D | See paragraph 1.4.2 specific remark: 6, 7. After departure climb to FL 070. MNM required climb gradient 8.0% to FL 070 due to ATC restrictions. | | | |
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [NAPR2D] | To GG529 on course 230° MAG | GG529 [M230] | CF (EEL) | N |
| | To GG527 | GG527 | TF | N |
| | To VEROR at or above FL 070 | VEROR [F070+] | TF | N |
| | To GG521 | GG521 | TF | N |
| | To GG522 at or above FL 110 | GG522 [F110+] | TF | N |
| | To TENLI | TENLI | TF | N |
| | To NAPRO | NAPRO | TF | N |

| | | | | |
|-------------------------|---|--------------------------------|---------------------------------|--------------------------|
| NOVEN 2D | See paragraph 1.4.2 specific remark: 2, 6, 7. After departure climb to FL 070. MNM required climb gradient 6.5% to FL 070 due to ATC restrictions. | | | |
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [NOVE2D] | To GG529 on course 230° MAG | GG529 [M230] | CF (EEL) | N |
| | To GG532 | GG532 | TF | N |
| | To OSTIR at or above FL 070 | OSTIR [F070+] | TF | N |
| | To NOVEN | NOVEN | TF | N |
| | To ARTIP | ARTIP | TF | N |

| | | | | |
|-------------------------|--|--------------------------------|---------------------------------|--------------------------|
| OLWOF 1D | See paragraph 1.4.2 specific remark: 6, 7. After departure climb to FL 060. | | | |
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [OLWO1D] | To GG529 on course 230° MAG | GG529 [M230] | CF (EEL) | N |
| | To GG533 | GG533 | TF | N |
| | To GG535 | GG535 | TF | N |
| | To EEL | EEL | TF | N |
| | To OLWOF at or above FL 060 | OLWOF [F060+] | TF | N |

| | | | | |
|-------------------------|--|--------------------------------|---------------------------------|--------------------------|
| PAM 3D | See paragraph 1.4.2 specific remark: 6, 7. After departure climb to FL 070. MNM required climb gradient 6.5% to FL 070 due to ATC restrictions. | | | |
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [PAM3D] | To GG529 on course 230° MAG | GG529 [M230] | CF (EEL) | N |
| | To GG532 | GG532 | TF | N |
| | To OSTIR at or above FL 070 | OSTIR [F070+] | TF | N |
| | To GG528 | GG528 | TF | N |
| | To PAM | PAM | TF | N |

| | | | | |
|-------------------------|--|--------------------------------|---------------------------------|--------------------------|
| ROLDU 2D | See paragraph 1.4.2 specific remark: 3, 6, 7. After departure climb to maintain FL 050. MNM required climb gradient 4.4% to FL 050 due to ATC restrictions. | | | |
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [ROLD2D] | To GG529 on course 230° MAG | GG529 [M230] | CF (EEL) | N |
| | To GG532 | GG532 | TF | N |
| | To OSTIR | OSTIR | TF | N |
| | To ROLDU at FL 050 | ROLDU [F050] | TF | N |

| | | | | |
|-------------------------|---|--------------------------------|---------------------------------|--------------------------|
| RUMER 3D | See paragraph 1.4.2 specific remark: 4, 6, 7. After departure climb to FL 070. MNM required climb gradient 8.0% to FL 070 due to ATC restrictions. | | | |
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [RUME3D] | To GG529 on course 230° MAG | GG529 [M230] | CF (EEL) | N |
| | To GG527 | GG527 | TF | N |
| | To VEROR at or above FL 070 | VEROR [F070+] | TF | N |
| | To GG521 | GG521 | TF | N |
| | To TENLI | TENLI | TF | N |
| | To NIHOF | NIHOF | TF | N |
| | To BASGU | BASGU | TF | N |
| | To RUMER | RUMER | TF | N |

| | | | | |
|-------------------------|--|--------------------------------|---------------------------------|--------------------------|
| SONEB 3D | See paragraph 1.4.2 specific remark: 6, 7. After departure climb to FL 070. MNM required climb gradient 8.0% to FL 070 due to ATC restrictions. | | | |
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [SONE3D] | To GG529 on course 230° MAG | GG529 [M230] | CF (EEL) | N |
| | To GG527 | GG527 | TF | N |
| | To VEROR at or above FL 070 | VEROR [F070+] | TF | N |
| | To GG521 | GG521 | TF | N |
| | To TENLI | TENLI | TF | N |
| | To SONEB | SONEB | TF | N |

| | | | | |
|-------------------------|--|--------------------------------|---------------------------------|--------------------------|
| SPY 2D | See paragraph 1.4.2 specific remark: 6, 7. After departure climb to FL 070. MNM required climb gradient 7.5% to FL 070 due to ATC restrictions. | | | |
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [SPY2D] | To GG529 on course 230° MAG | GG529 [M230] | CF (EEL) | N |
| | To GG530 | GG530 | TF | N |
| | To DIVPA at or above FL 070 | DIVPA [F070+] | TF | N |
| | To SPY | SPY | TF | N |

| | | | | |
|-------------------------|---|--------------------------------|---------------------------------|--------------------------|
| TEBRO 3D | See paragraph 1.4.2 specific remark: 5, 6, 7. After departure climb to FL 070. MNM required climb gradient 8.0% to FL 070 due to ATC restrictions. | | | |
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [TEBR3D] | To GG529 on course 230° MAG | GG529 [M230] | CF (EEL) | N |
| | To GG527 | GG527 | TF | N |
| | To VEROR at or above FL 070 | VEROR [F070+] | TF | N |
| | To GG521 | GG521 | TF | N |
| | To TENLI | TENLI | TF | N |
| | To TEBRO | TEBRO | TF | N |

| | | | | |
|-------------------------|--|--------------------------------|---------------------------------|--------------------------|
| TEMLU 3D | See paragraph 1.4.2 specific remark: 6, 7. After departure climb to FL 060. | | | |
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [TEML3D] | To GG529 on course 230° MAG | GG529 [M230] | CF (EEL) | N |
| | To GG533 | GG533 | TF | N |
| | To GG535 | GG535 | TF | N |
| | To EEL | EEL | TF | N |
| | To TEMLU at or above FL 060 | TEMLU [F060+] | TF | N |

2 INSTRUMENT APPROACH PROCEDURES

2.1 Introduction

The arrival, instrument approach and holding procedures are based on ICAO Annex 2 and on ICAO Documents 4444-ATM/501 (PANS-ATM), 7030 (SUPPS) and 8168-OPS/611 (PANS-OPS). During initial and intermediate approach to Eelde Airport radar services may be provided by Eelde APP.

Note: in the Eelde TMA VFR flights without ATC clearance are permitted. For instrument training procedures see EHGG AD 2.22 paragraph 4.

Note: to avoid noise disturbances pilots shall adhere to the IFR approach procedures as depicted.

2.2 Arrival

2.2.1 Arrival clearance

At, or before, entering the Eelde TMA, an arrival clearance will be issued by Amsterdam ACC containing:

- Standard arrival route¹⁾ or direct route.
- Main landing runway²⁾.
- Level instructions (normally descent instructions).
- Any other necessary instructions or information.

¹⁾ when cleared via a standard arrival route (STAR), the clearance limit is the initial approach fix (IAF).

²⁾ issued by ATIS (see EHGG AD 2.18) or ATC.

2.2.2 Transfer from ACC to APP

Transfer to Eelde APP will normally take place when the flight is entering the Eelde TMA.

2.2.3 STARS

See chart AD 2.EHGG-STAR.

| | | | | |
|-------------------------|---------------------------|--------------------------------|---------------------------------|--------------------------|
| DOBAK 2G | RNAV 1 required. | | | |
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [DOBA2G] | DOBAK | DOBAK | IF | N |
| | To HECTI | HECTI | TF | N |

| | | | | |
|-------------------------|---------------------------|--------------------------------|---------------------------------|--------------------------|
| GRONY 2G | RNAV 1 required. | | | |
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [GRON2G] | GRONY | GRONY | IF | N |
| | To EEL | EEL | TF | N |
| | To HECTI | HECTI | TF | N |

| KUBAT 2G | | | | |
|------------------|--------------------|-------------------------|--------------------------|-------------------|
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [KUBA2G] | KUBAT | KUBAT | IF | N |
| | To HECTI | HECTI | TF | N |

| OLWOF 1G | | | | |
|------------------|--------------------|-------------------------|--------------------------|-------------------|
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [OLWO1G] | OLWOF | OLWOF | IF | N |
| | To HECTI | HECTI | TF | N |

| OSTIR 2G | | | | |
|------------------|--------------------|-------------------------|--------------------------|-------------------|
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [OSTI2G] | OSTIR | OSTIR | IF | N |
| | To EEL | EEL | TF | N |
| | To HECTI | HECTI | TF | N |

| RKN 2G | | | | |
|------------------|--------------------|-------------------------|--------------------------|-------------------|
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [RKN2G] | RKN | RKN | IF | N |
| | To GG522 | GG522 | TF | N |
| | To GG521 | GG521 | TF | N |
| | To VEROR | VEROR | TF | N |
| | To EEL | EEL | TF | N |
| | To HECTI | HECTI | TF | N |

| TEMLU 2G | | | | |
|------------------|--------------------|-------------------------|--------------------------|-------------------|
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [TEML2G] | TEMLU | TEMLU | IF | N |
| | To HECTI | HECTI | TF | N |

| TENLI 2G | | | | |
|------------------|--------------------|-------------------------|--------------------------|-------------------|
| ARINC designator | Formal description | Abbreviated description | Expected path terminator | Fly-over required |
| [TENL2G] | TENLI | TENLI | IF | N |
| | To GG522 | GG522 | TF | N |
| | To GG521 | GG521 | TF | N |
| | To VEROR | VEROR | TF | N |
| | To EEL | EEL | TF | N |
| | To HECTI | HECTI | TF | N |

2.2.4 Holding

| Procedure IDENT | WPT IDENT | Fly-over required | Direction MAG | Time (MIN) | Turn direction | Altitude (FT / FL) | MAX Speed (KIAS) | NAV specification |
|-----------------|-----------|-------------------|---------------|------------|----------------|--------------------|------------------|-------------------|
| HECTI | HECTI | Y | 232 | 1 | R | 2000 | 220 | RNAV 1 |

2.3 Initial approach

2.3.1 General procedures

Holding and entry procedures and the calculations of the associated protected areas are in accordance with PANS-OPS Volume II, part 4. Since separation is based on the calculated areas, compliance with these in-flight procedures is essential.

2.3.2 Approach instructions

Approach instructions will contain as applicable:

- Additional instructions with respect to clearance limit, route and level.
- Approach procedure.
- Runway in use¹⁾.
- EAT, if holding procedures are applied.
- QNH.
- Transition level¹⁾.
- MET information¹⁾.

h. Runway condition¹⁾.

¹⁾ during the hours of ATIS broadcast (see EHGG AD 2.18), item may be omitted as far as it is included in the ATIS broadcast.

2.3.3 RNAV to ILS approach procedure

An RNAV to ILS approach procedure can be initiated by ATC in order to reduce noise nuisance, fuel consumption, and to provide flexible and efficient ATC dispatch.

2.3.3.1 General

The RNAV to ILS approach procedure in the Eelde TMA is developed in accordance with ICAO PANS-OPS criteria with the following safeguards:

- The RNAV section of the inbound route is situated above MSA/MFA/MVA.
- The RNAV part is complete on entering the intermediate segment in which ILS-LOC interception takes place.
- If radar service is available the operations will be radar monitored by ATC.

2.3.3.2 Clearances and constraints

On initiative of ATC, pilots may be instructed to fly an RNAV approach procedure preceding the ILS instrument approach to RWY 23.

- This RNAV to ILS approach procedure starts at waypoint TOLKO.
- After receiving a clearance for the RNAV to ILS approach procedure the pilot is free to optimise the descent and speed within the constraints as laid down in the procedure description, with the objective to establish a low noise continuous descent approach.
- The clearance for the RNAV to ILS approach procedure includes clearance to execute the subsequent ILS instrument approach procedure.

Further details are published in paragraph 2.6.2 and on the relevant instrument approach chart AD 2.EHGG-IAC-23.2.

2.3.3.3 Aircraft requirements

For the use of the RNAV to ILS approach procedure the following requirements are applicable:

- The aircraft must be equipped with an FMS comprising a pre-loaded navigation database and a navigation display.
- The aircraft FMS must use GNSS as the primary navigation sensor.
- The operator must be approved for RNAV 1 operations by their state of registry.

2.3.3.4 Non-RNAV equipped aircraft

Pilots of aircraft that are not equipped or approved for TMA RNAV procedures, i.e. not meeting the requirements in paragraph 2.3.3.3, shall inform ATC by use of the phrase "UNABLE (designator) APPROACH DUE RNAV TYPE" if instructed to fly an RNAV approach procedure. These aircraft will be guided by vectors or will be rerouted via conventional navigation aids.

2.4 Intermediate and final approach

2.4.1 Final approach procedures

Note: an aircraft vectored to intercept final approach shall report to ATC when established on the final approach track (ICAO Doc 4444-ATM/501 (PANS-ATM) chapter 8.9.4.1).

2.4.1.1 General

In principle the final approach will be conducted on main landing RWY 23. An alternate runway can be offered in case of excessive crosswind or unserviceability of the ILS.

2.4.1.2 Instrument approaches

ILS approaches can be made to RWY 23 only. RNP approaches to LPV and LNAV minima are available for both RWY 05 and RWY 23. Instrument approaches to RWY 05 and RWY 23 can also be made with the assistance of VOR.

For the use of an RNP approach it is required that the operator holds an RNP APCH operations approval issued by their State of registry. The approval should be compliant with EASA CS-ACNS or equivalent.

2.4.1.3 Visual approach

To minimise noise nuisance, aircraft executing a visual approach shall intercept the final approach leg at an altitude of at least 1000 FT AMSL, unless residential areas can be avoided.

2.4.1.4 Circling approach

For each runway at Eelde Airport a circling approach may be allowed or offered. For OCA (OCH) see relevant instrument approach chart AD 2.EHGG-IAC-xx.x.

2.4.2 Missed approach procedure

2.4.2.1 General

All turns shall be the shortest turn and in case of a 180° turn that turn shall be to the left, unless otherwise specified below or instructed by ATC.

2.4.2.2 Missed approach procedure during instrument approach

See relevant instrument approach chart AD 2.EHGG-IAC-xx.x.

2.4.2.3 Missed approach procedure during visual approach

Turn to the intended landing runway, intercept the runway track MAG of that runway while:

- a. When visual:
 - remain visual and inform ATC, or
- b. When unable to remain visual:
 - climb to 2000 FT AMSL and inform ATC.

2.4.2.4 Missed approach while circling to land

Note: This procedure is different from ICAO Doc 8168 Volume I (PANS-OPS).

- Inform ATC immediately.
- Start climbing and complete the turn to the intended landing runway (see figure).
- Intercept the MAG track of that runway while climbing to 2000 FT AMSL.



Note: the indicated situation is applicable for an initial instrument approach to RWY 05. Circling approaches shall be executed south-east of the AD, unless otherwise instructed by ATC.

2.5 Communication failure**2.5.1 General**

The pilot of an IFR flight shall follow the general procedures for IFR flights (see ENR 1.3 paragraph "Communication Failure"). In addition, for arriving flights, the following communication failure procedures apply.

2.5.2 Inbound clearance not received

- Proceed according the current flight plan route to the holding fix HECTI. Non-RNAV traffic proceed to HECTI via DCT EEL and EEL 052.
- Maintain the last cleared and acknowledged flight level.
- After arrival over HECTI, intercept the holding pattern.
- Commence descent to 2000 FT AMSL at or as near as possible to the ETO over HECTI.
- After reaching 2000 FT AMSL leave HECTI and carry out an instrument approach procedure to the most convenient runway (see pages AD 2.EHGG-IAC-xx.x).

2.5.3 Inbound clearance received**2.5.3.1 Traffic via standard arrival route, outside standard arrival route or vectored to final approach**

- Proceed according the current flight plan route to the holding fix HECTI or OMFAR, if specified in the inbound clearance. Non-RNAV traffic proceed to HECTI via DCT EEL and EEL 052 and OMFAR via DCT EEL and EEL 229.
- Maintain the last cleared and acknowledged flight level.
- After arrival over the fix, intercept the holding pattern.
- Commence descent to 2000 FT AMSL at the EAT last received and acknowledged.
- When no EAT has been received and acknowledged, commence descent to 2000 FT AMSL at or as near as possible to the ETO over holding fix.
- After reaching 2000 FT AMSL leave the holding fix and carry out an instrument approach procedure to the appropriate runway (see AD 2.EHGG-IAC-xx.x).

2.5.3.2 Traffic inbound TOLKO or on RNAV to ILS approach

- Traffic inbound TOLKO or with clearance for the RNAV approach via TOLKO, shall proceed to TOLKO and execute the RNAV to ILS approach procedure.

2.5.3.3 Traffic inbound AMREG, IDAKA, SIPLO, TUVOX, VEXAR, XOMBI or on RNP approach

Traffic inbound an IAF or IF, or with clearance for the RNP approach to RWY 05 or RWY 23, shall proceed to this IAF or IF and execute the RNP approach procedure in accordance with the applicable instrument approach chart (see AD 2.EHGG-IAC-05.1 or AD 2.EHGG-IAC-23.3).

2.5.4 Missed approach procedure in case of communication failure**2.5.4.1 General**

All turns shall be the shortest turn and in case of a 180° turn that turn shall be to the left, unless otherwise specified below or instructed by ATC.

2.5.4.2 Missed approach procedure during instrument approach

See relevant instrument approach chart AD 2.EHGG-IAC-xx.x.

2.5.4.3 Missed approach procedure during visual approach

Turn to the intended landing runway, intercept the runway track MAG of that runway while:

- a. When visual:
 - remain visual and execute another circuit for that runway, or
- b. When unable to remain visual:
 - climb to 3000 FT AMSL;
 - in case a visual approach was made to RWY 05: when reaching 2000 FT AMSL turn left to intercept EEL 229 and proceed to OMFAR, or
 - in case a visual approach was made to RWY 23: when reaching 2000 FT AMSL turn right to EEL. After passing EEL proceed to HECTI via EEL 052, and
 - after arriving over the fix for the approach runway (OMFAR for RWY 05, HECTI for RWY 23) hold or descend to 2000 FT AMSL in an outbound turn, intercept final approach and execute the instrument approach procedure as depicted on the relevant approach chart AD 2.EHGG-IAC-xx.x.

2.5.4.4 Missed approach while circling to land

Note: This procedure is different from ICAO Doc 8168 Volume I (PANS-OPS).

- Start climbing and complete the turn to the intended landing runway (see figure).
- Intercept the MAG track of that runway while climbing to 3000 FT AMSL.
- In case a circling was made to RWY 05: when reaching 3000 FT AMSL turn left to intercept EEL 229 and proceed to OMFAR, hold or descend to 2000 FT AMSL in an outbound turn, intercept final approach and execute the instrument approach procedure again.
- In case a circling was made to RWY 23: when reaching 3000 FT AMSL turn right to EEL. After passing EEL proceed to HECTI via EEL 052, hold or descend to 2000 FT AMSL in an outbound turn, intercept final approach and execute the instrument approach procedure again.



Note: the indicated situation is applicable for an initial instrument approach to RWY 05. Circling approaches shall be executed south-east of the AD, unless otherwise instructed by ATC.

2.6 Instrument approach descriptions

2.6.1 General remarks

- Between the IAF and interception of final approach navigation is based on vectors provided by ATC, except in case of an RNAV procedure.
- The ILS RWY 23 is not equipped with markers.

2.6.2 RNAV procedures

Note: see also EHGG AD 2.22 paragraph 2.3.3.

Navigation in the initial and intermediate approach segment is primarily based on vectors provided by ATC. However, an RNAV approach procedure to RWY 23 is available. The use of the RNAV approach procedure is at ATC discretion. The procedure is only assigned in case the ILS is available. The vertical profile of the RNAV approach procedures is designed to enable a low noise continuous descent approach.

The ATC instruction "Cleared for TOLKO 2G approach RWY 23" is clearance to fly the published route and includes the clearance for the ILS instrument approach procedure to RWY 23. In this case the pilot is free to optimise the descent and speed within the constraints as laid down in the procedure description, with the objective to establish a low noise continuous descent approach.

2.6.3 Instrument approach segments

Note: recommended navaid for selection of MAG station declination only.

Note: for positions of GG-waypoints see relevant instrument approach charts.

2.6.3.1 RWY 05

2.6.3.1.1 RNP approach RWY 05

| Serial number | Path descriptor | WPT IDENT | Fly-over | Course/Track °MAG / (°T) | Recom. navaid | DIST (NM) | Turn | Altitude (FT / FL) | Speed (KIAS) | VPA (°) / TCH (FT) | NAV specification |
|---------------|-----------------|-----------|----------|--------------------------|---------------|-----------|------|--------------------|--------------|--------------------|-------------------|
| 001 | IF | AMREG | - | - | - | - | - | + 3000 | - 220 | - | RNAV 1 |
| 002 | TF | TUVOX | - | 140 / (141.8) | - | 4.0 | - | + 2000 | - 190 | - | RNAV 1 |
| 003 | IF | VEXAR | - | - | - | - | - | + 3000 | - 220 | - | RNAV 1 |
| 004 | TF | TUVOX | - | 320 / (321.8) | - | 4.0 | - | + 2000 | - 190 | - | RNAV 1 |
| 005 | IF | TUVOX | - | - | - | - | - | + 2000 | - 190 | - | RNAV 1 |
| 006 | TF | GG509 | - | 050 / (051.8) | - | 4.0 | - | @ 2000 | - | - | RNP APCH |
| 007 | TF | THR 05 | Y | 050 / (051.7) | - | 6.1 | - | - | - | -3.00 / 50 | RNP APCH |
| 008 | TF | GG751 | - | 050 / (051.8) | - | 12.5 | - | @ 2000 | - | - | RNP APCH |

FAS data block RWY 05

Input Data

| Parameters | Values |
|-------------------------------------|---------------|
| Operation Type | 0 |
| SBAS Provider | 1 |
| Airport Identifier | EHGG |
| Runway | 05 |
| Runway Direction | 0 |
| Approach Performance Designator | 0 |
| Route Indicator | |
| Reference Path Data Selector | 0 |
| Reference Path Identifier | E05A |
| LTP/FTP Latitude | 530639.9020N |
| LTP/FTP Longitude | 0063339.2330E |
| LTP/FTP Ellipsoidal Height (metres) | 45.0 |
| FPAP Latitude | 530729.8410N |
| Delta FPAP Latitude (seconds) | 49.9390 |
| FPAP Longitude | 0063524.9590E |
| Delta FPAP Longitude (seconds) | 105.7260 |
| Threshold Crossing Height | 50.0 |
| TCH Units Selector | 0 |
| Glidepath Angle (degrees) | 3.00 |
| Course Width (metres) | 105.00 |
| Length Offset (metres) | 0 |
| HAL (metres) | 40.0 |
| VAL (metres) | 50.0 |

Output Data

| | |
|----------------------|--|
| Data Block | 10 07 07 08 05 05 00 00 01 35 30 05 3C F5 CA 16 42 CD D0 02 C2 15 26 86 01 FC 39 03 F4 01 2C 01 64 00 CB FA 7A E6 BF 0E |
| Calculated CRC Value | 7AE6BF0E |

Additional Data

| Parameters | Values |
|-------------------------------------|--------|
| ICAO Code | EH |
| LTP/FTP Orthometric Height (metres) | 4.0 |

2.6.3.2 RWY 23

2.6.3.2.1 ILS approach RWY 23

| Serial number | Path descriptor | WPT IDENT | Fly-over | Course/Track °MAG / (°T) | Recom. navaid | DIST (NM) | Turn | Altitude (FT / FL) | Speed (KIAS) | VPA (°) / TCH (FT) | NAV specification |
|---------------|-----------------|-----------|----------|--------------------------|---------------|-----------|------|--------------------|--------------|--------------------|-------------------|
| 001 | IF | XOMBI | - | - | - | - | - | + 3000 | - 220 | - | RNAV 1 |
| 002 | TF | SIPLO | - | 140 / (141.9) | - | 4.0 | - | - | - 190 | - | RNAV 1 |
| 003 | CF | GG512 | - | 230 / (231.8) | GRO | 4.0 | - | + 2000 | - | - | RNAV 1 |
| 004 | IF | IDAKA | - | - | - | - | - | + 3000 | - 220 | - | RNAV 1 |
| 005 | TF | SIPLO | - | 320 / (321.9) | - | 4.0 | - | - | - 190 | - | RNAV 1 |
| 006 | CF | GG512 | - | 230 / (231.8) | GRO | 4.0 | - | + 2000 | - | - | RNAV 1 |
| 007 | IF | HECTI | - | - | - | - | - | - | - | - | - |
| 008 | CF | GG512 | - | 230 / (232.0) | GRO | 2.8 | - | + 2000 | - | - | - |
| 009 | CF | THR 23 | Y | 230 / (232.0) | GRO | 6.1 | - | - | - | -3.00 / 50 | - |
| 010 | FM | THR 23 | - | 230 / (232.0) | GRO | - | - | @ 2000 | - | - | - |

2.6.3.2.2 RNP approach RWY 23

| Serial number | Path descriptor | WPT IDENT | Fly-over | Course/Track °MAG / (°T) | Recom. navaid | DIST (NM) | Turn | Altitude (FT / FL) | Speed (KIAS) | VPA (°) / TCH (FT) | NAV specification |
|---------------|-----------------|-----------|----------|--------------------------|---------------|-----------|------|--------------------|--------------|--------------------|-------------------|
| 001 | IF | XOMBI | - | - | - | - | - | + 3000 | - 220 | - | RNAV 1 |
| 002 | TF | SIPLO | - | 140 / (141.9) | - | 4.0 | - | + 2000 | - 190 | - | RNAV 1 |
| 003 | IF | IDAKA | - | - | - | - | - | + 3000 | - 220 | - | RNAV 1 |
| 004 | TF | SIPLO | - | 320 / (321.9) | - | 4.0 | - | + 2000 | - 190 | - | RNAV 1 |
| 005 | IF | SIPLO | - | - | - | - | - | + 2000 | - 190 | - | RNAV 1 |
| 006 | TF | GG512 | - | 230 / (231.8) | - | 4.0 | - | @ 2000 | - | - | RNP APCH |
| 007 | TF | THR 23 | Y | 230 / (232.0) | - | 6.1 | - | - | - | -3.00 / 50 | RNP APCH |
| 008 | TF | GG752 | - | 230 / (231.9) | - | 12.5 | - | @ 2000 | - | - | RNP APCH |

FAS data block RWY 23**Input Data**

| Parameters | Values |
|-------------------------------------|---------------|
| Operation Type | 0 |
| SBAS Provider | 1 |
| Airport Identifier | EHGG |
| Runway | 23 |
| Runway Direction | 0 |
| Approach Performance Designator | 0 |
| Route Indicator | |
| Reference Path Data Selector | 0 |
| Reference Path Identifier | E23A |
| LTP/FTP Latitude | 530729.8410N |
| LTP/FTP Longitude | 0063524.9590E |
| LTP/FTP Ellipsoidal Height (metres) | 45.0 |
| FPAP Latitude | 530639.9020N |
| Delta FPAP Latitude (seconds) | -49.9390 |
| FPAP Longitude | 0063339.2330E |
| Delta FPAP Longitude (seconds) | -105.7260 |
| Threshold Crossing Height | 50.0 |
| TCH Units Selector | 0 |
| Glidepath Angle (degrees) | 3.00 |
| Course Width (metres) | 105.00 |
| Length Offset (metres) | 0 |
| HAL (metres) | 40.0 |
| VAL (metres) | 50.0 |

Output Data

| | |
|----------------------|--|
| Data Block | 10 07 07 08 05 17 00 00 01 33 32 05 62 7B CC 16 3E 07 D4 02 C2 15 DA 79 FE 04 C6 FC F4 01 2C 01 64 00 C8 FA 7D 28 69 C8 |
| Calculated CRC Value | 7D2869C8 |

| Additional Data | |
|-------------------------------------|--------|
| Parameters | Values |
| ICAO Code | EH |
| LTP/FTP Orthometric Height (metres) | 3.8 |

2.6.3.2.3 TOLKO 2G approach RWY 23

| Serial number | Path descriptor | WPT IDENT | Fly-over | Course/Track °MAG / (°T) | Recom. navaid | DIST (NM) | Turn | Altitude (FT / FL) | Speed (KIAS) | VPA (°) / TCH (FT) | NAV specification |
|---------------|-----------------|-----------|----------|--------------------------|---------------|-----------|------|--------------------|--------------|--------------------|-------------------|
| 001 | IF | TOLKO | - | - | - | - | - | + FL 080 | - 250 | - | - |
| 002 | TF | GETSI | - | 031 / (033.7) | - | 8.5 | - | - | - | - | RNAV 1 |

| Serial number | Path descriptor | WPT IDENT | Fly-over | Course/Track °MAG / (°T) | Recom. navaid | DIST (NM) | Turn | Altitude (FT / FL) | Speed (KIAS) | VPA (°) / TCH (FT) | NAV specification |
|---------------|-----------------|-----------|----------|--------------------------|---------------|-----------|------|--------------------|--------------|--------------------|-------------------|
| 003 | TF | GG740 | - | 062 / (063.9) | - | 9.5 | - | + 3500 | - 220 | - | RNAV 1 |
| 004 | TF | GG741 | - | 140 / (142.0) | - | 4.0 | - | - | - | - | RNAV 1 |
| 005 | TF | GG742 | - | 200 / (202.0) | - | 3.0 | - | + 2000 | - | - | RNAV 1 |
| 006 | CF | GG512 | - | 230 / (232.0) | GRO | 2.0 | - | @ 2000 | - | - | RNAV 1 |
| 007 | CF | THR 23 | Y | 230 / (232.0) | GRO | 6.1 | - | - | - | - 3.00 / 50 | - |
| 008 | FM | THR 23 | - | 230 / (232.0) | EEL | - | - | @ 2000 | - | - | - |

3 LOW VISIBILITY PROCEDURES

During periods of low visibility the overall ATC capacity is reduced. To guarantee aircraft safety and optimal use of ATC capacity, Groningen Airport Eelde uses ATC low visibility procedures. These procedures are based on ICAO DOC 9476/1 (Surface Movement Guidance and Control Manual) and ECAC DOC 17 (Ground operations in limited visibility conditions).

The ATC low visibility procedures are categorised in four phases (A, B, C, and D), that are based on visibility or RVR values and ceiling. The ATC low visibility procedures become effective when the general visibility is equal to or below 2000 M, or the lowest RVR is equal to or below 1500 M.

| Phase | Conditions | Procedure |
|-------|--|---|
| A | 550 M <= VIS <= 2000 M or lowest RVR <= 1500 M | No conditional clearances. No intersection departures. When RVR drops below 800 M no take-off clearance will be given. |
| B | Lowest RVR < 550 M and/or ceiling < 200 FT | ATC may give permission to taxi if no other aircraft is moving or expected to be moving in the manoeuvring area, unless both aircraft are continuously visible to TWR at all times. |
| C | Lowest RVR < 350 M | No landings allowed. |
| D | Lowest RVR < 200 M | Taxiing only allowed under guidance of a follow-me car. |

4 TRAINING PROCEDURES

4.1 Introduction

4.1.1 General

To accommodate the conduct and to increase the amount of training flights to be handled by ATC, training areas have been established in the Eelde TMA. The upper boundary of the Eelde TMA can temporarily be changed to enlarge training areas. Assignment of the areas depends on circumstances as nature of training, aircraft performance, traffic load, pilots request etc.

Note: training and test flights including go-arounds PPR from airport manager.

Note: IFR-training flights outside operational hours Eelde Approach: PPR from ATC, TEL: +31 (0)50 309 9229.

Note: to avoid noise disturbances pilots shall adhere to the IFR and VFR approach and departure procedures and traffic circuits as depicted.

4.1.2 Training areas

Training areas are as follows:

- a. *Eelde TMA area*
Within the lateral boundaries of the Eelde TMA.
- b. *Training Area East*
532308.91N 0063314.06E -
along boundary of Eelde TMA -
525911.01N 0070530.46E -
532308.91N 0063314.06E.
- c. *Training Area West*
525516.81N 0063236.77E -
along boundary of Eelde TMA -
531224.44N 0060933.07E -
525516.81N 0063236.77E.

4.2 Communication failure

4.2.1 General

The pilot of an IFR flight shall follow the general procedures for IFR flights (see ENR 1.3 paragraph "Communication Failure"). The instrument approach procedures from HECTI or OMFAR may be followed by a visual or circling approach to the main landing runway or if not acceptable to the most convenient runway.

4.2.2 In the Eelde TMA

In addition to the general procedures, the pilot shall:

- proceed to the fix of the main landing runway (HECTI for RWY 23, OMFAR for RWY 05).
- maintain the last cleared and acknowledged flight level or altitude.
- after arrival over the fix, intercept the holding pattern.
- commence descent to 2000 FT AMSL at the EAT last received and acknowledged.
- after reaching 2000 FT AMSL leave the holding fix and carry out an instrument approach procedure to the appropriate runway (see AD 2.EHGG-IAC-xx.x).

4.2.3 In Training Area East

In addition to the general procedures, the pilot shall:

- proceed to the holding fix HECTI.
- maintain the last cleared and acknowledged flight level or altitude.
- after arrival over HECTI, intercept the holding pattern.
- commence descent to 2000 FT AMSL at the EAT last received and acknowledged.
- after reaching 2000 FT AMSL leave HECTI and carry out an instrument approach procedure to RWY 23 (see AD 2.EHGG-IAC-xx.x).

4.2.4 In Training Area West

In addition to the general procedures, the pilot shall:

- proceed to the holding fix OMFAR.
- maintain the last cleared and acknowledged flight level or altitude.
- after arrival over OMFAR, intercept the holding pattern.
- commence descent to 2000 FT AMSL at the EAT last received and acknowledged.
- after reaching 2000 FT AMSL leave OMFAR and carry out an instrument approach procedure to RWY 05 (see AD 2.EHGG-IAC-xx.x).

4.2.5 Traffic vectored to final approach

In addition to the general procedures, the pilot shall:

- maintain the last cleared and acknowledged level or altitude.
- proceed to the fix of the assigned landing runway (HECTI for RWY 23 and OMFAR for RWY 05).
- after arrival over the fix, descend to 2000 FT AMSL, if applicable.
- after reaching 2000 FT, leave the fix and carry out an instrument approach procedure to the appropriate runway (see AD 2.EHGG-IAC-xx.x).

5 VFR FLIGHT PROCEDURES AND REGULATIONS

Note: for visual approach chart and visual traffic circuits see AD 2.EHGG-VAC.1 and AD 2.EHGG-VAC.2.

5.1 General

1. All VFR flights within the Eelde CTR shall submit a flight plan (see ENR 1.10).
2. Eelde CTR has been designated as controlled airspace (class C).
3. Flights within the Eelde CTR should maintain two-way radio communication with Eelde TWR, unless they have been exempted by ATS Eelde. This exemption will only be granted in extraordinary circumstances.
4. Prior permission is required from Eelde TWR for all VFR operations in the CTR.
5. All aircraft performing VFR flights in the Eelde CTR must show their landing lights.
6. All VFR flights conducted within the Eelde CTR shall be executed at or below 1500 FT AMSL.
7. VFR flights shall be carried out via the arrival/departure routes unless otherwise instructed by ATC or on pilots request.
8. To avoid noise disturbances pilots shall adhere to the VFR approach and departure procedures and traffic circuits as depicted.
9. Built-up areas shall be avoided as much as possible.
10. Marked areas shall be avoided.
11. IFR area: VFR flights within the CTR may be instructed by ATC to stay clear of this area. The IFR area is indicated on the chart (see AD 2.EHGG-VAC.1).
12. Pilots are urgently requested not to execute VFR flights in the vicinity of the published instrument arrival and departure routes within the Eelde TMA, which are published in EHGG AD 2.24.
13. Training and test flights including missed approaches PPR from airport manager.
14. VFR reporting points positions:

| VFR reporting point | Position |
|---------------------|------------------|
| NOVEMBER | 531003N 0063523E |
| PAPA | 530927N 0063213E |
| ROME0 | 530034N 0063608E |
| TANGO | 530446N 0063745E |
| UNIFORM | 530108N 0063248E |
| VICTOR | 530449N 0063610E |
| X-RAY | 531235N 0062736E |
| YANKEE | 531414N 0063905E |

Note: all VFR flights transiting the Eelde TMA are urgently requested to contact Eelde APP; MON-FRI on 120.305 and SAT-SUN on 118.705.

5.2 Visual departure procedures

1. Pilots must have obtained start-up clearance from ATC before starting engines. A request for start-up shall be made to Eelde Delivery, clearance for start-up will either be issued immediately or at a specified time depending on traffic. A request for start-up includes:
 - aircraft identification and type (e.g. PHJUR Cessna 172).
 - position (e.g. in front of tower).
 - flight rules (e.g. VFR).
 - destination (e.g. Rotterdam).
 - ATIS information (e.g. information E).
 - request start-up (request start-up).
2. Taxiing on taxiways: pilots of aircraft intending to taxi on the taxiways shall obtain a clearance from Eelde TWR.

3. Unless otherwise instructed or approved climb after take-off to 1000 FT AMSL.
4. Make the shortest turn to join the instructed departure at or before PAPA or VICTOR.
5. Cross PAPA or VICTOR at 1000 FT AMSL and maintain 1000 FT AMSL until outside CTR.
6. Report PAPA and VICTOR on ATC request.
7. Report leaving the CTR over the designated reporting point.

Note: when joining UNIFORM Departure, the railway Groningen/Assen via Haren, Glimmen and Tynaarlo shall not be crossed (see also Caution in chart AD 2.EHGG-VAC.1).

5.3 Visual approach procedures

1. Contact Eelde TWR 2 minutes before reaching the CTR boundary for permission to enter the CTR.
2. Unless otherwise instructed, enter the CTR at 1500 FT AMSL and maintain.
3. Descend to circuit altitude and join the circuit as instructed by ATC.

Note: unless otherwise instructed the circuit altitude is 1000 FT for light propeller aircraft (no turboprop) with MAX AUW of 6000 KG, and 1500 FT for jet, turboprop and other aircraft (with MAX AUW > 6000 KG).

4. In case of missed approach climb straight ahead to MAX 1000 FT AMSL and inform ATC.

5.4 VFR traffic circuits

5.4.1 General

1. Report downwind and intentions (e.g. 'touch-and-go', 'full-stop' or 'practice go-around').
2. ATC will issue a sequence number and traffic to follow. Do not turn base before the traffic to follow or before receiving a sequence number.
3. After receiving your sequence number, turn base and final at own discretion.
4. Reporting final is compulsory when no landing clearance is received.
5. In case of missed approach: inform ATC immediately while climbing to the published circuit altitude.

Note: the circuit may be extended at ATC discretion and/or altitudes of 500 FT or 1500 FT AMSL may be issued.

5.4.2 RWY 05

For light propeller aircraft (no turboprop, MAX AUW 6000 KG):

- Righthand circuit at 1000 FT AMSL.
- Aim for landing abeam or beyond intersection S3, unless an extended downwind is flown.
- Pilots should not vacate via TWY C.

For other aircraft:

- Righthand circuit at 1500 FT AMSL.
- At 500 FT AMSL turn left to track 048° MAG.
- When abeam orange circuitmarker turn right to join the circuit.

Traffic inbound via Y and N should expect a lefthand circuit.

5.4.3 RWY 23

For light propeller aircraft (no turboprop, MAX AUW 6000 KG):

- Lefthand circuit at 1000 FT AMSL.

For other aircraft:

- Lefthand circuit at 1500 FT AMSL.
- Turn to final beyond the orange circuitmarker.

Traffic shall not execute a threshold baseleg for the righthand circuit.

5.5 Communication failure procedures

5.5.1 General

Select SSR code 7600.

5.5.2 VFR outbound

In case of communication failure adhere to the departure instructions. If the departure instructions contain a clearance limit in the CTR, act in accordance with paragraph 5.5.4.

5.5.3 VFR inbound

5.5.3.1 Via ROMEO Arrival

- a. In case of communication failure before joining the circuit leave the CTR according to the UNIFORM Departure and divert to an appropriate aerodrome.
- b. In case of communication failure over or after a position from where to join the circuit (this is past the compulsory reporting point TANGO or OVERHEAD) execute a circuit for the last received and acknowledged runway as short as practicable. Make a full stop landing and vacate as soon as possible. In case of go-around execute a similar circuit (be aware of the fact that your flightpath could interfere with the flightpath of other aerodrome traffic).

5.5.3.2 Via YANKEE Arrival

- a. In case of communication failure before joining the circuit leave the CTR according to the X-RAY Departure and divert to an appropriate aerodrome.
- b. In case of communication failure over or after a position from where to join the circuit (this is past compulsory reporting point NOVEMBER or OVERHEAD) act in accordance with paragraph 5.5.3.1 item b.

5.5.3.3 Via a different route to the field

- a. In case of communication failure before joining the circuit act in accordance with paragraph 5.5.4.
- b. In case of communication failure over or after a position from where to join the circuit act in accordance with paragraph 5.5.3.1 item b.

5.5.4 VFR crossing the CTR

In case of communication failure leave the CTR via the shortest route, maintain altitude until outside the CTR, do not cross runway centre line 05/23 or IFR area and proceed to an appropriate aerodrome.

EHGG AD 2.23 ADDITIONAL INFORMATION

1 CAUTIONS AND ADDITIONAL INFORMATION

1. For details of the low flying areas see ENR 5.1 and ENR 5.2.
2. Parachute jumping may take place as stated in ENR 5.5 and/or as promulgated by NOTAM.
3. When approaching RWY 23 possible sun reflection and glare caused by solar panels right of the runway; especially in the period MAR-APR and SEP-OCT during the evening.
4. Pilots shall be aware that in the vicinity of the aerodrome ATC gives priority to:
 - aircraft in state of an emergency;
 - hospital and police aircraft with the status priority or scramble;
 - aircraft engaged in SAR operations.
5. Grass cutting will take place at irregular times.

2 RUNWAY TURNPAD

A runway turnpad is situated at the end of RWY 23. This turnpad shall be used by aircraft with wingspan > 24 M in case of:

- full-length take-off RWY 05;
- landing RWY 23 and missing exit TWY C;
- rejected take-off RWY 23 and missing exit TWY C.

3 GROUND HANDLING COMPANIES

- **Full service handling agent** (all ACFT types). Handling passengers, cargo and general aviation; cargo facilities AVBL O/R.
Post: Groningen Airport Eelde Handling
Tel: +31 (0)50 309 5433
Email: dispatch@gae.nl
SITA: GRQAPXH
Note: Groningen Handling 131.580

- ← • **Fixed base operator** (handling general aviation aircraft MAX wingspan 24 M):
 - ← Post: Ground Ace
 - Tel: +31 (0)50 308 0075
 - Fax: +31 (0)50 308 0076
 - Email: info@groundace.eu

EHGG AD 2.24 CHARTS RELATED TO AN AERODROME

| Type of chart | Page |
|--|------------------------|
| Aerodrome chart | AD 2.EHGG-ADC |
| Aircraft parking / docking chart | AD 2.EHGG-APDC |
| Aerodrome obstacle chart RWY 05/23 | AD 2.EHGG-AOC-05-23 |
| Standard instrument departure chart | AD 2.EHGG-SID-OVERVIEW |
| Standard instrument departure chart RWY 05 | AD 2.EHGG-SID-05 |
| Standard instrument departure chart RWY 23 | AD 2.EHGG-SID-23 |
| Standard arrival chart | AD 2.EHGG-STAR |
| ATC surveillance minimum altitude chart | AD 2.EHGG-SMAC |
| Instrument approach chart RNP RWY 05 | AD 2.EHGG-IAC-05.1 |
| Instrument approach chart VOR RWY 05 | AD 2.EHGG-IAC-05.2 |
| Instrument approach chart ILS or LOC RWY 23 | AD 2.EHGG-IAC-23.1 |
| Instrument approach chart TOLKO 2G approach ILS RWY 23 | AD 2.EHGG-IAC-23.2 |
| Instrument approach chart RNP RWY 23 | AD 2.EHGG-IAC-23.3 |
| Instrument approach chart VOR RWY 23 | AD 2.EHGG-IAC-23.4 |
| Visual approach chart/VFR procedures | AD 2.EHGG-VAC.1 |
| Visual approach chart VFR traffic circuits RWY 05/23 | AD 2.EHGG-VAC.2 |

| PHYSICAL CHARACTERISTICS | | | | |
|--------------------------|-----------|------------------|---------|---------------------|
| RWY | DIRECTION | BEARING STRENGTH | SURFACE | THR COORDINATES |
| 05 | 050° | PCN 62/F/B/W/T | ASPH | 530640N 0063339E |
| 23 | 230° | PCN 62/F/B/W/T | ASPH | 530730N 0063525E |

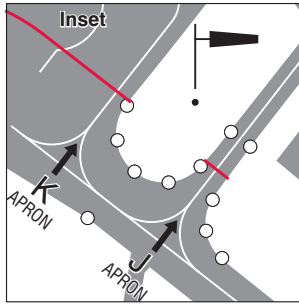
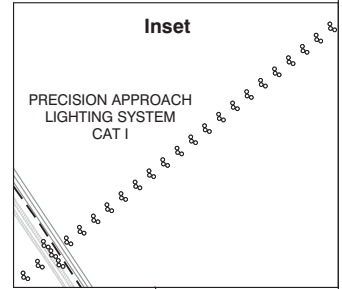
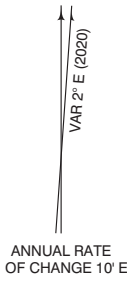
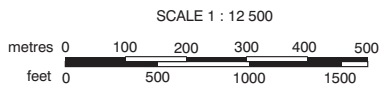
AD ELEV 18

TWR 118.705 Eelde
119.705 Tower
121.705 Eelde Delivery
ATIS 133.555 Eelde Information

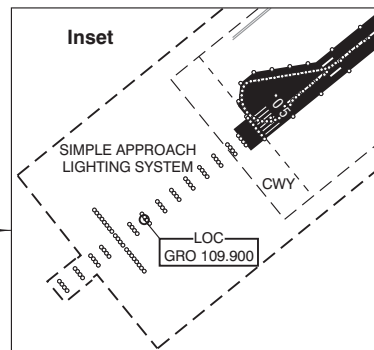
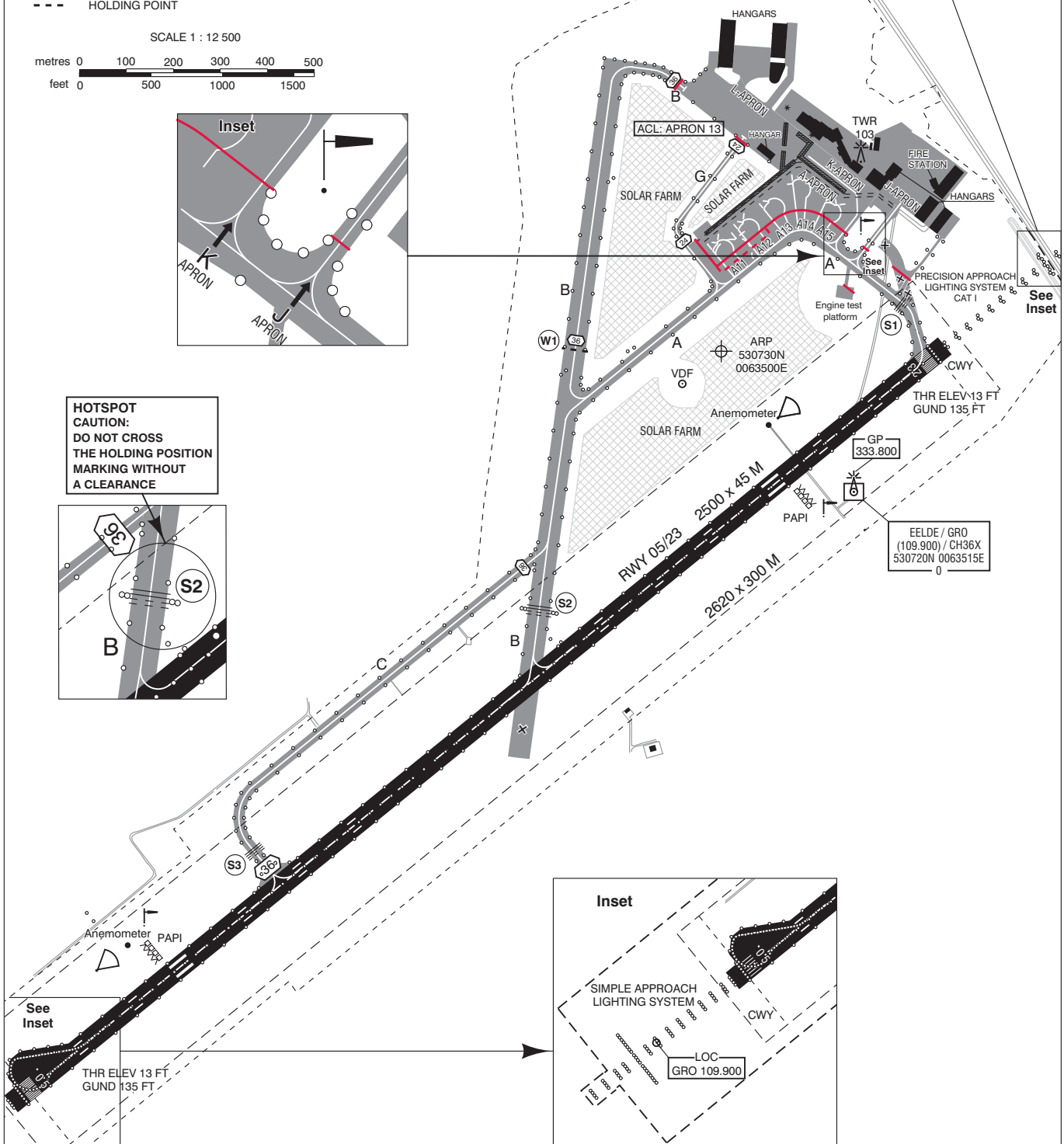
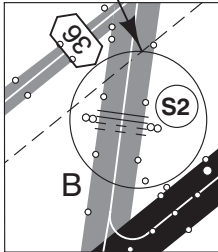
DIRECTIONS ARE MAGNETIC
ELEVATIONS IN FEET AMSL
DIMENSIONS IN METRES

LEGEND





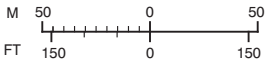
- ATC SERVICE BDRY
- - - SAFETY LINE IN CASE OF CODE E ACFT
- RWY HOLDING POSITION MARKING PATTERN A
- RWY HOLDING POSITION NAME
- RWY GUARD LIGHTS
- MAX WING SPAN
- - - HOLDING POINT

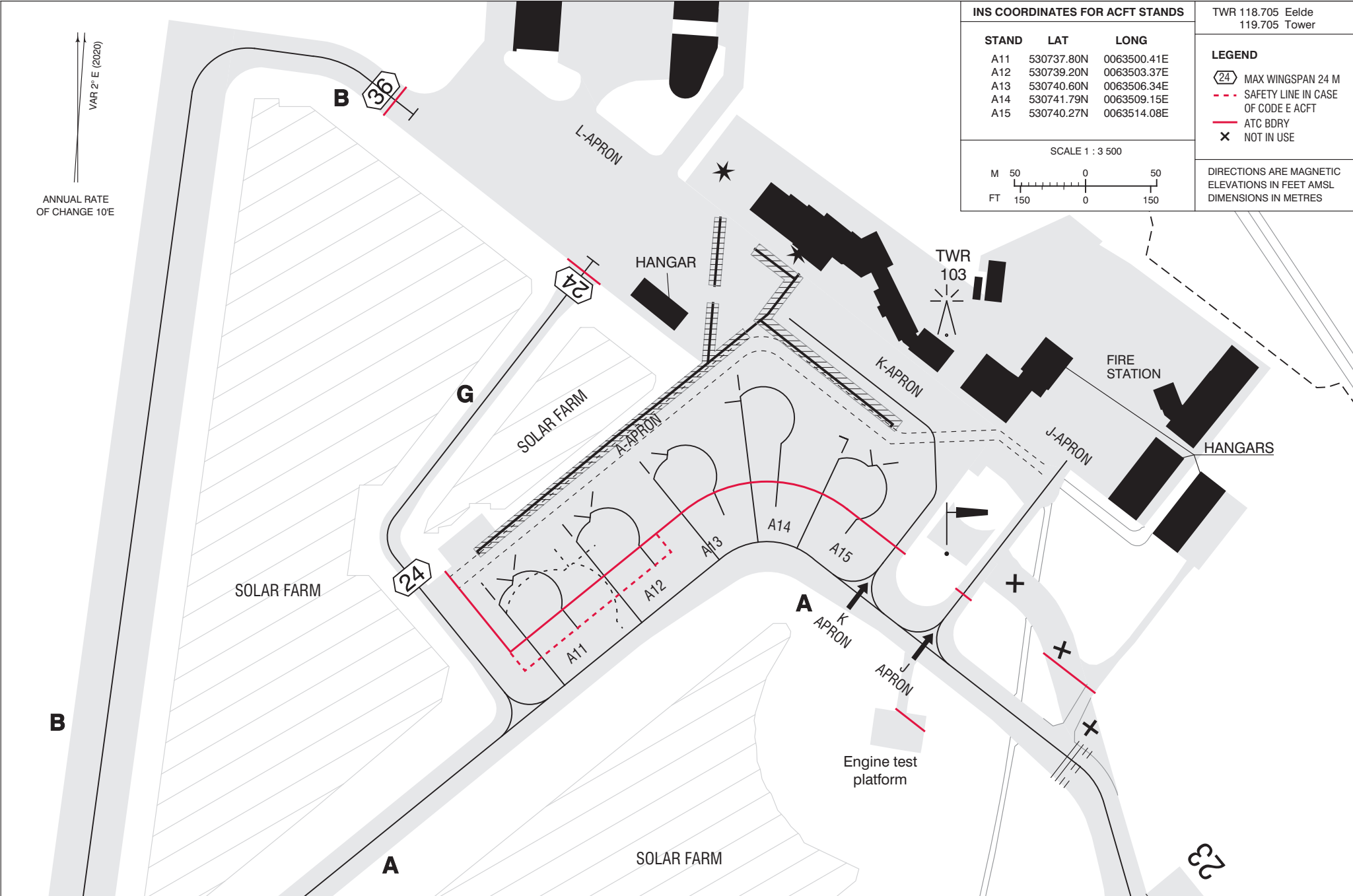


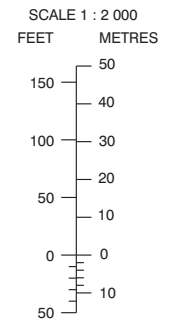
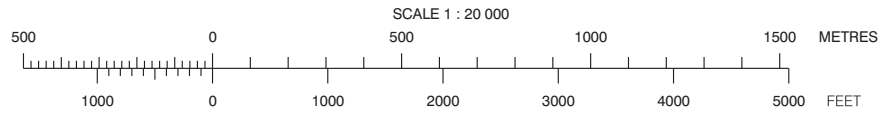
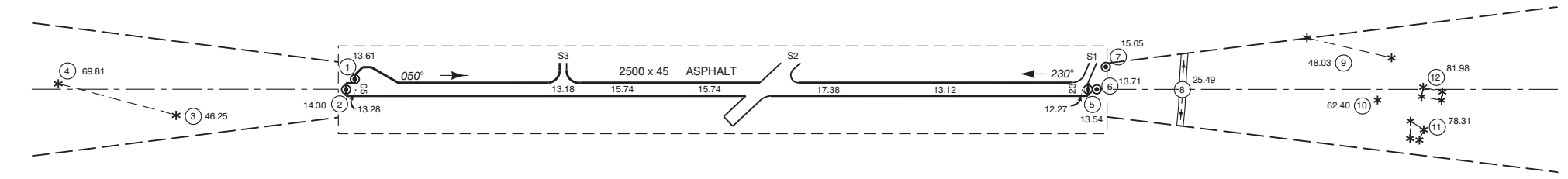
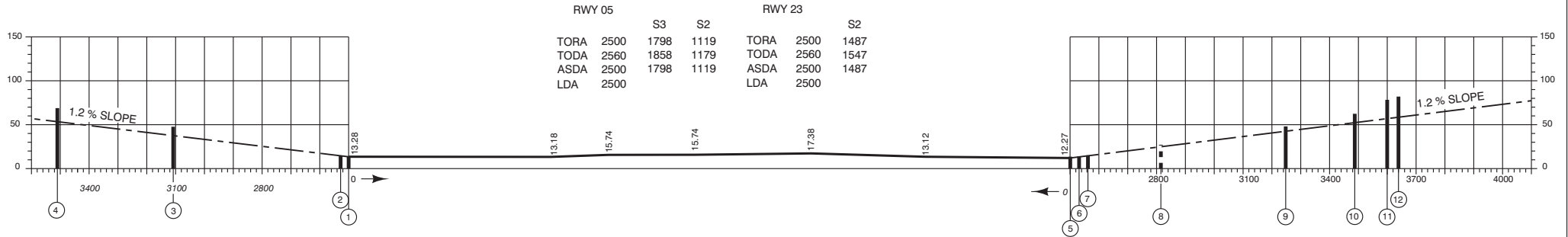
HOTSPOT CAUTION:
DO NOT CROSS THE HOLDING POSITION MARKING WITHOUT A CLEARANCE



VAR 2° E (2020)
ANNUAL RATE OF CHANGE 10'E

| INS COORDINATES FOR ACFT STANDS | | | TWR 118.705 Eelde 119.705 Tower |
|---|------------|-------------|--|
| STAND | LAT | LONG | LEGEND  MAX WINGSPAN 24 M  SAFETY LINE IN CASE OF CODE E ACFT  ATC BDRY  NOT IN USE |
| A11 | 530737.80N | 0063500.41E | |
| A12 | 530739.20N | 0063503.37E | |
| A13 | 530740.60N | 0063506.34E | |
| A14 | 530741.79N | 0063509.15E | |
| A15 | 530740.27N | 0063514.08E | |
| SCALE 1 : 3 500 | | | DIRECTIONS ARE MAGNETIC ELEVATIONS IN FEET AMSL DIMENSIONS IN METRES |
|  | | | |





- MAGNETIC VARIATION: 2°E - 2020
- DIRECTIONS ARE MAGNETIC
- ELEVATIONS IN FEET
- DIMENSIONS IN METRES
- (15) IDENTIFICATION NUMBER
- * TREE
- ⊙ POLE, TOWER, SPIRE, ANTENNA, CHIMNEY
- BUILDING OR LARGE STRUCTURE
- ⚡ TRAFFIC (IN PLAN)
- ⚡ TRAFFIC (IN PROFILE)
- ⚡ WINDMILL

SURVEYING AGENCY : Groningen Airport Eelde
 DATE OF SURVEY : DEC 12

CHANGE: editorial.

NOTES:

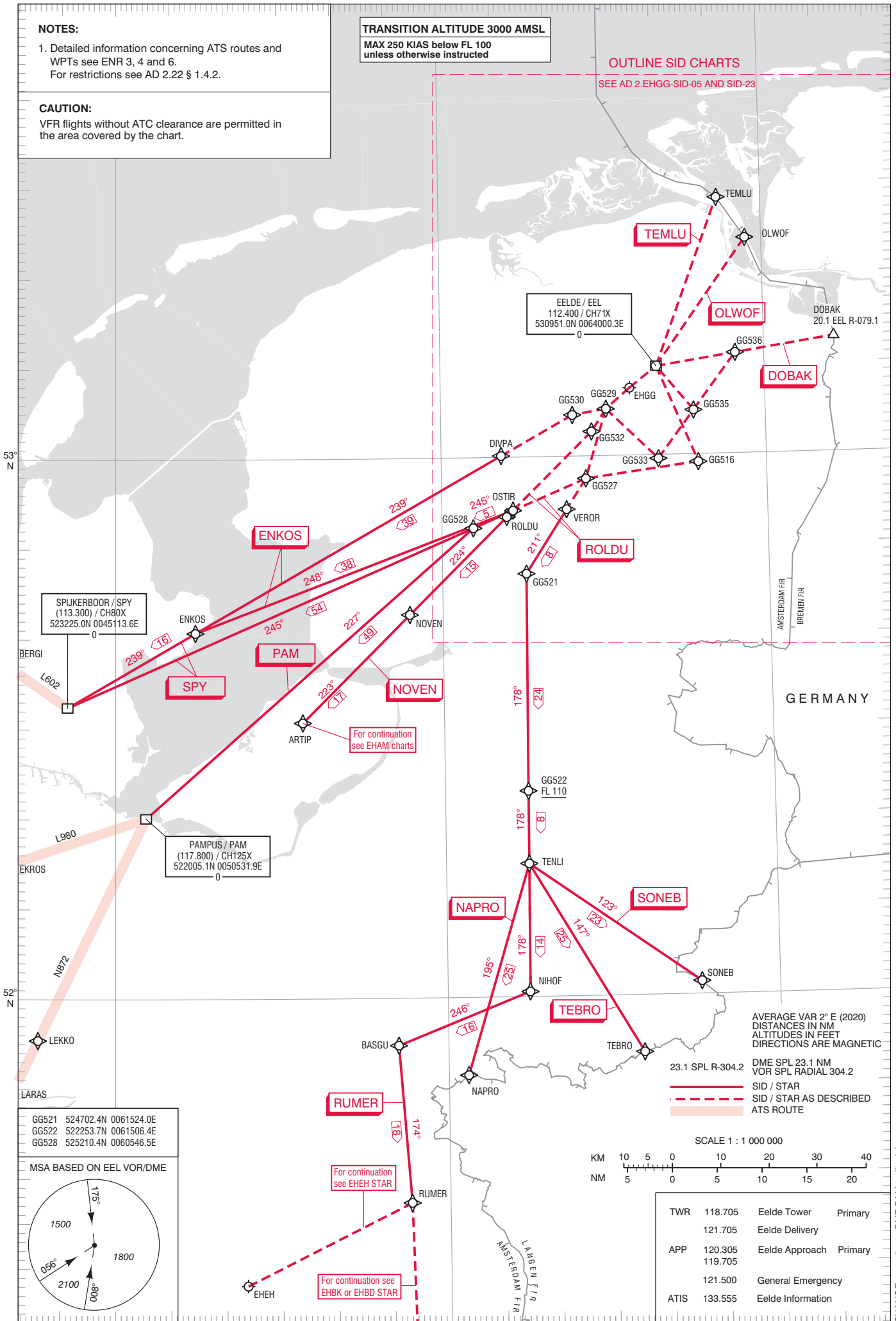
1. Detailed information concerning ATS routes and WPTs see ENR 3, 4 and 6.
For restrictions see AD 2.22 § 1.4.2.

CAUTION:

VFR flights without ATC clearance are permitted in the area covered by the chart.

TRANSITION ALTITUDE 3000 AMSL
MAX 250 KIAS below FL 100
unless otherwise instructed

OUTLINE SID CHARTS
SEE AD 2.EHGG-SID-05 AND SID-23



SPIJKERBOOR / SPY
(113.300) / CH80X
523225.0N 0045113.6E
0

ENKOS
SPY

PAMPUS / PAM
(117.800) / CH125X
522005.1N 0050531.9E
0

PAM

NOVEN

NOVEN

For continuation
see EHAM charts

EELDE / EEL
112.400 / CH71X
530951.0N 0064000.3E
0

TEMLU

OLWOF

DOBBAK

GG530

GG529

GG532

GG533

GG527

GG516

GG521

GG528

GG522

FL 110

178°

8

178°

8

178°

8

178°

8

178°

8

178°

8

178°

8

178°

8

178°

8

178°

8

178°

8

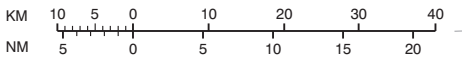
178°

8

AVERAGE VAR 2° E (2020)
DISTANCES IN NM
ALTITUDES IN FEET
DIRECTIONS ARE MAGNETIC

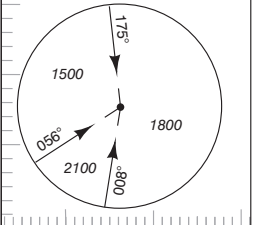
23.1 SPL R-304.2
DME SPL 23.1 NM
VOR SPL RADIAL 304.2
— SID / STAR AS DESCRIBED
— ATS ROUTE

SCALE 1 : 1 000 000

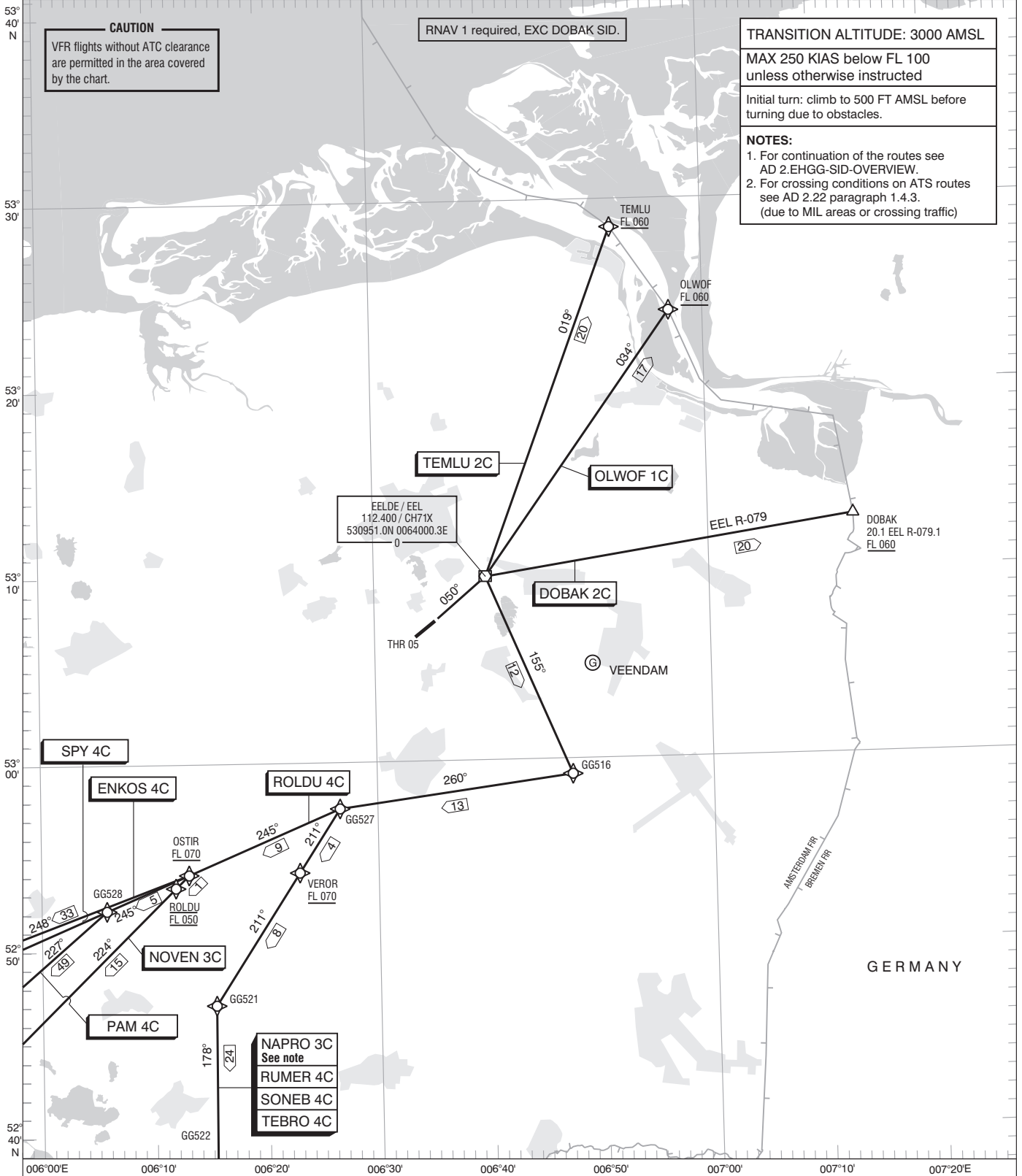


GG521 524702.4N 0061524.0E
GG522 522253.7N 0061506.4E
GG528 525210.4N 0060546.5E

MSA BASED ON EEL VOR/DME



| | | | |
|------|---------|-------------------|---------|
| TWR | 118.705 | Eelde Tower | Primary |
| | 121.705 | Eelde Delivery | |
| APP | 120.305 | Eelde Approach | Primary |
| | 119.705 | | |
| | 121.500 | General Emergency | |
| ATIS | 133.555 | Eelde Information | |



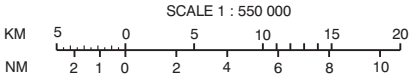
CAUTION
VFR flights without ATC clearance are permitted in the area covered by the chart.

RNAV 1 required, EXC DOBAK SID.

TRANSITION ALTITUDE: 3000 AMSL
MAX 250 KIAS below FL 100
unless otherwise instructed
Initial turn: climb to 500 FT AMSL before turning due to obstacles.
NOTES:
1. For continuation of the routes see AD 2.EHGG-SID-OVERVIEW.
2. For crossing conditions on ATS routes see AD 2.22 paragraph 1.4.3. (due to MIL areas or crossing traffic)

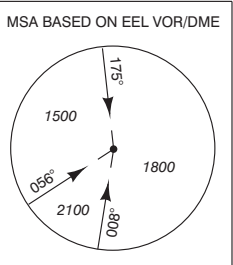
EELDE / EEL
112.400 / CH71X
530951.0N 0064000.3E

NAPRO 3C
See note
RUMER 4C
SONEB 4C
TEBRO 4C



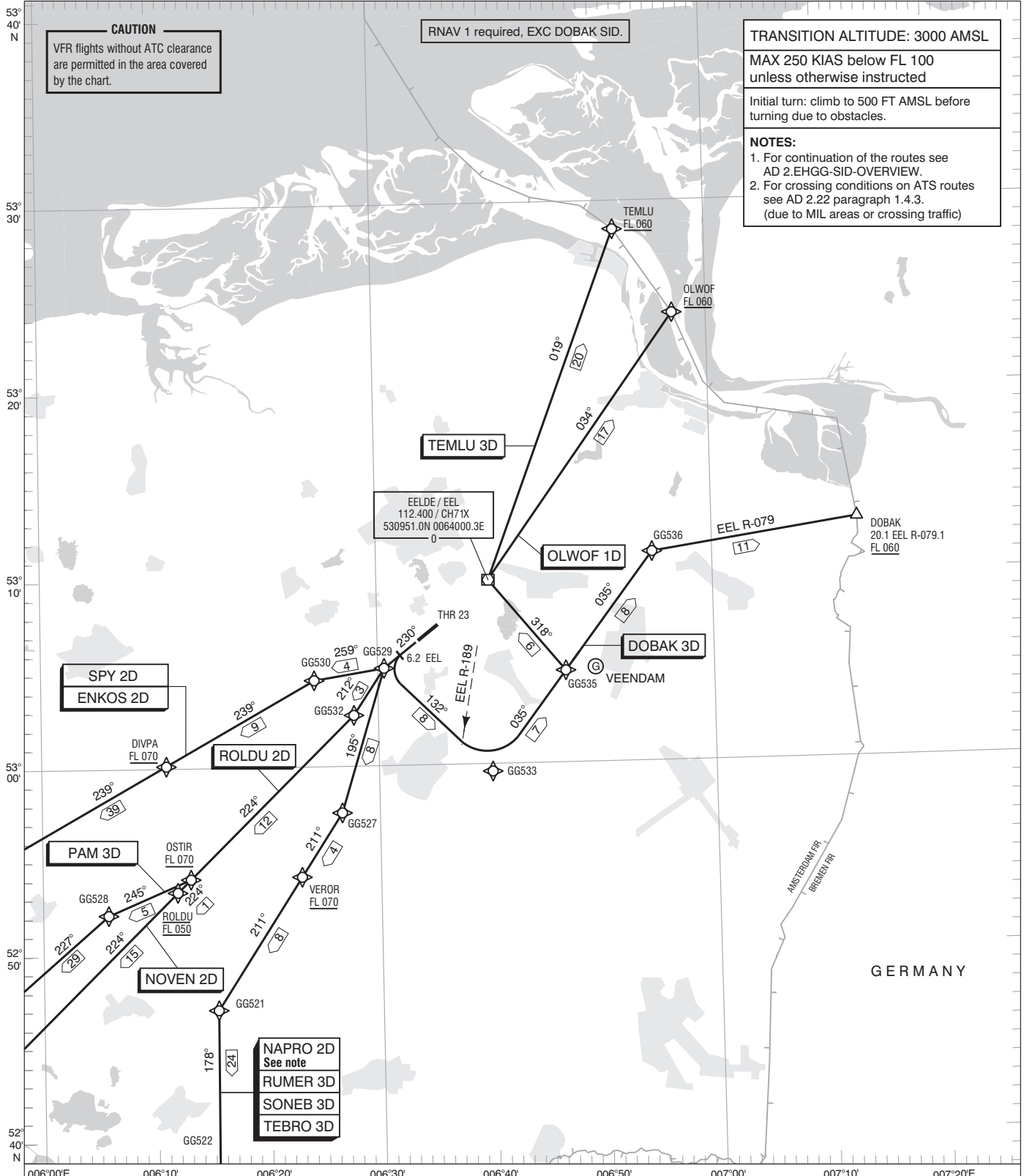
| | | |
|--------|-----------|------------|
| THR 05 | 530639.9N | 0063339.2E |
| GG516 | 525909.2N | 0064726.5E |
| GG521 | 524702.4N | 0061524.0E |
| GG522 | 522253.7N | 0061506.3E |
| GG527 | 525730.6N | 0062638.1E |
| GG528 | 525210.4N | 0060546.5E |

| | | | |
|------|---------|-------------------|---------|
| TWR | 118.705 | Eelde Tower | Primary |
| | 121.705 | Eelde Delivery | |
| APP | 120.305 | Eelde Approach | Primary |
| | 119.705 | | |
| | 121.500 | General Emergency | |
| ATIS | 133.555 | Eelde Information | |



DISTANCES IN NM
ALTITUDES IN FEET
DIRECTIONS ARE MAGNETIC
AVERAGE VAR 2° E (2020)
23.1 SPL R-304.2 DME SPL 23.1 NM
VOR SPL RADIAL 304.2

CHANGE: SID designators: editorial.



CAUTION
VFR flights without ATC clearance are permitted in the area covered by the chart.

RNAV 1 required, EXC DOBAK SID.

TRANSITION ALTITUDE: 3000 AMSL
MAX 250 KIAS below FL 100
unless otherwise instructed
Initial turn: climb to 500 FT AMSL before turning due to obstacles.
NOTES:
1. For continuation of the routes see AD 2.EHGG-SID-OVERVIEW.
2. For crossing conditions on ATS routes see AD 2.22 paragraph 1.4.3. (due to MIL areas or crossing traffic)

SPY 2D
ENKOS 2D

TEMLU 3D

EELDE / EEL
112.400 / CH71X
530951.0N 006400.3E
0

OLWOF 1D

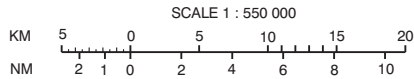
DOBAK 3D

PAM 3D

ROLDU 2D

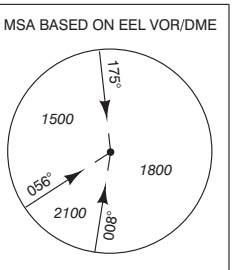
NOVEN 2D

NAPRO 2D
See note
RUMER 3D
SONEB 3D
TEBRO 3D



| | | |
|--------|-----------|------------|
| THR 23 | 530729.8N | 0063525.0E |
| GG521 | 524702.4N | 0061524.0E |
| GG522 | 522253.7N | 0061506.3E |
| GG527 | 525730.6N | 0062638.1E |
| GG528 | 525210.4N | 0060546.5E |
| GG529 | 530512.5N | 0063034.5E |
| GG530 | 530436.8N | 0062420.1E |
| GG532 | 530243.4N | 0062749.0E |
| GG533 | 525935.2N | 0064005.0E |
| GG535 | 530454.7N | 0064645.8E |
| GG536 | 531110.8N | 0065440.3E |

| | | | |
|------|---------|-------------------|---------|
| TWR | 118.705 | Eelde Tower | Primary |
| | 121.705 | Eelde Delivery | |
| APP | 120.305 | Eelde Approach | Primary |
| | 119.705 | | |
| ATIS | 121.500 | General Emergency | |
| | 133.555 | Eelde Information | |



DISTANCES IN NM
ALTITUDES IN FEET
DIRECTIONS ARE MAGNETIC
AVERAGE VAR 2° E (2020)
23.1 SPL R-304.2 DME SPL 23.1 NM
VOR SPL RADIAL 304.2
---> VOR RADIAL

NOTES:

- 1. Detailed information concerning ATS routes and WPTs see ENR 3, 4 and 6.
- 2. When TOLKO approach is used, expect DCT TOLKO.

3. COMMUNICATION FAILURE:

See EHGG AD 2.22 and the information given on the relevant instrument approach chart.

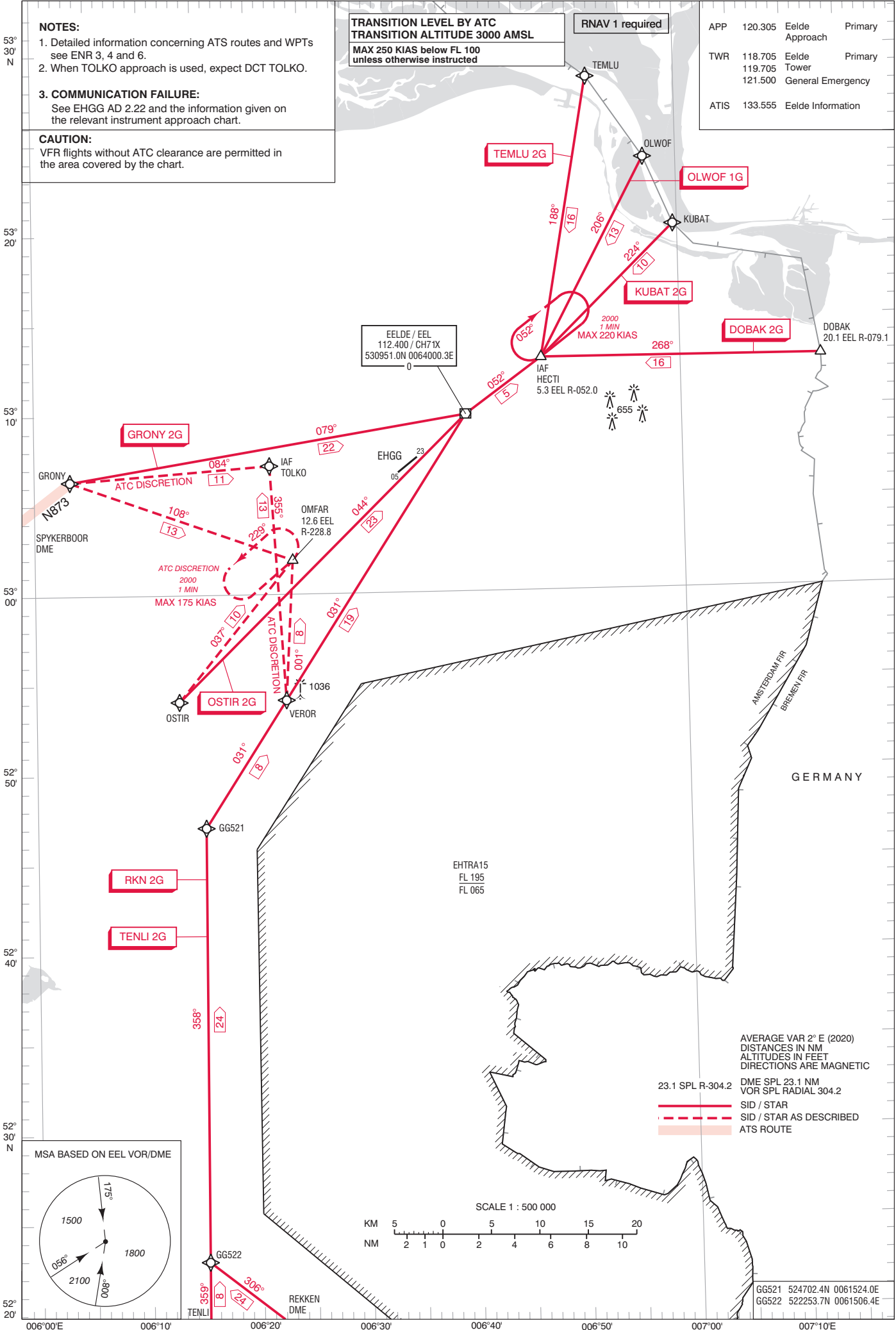
CAUTION:

VFR flights without ATC clearance are permitted in the area covered by the chart.

TRANSITION LEVEL BY ATC
TRANSITION ALTITUDE 3000 AMSL
MAX 250 KIAS below FL 100
unless otherwise instructed

RNAV 1 required

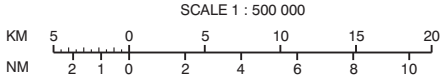
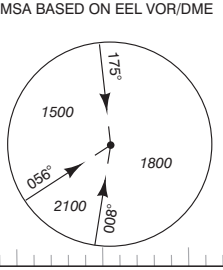
| | | | |
|------|---------|----------|-------------------|
| APP | 120.305 | Eelde | Primary |
| | | Approach | |
| TWR | 118.705 | Eelde | Primary |
| | | Tower | |
| | 119.705 | | |
| | 121.500 | | General Emergency |
| ATIS | 133.555 | Eelde | Information |



AVERAGE VAR 2° E (2020)
DISTANCES IN NM
ALTITUDES IN FEET
DIRECTIONS ARE MAGNETIC

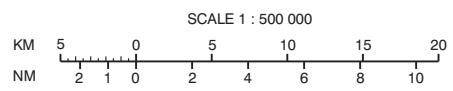
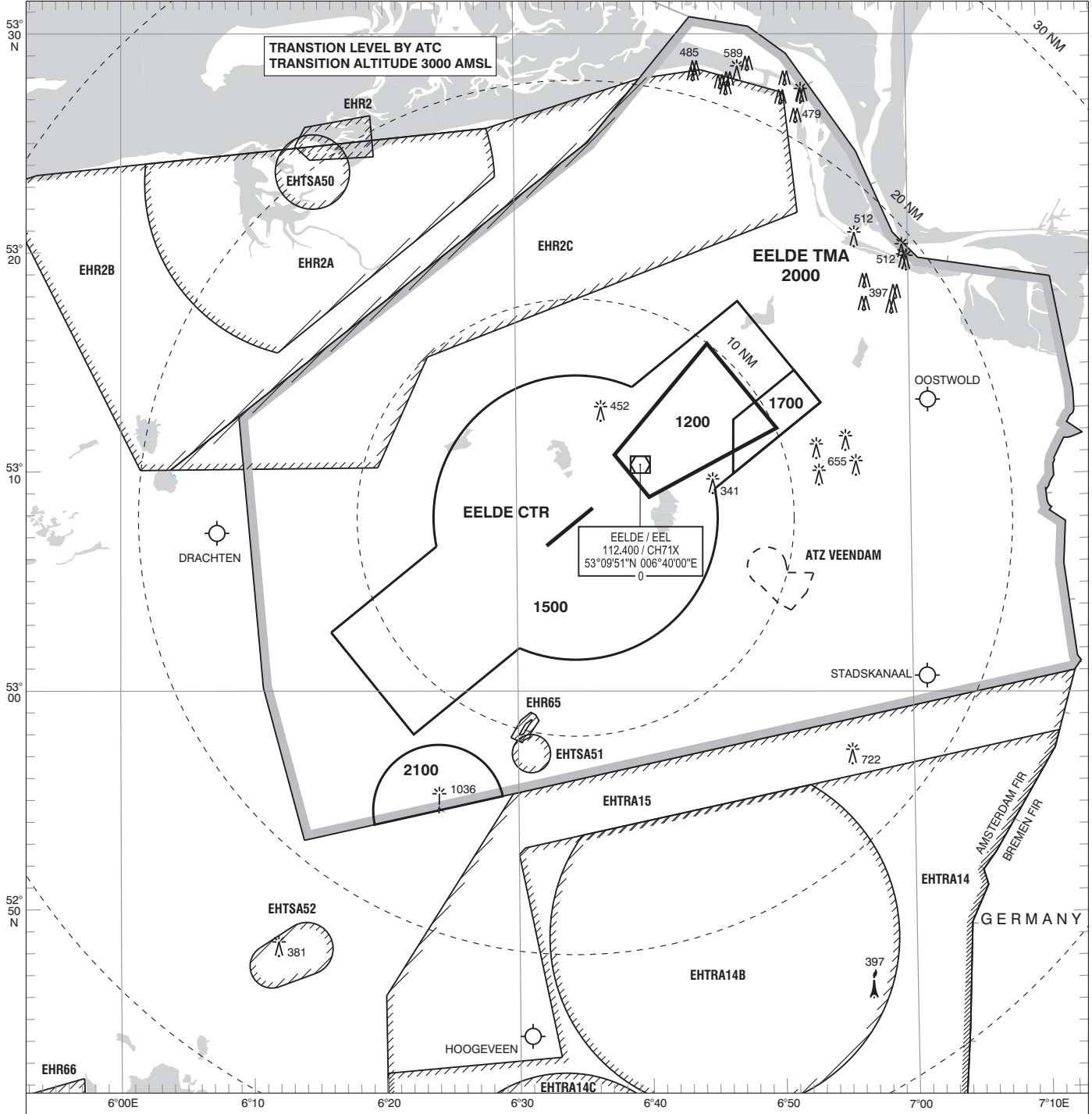
23.1 SPL R-304.2
DME SPL 23.1 NM
VOR SPL RADIAL 304.2

— SID / STAR
- - - SID / STAR AS DESCRIBED
- - - - - ATS ROUTE



GG521 524702.4N 0061524.0E
GG522 522253.7N 0061506.4E

CHANGE: Designator; editorial.



AVERAGE VAR 2°E (2020)
ALTITUDES IN FEET AMSL
DISTANCES IN NM
DIRECTIONS ARE MAGNETIC

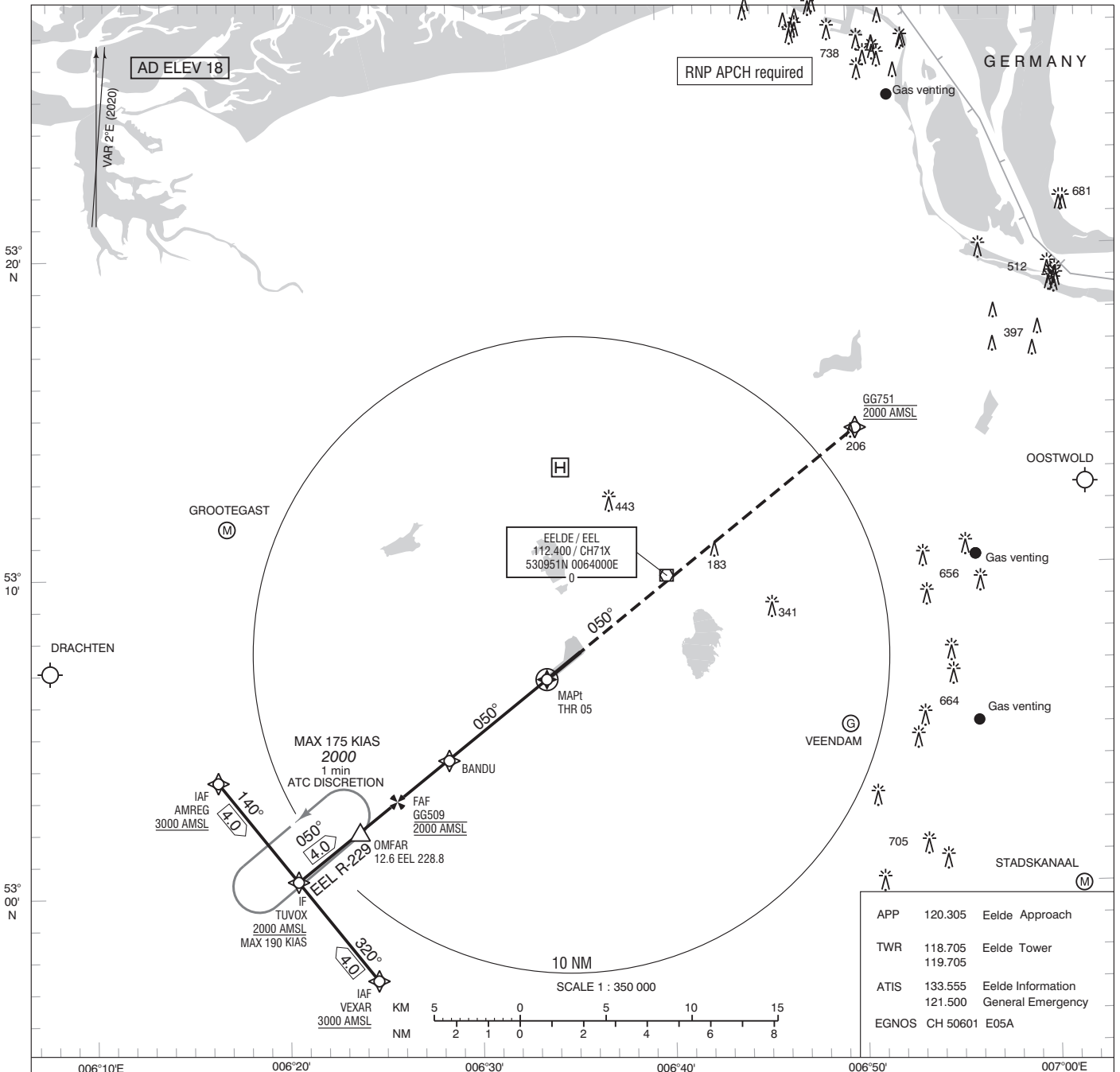
- Final approach vectoring area (FAVA)
- Minimum vectoring altitude sector (MVA)

| | | |
|------|---------|-------------------|
| APP | 120.305 | Eelde Approach |
| TWR | 118.705 | Eelde Tower |
| | 119.705 | |
| | 121.500 | General Emergency |
| ATIS | 133.555 | Eelde Information |

NOTES:

1. This chart may only be used for cross-checking of altitudes, assigned while the aircraft is identified by the responsible ATC unit.
2. Aeronautical data and minimum vectoring altitudes are provided only within the relevant CTR and TMA.
3. Only significant obstacles, aerodromes and prohibited, restricted and danger areas in the Amsterdam FIR are shown.
4. Temperature correction: when TEMP below -10°C add 200 FT, below -19°C add 300 FT to published altitudes.
5. A descent clearance to the FAVA will only be issued when the aircraft is established on the ILS final approach track, or on an intercept of 30 degrees or less.
6. In case of a communication failure, execute the COM failure procedure of the last assigned approach.

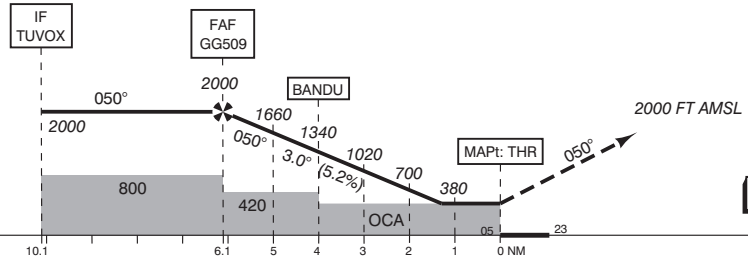
CHANGE: MVA 1700 and obstacles add/deleted



| | | |
|-------|--------------------|--|
| APP | 120.305 | Eelde Approach |
| TWR | 118.705 119.705 | Eelde Tower |
| ATIS | 133.555 121.500 | Eelde Information General Emergency |
| EGNOS | CH 50601 | E05A |

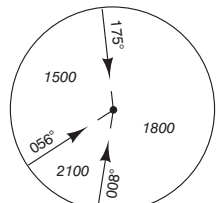
- Missed Approach:
 - Track 050° MAG and climb to 2000 FT AMSL. Inform ATC.
- Missed Approach in case of communication failure:
 - Track 050° MAG and climb to 3000 FT AMSL;
 - When reaching 3000 FT AMSL turn left to intercept EEL R-229 and proceed to OMFAAR;
 - After arriving over OMFAAR hold or descend to 2000 FT AMSL in an outbound turn, intercept final approach and execute the instrument approach procedure again.

TRANSITION LEVEL BY ATC
TRANSITION ALTITUDE 3000 FT AMSL

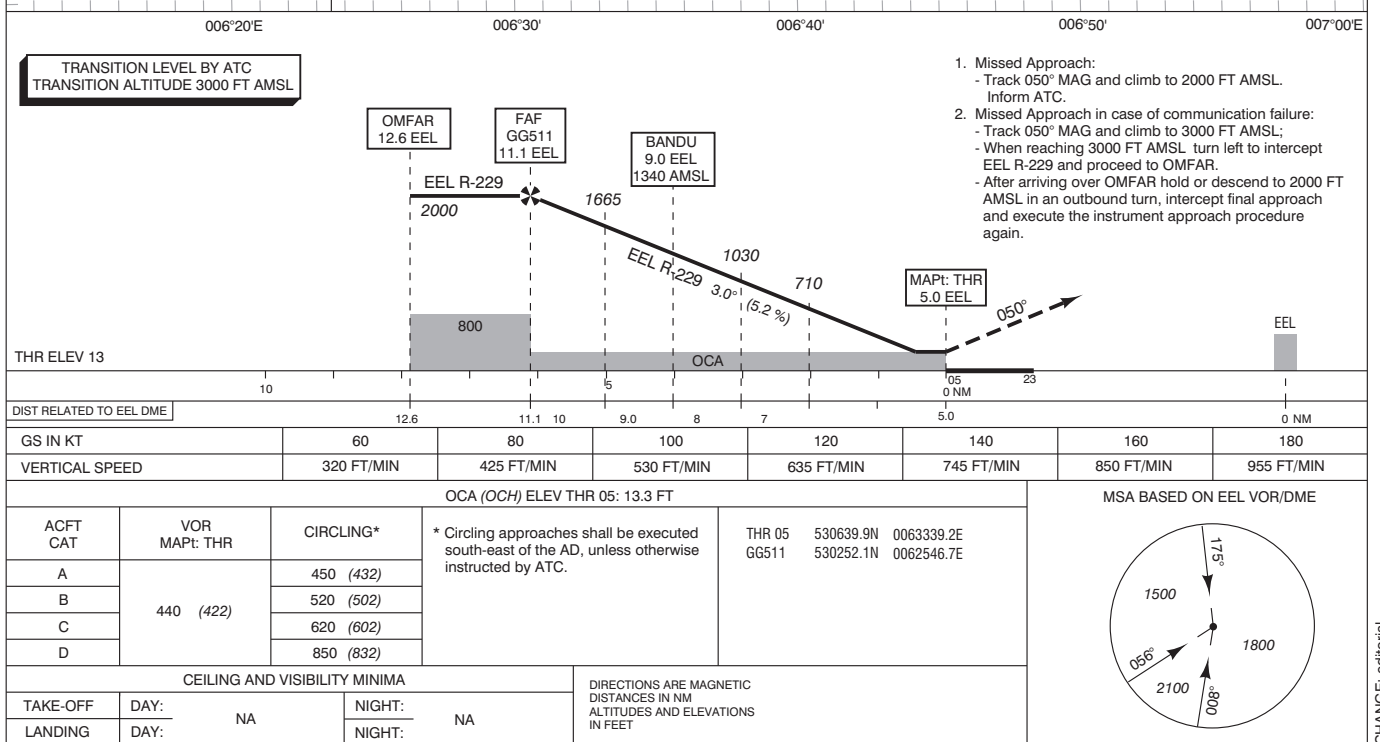
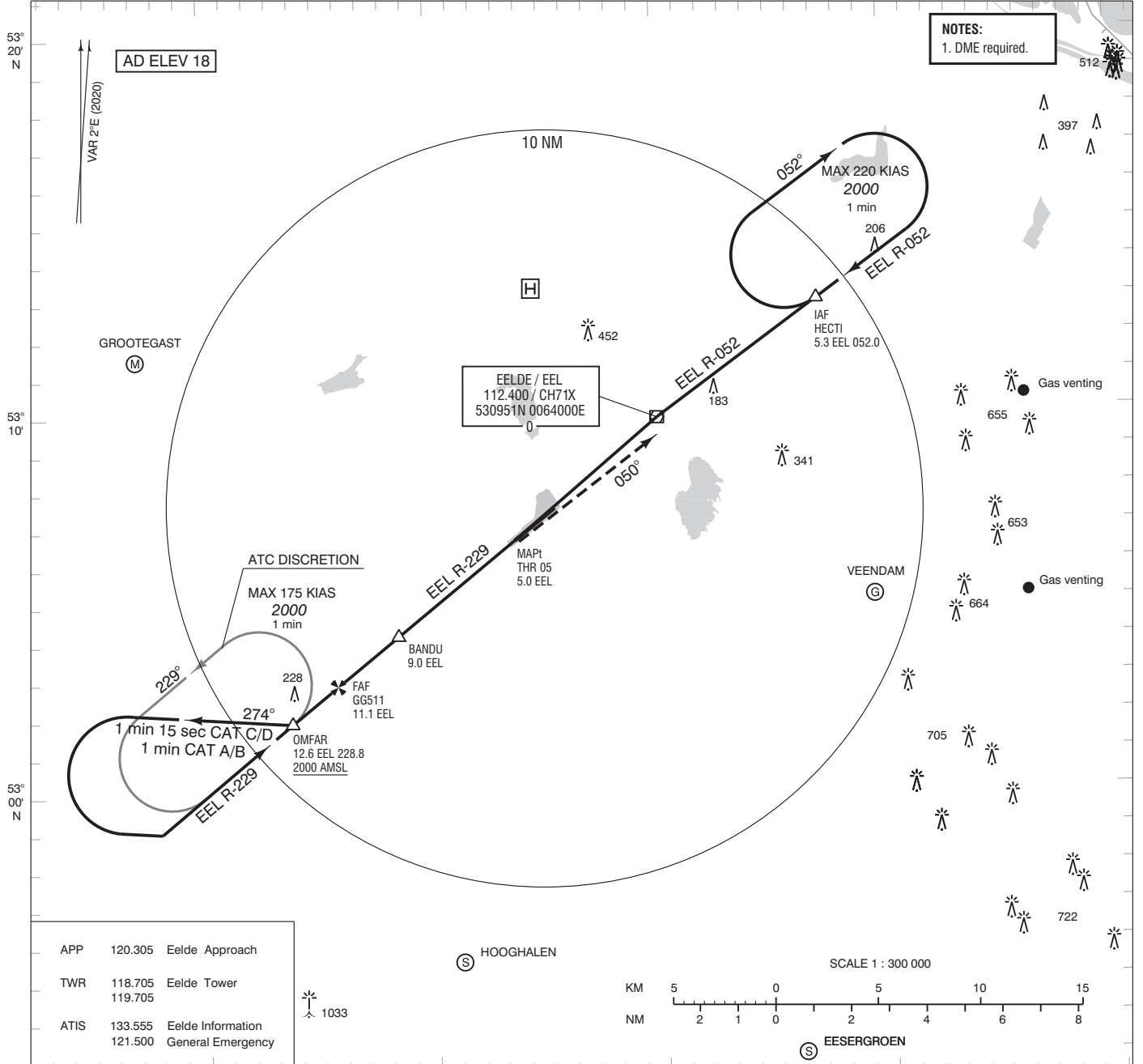


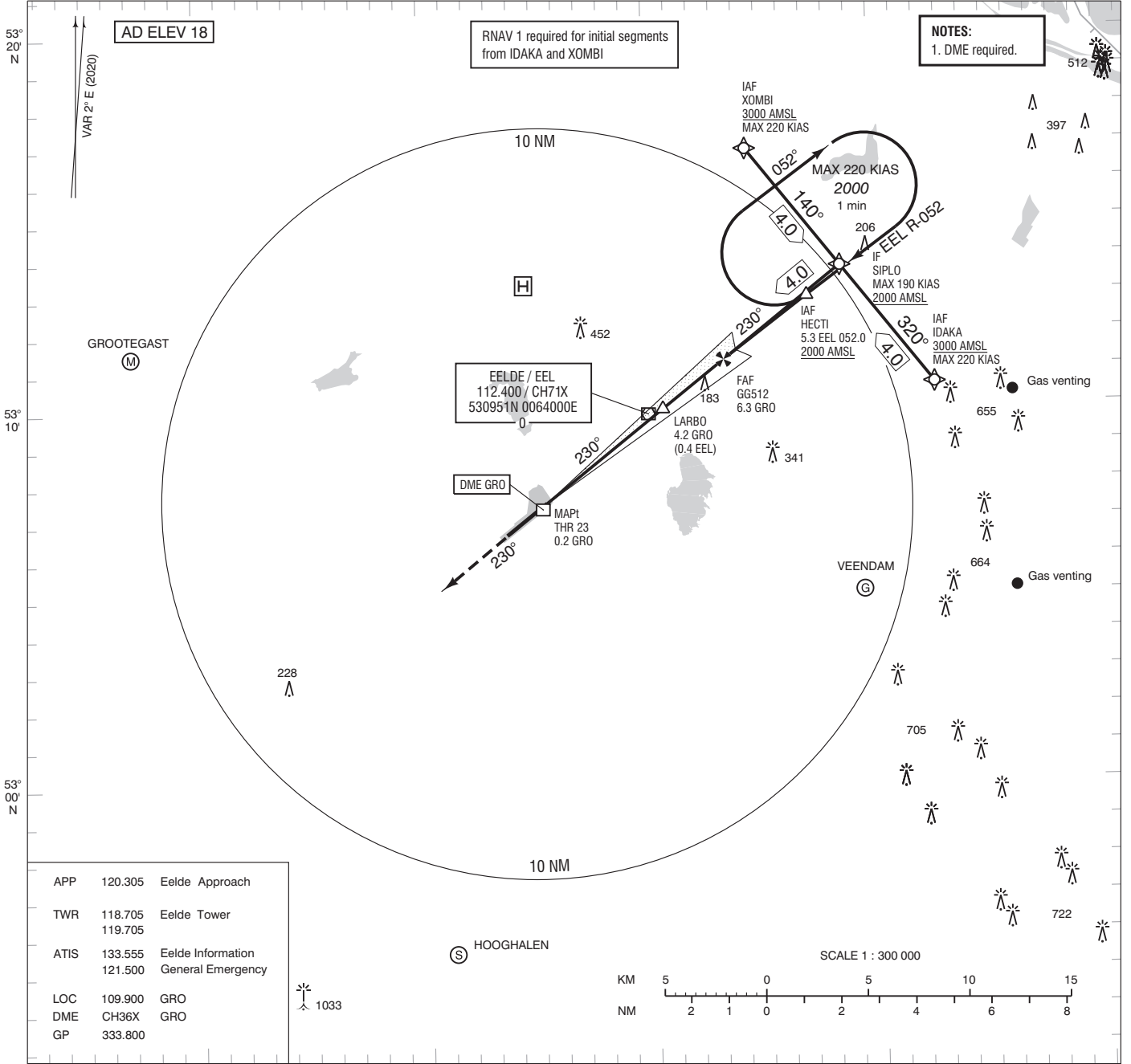
| | | | | | | | |
|----------------|------------|------------|------------|------------|------------|------------|------------|
| GS IN KT | 60 | 80 | 100 | 120 | 140 | 160 | 180 |
| VERTICAL SPEED | 320 FT/MIN | 425 FT/MIN | 530 FT/MIN | 635 FT/MIN | 745 FT/MIN | 850 FT/MIN | 955 FT/MIN |

| OCA (OCH) ELEV THR 05: 13.3 FT | | | | | MSA BASED ON EEL VOR/DME | | |
|--------------------------------|-----------|-----------------------------|-----------|-----------|--------------------------|------------|------------|
| ACFT CAT | LPV | LNAV/VNAV MNM TEMP -15°C | LNAV | CIRCLING* | THR 05 | GG509 | GG751 |
| A | 313 (300) | 320 (307) | 440 (422) | 450 (432) | 530639.9N | 530254.5N | 531421.5N |
| B | 313 (300) | 320 (307) | | 520 (502) | 0063339.2E | 0062543.8E | 0065000.6E |
| C | 313 (300) | 320 (307) | | 620 (602) | | | |
| D | 313 (300) | 320 (307) | | 850 (832) | | | |

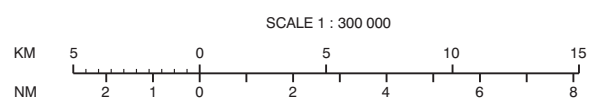


| CEILING AND VISIBILITY MINIMA | | | | * Circling approaches shall be executed south-east of the AD, unless otherwise instructed by ATC. | DIRECTIONS ARE MAGNETIC DISTANCES IN NM ALTITUDES AND ELEVATIONS IN FEET |
|-------------------------------|------|--------|----|---|--|
| TAKE-OFF | DAY: | NIGHT: | NA | | |
| LANDING | DAY: | NIGHT: | NA | | |

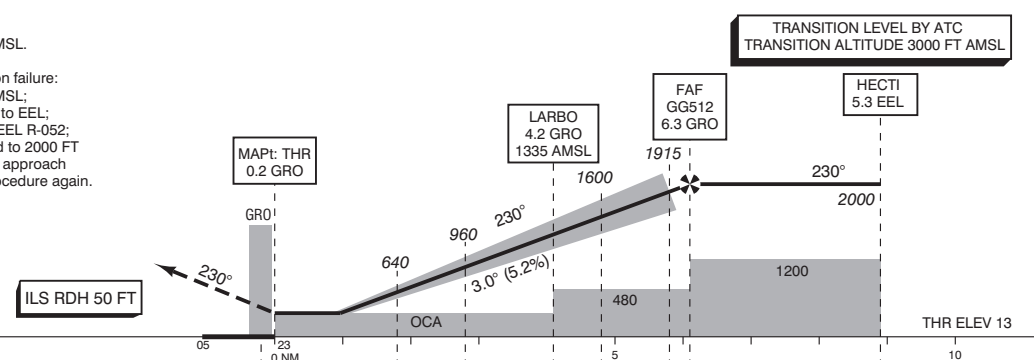




| | | |
|------|---------|-------------------|
| APP | 120.305 | Eelde Approach |
| TWR | 118.705 | Eelde Tower |
| | 119.705 | |
| ATIS | 133.555 | Eelde Information |
| | 121.500 | General Emergency |
| LOC | 109.900 | GRO |
| DME | CH36X | GRO |
| GP | 333.800 | |



- Missed Approach:
 - Track 230° MAG and climb to 2000 FT AMSL. Inform ATC.
- Missed Approach in case of communication failure:
 - Track 230° MAG and climb to 3000 FT AMSL;
 - When reaching 3000 FT AMSL turn right to EEL;
 - After passing EEL proceed to HECTI via EEL R-052;
 - After arriving over HECTI hold or descend to 2000 FT AMSL in an outbound turn, intercept final approach and execute the instrument approach procedure again.



DIST RELATED TO GRO DME

| | | | | | | | |
|----------------|------------|------------|------------|------------|------------|------------|------------|
| GS IN KT | 60 | 80 | 100 | 120 | 140 | 160 | 180 |
| VERTICAL SPEED | 320 FT/MIN | 425 FT/MIN | 530 FT/MIN | 635 FT/MIN | 745 FT/MIN | 850 FT/MIN | 955 FT/MIN |

| | | | | | | | |
|--------------------------------|-----------|--------------|-----------|---|---|--------------------------|--|
| OCA (OCH) ELEV THR 23: 12.5 FT | | | | * Circling approaches shall be executed south-east of the AD, unless otherwise instructed by ATC. | THR 23 530729.8N 0063525.0E GG512 531114.8N 0064322.6E | MSA BASED ON EEL VOR/DME | |
| ACFT CAT | CAT I | LOC MAP: THR | CIRCLING* | | | | |
| A | 161 (149) | 460 (442) | 450 (432) | | | | |
| B | 174 (162) | | 520 (502) | | | | |
| C | 184 (172) | | 620 (602) | | | | |
| D | 197 (185) | | 850 (832) | | | | |

| | | | | |
|-------------------------------|------|----|--------|--|
| CEILING AND VISIBILITY MINIMA | | | | DIRECTIONS ARE MAGNETIC DISTANCES IN NM ALTITUDES AND ELEVATIONS IN FEET |
| TAKE-OFF | DAY: | NA | NIGHT: | |
| LANDING | DAY: | NA | NIGHT: | NA |

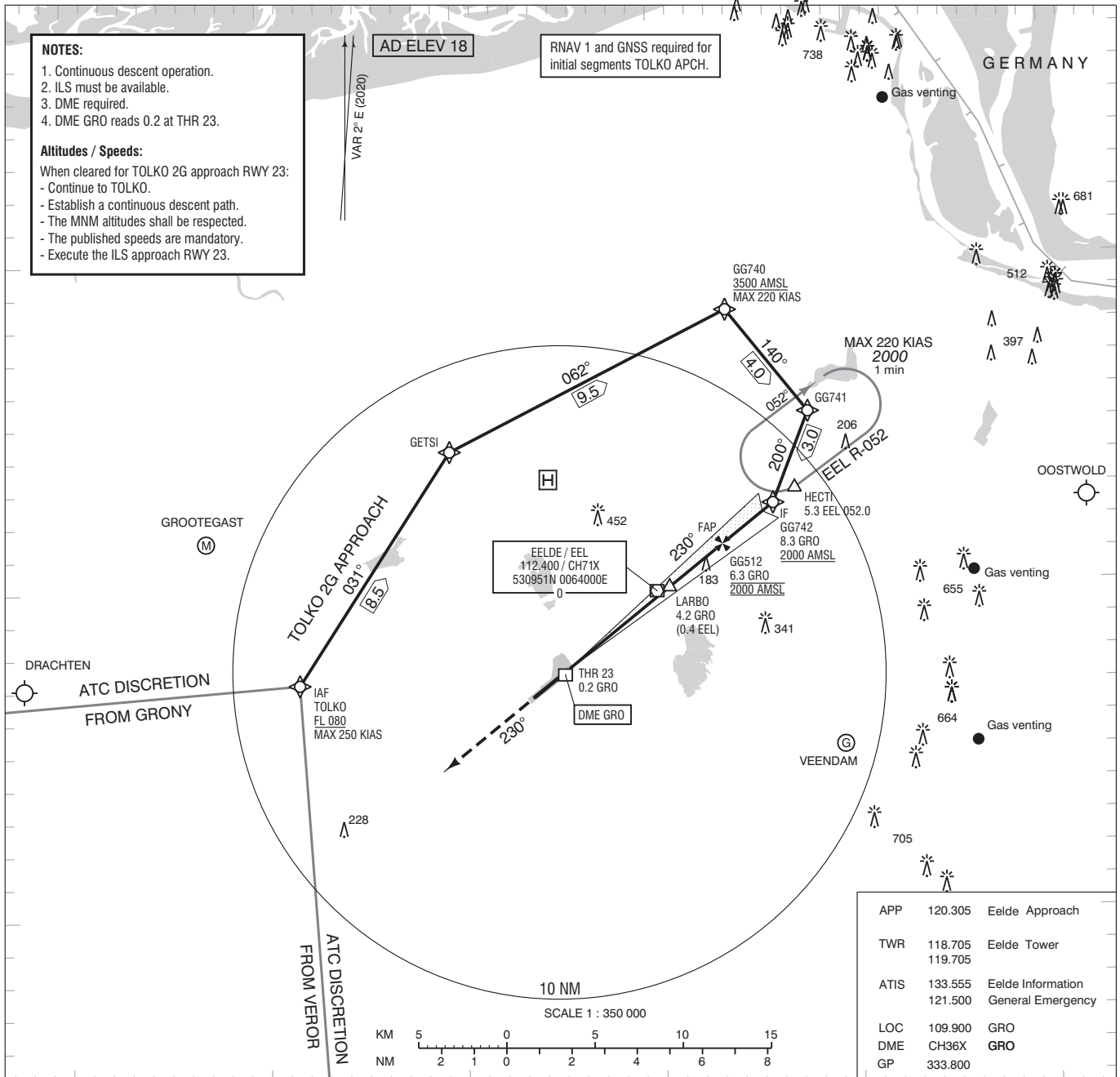
NOTES:

1. Continuous descent operation.
2. ILS must be available.
3. DME required.
4. DME GRO reads 0.2 at THR 23.

Altitudes / Speeds:

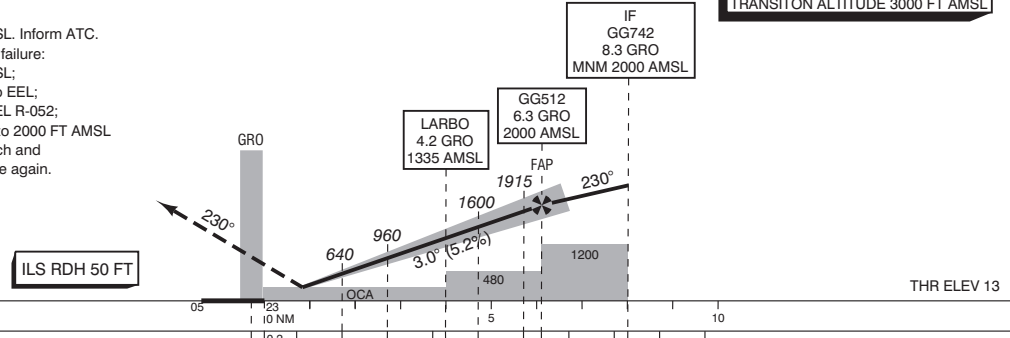
When cleared for TOLKO 2G approach RWY 23:

- Continue to TOLKO.
- Establish a continuous descent path.
- The MNM altitudes shall be respected.
- The published speeds are mandatory.
- Execute the ILS approach RWY 23.



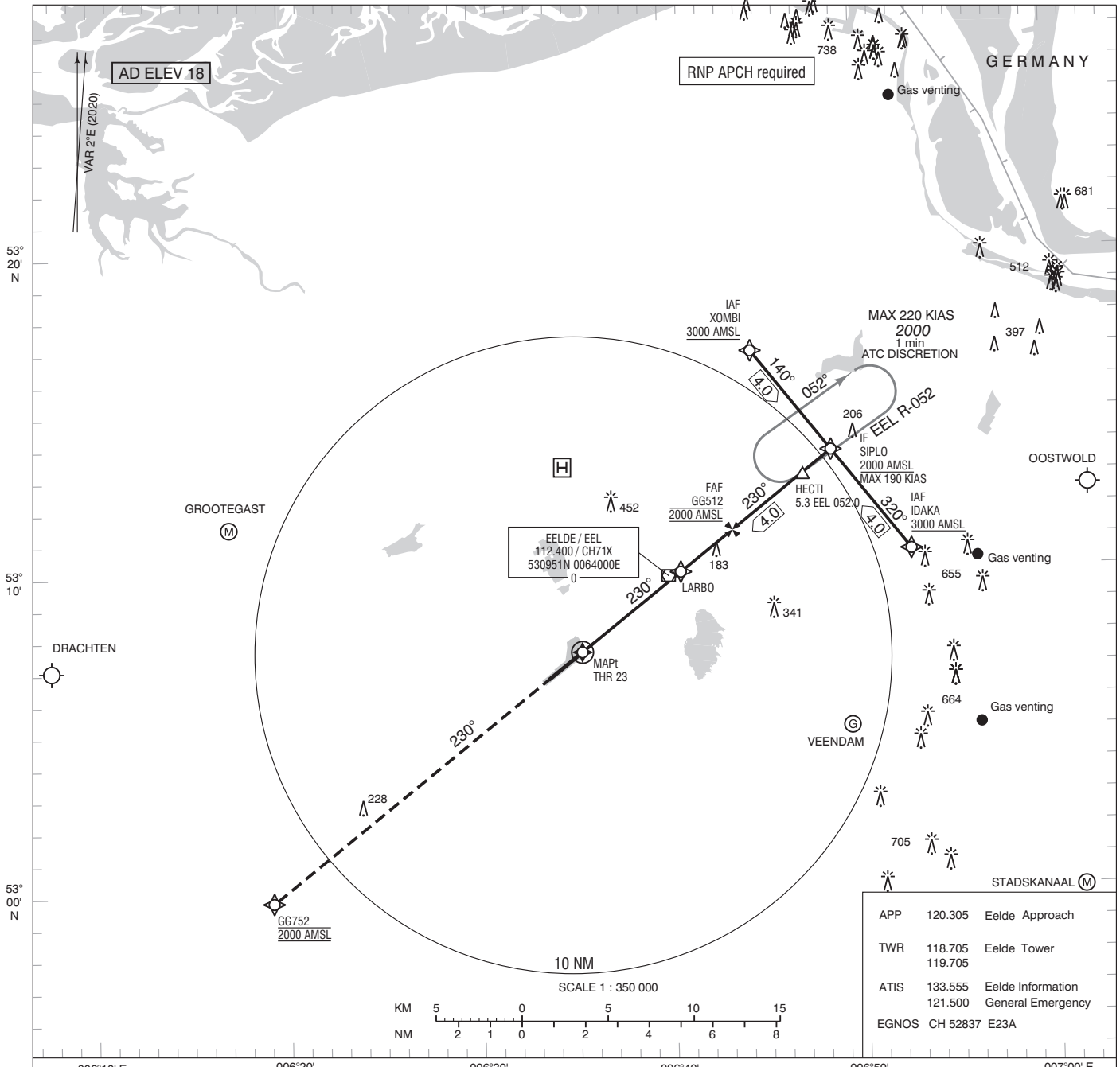
| | | |
|------|--------------------|--|
| APP | 120.305 | Eelde Approach |
| TWR | 118.705 119.705 | Eelde Tower |
| ATIS | 133.555 121.500 | Eelde Information General Emergency |
| LOC | 109.900 | GRO |
| DME | CH36X | GRO |
| GP | 333.800 | |

1. Missed approach:
 - Track 230° MAG and climb to 2000 FT AMSL. Inform ATC.
2. Missed approach in case of communication failure:
 - Track 230° MAG and climb to 3000 FT AMSL;
 - When reaching 3000 FT AMSL, turn right to EEL;
 - After passing EEL proceed to HECTI via EEL R-052;
 - After arriving over HECTI hold or descend to 2000 FT AMSL in an outbound turn, intercept final approach and execute the instrument approach procedure again.



| | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|------------|------------|------------|------------|------------|------------|------------|----|----|----|----|----|----|----|----|----|----|----|----|-----|--|
| DIST RELATED TO GRO DME | 05 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 | |
| GS IN KT | 60 | 80 | 100 | 120 | 140 | 160 | 180 | | | | | | | | | | | | | | |
| VERTICAL SPEED | 320 FT/MIN | 425 FT/MIN | 530 FT/MIN | 635 FT/MIN | 745 FT/MIN | 850 FT/MIN | 955 FT/MIN | | | | | | | | | | | | | | |

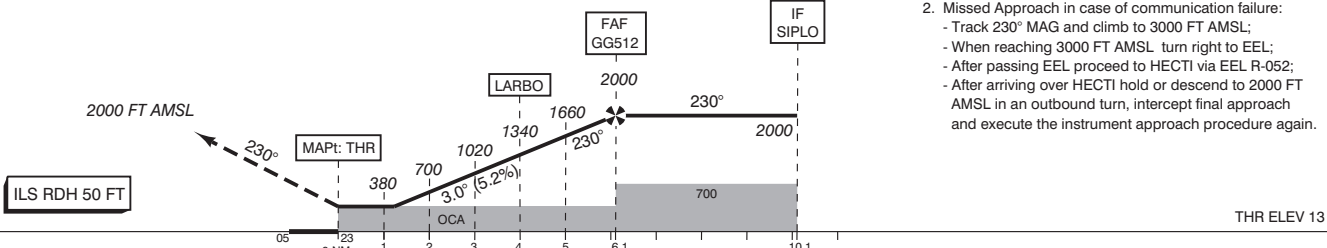
| | | | | | |
|--------------------------------|-----------|-----------|---|---|--|
| OCA (OCH) ELEV THR 23: 12.5 FT | | | MSA BASED ON EEL VOR/DME | | |
| ACFT CAT | CAT I | CIRCLING* | * Circling approaches shall be executed south-east of the AD, unless otherwise instructed by ATC. | THR 23 530729.8N 0063525.0E GG512 531114.8N 0064322.6E GG740 531824.0N 0064345.8E GG741 531515.2N 0064752.0E GG742 531228.6N 0064559.8E | |
| A | 161 (149) | 450 (432) | | | |
| B | 174 (162) | 520 (502) | | | |
| C | 184 (172) | 620 (602) | | | |
| D | 197 (185) | 850 (832) | | | |
| CEILING AND VISIBILITY MINIMA | | | DIRECTIONS ARE MAGNETIC DISTANCES IN NM ALTITUDES AND ELEVATIONS IN FEET | | |
| TAKE-OFF | DAY: | NA | NIGHT: | NA | |
| LANDING | DAY: | NA | NIGHT: | NA | |



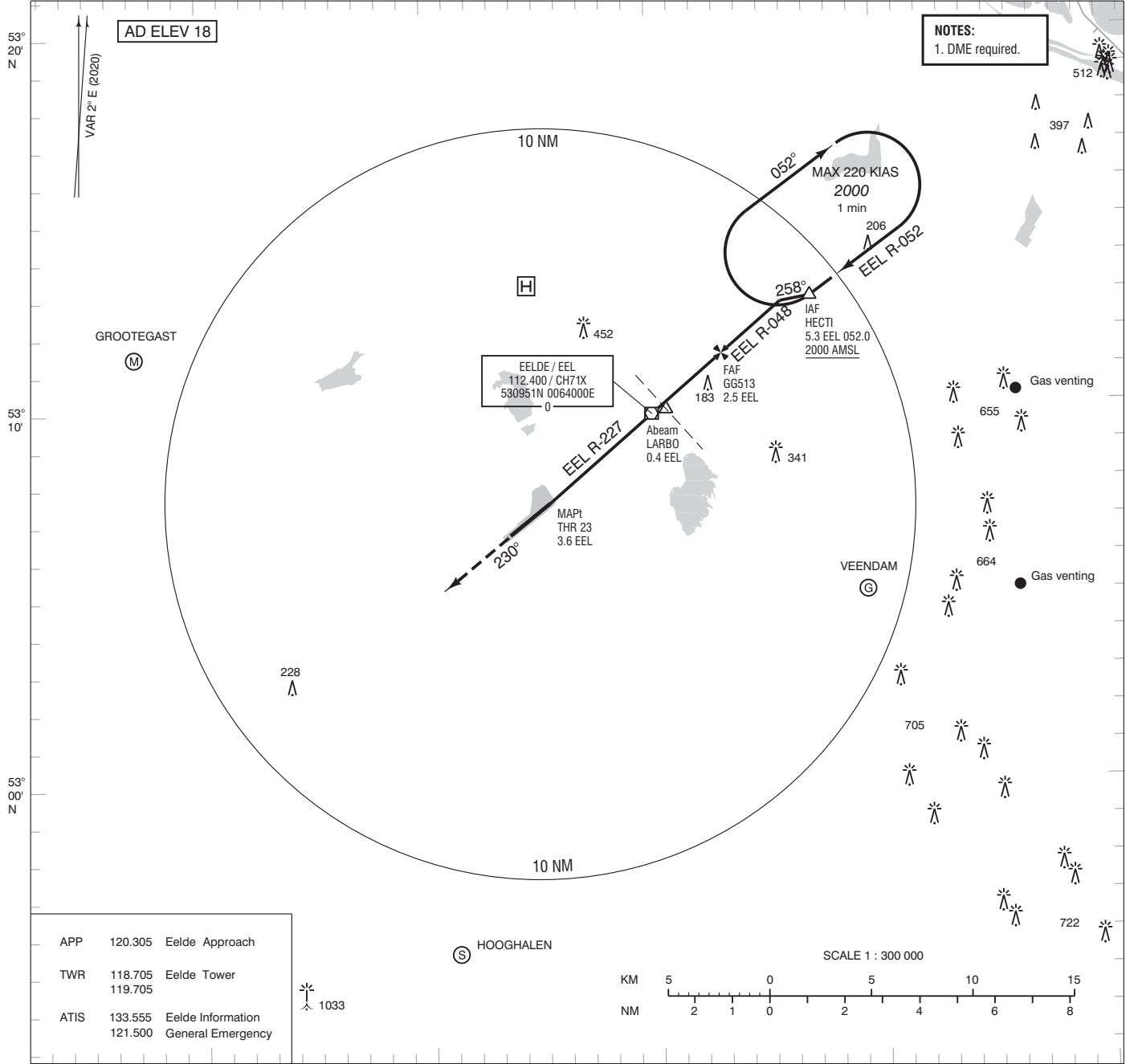
| | | |
|-------|--------------------|-------------------|
| APP | 120.305 | Eelde Approach |
| TWR | 118.705 119.705 | Eelde Tower |
| ATIS | 133.555 | Eelde Information |
| | 121.500 | General Emergency |
| EGNOS | CH 52837 | E23A |

TRANSITION LEVEL BY ATC
TRANSITION ALTITUDE 3000 FT AMSL

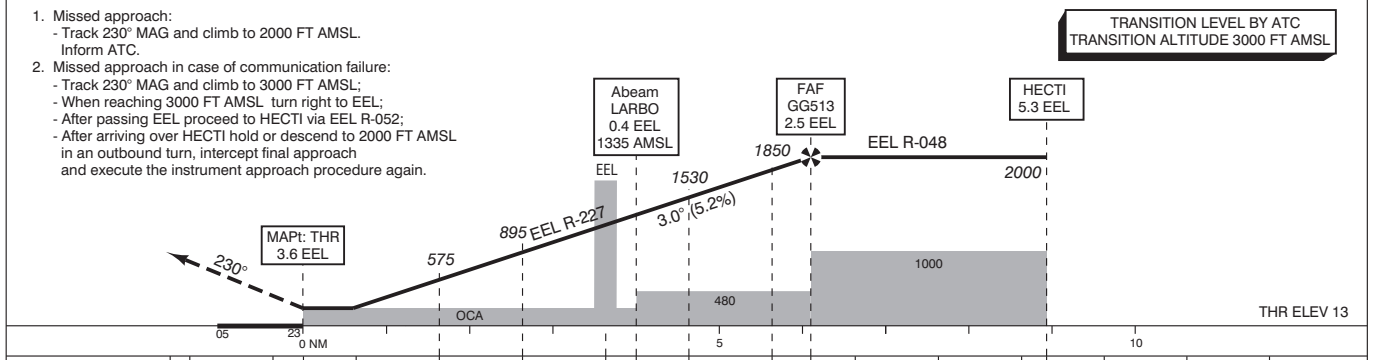
1. Missed Approach:
 - Track 230° MAG and climb to 2000 FT AMSL. Inform ATC.
2. Missed Approach in case of communication failure:
 - Track 230° MAG and climb to 3000 FT AMSL;
 - When reaching 3000 FT AMSL turn right to EEL;
 - After passing EEL proceed to HECTI via EEL R-052;
 - After arriving over HECTI hold or descend to 2000 FT AMSL in an outbound turn, intercept final approach and execute the instrument approach procedure again.



| | | | | | | | |
|--------------------------------|------------|-----------------------------|------------|---|--|-------------------------------------|--|
| GS IN KT | 60 | 80 | 100 | 120 | 140 | 160 | 180 |
| VERTICAL SPEED | 320 FT/MIN | 425 FT/MIN | 530 FT/MIN | 635 FT/MIN | 745 FT/MIN | 850 FT/MIN | 955 FT/MIN |
| OCA (OCH) ELEV THR 23: 12.5 FT | | | | | | | |
| ACFT CAT | LPV | LNAV/VNAV MNM TEMP -15°C | LNAV | CIRCLING* | THR 23 GG512 GG752 | 530729.8N 531114.8N 525946.2N | 0063525.0E 0064322.6E 0061908.7E |
| A | 263 (251) | 280 (268) | 440 (422) | 450 (432) | MSA BASED ON EEL VOR/DME | | |
| B | 263 (251) | 290 (278) | | 520 (502) | | | |
| C | 263 (251) | 300 (288) | | 620 (602) | | | |
| D | 263 (251) | 310 (298) | | 850 (832) | | | |
| CEILING AND VISIBILITY MINIMA | | | | * Circling approaches shall be executed south-east of the AD, unless otherwise instructed by ATC. | DIRECTIONS ARE MAGNETIC DISTANCES IN NM ALTITUDES AND ELEVATIONS IN FEET | | |
| TAKE-OFF | DAY: | NA | NIGHT: | NA | | | |
| LANDING | DAY: | NA | NIGHT: | NA | | | |



| | | |
|------|---------|-------------------|
| APP | 120.305 | Eelde Approach |
| TWR | 118.705 | Eelde Tower |
| | 119.705 | |
| ATIS | 133.555 | Eelde Information |
| | 121.500 | General Emergency |



| | | | | | | | | | | | | | | | |
|--------------------------------|---------------|------------|-----|---|----|------------|-----|-----------------------------|---|----------------------------|---|------------|--------------------------|------------|--|
| DIST RELATED TO EEL/DME | | 5 | 3.6 | 2 | 1 | 0 NM | 0.4 | 1 | 2 | 2.5 | 5 | 5.3 | 8 | | |
| GS IN KT | | 60 | | 80 | | 100 | | 120 | | 140 | | 160 | | 180 | |
| VERTICAL SPEED | | 320 FT/MIN | | 425 FT/MIN | | 530 FT/MIN | | 635 FT/MIN | | 745 FT/MIN | | 850 FT/MIN | | 955 FT/MIN | |
| OCA (OCH) ELEV THR 23: 12.5 FT | | | | | | | | | | | | | MSA BASED ON EEL VOR/DME | | |
| ACFT CAT | VOR MAPt: THR | CIRCLING* | | * Circling approaches shall be executed south-east of the AD, unless otherwise instructed by ATC. | | | | THR 23 530729.8N 0063525.0E | | GG513 531125.6N 0064307.9E | | | | | |
| A | 460 (442) | 460 (442) | | | | | | | | | | | | | |
| B | | 520 (502) | | | | | | | | | | | | | |
| C | | 620 (602) | | | | | | | | | | | | | |
| D | | 850 (832) | | | | | | | | | | | | | |
| CEILING AND VISIBILITY MINIMA | | | | | | | | | | | | | | | |
| TAKE-OFF | DAY: | NA | | NIGHT: | NA | | | | | | | | | | |
| LANDING | DAY: | NA | | NIGHT: | NA | | | | | | | | | | |

For description VFR - procedures see EHGG AD 2.22.

Area to be avoided

TMZ EELDE :

- ① MON-FRI before 0800 (0700) and after 1600 (1500), SAT, SUN, and HOL.
- ② MON-FRI 0800-1600 (0700-1500), EXCL HOL: lower limit for non-motorised hanggliders and paragliders.
- ③ MON-FRI 0800-1600 (0700-1500), EXCL HOL: lower limit 1200 FT AMSL.

CAUTION:

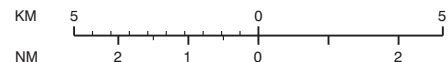
The railway shall not be crossed when joining UNIFORM DEPARTURE.

| | | |
|-----------|---------|-------------------|
| APP | 120.305 | Eelde Approach |
| TWR | 118.705 | Eelde Tower |
| | 119.705 | |
| | 121.705 | Eelde Delivery |
| FIC (MIL) | 132.350 | Dutch MIL Info |
| ATIS | 133.555 | Eelde Information |

DIRECTIONS ARE MAGNETIC DISTANCES IN NM ALTITUDES AND ELEVATIONS IN FEET AMSL

HIGHEST KNOWN ELEVATION ON THIS CHART: 705

SCALE 1 : 200 000



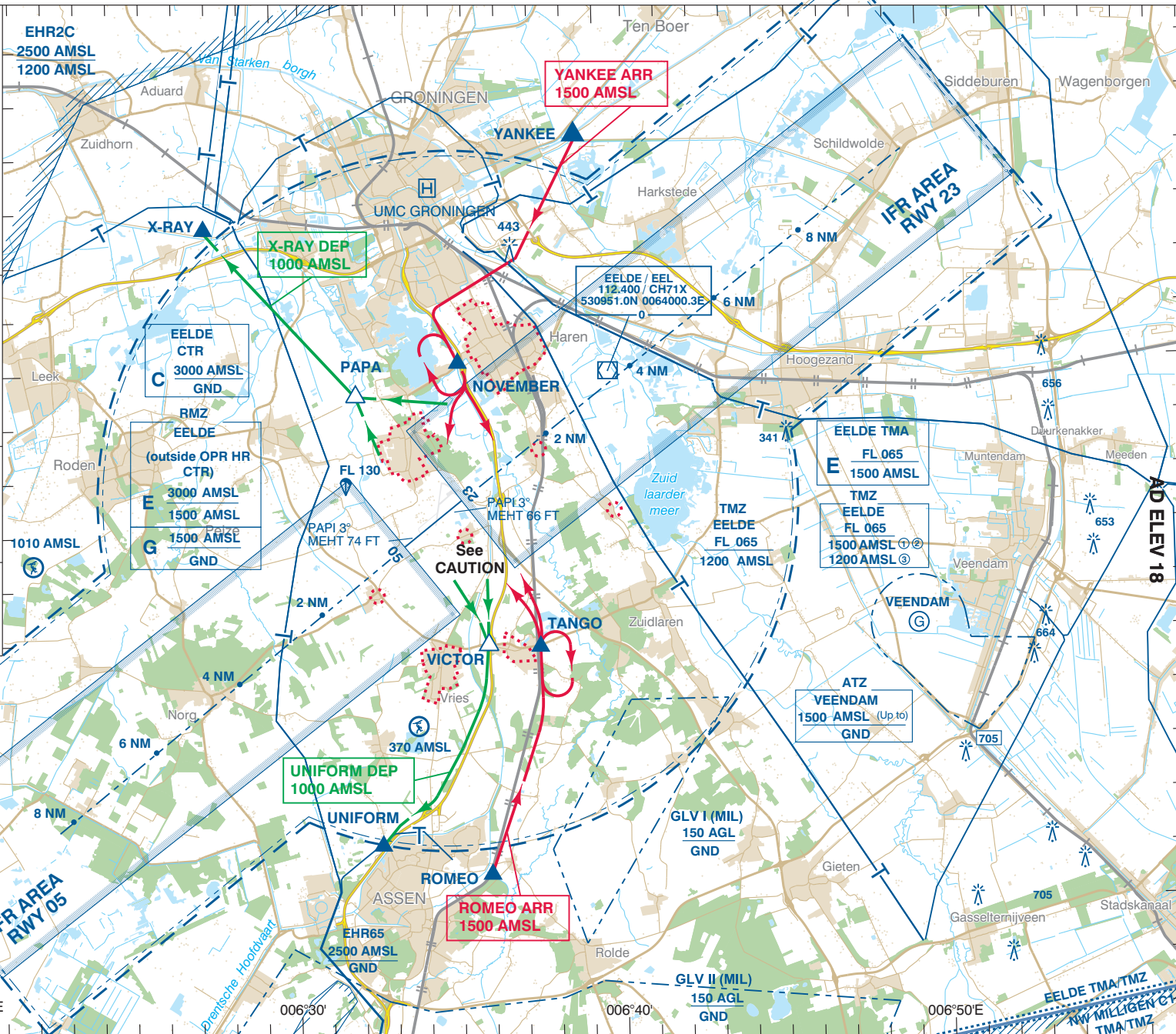
53° 00' N

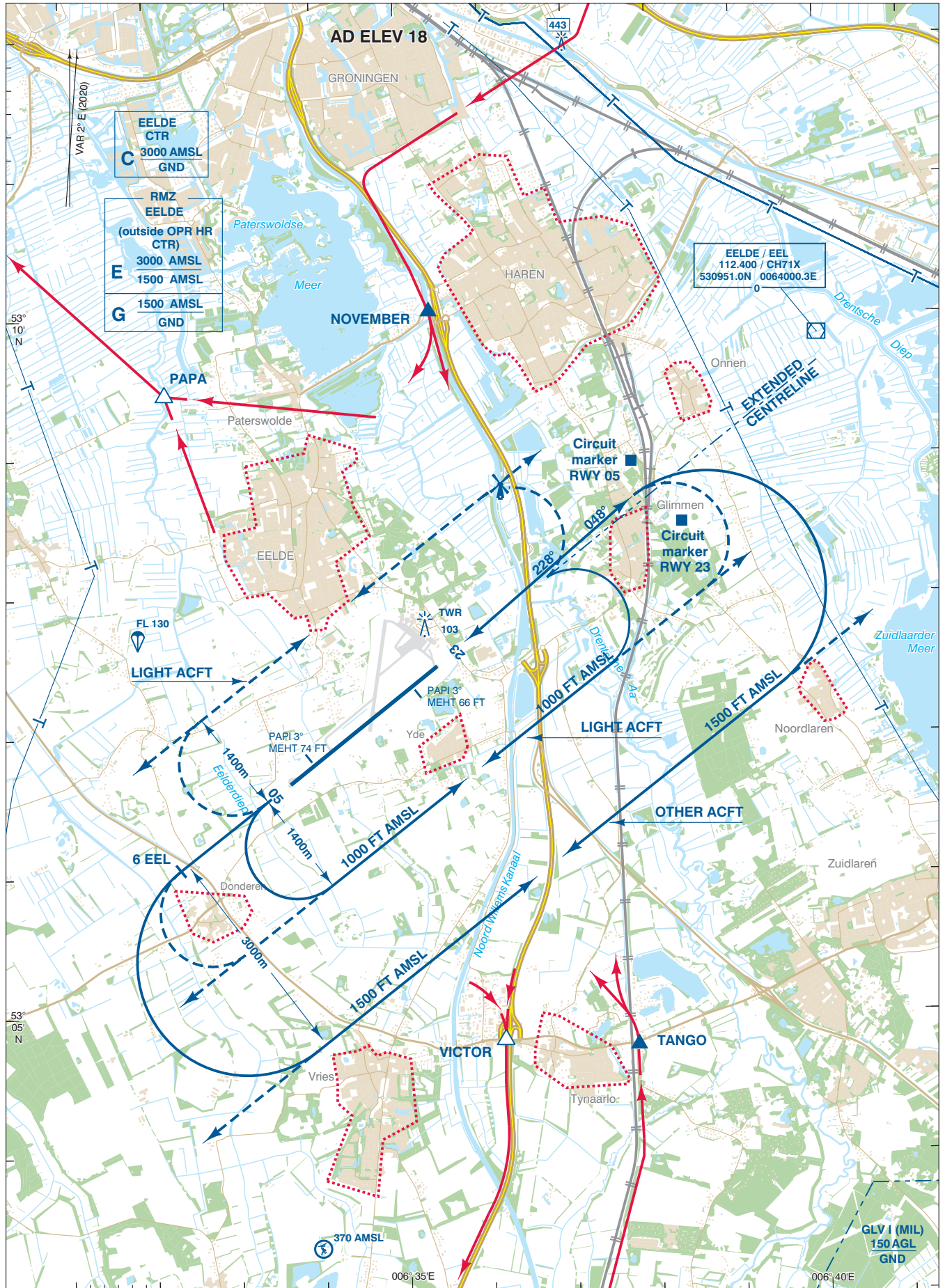
006°20'E

006°30'

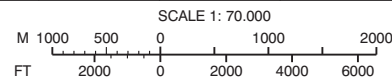
006°40'

006°50'E





- ⋯ Area to be avoided
- Circuit
- - - Circuit at ATC discretion
- Arrival / Departure route
- Visual circuit marker (orange coloured)



DIRECTIONS ARE MAGNETIC
DISTANCES IN NM
ALTITUDES AND ELEVATIONS
IN FEET AMSL
HIGHEST KNOWN ELEVATION
ON THIS CHART: **443**

| | | |
|------|---------|-------------------|
| TWR | 118.705 | Eelde Tower |
| | 119.705 | |
| | 121.705 | Eelde Delivery |
| APP | 120.305 | Eelde Approach |
| ATIS | 133.555 | Eelde Information |

