

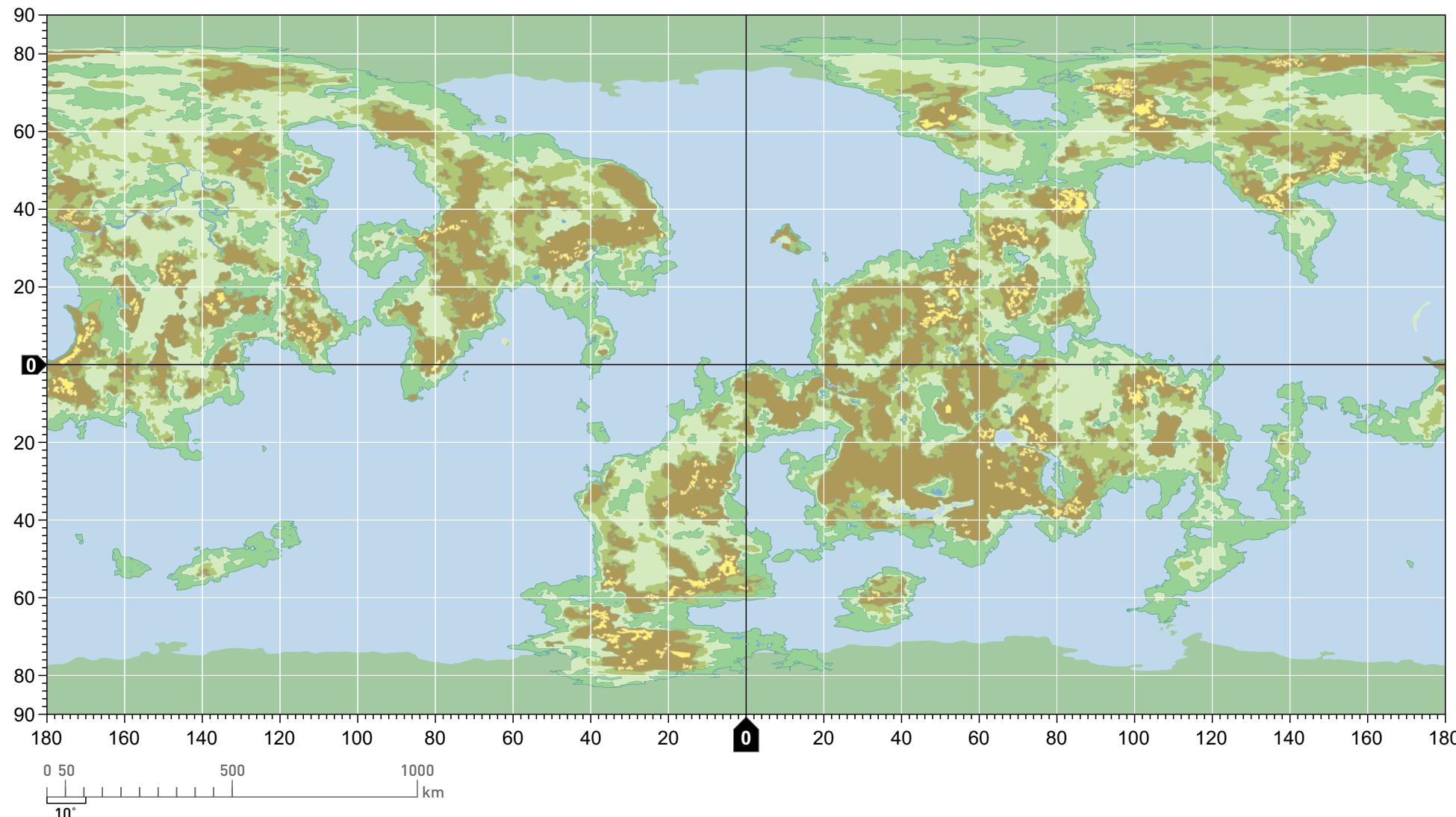


AERONAUTICAL CHARTS

KERBAL SPACE PROGRAM
KERBIN, 2017

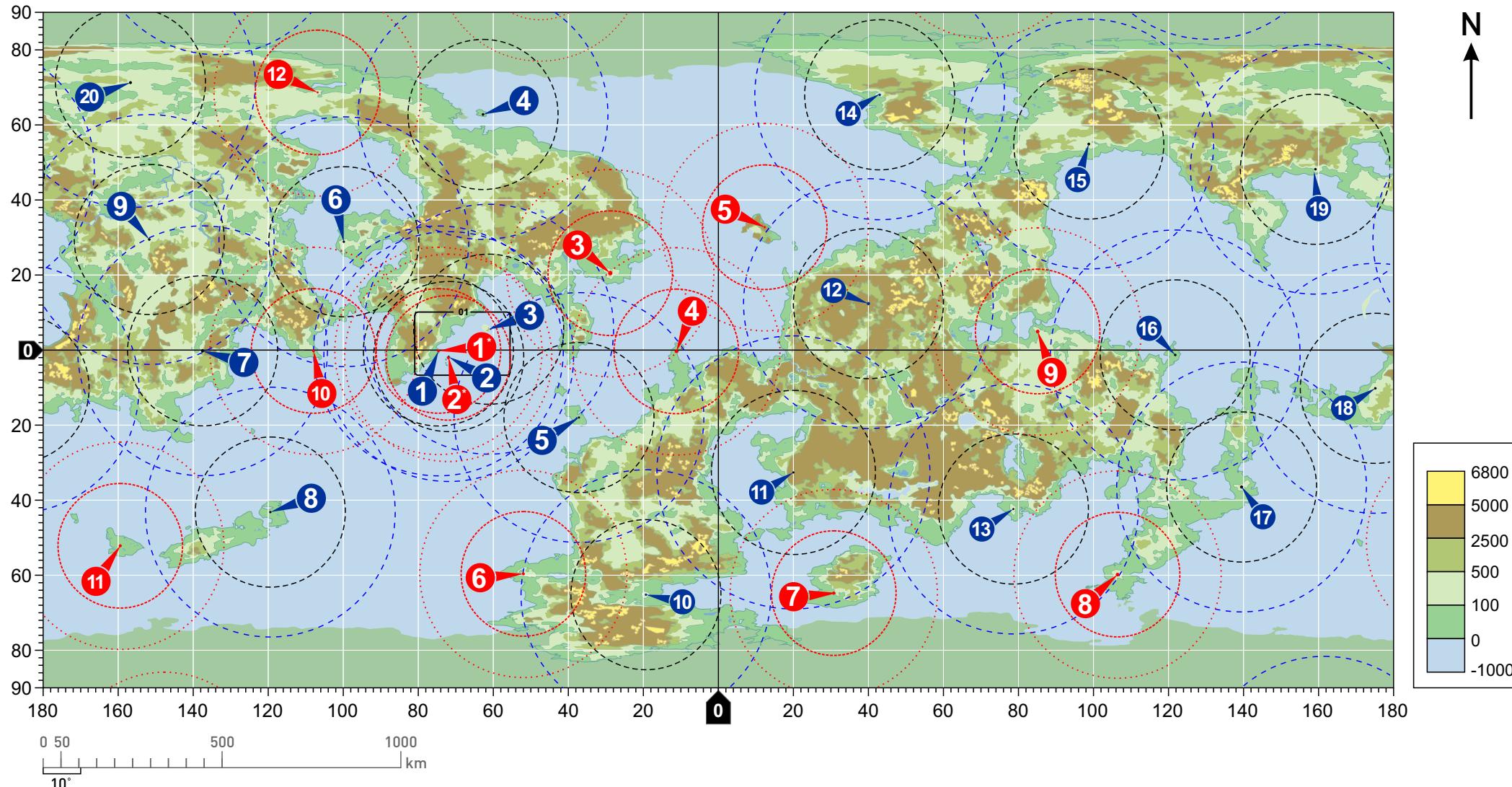
KERBIN

TERRAIN MAP



KERBIN

NAVAIDS OVERVIEW



01



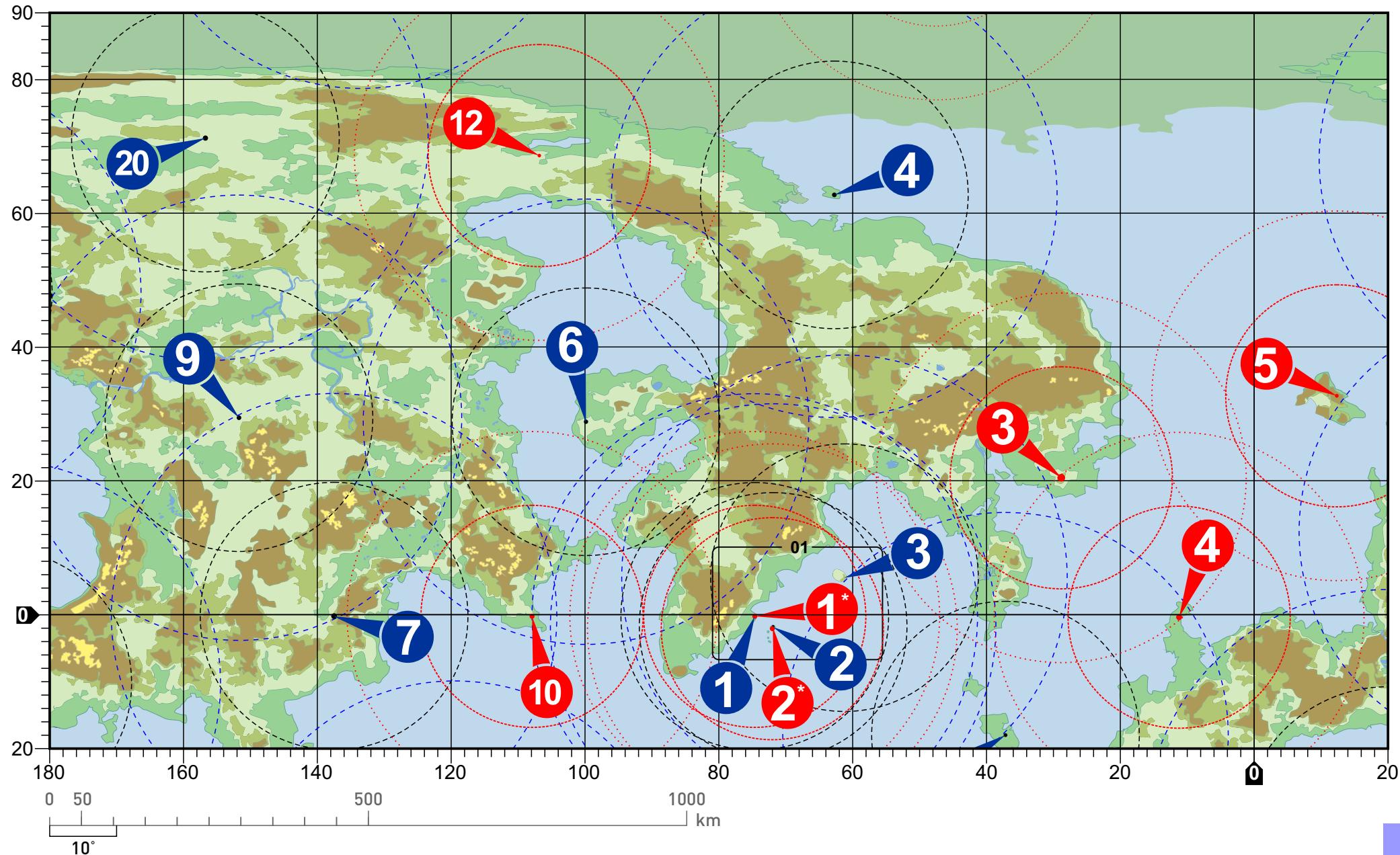
- detailed view on pages 2-2,2-6,4-1

- more than one facilities

Navigation Aid	VOR	DME	NDB
approx range for ALT 5000 m	186 KM	217 KM	155 KM
approx range for ALT 10000 m	263 KM	306 KM	263 KM

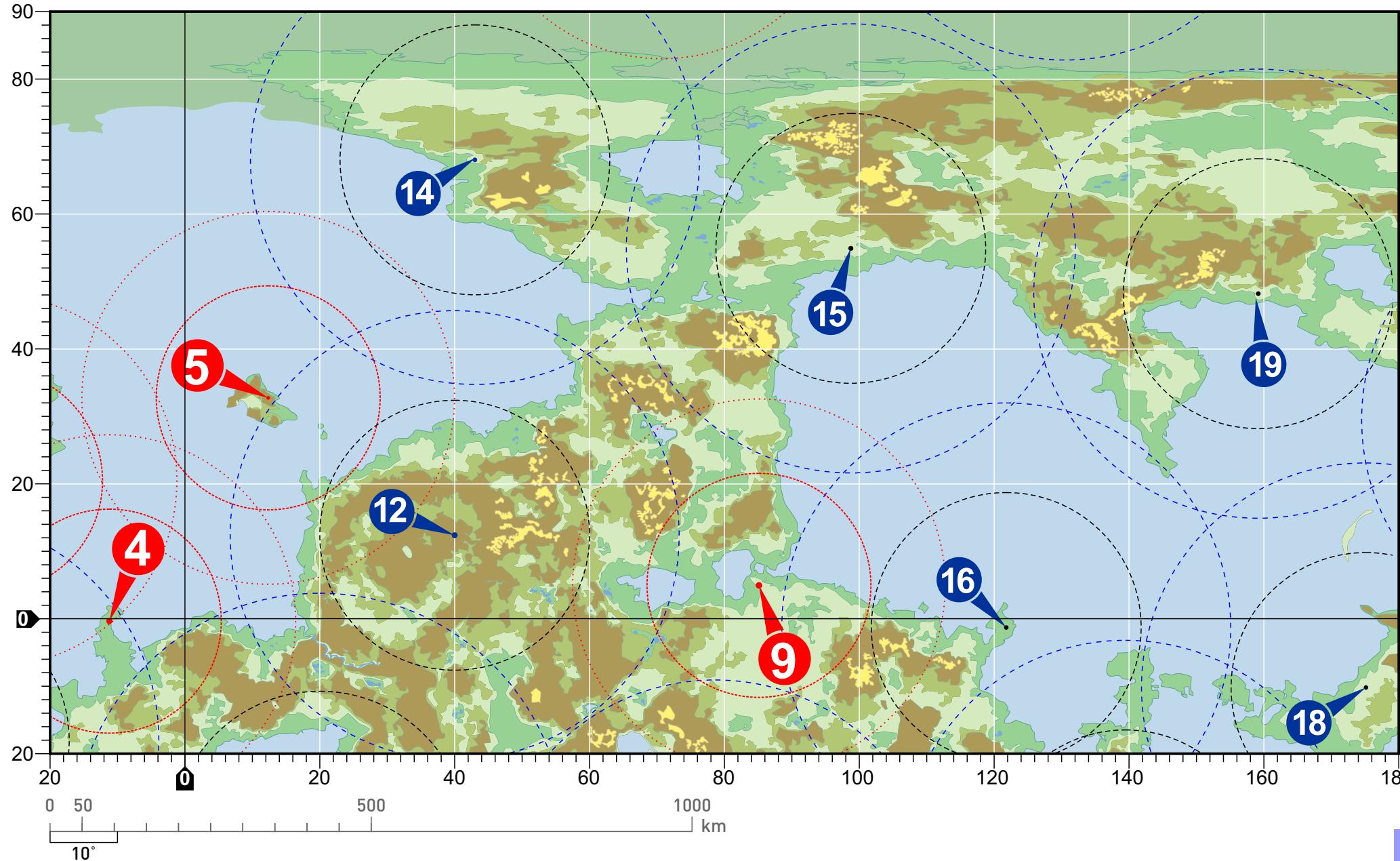
KERBIN

NAVAIDS OVERVIEW (NORTH-WEST)



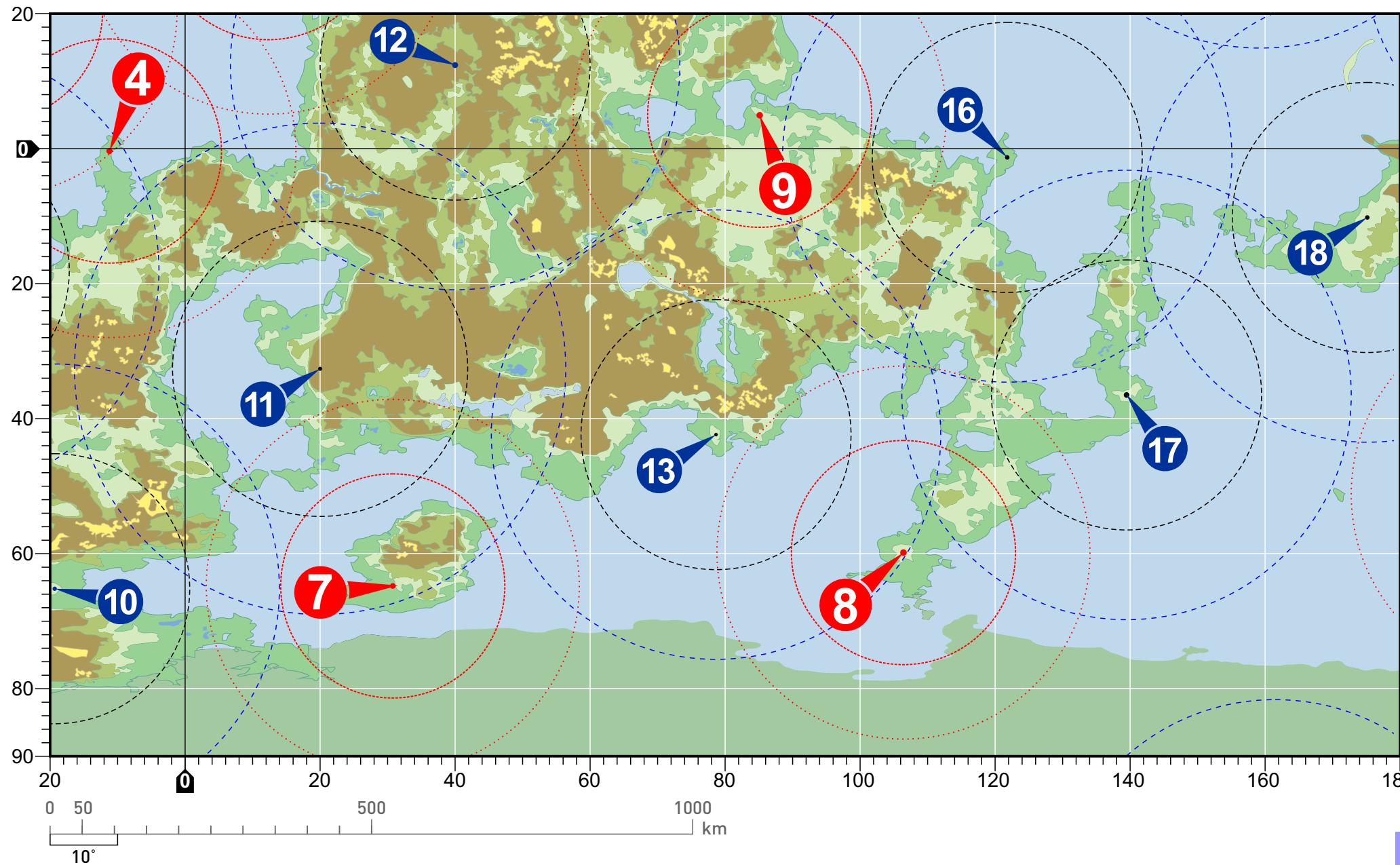
KERBIN

NAVAIDS OVERVIEW (NORTH-EAST)



KERBIN

NAVAIDS OVERVIEW (SOUTH-EAST)

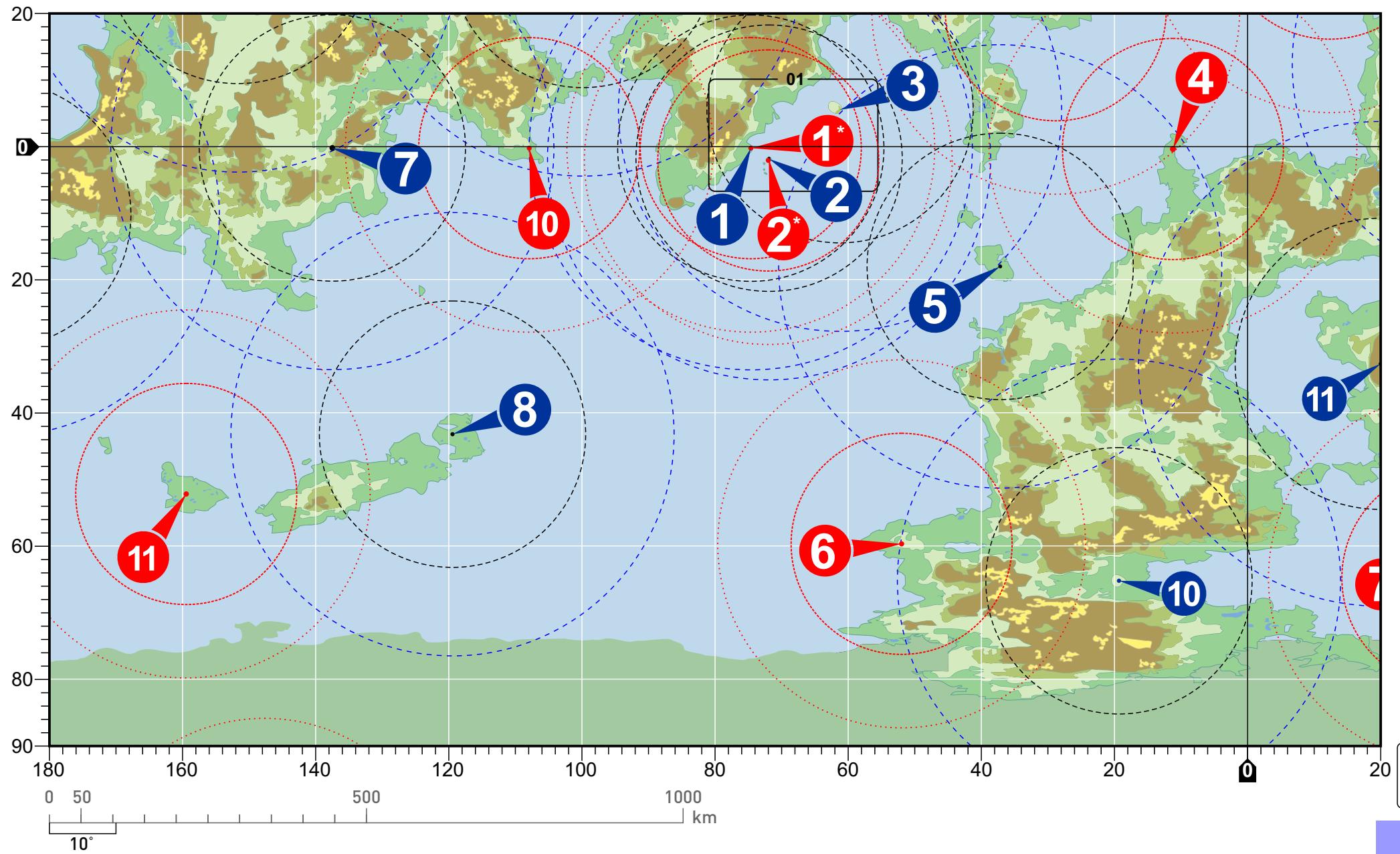
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2-4

25-Nov-2017

KERBIN

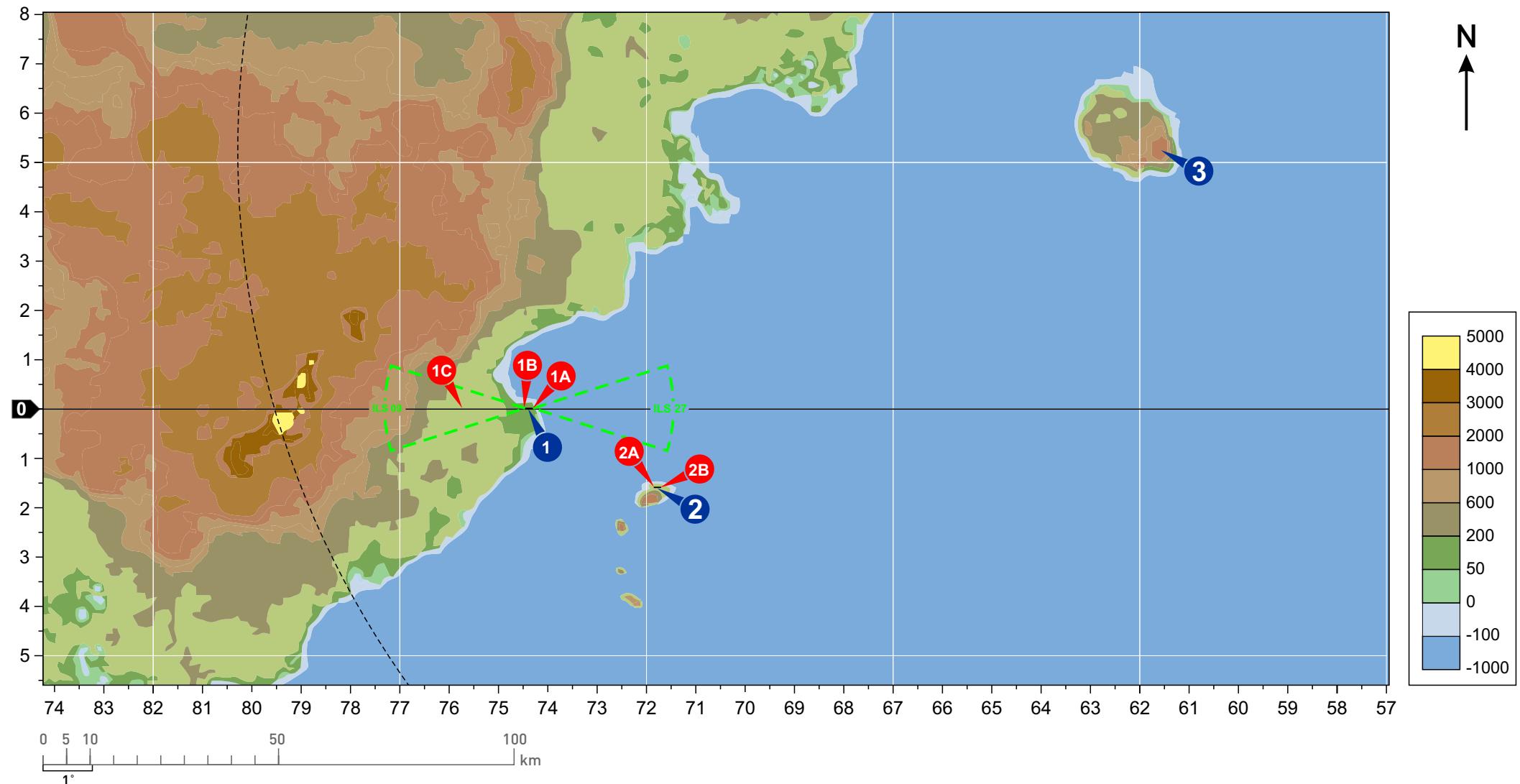
NAVAIDS OVERVIEW (SOUTH-WEST)



25-Nov-2017

KSC SECTOR

NAVAIDS



25-Nov-2017

NAVAIDS

VOR DME

	NAME	ID	FREQUENCY	MORSE CODE	COORDINATES	ALTITUDE
1A	CENTER	KST	113.30	- - - - -	0° 03' 47" S 74° 37' 60" W	160
2	AIRFIELD	IFT	114.20	.. - - - -	1° 31' 24" S 71° 54' 40" W	181.9
3	EASTERN	ESI	116.40	5° 37' 26" S 61° 15' 55" W	1442
4	NAME 04	ID04	112.10	- - - - -	62° 39' 58" N 62° 48' 14" W	414
5	NAME 05	ID05	113.50	- - - - -	18° 19' 31" S 37° 02' 45" W	375
6	NAME 06	ID06	115.10	- - - - -	29° 01' 33" N 99° 45' 21" W	770
7	NAME 07	ID07	114.70	- - - - -	0° 29' 00" S 136° 33' 36" W	1462
8	NAME 08	ID08	116.70	- - - - -	43° 00' 02" S 120° 19' 20" W	273
9	NAME 09	ID09	113.80	- - - - -	30° 04' 50" N 151° 27' 27" W	760
10	NAME 10	ID10	115.20	- - - - -	64° 49' 09" S 19° 14' 53" W	825
11	NAME 11	ID11	117.10	- - - - -	31° 33' 10" S 21° 47' 49" E	2136
12	NAME 12	ID12	114.30	- - - - -	12° 09' 03" N 39° 52' 49" E	1323
13	NAME 13	ID13	117.60	- - - - -	44° 50' 09" S 78° 35' 46" E	889
14	NAME 14	ID14	113.10	- - - - -	70° 22' 42" N 41° 25' 07" E	1137
15	NAME 15	ID15	116.60	- - - - -	54° 17' 40" N 99° 42' 43" E	632
16	NAME 16	ID16	115.30	- - - - -	1° 19' 06" S 121° 46' 21" E	359
17	NAME 17	ID17	117.20	- - - - -	36° 45' 37" S 139° 21' 54" E	596

25-Nov-2017

NAVAIDS

NDB DME

	NAME	ID	FREQUENCY	MORSE CODE	COORDINATES	ALTITUDE
1A	KKSC ILS 27	IWE	110.10	··· - - ·	0° 03' 01" S 74° 31' 03" W	70
1B	KKSC ILS 09	IKW	108.50	··· - - - -	0° 02' 55" S 74° 41' 57" W	70
1C	BAKOR	SCE	197.00	··· - - -	0° 02' 55" S 77° 33' 54" W	745
2A	BASE WEST	IRW	191.00	··· - - - - -	1° 30' 58" S 71° 58' 53" W	83.4
2B	BASE EAST	IRE	194.00	··· - - - -	1° 30' 58" S 71° 50' 18" W	97.8
3	NAME 03	Id03	192.00	- - - - -	20° 41' 54" N 28° 47' 03" W	1039
4	NAME 04	Id04	201.00	- - - - -	0° 46' 08" N 10° 24' 54" W	228
5	NAME 05	Id05	208.00	- - - - -	32° 24' 35" N 12° 34' 06" E	2208
6	NAME 06	Id06	211.00	- - - - -	59° 22' 12" S 52° 11' 06" W	530
7	NAME 07	Id07	209.00	- - - - -	64° 22' 48" S 31° 35' 48" E	518
8	NAME 08	Id08	195.00	- - - - -	60° 09' 40" S 106° 23' 30" E	605
9	NAME 09	Id09	198.00	- - - - -	4° 02' 35" N 85° 44' 14" E	476
10	NAME 10	Id10	202.00	- - - - -	0° 15' 49" N 108° 37' 58" W	514
11	NAME 11	Id11	203.00	- - - - -	51° 57' 55" S 159° 27' 20" W	340
12	NAME 12	Id12	210.00	- - - - -	68° 25' 22" N 108° 28' 44" W	747

NAVAIDS

ILS DME AND MARKERS

NAME	ID	FREQUENCY	MORSE CODE	COORDINATES	ALTITUDE	TDZ	DISTANCE
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KERBAL SPACE CENTER (KKSC)*RWY 09*

1	KKSC ILS 09	IKW	108.50	··--- ·--	0° 02' 55" S 74° 41' 57" W	70	
	Outer Marker				0° 02' 55" S 75° 29' 31" W	240	8300
	Middle Marker				0° 02' 55" S 74° 49' 26" W	65	1300
	Inner Marker				0° 02' 55" S 74° 44' 49" W	65	500

RWY 27

2	KKSC ILS 27	IWE	110.10	··--- ·-	0° 03' 01" S 74° 31' 03" W	70	
	Middle Marker				0° 03' 01" S 74° 23' 38" W	0	1100
	Inner Marker				0° 03' 01" S 74° 28' 10" W	57	500

ISLAND AIR FIELD (KAFD)*RWY 09*

3	Inner Marker				1° 30' 58" S 71° 50' 18" W	98	146
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RWY 27

4	Inner Marker				1° 30' 58" S 71° 51' 19" W	134	155
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JEBBESEN

25-Nov-2017

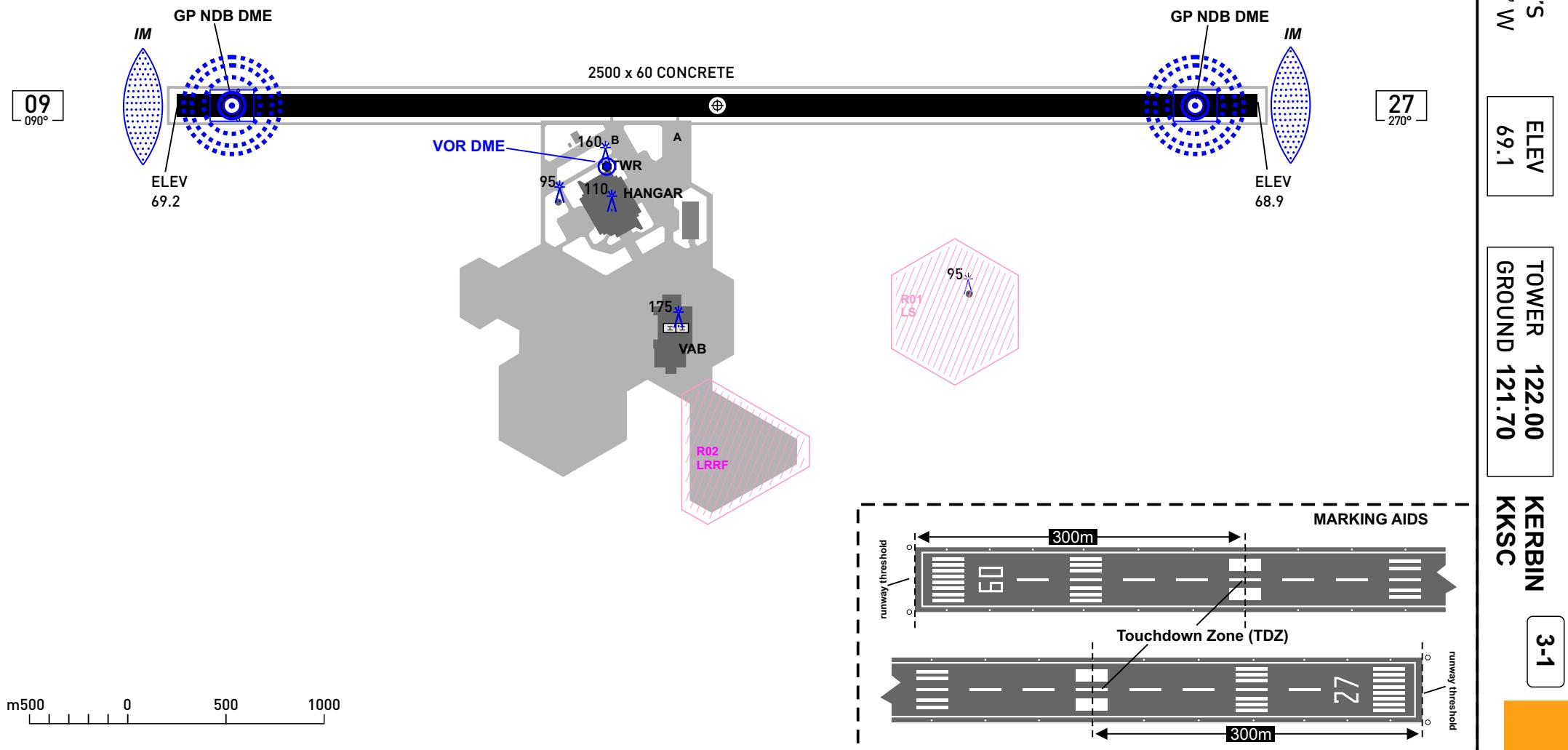
**ELEVATIONS AND
DIMENSIONS IN METERS**

RWY	DIRECTION	THR
09	89°51'	0°03'01"S 74°29'19"W
27	270°09'	0°02'55"S 74°43'42"W

3-1

AERODROME
CHART0°03'00"S
74°36'27"WELEV
69.1TOWER
122.00
GROUND
121.70KERBIN
KKSC

3-1



3-2

AERODROME
CHART

1° 31' 03" S
71° 54' 40" W

ELEV
133.7

TOWER
GROUND
122.00
121.70

KERBIN
KAFD

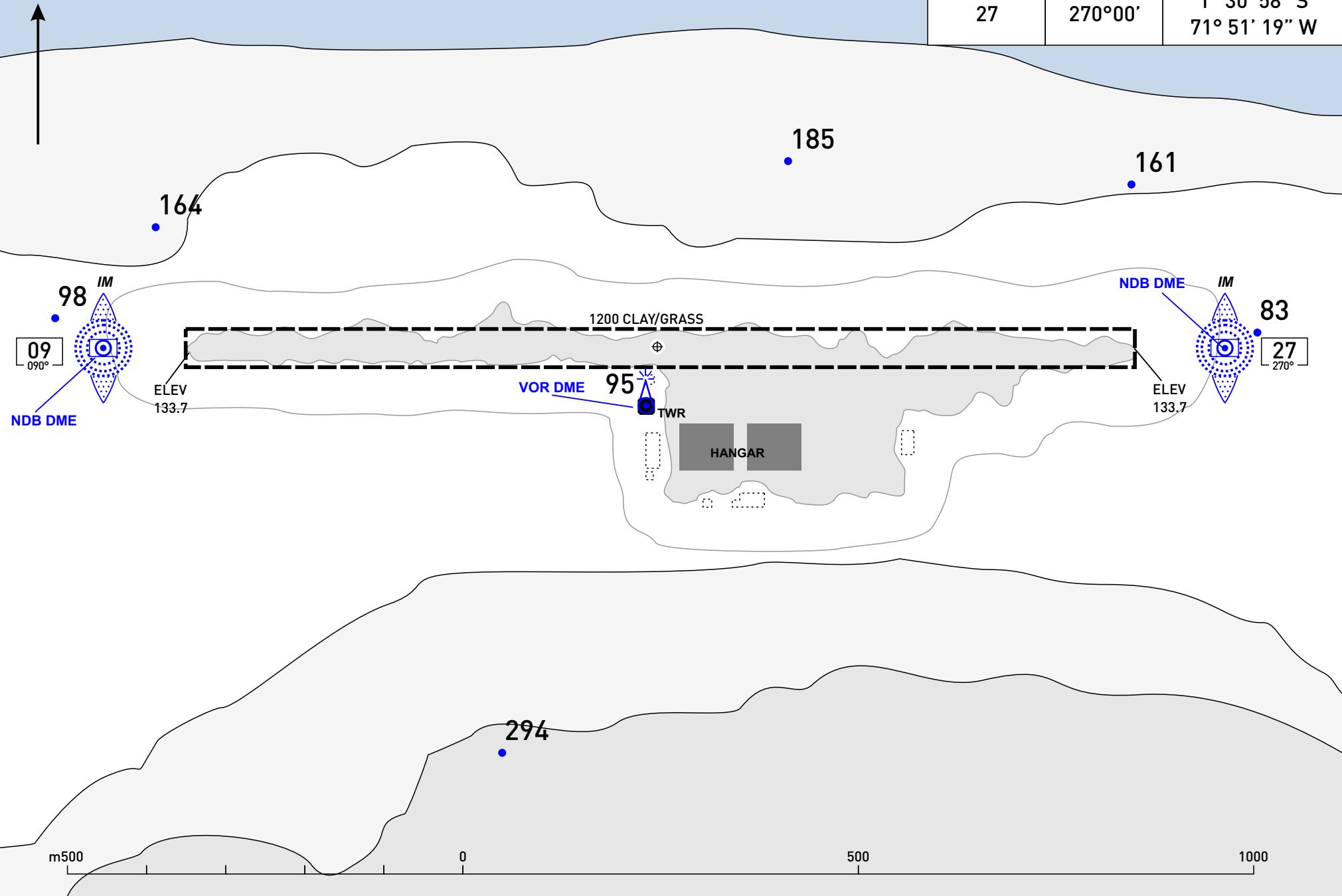
3-2

JEBBESEN

25-Nov-2017

ELEVATIONS AND
DIMENSIONS IN METERS

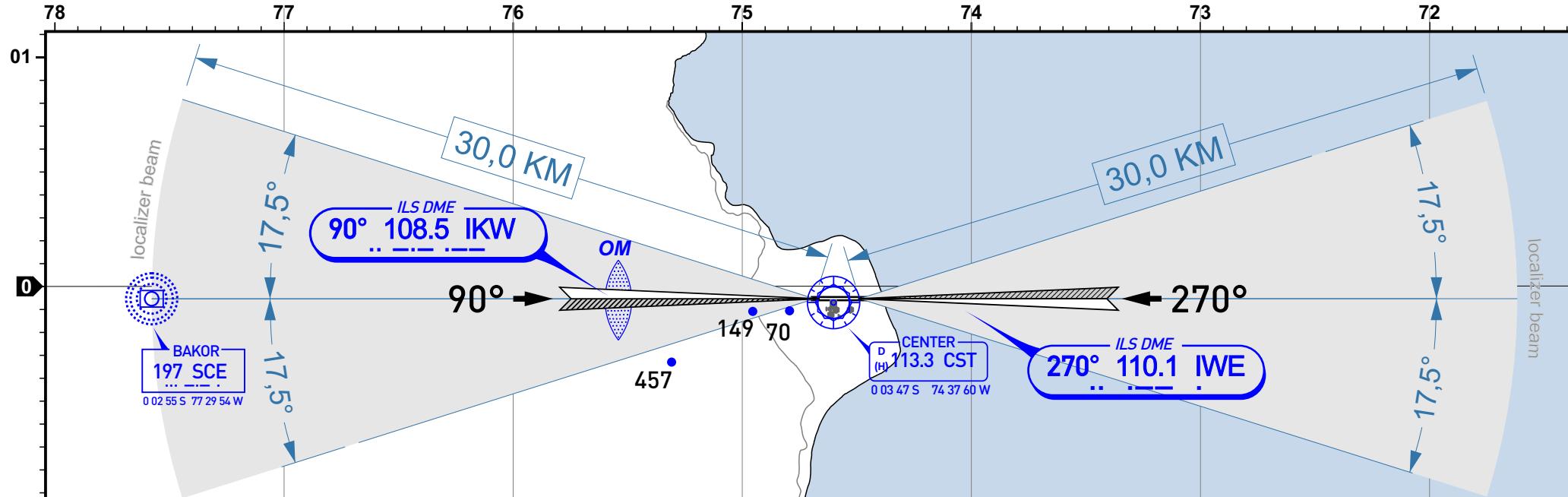
RWY	DIRECTION	THR
09	90°00'	1° 30' 58" S 71° 58' 02" W
27	270°00'	1° 30' 58" S 71° 51' 19" W



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25-Nov-2017

KKSC ILS 09, ILS 27 OVERVIEW

4-1



MARKERS

OM

D8.3
IKW

MM

D4.3
IKW

IM

D0.5
IKW

IM

D0.5
IWE

MM

D1.1
IWE

0 1 5 km

4-1

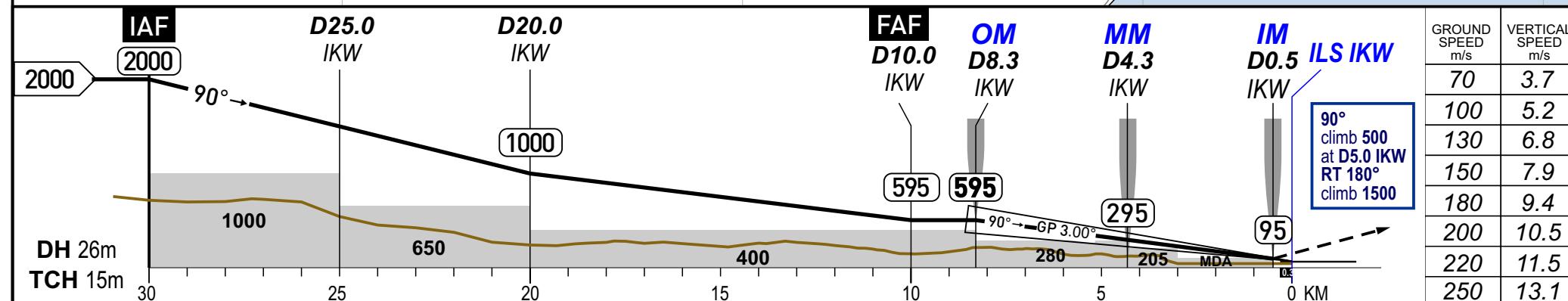
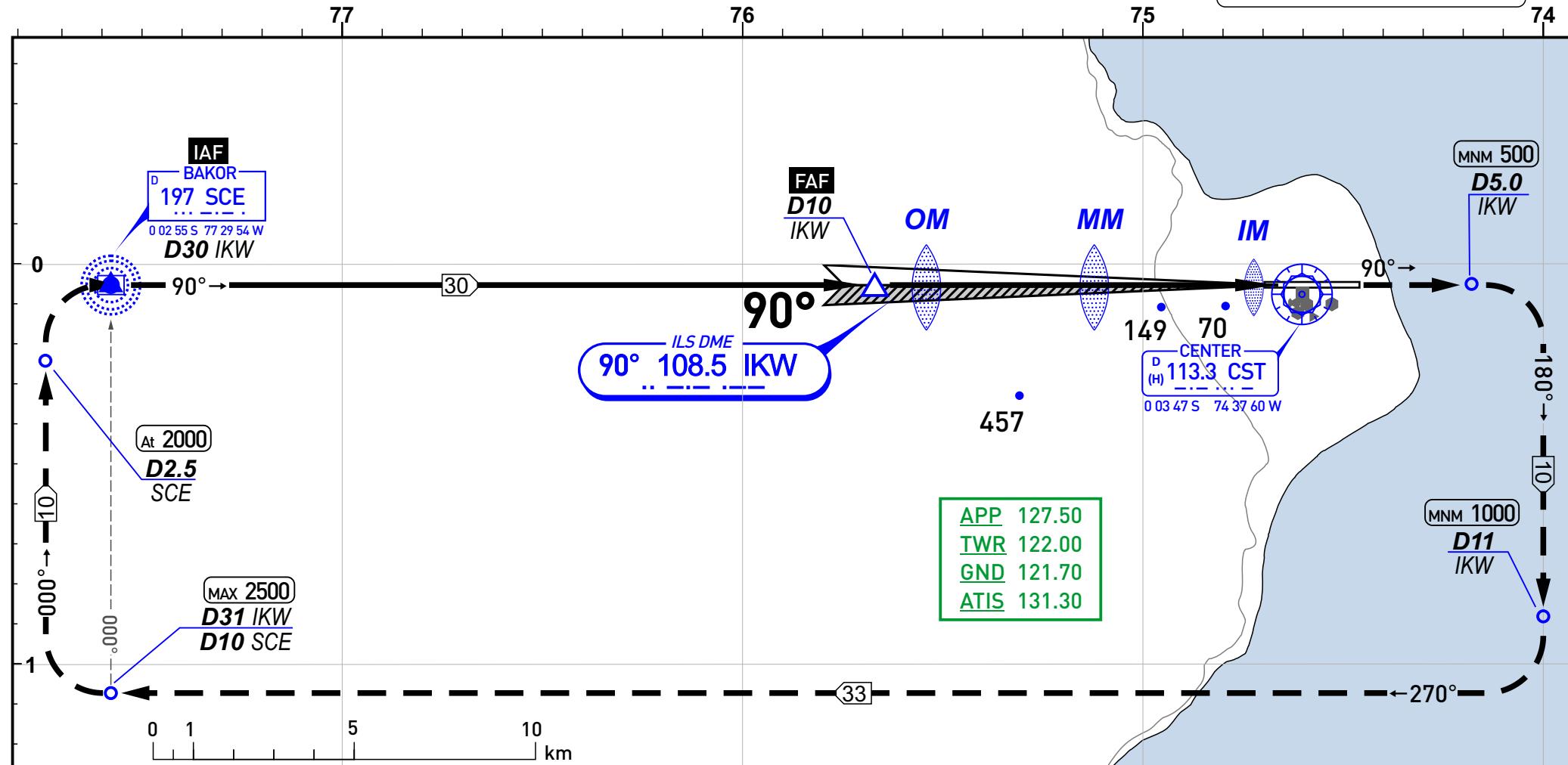
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25-Nov-2017

KKSC

4-2

ILS DME RWY 09



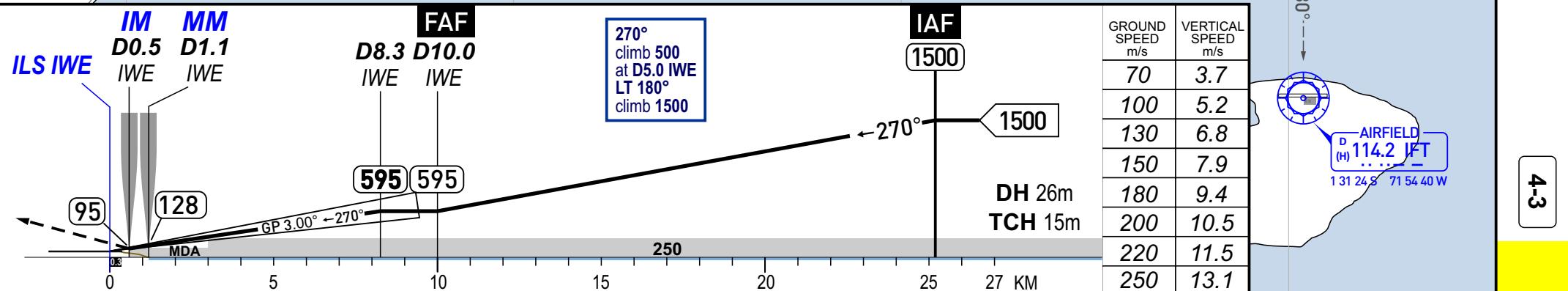
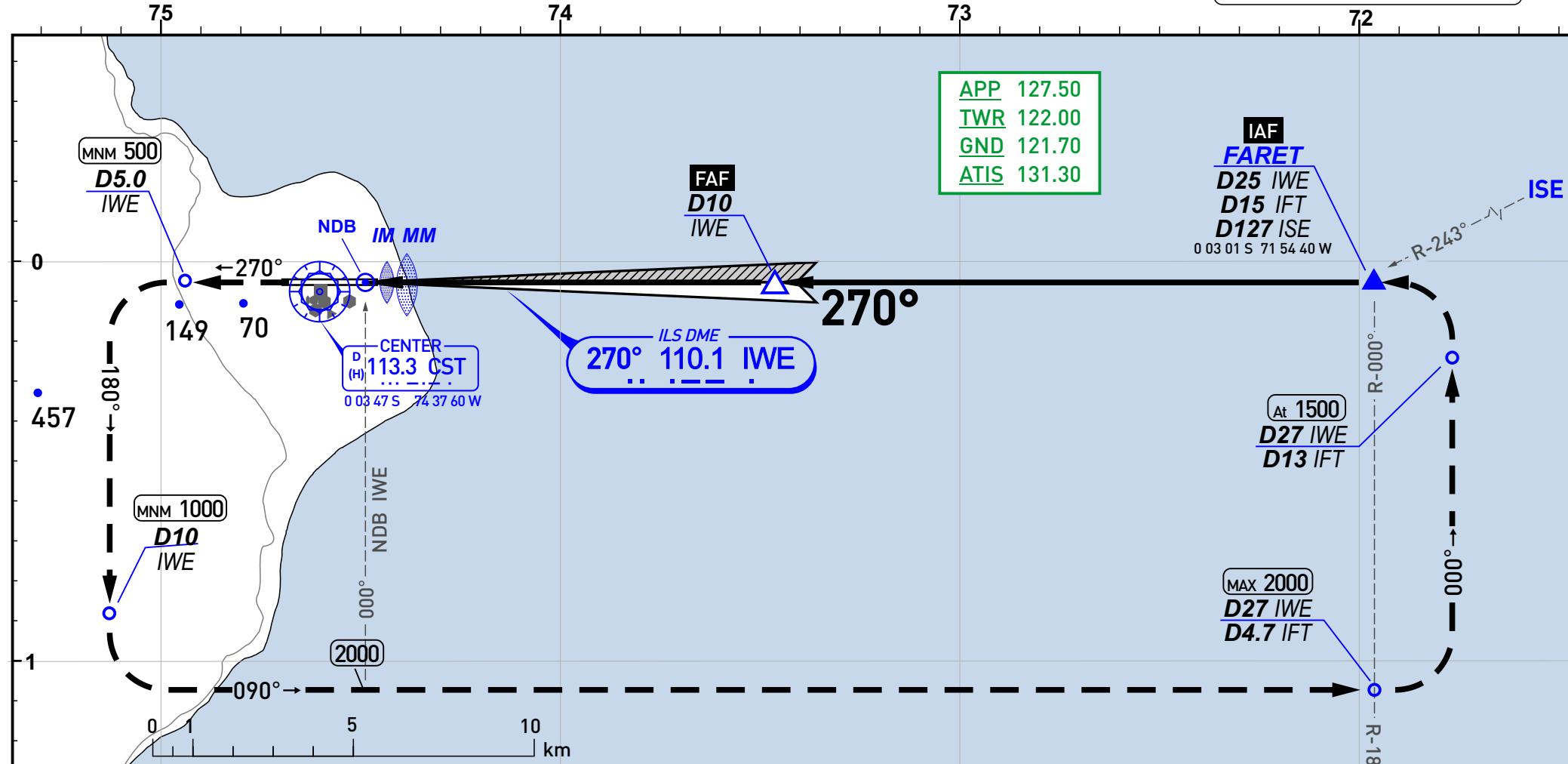
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25-Nov-2017

KKSC

4-3

ILS DME RWY 27

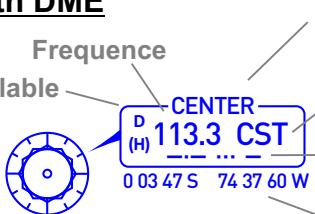
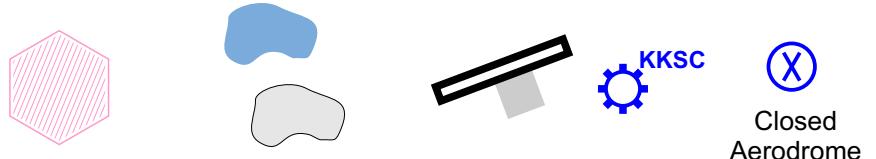
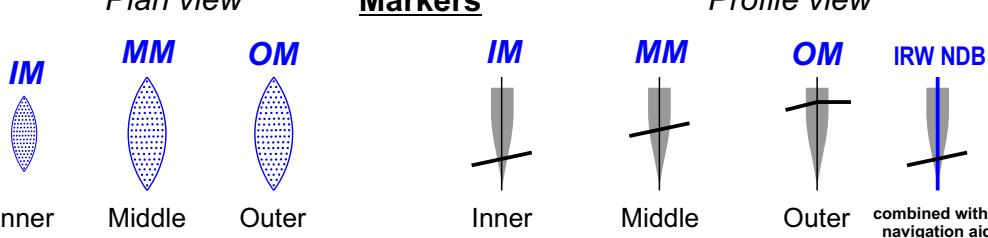
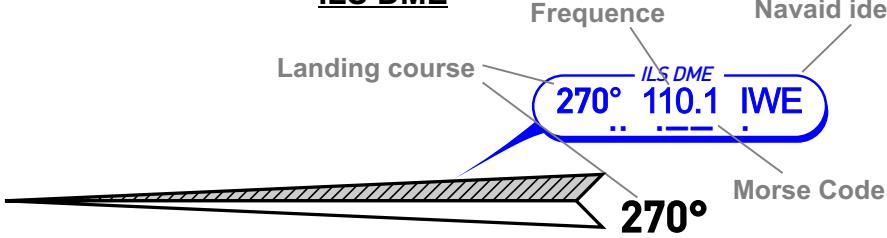
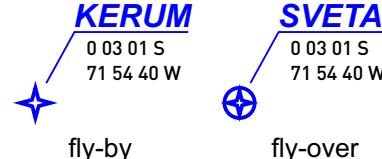


JEBBESEN

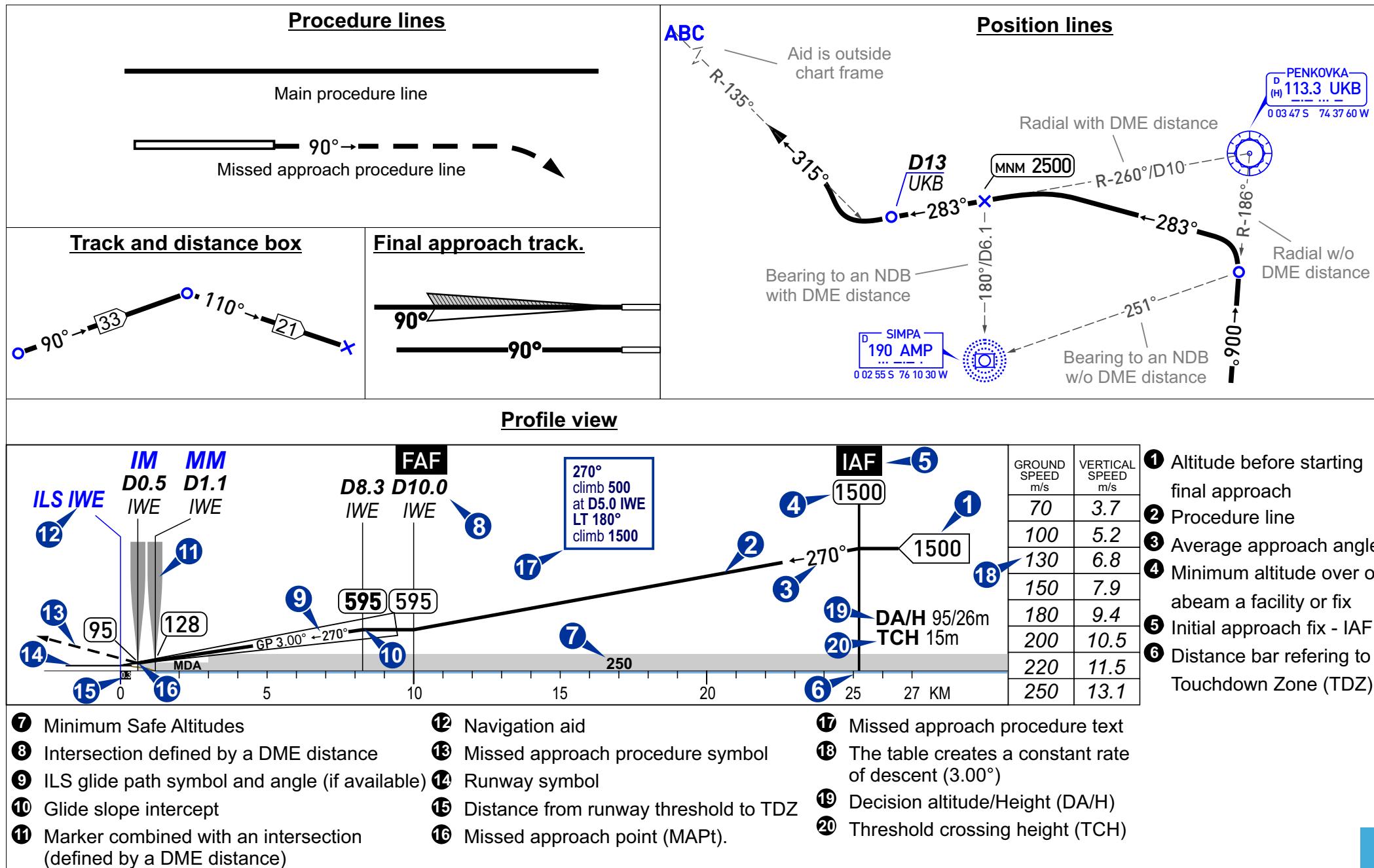
25-Nov-2017

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AEROCHART LEGEND

<p>VOR co-located with DME</p>  <p>DME Available</p> <p>Name: CENTER Frequency: 113.3 CST Morse Code: D-H Coordinates: 00 03 47 S 74 37 60 W Navaid ident: CENTER</p>	<p>Structure Terrain elevation Highest terrain point</p> <table border="1"> <tr> <td>95</td> <td>95</td> <td>421</td> </tr> <tr> <td>Lighted</td> <td>Un-Lighted</td> <td>871</td> </tr> </table>	95	95	421	Lighted	Un-Lighted	871
95	95	421					
Lighted	Un-Lighted	871					
<p>NDB co-located with DME</p>  <p>BAKOR 197 SCE 00 02 55 S 76 10 30 W</p>	<p>Restricted and danger areas Water area Aerodrome symbols</p>  <p>KKSC</p> <p>Closed Aerodrome</p>						
<p>Plan view</p>  <p>IM MM OM</p> <p>Inner Middle Outer</p> <p>Profile view</p> <p>IM MM OM IRW NDB</p> <p>Inner Middle Outer combined with a navigation aid</p>	<p>Helicopter landing site Runways</p>  <p>Paved</p> <p>Unpaved</p>						
<p>ILS DME</p>  <p>Landing course: 270°</p> <p>Frequency: 110.1 IWE</p> <p>Morse Code: 270°</p>	<p>Waypoint / Fix (with radio aid)</p>  <p>Name: MNM 500 Frequency: TEMPO Radial and DME dist.: R243 D120 LMO Coordinates: 00 03 01 S 71 54 40 W Restriction: At 2500 Navaid ident: D6.0 ABC</p>						
<p>Altitudes</p> <p>MNM 500 At 1500 MAX 2000 2000</p> <p>Minimum or not below Mandatory or compulsory Maximum or not above Recommended</p>	<p>Waypoint / Fix (RNAV/GPS)</p>  <p>KERUM 00 03 01 S 71 54 40 W fly-by</p> <p>SVETA 00 03 01 S 71 54 40 W fly-over</p> <p>Mileage break</p> <p>x</p> <p>Approach fix</p> <p>IAF FAF</p> <p>Initial Final</p>						

AEROCHART LEGEND



DEFINITIONS

Aerodrome elevation. The elevation of the highest point of the landing area.

Altitude. The vertical distance of a level, a point or an object considered as a point, measured above sea level (ASL).

Area navigation (RNAV). A method of navigation which permits aircraft operation on any desired flight path within the coverage of the station-referenced navigation aids or within the limits of the capability of self-contained aids, or a combination of these.

Decision altitude (DA) or decision height (DH). A specified altitude or height at which a missed approach must be initiated if the required visual reference to continue the approach has not been established. *Decision altitude (DA)* is referenced to ASL and *decision height (DH)* is referenced to the AGL (Above ground level)

DME distance. The line of sight distance (slant range) from the source of a DME signal to the receiving antenna.

Heading. The direction in which the longitudinal axis of an aircraft is pointed, usually expressed in degrees from North.

Initial approach fix (IAF). A fix that marks the beginning of the initial segment and the end of the arrival segment, if applicable. In RNAV applications this fix is normally defined by a fly-by waypoint.

Minimum descent altitude (MDA). A specified altitude in approach below which descent must not be made without the required visual reference. Minimum descent altitude (MDA) is referenced to ASL

Missed approach point (MAPt). That point in an approach procedure at or before which the prescribed missed approach procedure must be initiated in order to ensure that the minimum obstacle clearance is not infringed.

Missed approach procedure. The procedure to be followed if the approach cannot be continued.

Threshold (THR). The beginning of that portion of the runway usable for landing.

Track. The projection on the earth's surface of the path of an aircraft, the direction of which path at any point is usually expressed in degrees from North.

Waypoint. A specified geographical location used to define an area navigation route or the flight path of an aircraft employing area navigation. Waypoints are identified as either:

Fly-by waypoint. A waypoint which requires turn anticipation to allow tangential interception of the next segment of a route or procedure, or

Flyover waypoint. A waypoint at which a turn is initiated in order to join the next segment of a route or procedure.

ABBREVIATIONS AND ACRONYMS

AGL	Above ground level
ASL	Above sea level
ATC	Air traffic control
CDI	Course deviation indicator
DA/H	Decision altitude/height
DME	Distance measuring equipment
EFIS	Electronic flight instrument system
FAF	Final approach fix
FMC	Flight management computer
GNSS/	Global navigation satellite system
GPS	
GP	Glide path
GPWS	Ground proximity warning system
HSI	Horizontal situation indicator
IAS	Indicated airspeed
ILS	Instrument landing system
kt	Knot(s)
km	Kilometre(s)
LNAV	Lateral navigation
m	Metre(s)
MAPt	Missed approach point
MDA/H	Minimum descent altitude/height
NDB	Non-directional beacon
NM	Nautical mile(s)
OM	Outer marker
RNAV	Area navigation
THR	Threshold
VNAV	Vertical navigation
VOR	Very high frequency omnidirectional radio range
VPA	Vertical path angle

SPEED CONVERSION

SPEED m/s	km/min	km/h
5	0,3	18
6	0,36	21,6
7	0,42	25,2
8	0,48	28,8
9	0,54	32,4
10	0,6	36
11	0,66	39,6
12	0,72	43,2
13	0,78	46,8
14	0,84	50,4
15	0,9	54
16	0,96	57,6
17	1,02	61,2
18	1,08	64,8
19	1,14	68,4
20	1,2	72
21	1,26	75,6
22	1,32	79,2
23	1,38	82,8
24	1,44	86,4
25	1,5	90
26	1,56	93,6
27	1,62	97,2
28	1,68	100,8
29	1,74	104,4
30	1,8	108
31	1,86	111,6
32	1,92	115,2
33	1,98	118,8
34	2,04	122,4
35	2,1	126
36	2,16	129,6
37	2,22	133,2
38	2,28	136,8
39	2,34	140,4
40	2,4	144
41	2,46	147,6
42	2,52	151,2
43	2,58	154,8
44	2,64	158,4
45	2,7	162
46	2,76	165,6
47	2,82	169,2
48	2,88	172,8
49	2,94	176,4
50	3	180
55	3,3	198
60	3,6	216
65	3,9	234

NORMAL OPERATING CHECKLISTS

BEFORE ENGINE START	DESCENT
PARKING BRAKE.....SET THROTTLE.....IDLE LANDING GEAR.....DOWN-GREEN FLAPS.....RETRACTED LIGHTS.....ON FLIGHT PLAN.....FILED STAGING.....CHECK FUEL QUANTITY.....CHECK BATTERY CHARGE.....CHECK	BRIEFING.....CONFIRMED NAV RADIO.....SET APU.....ON AVIONICS.....CHECK SAS.....ON, STAB ENGINE GIMBAL.....AS REQUIRED ENGINE MODE.....AS REQUIRED THRUST LIMIT.....AS REQUIRED NAV RADIO.....SET LIGHTS.....ON PARKING BRAKE.....SET BRAKES FORCE.....SET AUTO SPEED BRAKE.....OFF SPOILER.....RETRACTED FLAPS.....AS REQUIRED TRIM.....AS REQUIRED FLT CONTROLS.....TEST CABIN.....READY ATC.....ADVISE
BEFORE TAKEOFF	APPROACH / LANDING
BRIEFING.....CONFIRMED APU.....ON AVIONICS.....CHECK SAS.....ON, STAB ENGINE GIMBAL.....AS REQUIRED ENGINE MODE.....AS REQUIRED THRUST LIMIT.....AS REQUIRED NAV RADIO.....SET LIGHTS.....ON PARKING BRAKE.....SET BRAKES FORCE.....SET AUTO SPEED BRAKE.....OFF SPOILER.....RETRACTED FLAPS.....AS REQUIRED TRIM.....AS REQUIRED FLT CONTROLS.....TEST CABIN.....READY ATC.....ADVISE	ENGINE GIMBAL.....AS REQUIRED ENGINE MODE.....AS REQUIRED THRUST LIMIT.....AS REQUIRED NAV RADIO.....SET RADAR ALT.....MDA/DH SET LANDING GEAR.....DOWN-GREEN FLAPS.....AS REQUIRED TRIM.....AS REQUIRED CABIN.....READY
AFTER TAKEOFF	PARKING
FLAPS.....RETRACTED LANDING GEAR.....UP LIGHTS.....OFF APU.....OFF	PARKING BRAKE.....SET LIGHTS.....OFF TRIM.....RESET-CHECK THROTTLE.....IDLE ENGINE.....SHUTDOWN STAGING.....CHECK VESSEL RECOVERY CALL.....AS REQUIRED

