



NORMARC 7000

INSTRUMENT LANDING SYSTEM

Installation & Commissioning Handbook Vol. 2



NAVIA AVIATION

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NM 7000 Series

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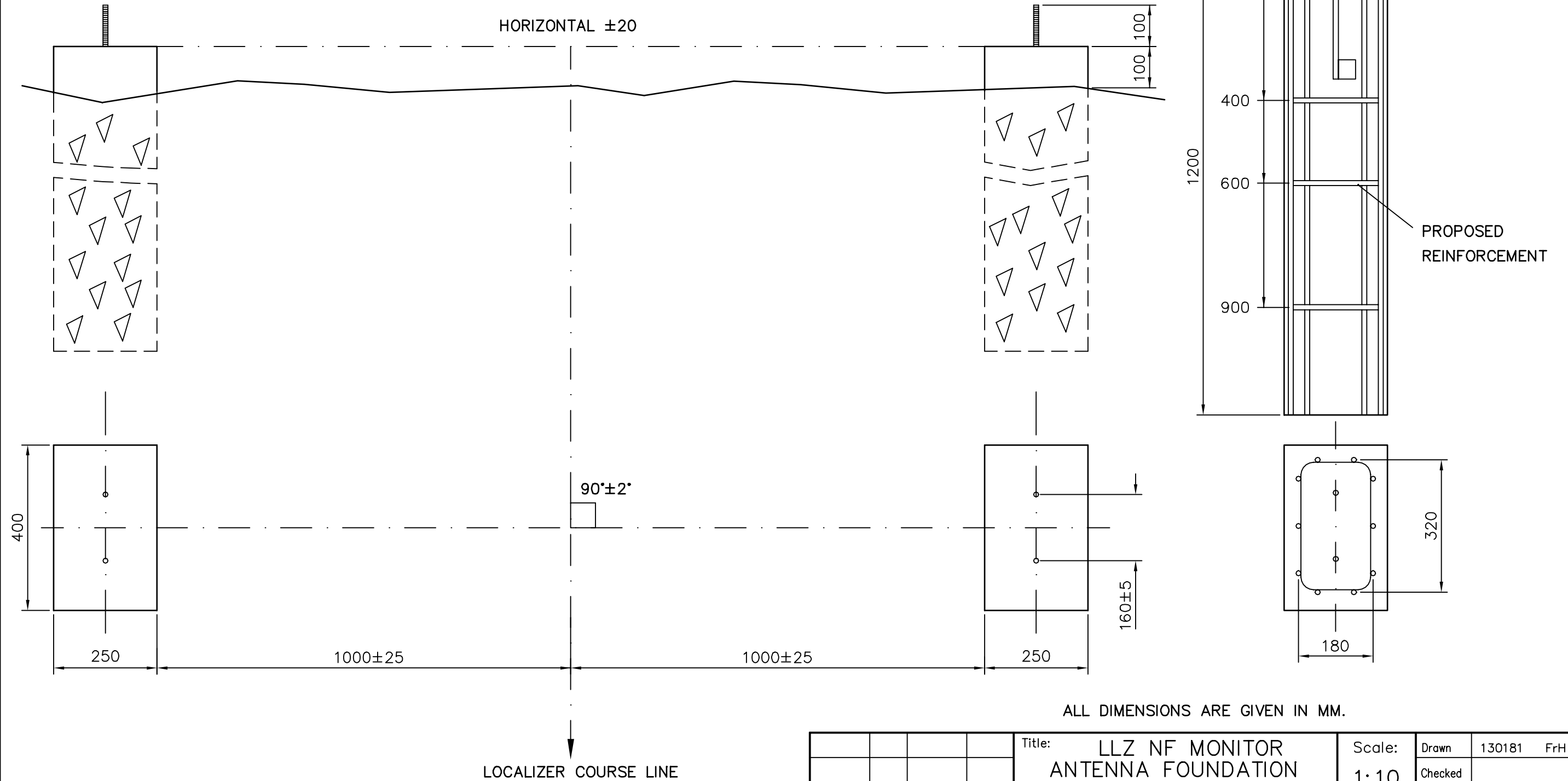
	Antenna Foundation	6798A3
--	--------------------	--------

Chapter 5. GROUNDING

	MB Grounding	8468A4
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CONCRETE GRADE 25. ACC BRITISH STANDARD BS 449.
 The depth and reinforcement of the foundation
 will depend upon the stability of the SUB-SOIL.
 The load of the construction is negligible
 and the foundations must be designed more
 with regard to stability than load bearing strength.

2 EACH M12 x 330 STAINLESS STEEL BOLTS to be embedded in
 the concrete foundation as shown (Bolts supplied by Normarc)

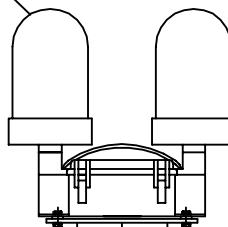


ALL DIMENSIONS ARE GIVEN IN MM.

LOCALIZER COURSE LINE

				Title: LLZ NF MONITOR ANTENNA FOUNDATION		Scale: 1:10	Drawn: 130181 FrH
				Subject: NM 3500/7000			Checked:
							Appr.: 060891 HS
						Sup.for:	Sup.by:
2593	3	090496	FrH			Dwg.no.: 6245A3	Issue 3
902	2	240791	BS			Projection method: ☉ □	
Ref.no.	Issue	Date	Sign.				

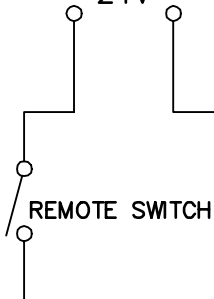
OBSTRUCTION LIGHT



L G N

REMOTE CONTROL VOLTAGE

24V

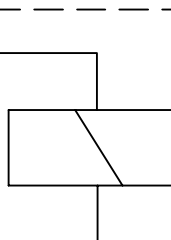


REMOTE SWITCH

EQUIPMENT SHELTER

RC-LINE

CONTROL TOWER



RELAY
NOT SUPPLIED BY NM




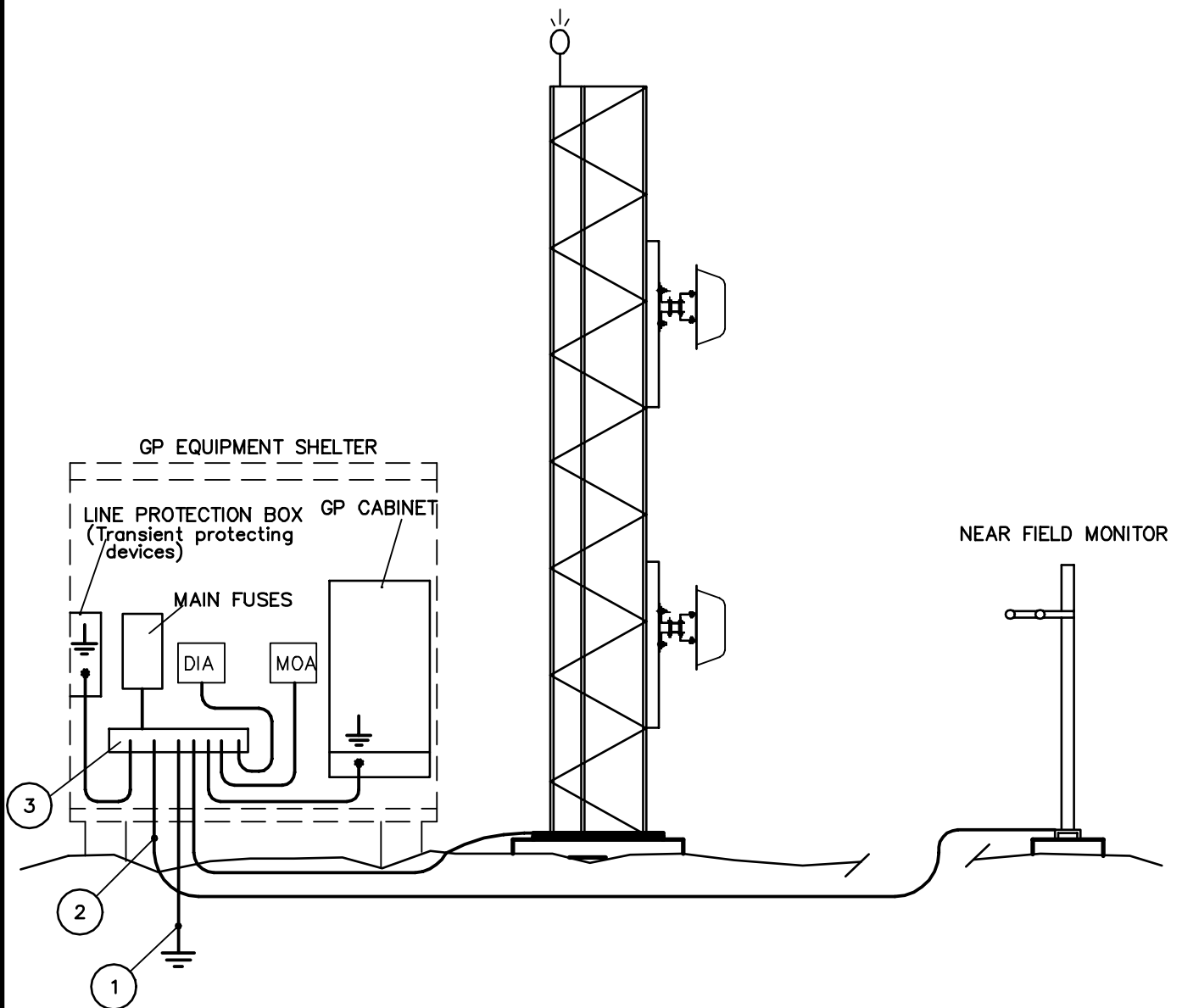
FUSE




GND

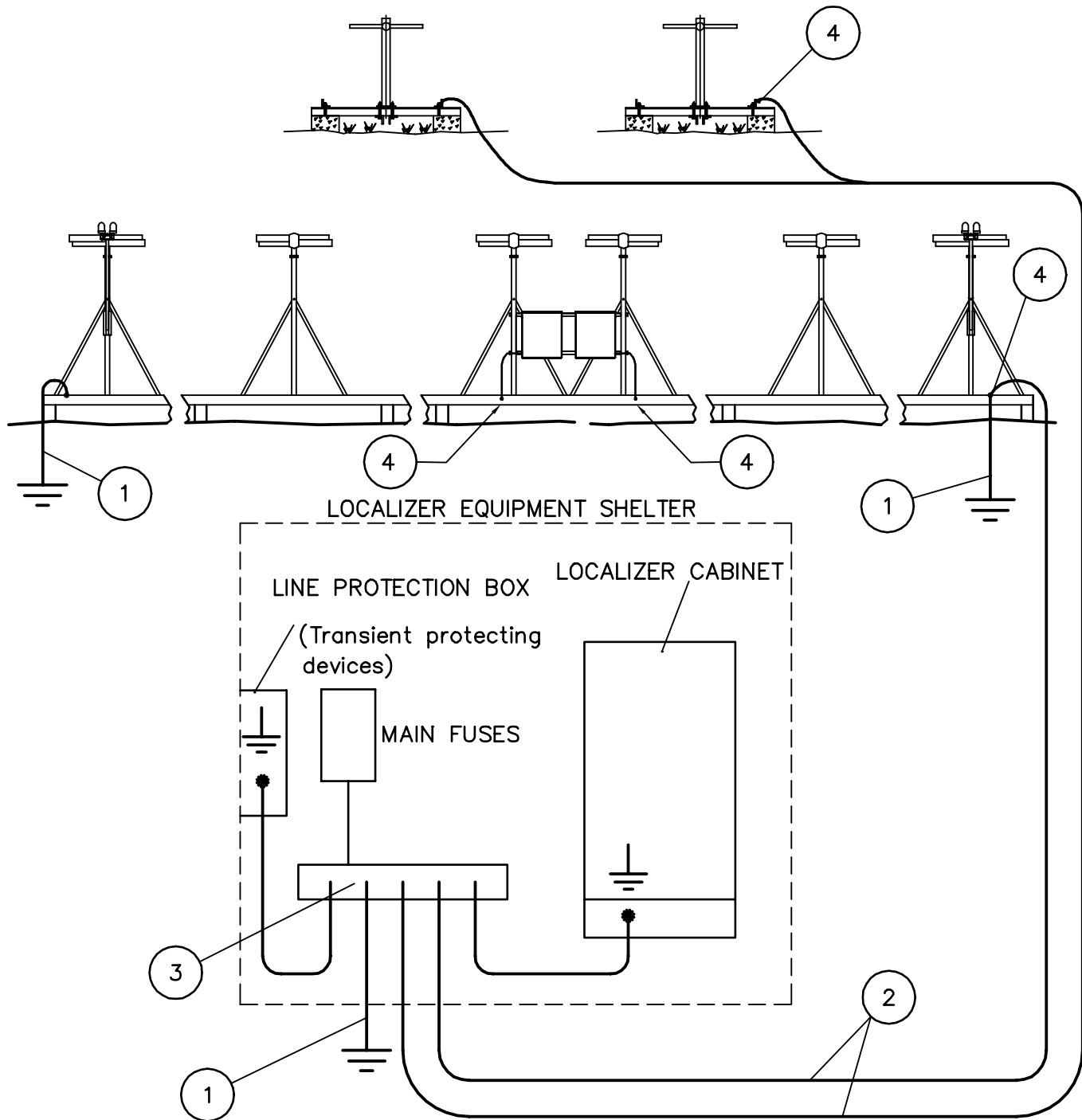
MAINS POWER
≈ 220V
ON

				Title:	GLIDE PATH OBSTR.LIGHT WIRING	Scale:	Drawn	200281	FrH
				Subject:	NM 3543-46	1:10	Checked		
							Appr.	061294	JSA
						Sup.for: 6344A4-3	Sup.by:		
2593	4	150296	ARJ		Dwg.no.:	F 6344A4	Issue	4	
Ref.no.	Issue	Date	Sign.		Projection method:	⊙	▭		






3	1	GROUND TERMINAL – Delivered by Normarc
2	–	COPPER WIRE (35mm ²)
1	1	COPPER ROD OR COPPER PLATE
Item	Qty	Description

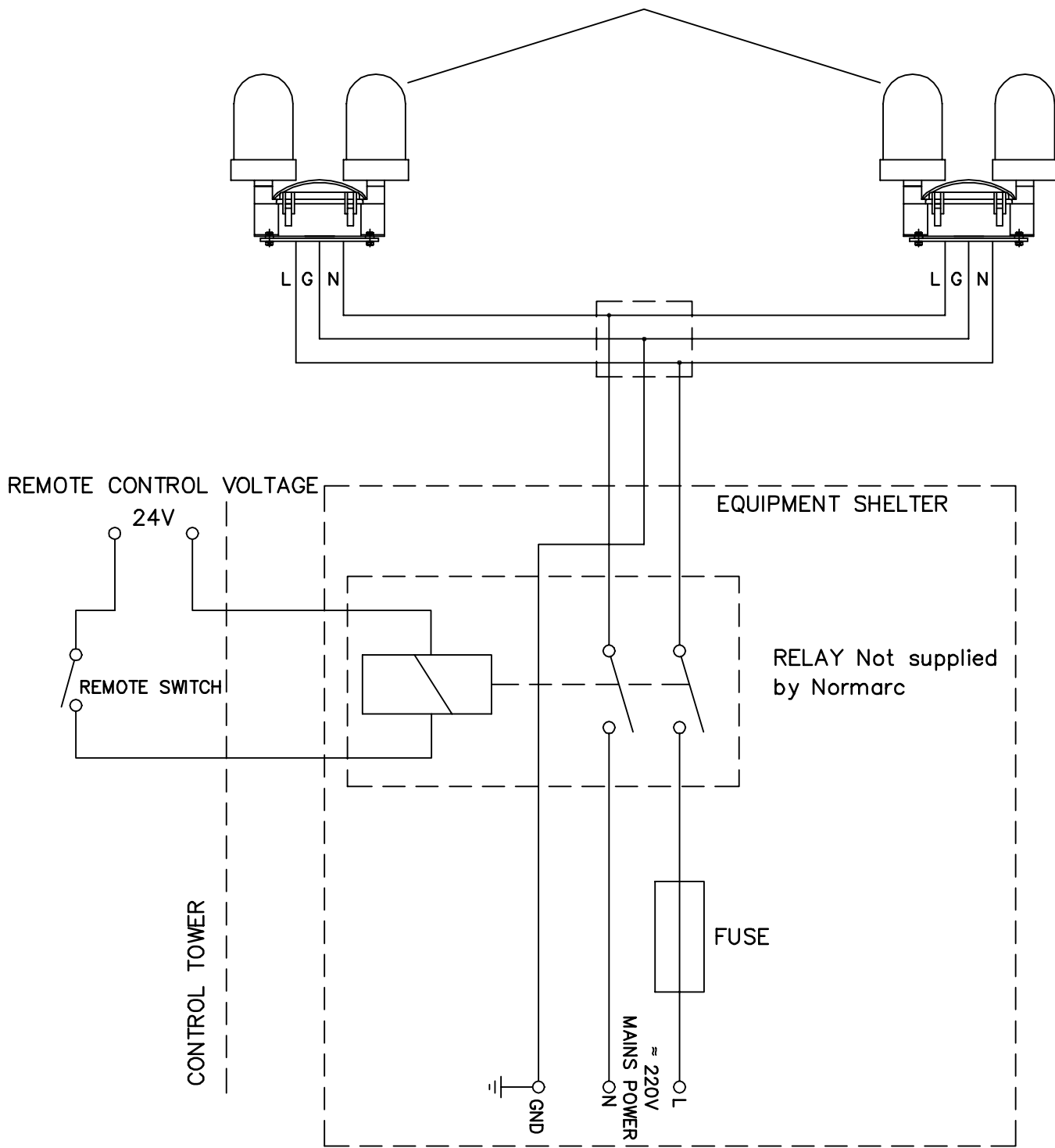
				Title:	0–Reference/Sideband GP Grounding	Scale:	Drawn	230281	FrH
				Subject:	NM 3543/44	–	Checked		
							Appr.	061294	HS
						Sup.for: 6345A4–4	Sup.by:		
3228	6	310398	ARJ				Dwg.no.:	F 6345A4	Issue
2593	5	030496	FrH					6	
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights reserved NAVIA AVATION AS, NORWAY			Projection method:	⊙	▭





4	-	Connection Parts – Installation kit Items 19–23	Delivered by NM
3	1	Ground Terminal	Delivered by NM
2	-	Copper Wire (35 mm ²)	
1	3	Copper rod or Copper plate	
Item	Qty.	Description	Nm Type/remark

				Title: Localizer–Aperture Monitor Grounding		Scale: —		Drawn	131095	ARJ
				Subject: NM 3522–26				Checked		
								Appr.	051291	JSA
						Sup.for: 6346A4–4		Sup.by:		
3228	6	140498	ARJ					Dwg.no.: 6346A4		Issue
2593	5	280396	FrH					6		6
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights reserved NAVIA AVATION AS, NORWAY				Projection method:  		

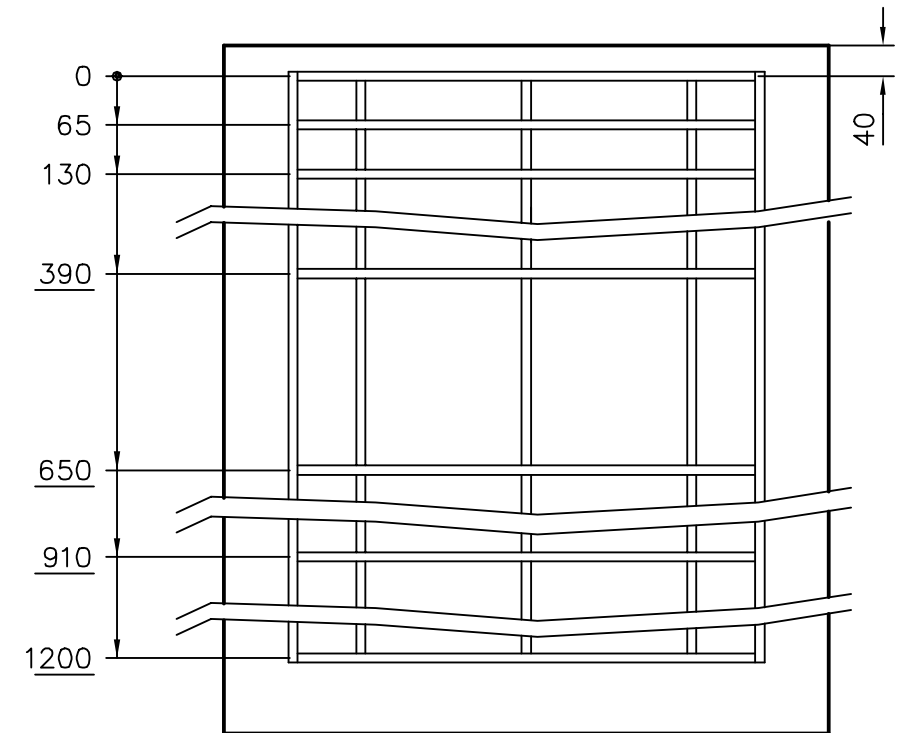
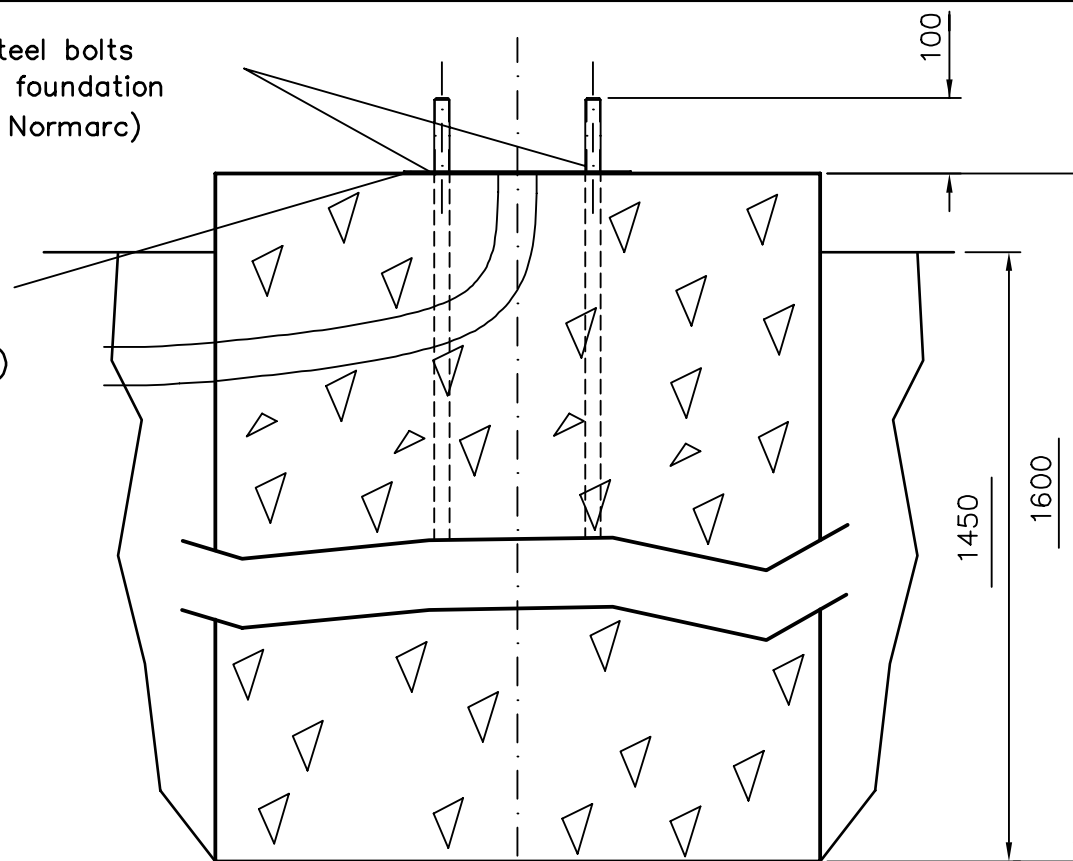
OBSTRUCTION LIGHT



				Title:	Scale:	Drawn	230281	FrH
				LLZ OBSTR.LIGHT WIRING	1:10	Checked		
				Subject:		Appr.	061294	JSA
				NM 3522-26	Sup.for:	6348A4-3	Sup.by:	
2593	4	280396	ARJ		Dwg.no.:	F 6348A4	Issue	4
Ref.no.	Issue	Date	Sign.		Projection method:			

① 4 Each 20x500 galvanized steel bolts to be embedded in concrete foundation as shown (Bolts supplied by Normarc)

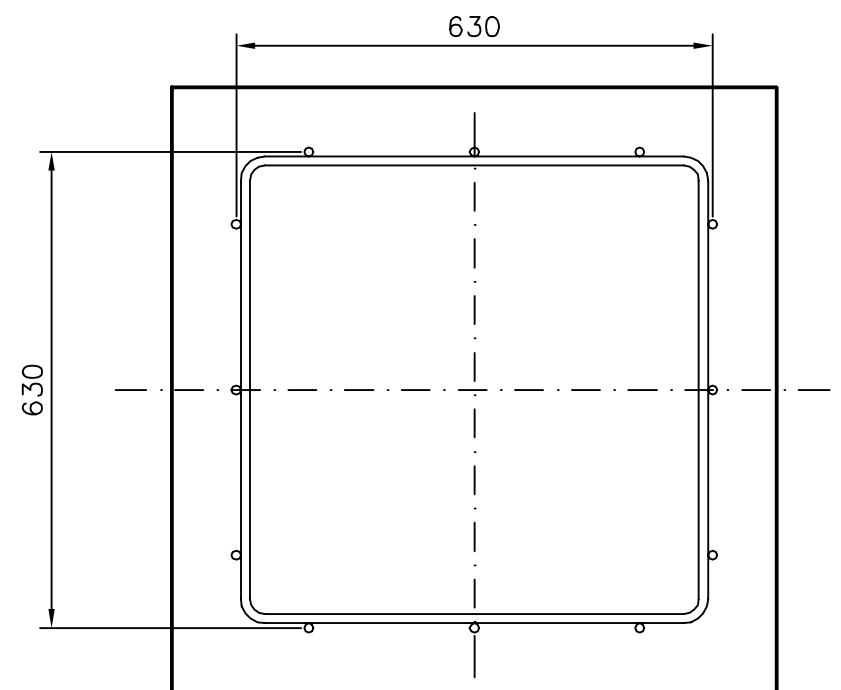
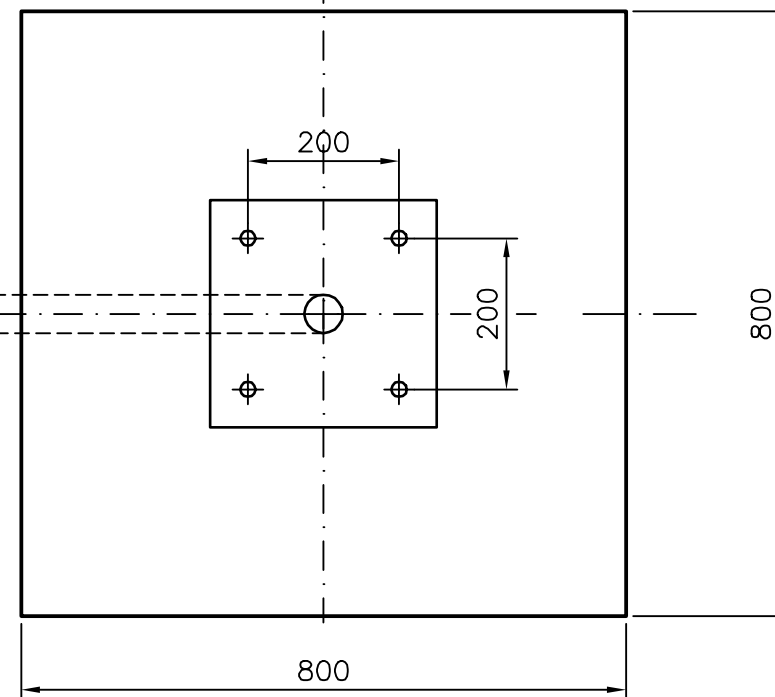
② Guide plate for spacing of bolts. (Guide plate supplied by Normarc)



Cable lead through is for Glide Path. Near Field Monitor foundation and Marker Beacon Antenna foundation only.

CABLE TUBE 2"

EQUIP.SHELTER



Concrete grad 25. ACC British Standard BS 449. The depth and reinforcement of the foundation will depend upon the stability of the sub-soil. The depth shall be to a level ensuring rigid foundation undisturbed by any severe weather condition. The total vertical load of the antenna construction is 200 Kg. max. wind load is 600 Kgm (At wind speed 200 Km/h)

2	1	Guide Plate PI.3 - 300x300	FK 823A
1	4	Retainer Bolt M20x500mm	FK 823A
Item	Qty.	Description	NM Type/remark

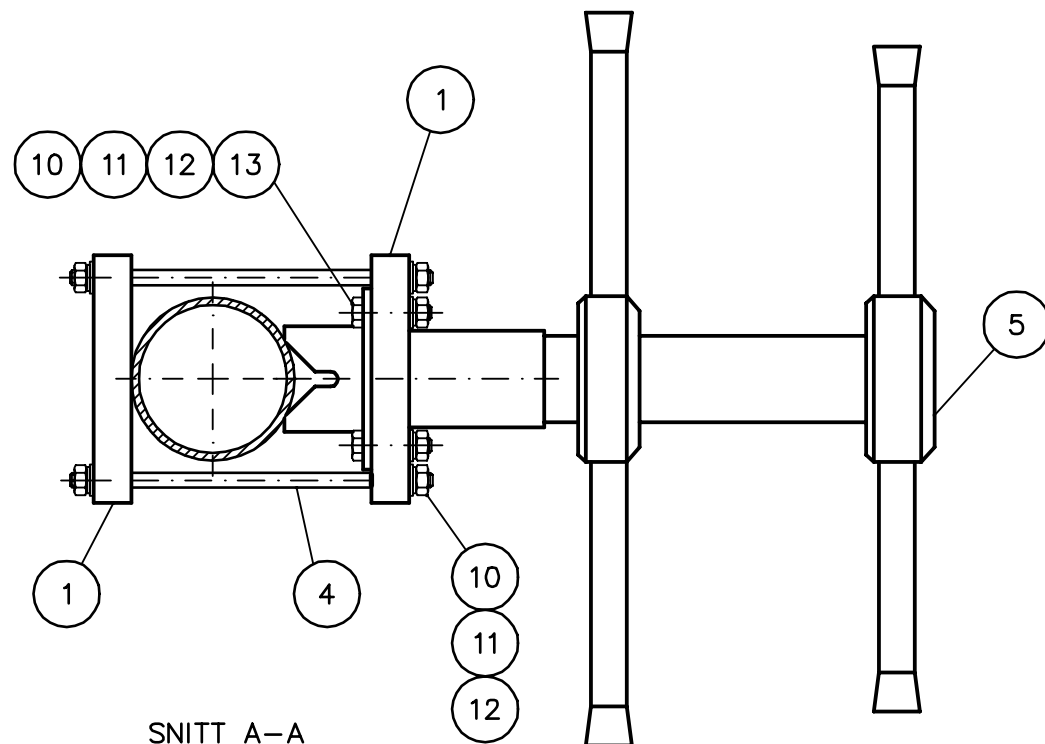
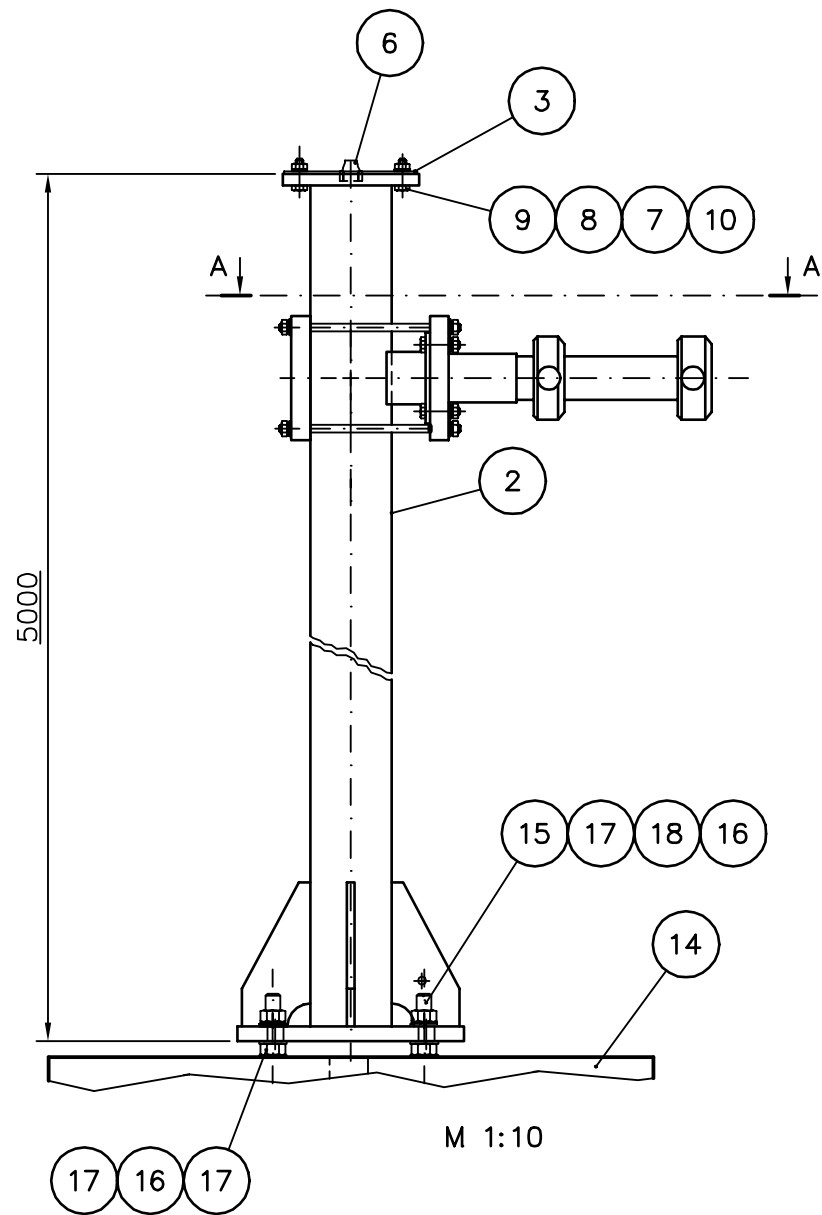
2593	6	150296	ARJ
Ref.no.	Issue	Date	Sign.

Title: ANTENNA FOUNDATION
DME/GP.MON/MARKER BEACON
Subject: NM3500/NM7000

Scale: 1:10
Drawn: 280981 BS
Checked:
Appr.: 201294 HS
Sup.for: Sup.by:

Normarc AS

Dwg.no.: F 6798A3
Issue 6
Projection method:



18	4	Springwasher M20 DIN127B A4	FK 823A
17	12	Washer M20 DIN125 A4	FK 823A
16	8	Nut M20 DIN933 A4	FK 823A
15	4	Retainer Bolt M20 x 500	FK 823A
14	1	Concrete Foundation	DWG 6798A3
13	4	Bolt M10x45 DIN933 A4	MS 1157A
12	12	Springwasher M10 DIN127B A4	MS 1157A
11	12	Washer M10 DIN125 A4	MS 1157A
10	12	Nut M10 DIN934 A4	MS 1157A
9	4	Bolt M10x35 DIN933 A4	MS 1157A
8	4	Springwasher M10 DIN127B A4	MS 1157A
7	4	Washer M10 DIN125 A4	MS 1157A
6	1	Grommet TET-AD10-14 IP67	MS 1157A
5	1	Antenna AV43-330	MS 1157A
4	4	Bolt M10x245 DIN975 A4	MS 1157A
3	1	Cover Plate	MS 1157A
2	1	Mast	MS 1157A
1	4	Adapter	MS 1157A
Item	Qty.	Descript	NM Type/remark

3228	4	310398	ARJ
2593	3	110496	FrH
EO902	2	080191	BS
Ref.no.	Issue	Date	Sign.

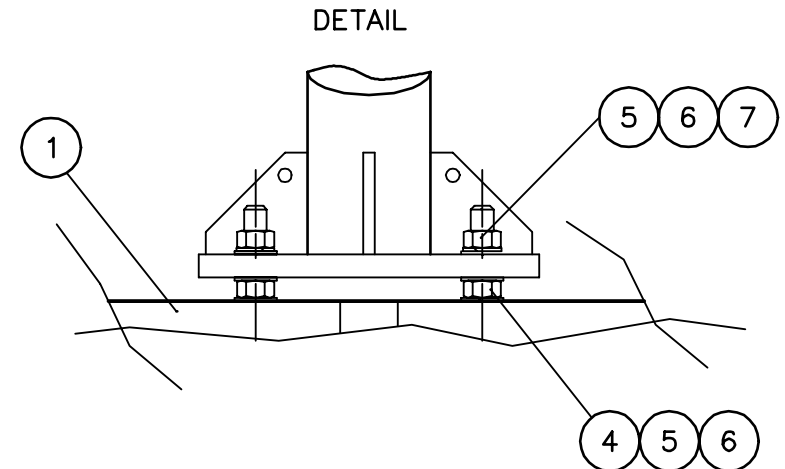
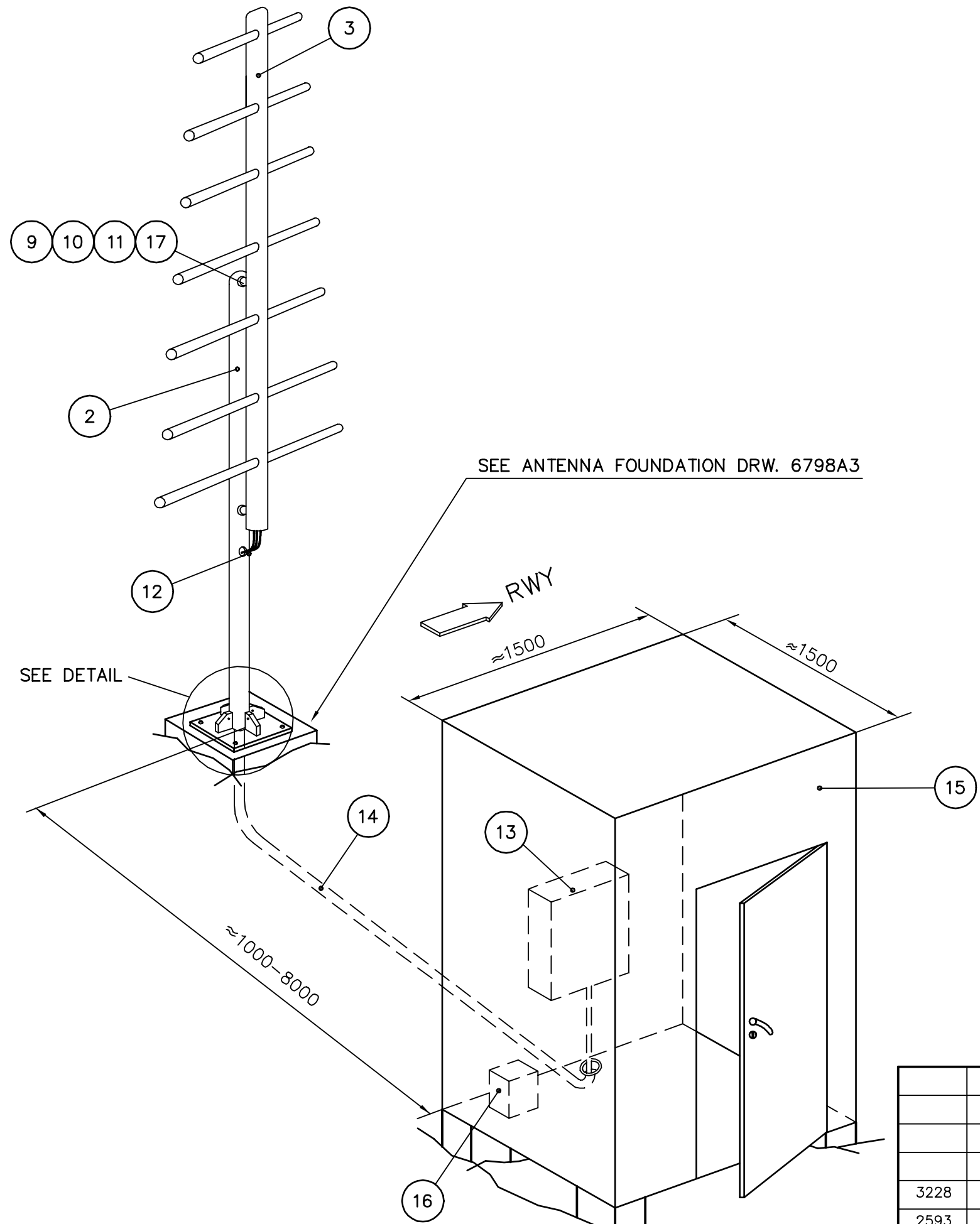
Title:
ASSEMBLY GP-NF-MONITOR
Subject:
NM 3543-46

Scale:
1:5
Drawn: 081091 BS
Checked:
Appr.: 301091 EHO
Sup.for:
Sup.by:

Normarc

Dwg.no.: 7058A3
Issue: 4

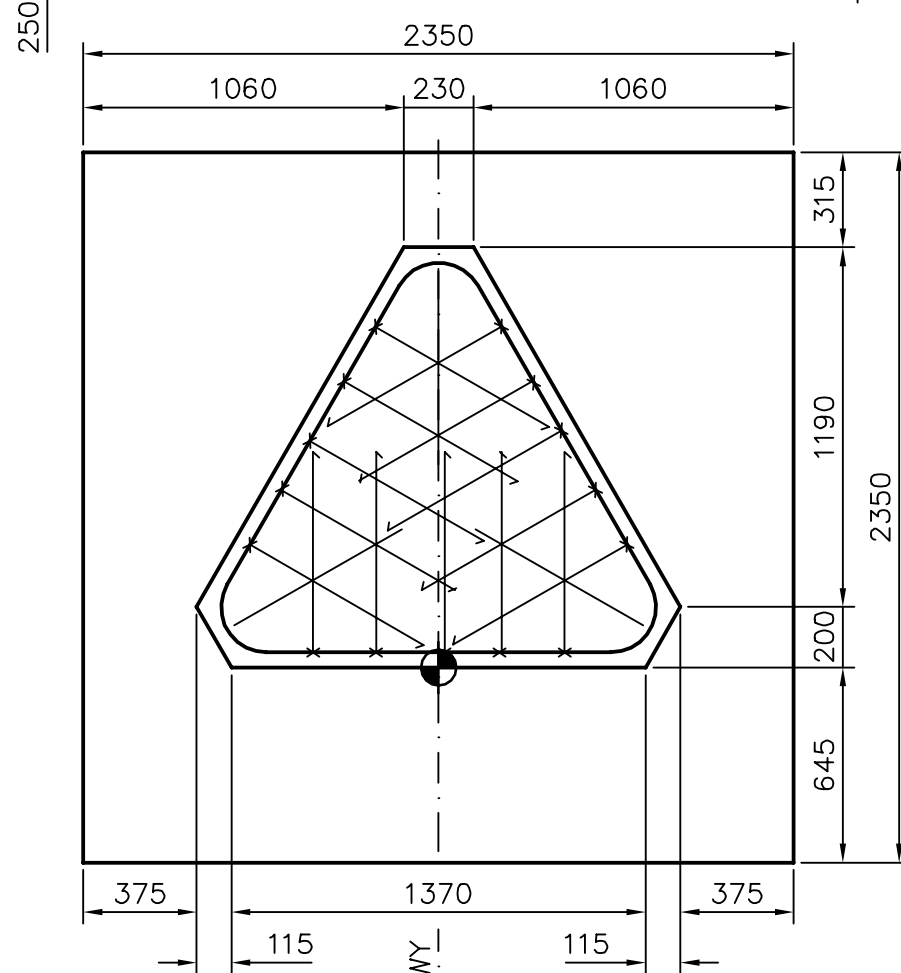
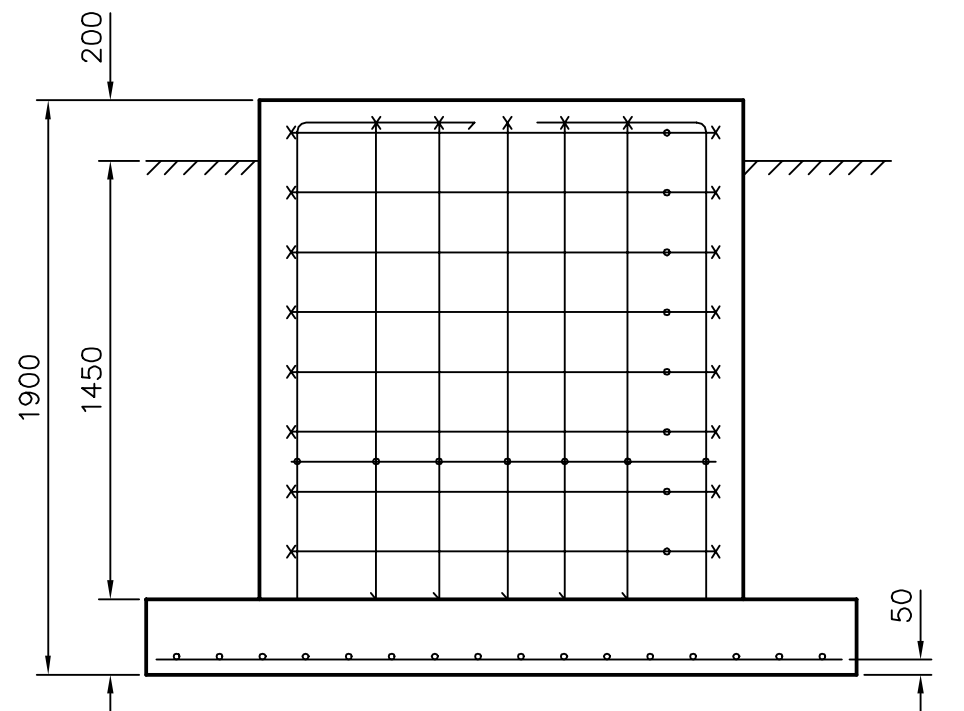
Copyright and all modification rights reserved NAVA AVIATION AS, NORWAY
Projection method: ☉ □



NOTE: The Marker Beacon shall be installed not more than $\pm 75m$ from the extended RWY centerline, and with the Antenna dipoles parallel to the RWY.

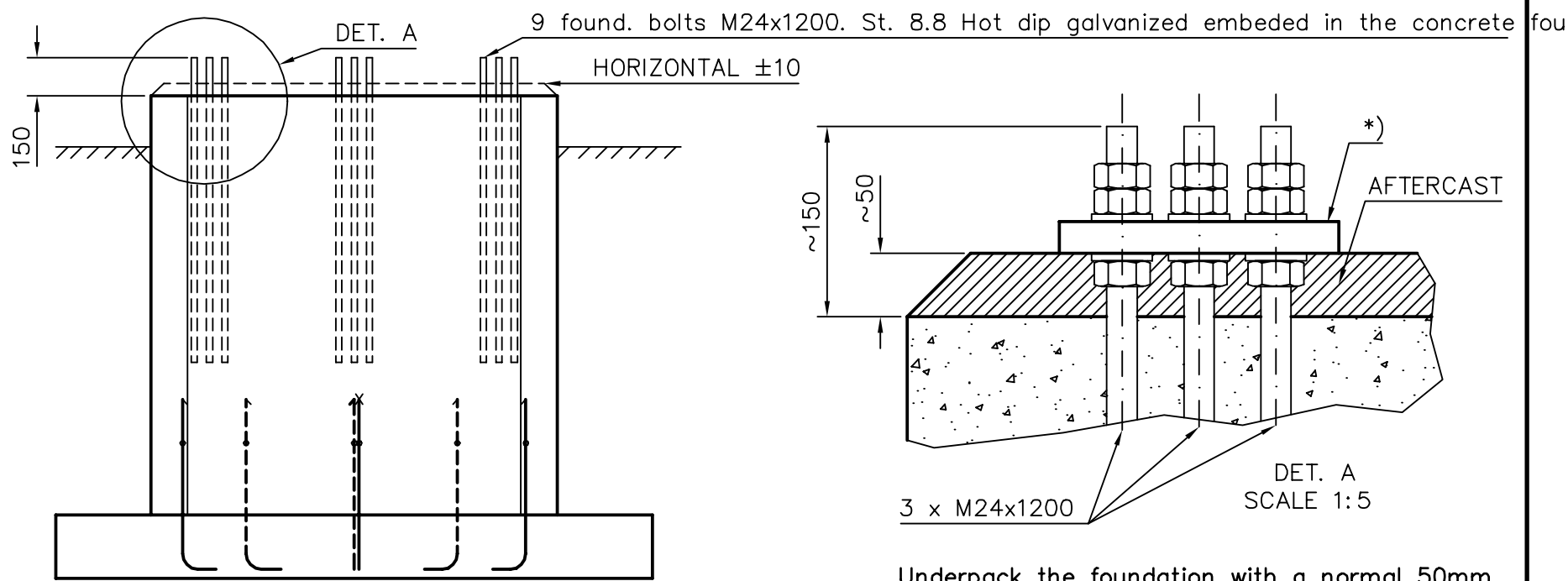
17	2	Gasket	Neopren 3mm (MS799A)
16	1	Battery Box	Not supplied by Normarc
15	1	Proposed Equipment Shelter	Not supplied by Normarc
14	1	Cable Tube 2"	Not supplied by Normarc
13	1	MB-Transmitter	NM 3550
12	1	Antenna and Monitor cable	CK 1147A
11	8	Springwasher	M10 DIN127B A4 (MS799A)
10	8	Washer	M10 DIN125 A4 (MS799A)
9	8	Nut	M10 DIN934 A4 (MS799A)
8	8	Bolt	M10x45 DIN933 A4 (MS799A)
7	4	Springwasher	M20 DIN127B A4 (FK823A)
6	8	Washer	M20 DIN125 A4 (FK823A)
5	12	Nut	M20 DIN934 A4 (FK823A)
4	4	Retainer Bolt	M20x500 (FK 823A)
3	1	Antenna	AE 534A
2	1	Antenna Mast	MS 799A
1	1	Concrete Foundation	See dwg.no.6798A3
Item	Pcs.	Description	

				Title: 1 ELEMENT MARKER BEACON ANTENNA SYSTEM		Scale: —		Drawn: 251195 ARJ
				Subject: NM 3561		Checked: —		Appr.: 060891 HS
						Sup.for: 7059A3-3		Sup.by: —
3228	5	310398	ARJ	Normarc		Dwg.no.: 7059A3		Issue: 5
2593	4	280396	FrH			Projection method: ☉ □		
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights reserved NAVA AVIATION AS, NORWAY				

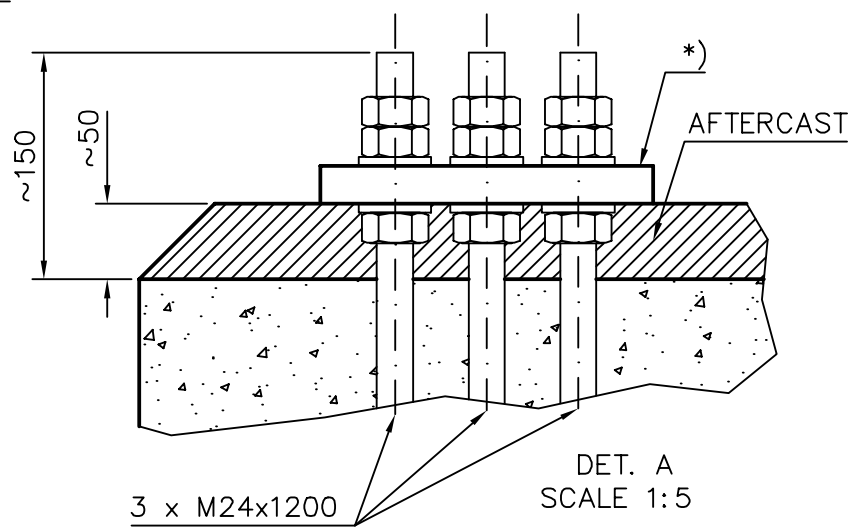
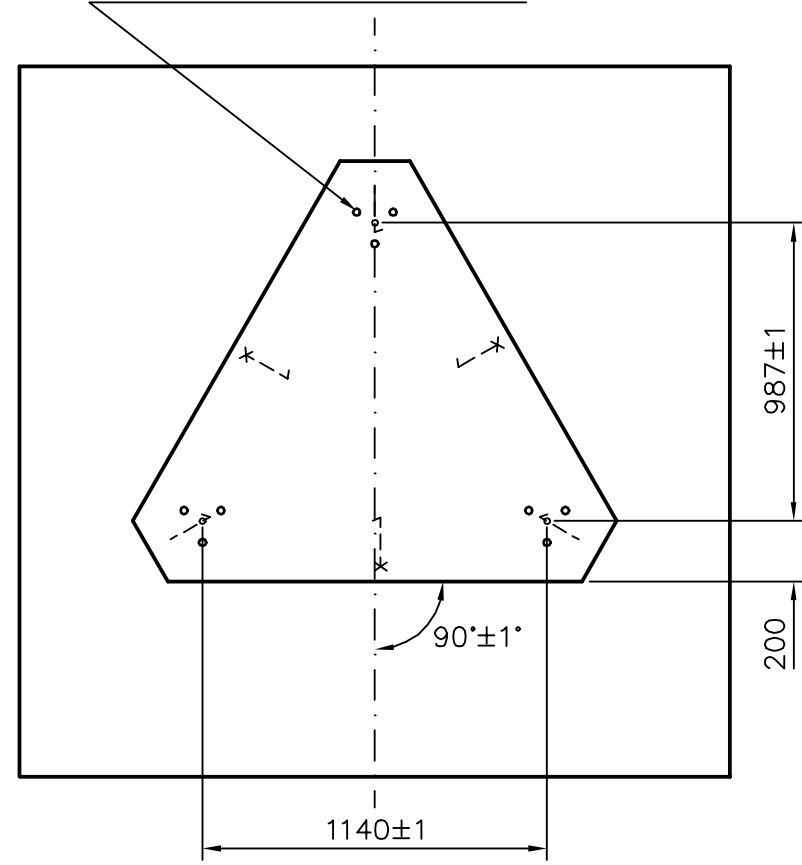


Parallel to RWY
TO RWY THRESHOLD

Ref. point for positioning



Template for spacing of bolts
Template supplied by Jarlsø AS
Draw: NOR-A4 bl.20A



Underpack the foundation with a normal 50mm carefully packed dry cement. The upper outer edge of the foundation shoulder to be chamfered.

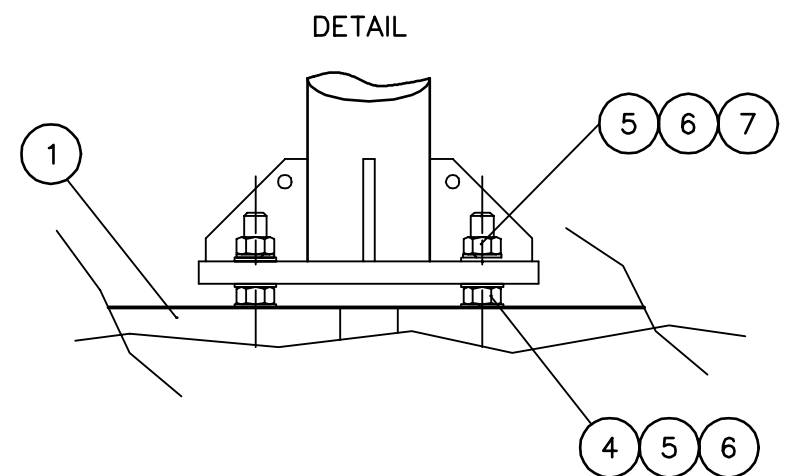
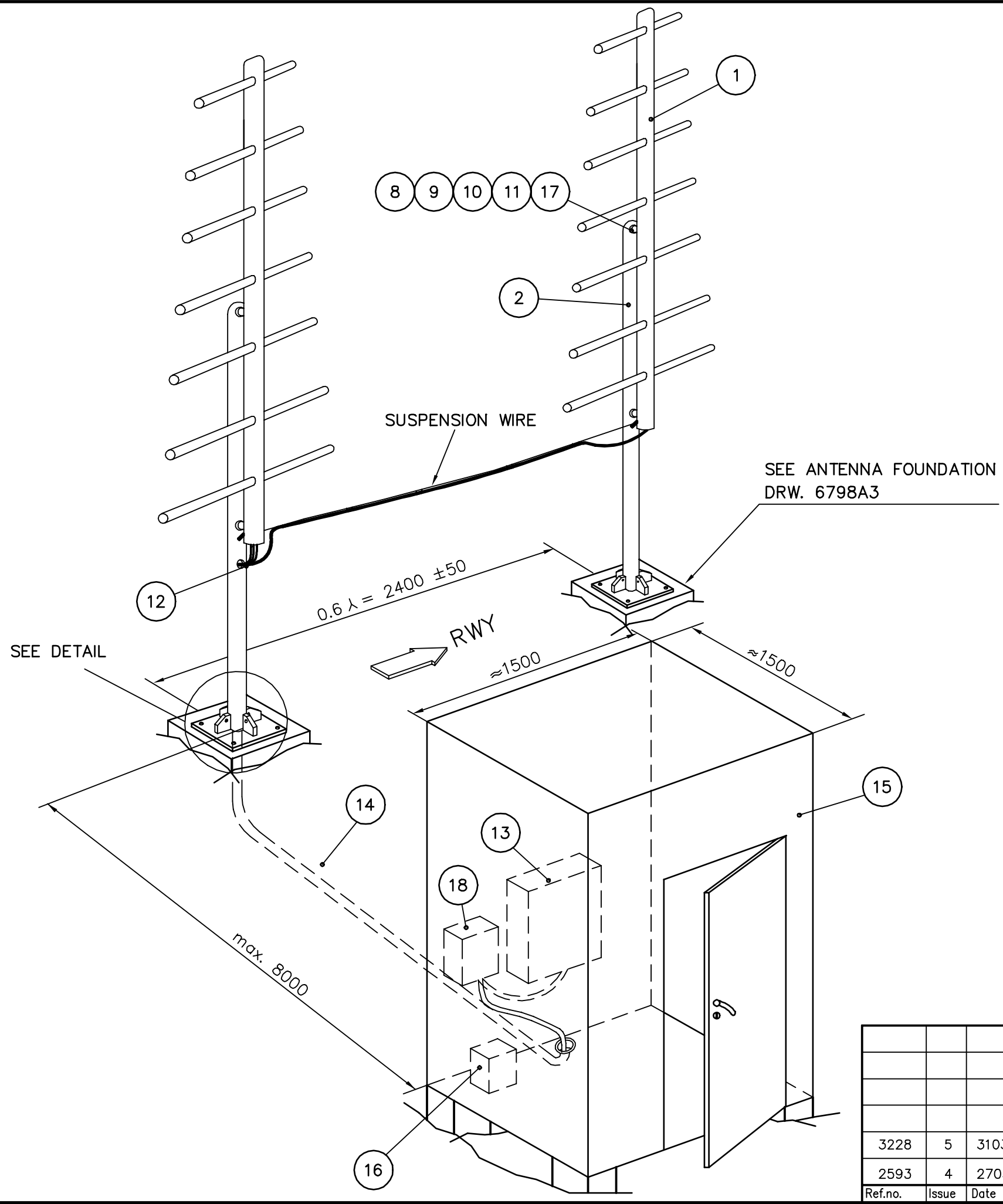
The dimensions given are for soil types earth, sand and hardpacked clay with a bearing capacity of at least: 110KN/m².
The water table must lie below the level of the bottom of the foundation.

Acceptable load on the top of the foundation
Vertical load: 20KN
Horizontal load: 33KN
Bending moment: 265KNm

Concrete: Grade C25 (volume 3.7m³ with height 1900mm)
*)Template for in-cementing of bolts: NOR-A4 bl.20A
The bolts must be parallel and perpendicular to the horizontal level.

This drawing corresponds to mast supplier Jarlsø AS, drwg.no. 14144-A3

Title: GLIDEPATH ANTENNA FOUNDATION				Scale: 1:25	Drawn: 100496 FrH
Subject: NM 3543-46				Checked:	Appr.:
2593 2 100496 FrH				Sup.for: 7084A3-1	Sup.by:
Ref.no. Issue Date Sign.				Dwg.no.: 7084A3	Issue 2
Normarc AS				Projection method: ☉ □	

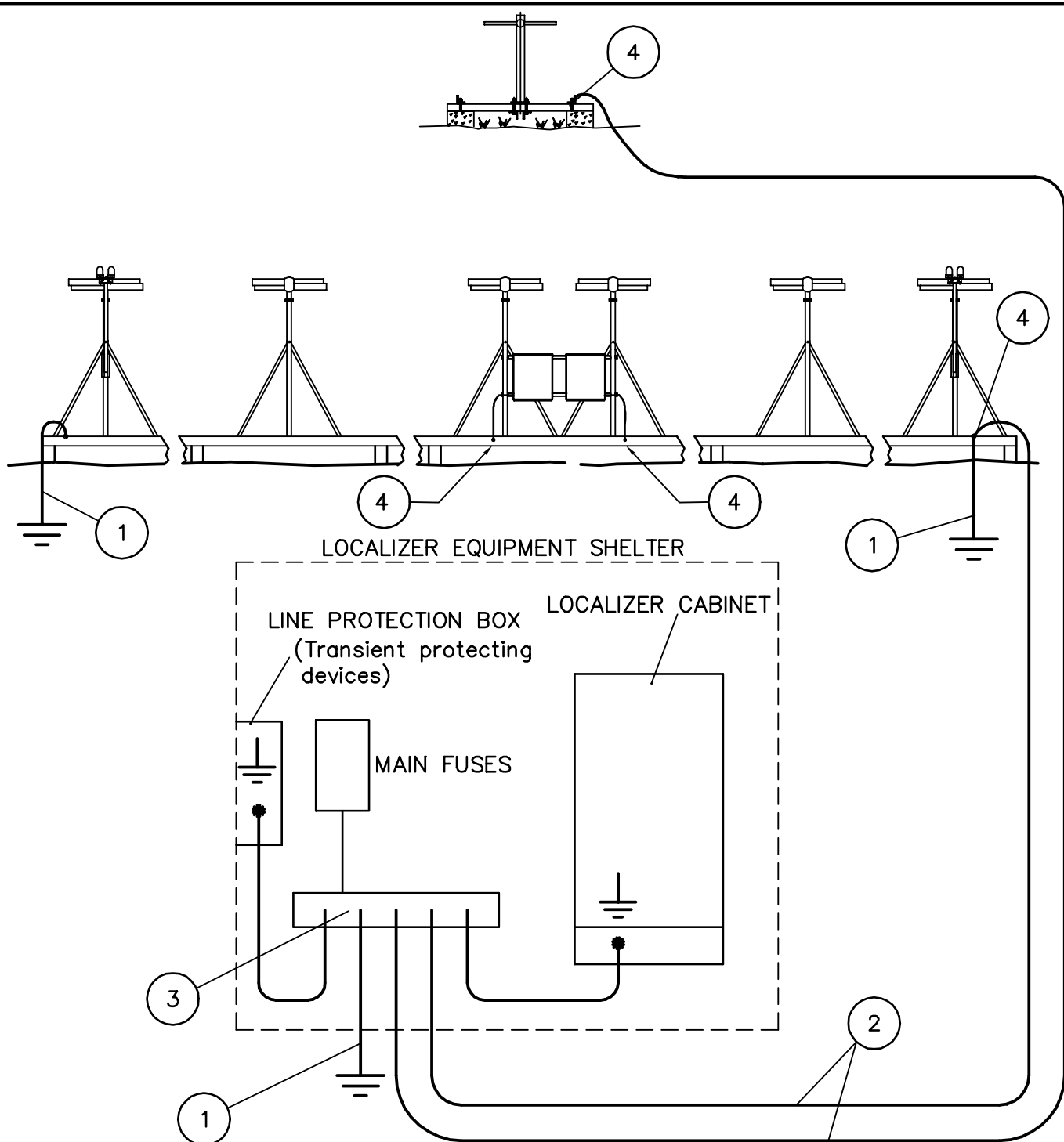


NOTE: The Marker Beacon shall be installed not more than $\pm 75m$ from the extended RWY centerline, and with the Antenna dipoles parallel to the RWY.




Item	Qty.	Description	NM Type/remark
18	1	Network	DI 726A
17	4	Gasket Neopren 3mm	MS 799A
16	1	Battery Box	Not supplied by Normarc
15	1	Proposed Equipment Shelter	Not supplied by Normarc
14	1	Cable Tube 2"	Not supplied by Normarc
13	1	MB-Transmitter	NM 3550
12	1	Antenna and Monitor cable	CK 1146A
11	16	Springwasher M10 DIN127B A4	MS 799A
10	16	Washer M10 DIN125 A4	MS 799A
9	16	Nut M10 DIN934 A4	MS 799A
8	16	Bolt M10x45 DIN933 A4	MS 799A
7	8	Springwasher M20 DIN127B A4	FK 823A
6	16	Washer M20 DIN125 A4	FK 823A
5	24	Nut M20 DIN934 A4	FK 823A
4	8	Retainer Bolt M20x500	FK 823A
3	2	Antenna	AE 534A
2	2	Antenna Mast	MS 799A
1	2	Concrete Foundation	See dwg.no.6798A3

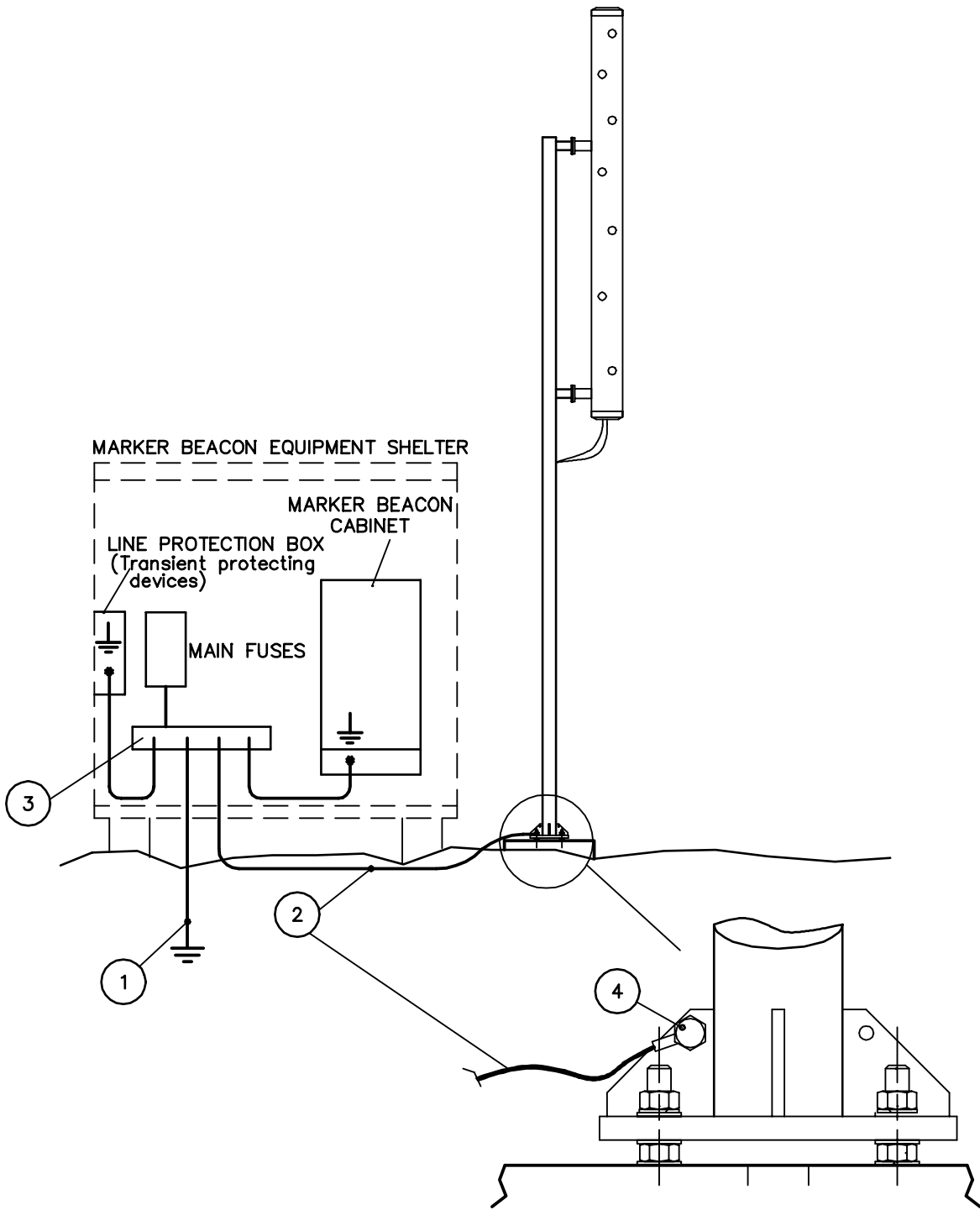
Title: ANTENNA SYSTEM 2 ELEMENT MARKER BEACON				Scale: Drawn 251195 ARJ	
Subject: NM 3562				Checked	
				Appr. 061294 JSA	
				Sup.for: 7109A3-3 Sup.by:	
3228	5	310398	ARJ	Dwg.no.: 7109A3 Issue 5	
2593	4	270396	FrH	Projection method: ☉ □	
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights reserved NAVA AVIATION AS, NORWAY	







4	-	Connection Parts - Installation kit Items 19-23	Delivered by NM
3	1	Ground Terminal	Delivered by NM
2	-	Copper Wire (35 mm ²)	
1	3	Copper rod or Copper plate	
Item	Qty.	Description	Nm Type/remark

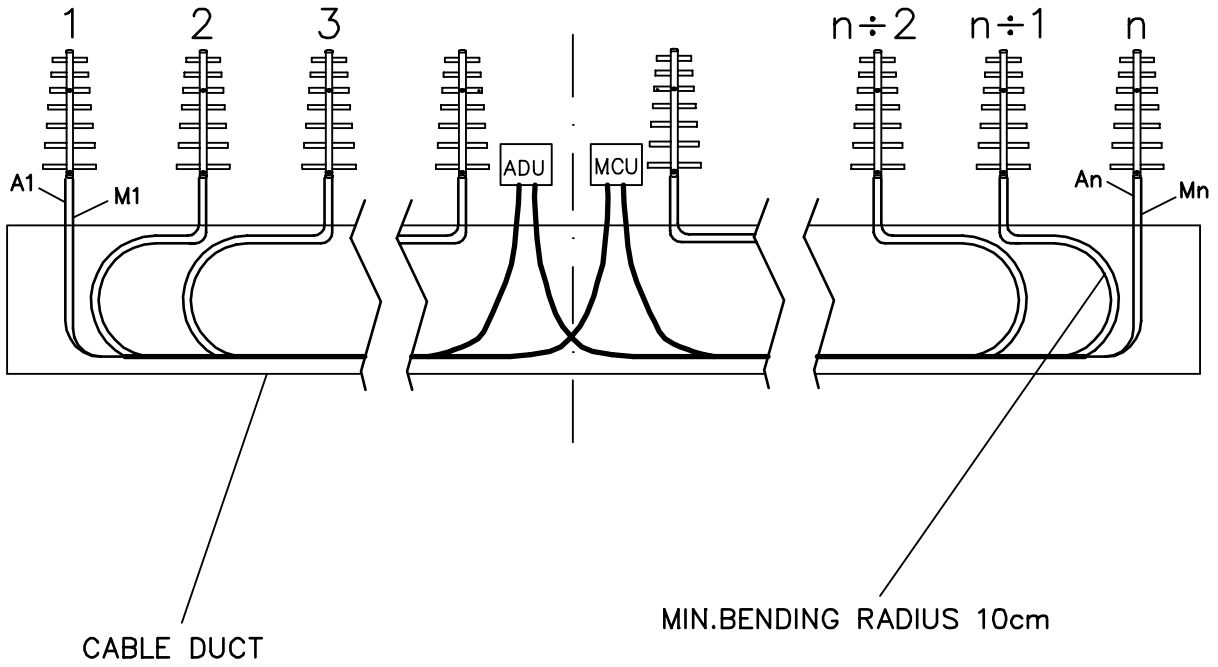
				Title: Localizer-Nearfield Monitor Grounding		Scale: —		Drawn	131095	ARJ
				Subject: NM 3522-26				Checked		
								Appr.	051294	JSA
						Sup.for: 8467A4-3		Sup.by:		
3228	5	310398	ARJ					Dwg.no.: 8467A4		Issue
2593	4	280396	FrH					5		
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights reserved NAVIA AVATION AS, NORWAY				Projection method:  		




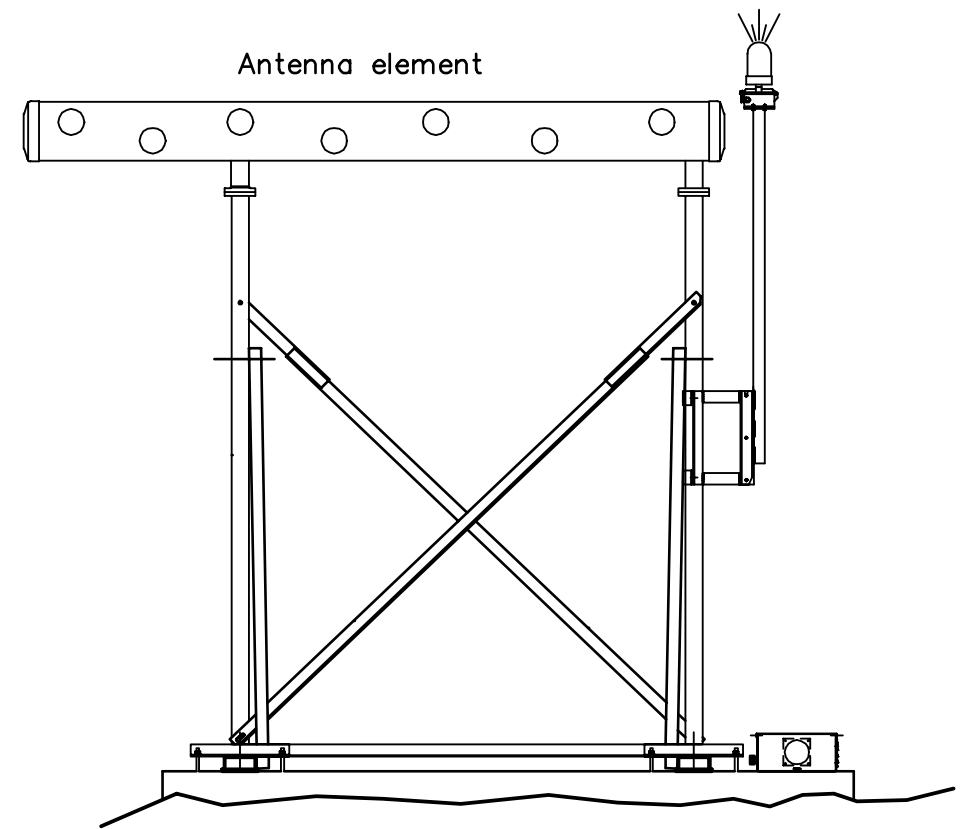
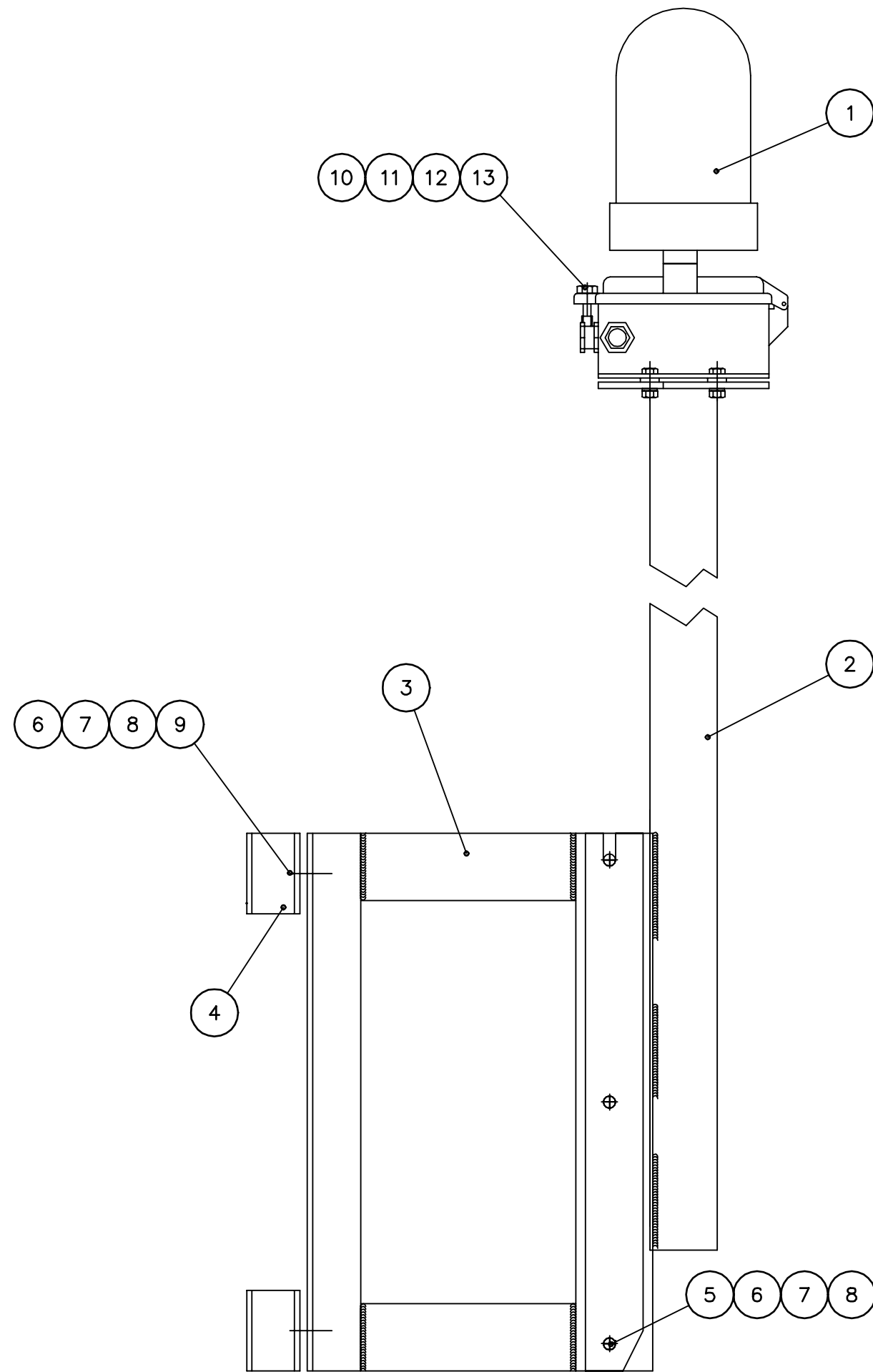
4	-	Connection Parts – Installation kit Items 14–18	Delivered by NM
3	1	Ground Terminal	Delivered by NM
2		Copper Wire (35 mm ²)	
1	1	Copper rod or Copper plate	
Item	Qty.	Description	Nm Type/remark

				Title: Marker Beacon Grounding		Scale: —		Drawn	050983	FrH	
				Subject: NM 3561–62				Checked			
								Appr.	060891	HS	
						Sup.for: 8468A4–3		Sup.by:			
2593	4	030496	ARJ					Dwg.no.:	8468A4	Issue	4
Ref.no.	Issue	Date	Sign.					Projection method: 			

n = Total no. of antennas



				Title:	Scale:	Drawn	311095	ARJ
				ADU/MCU CABLES IN DUCT	—	Checked		
				Subject:		Appr.	060891	HS
				NM 3522-26		Sup. for:	10288A4-1	Sup. by:
2593	2	280396	ARJ		Dwg.no.:	10288A4	Issue	2
Ref.no.	Issue	Date	Sign.		Projection method:	☉	▭	



13	8	Nut	M6 DIN934 A4	OL 522
12	8	Springwasher	M6 DIN127B A4	OL 522
11	8	Washer	M6 DIN125 A4	OL 522
10	8	Bolt	M6x25 DIN933 A4	OL 522
9	8	Bolt	M8x25 DIN933 A4	OL 522
8	14	Nut	M8 DIN934 A4	OL 522
7	14	Springwasher	M8 DIN127B A4	OL 522
6	20	Washer	M8 DIN125 A4	OL 522
5	6	Bolt	M8x80 DIN933 A4	OL 522
4	4	Bracket		OL 522
3	2	Mast retaining assembly		OL 522
2	2	Mast		OL 522
1	2	Obstruction light		OL 522
Item	Qty.	Descript		NM Type/remark

2593	4	150296	ARJ
Ref.no.	Issue	Date	Sign.

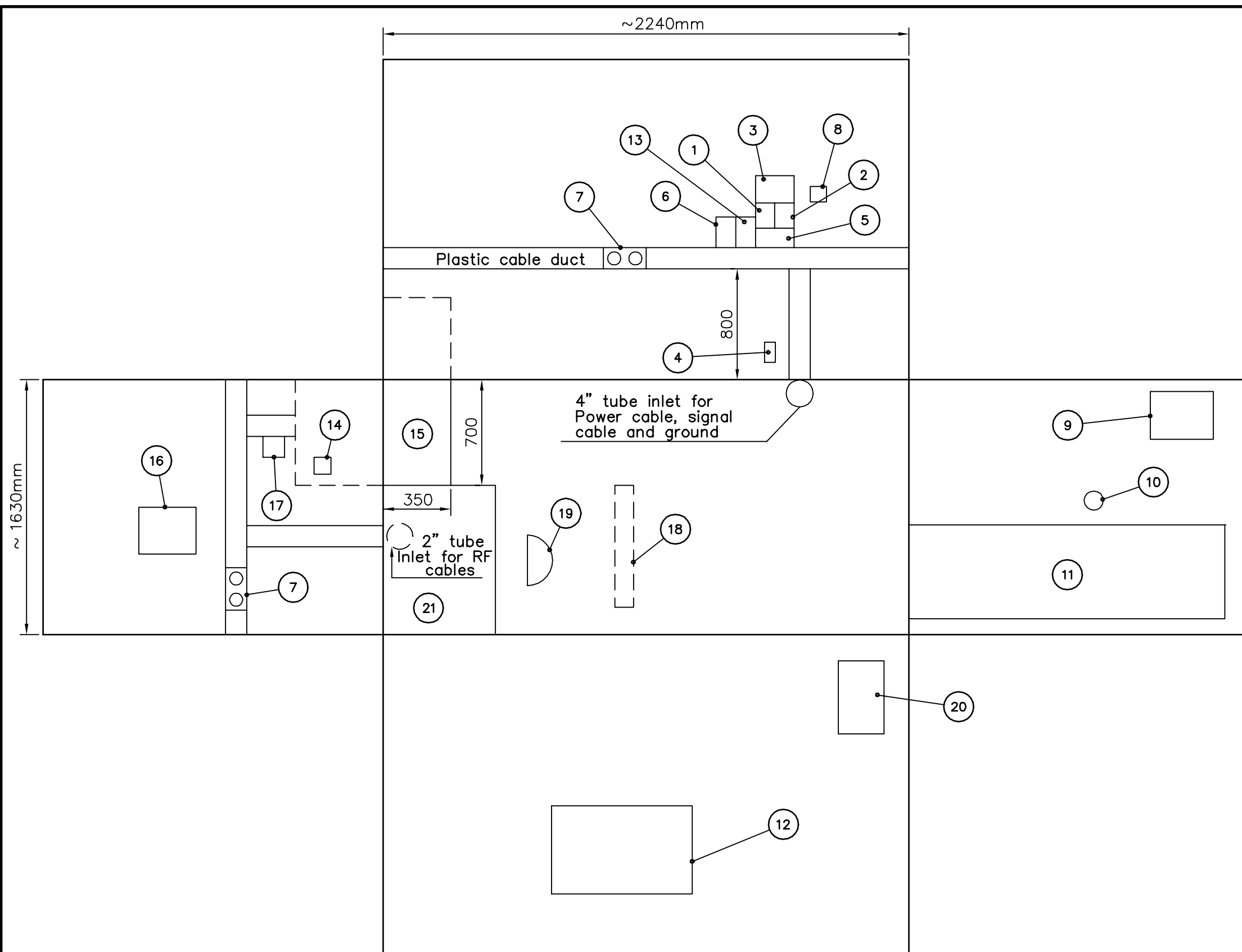
Title: OL 522
Installation of Obstr.Light

Subject:
NM3522-26

 **Normarc AS**

Scale: —
Drawn: 191095 ARJ
Checked:
Appr.: 061294 JSA
Sup.for: 11463A3-3 Sup.by:

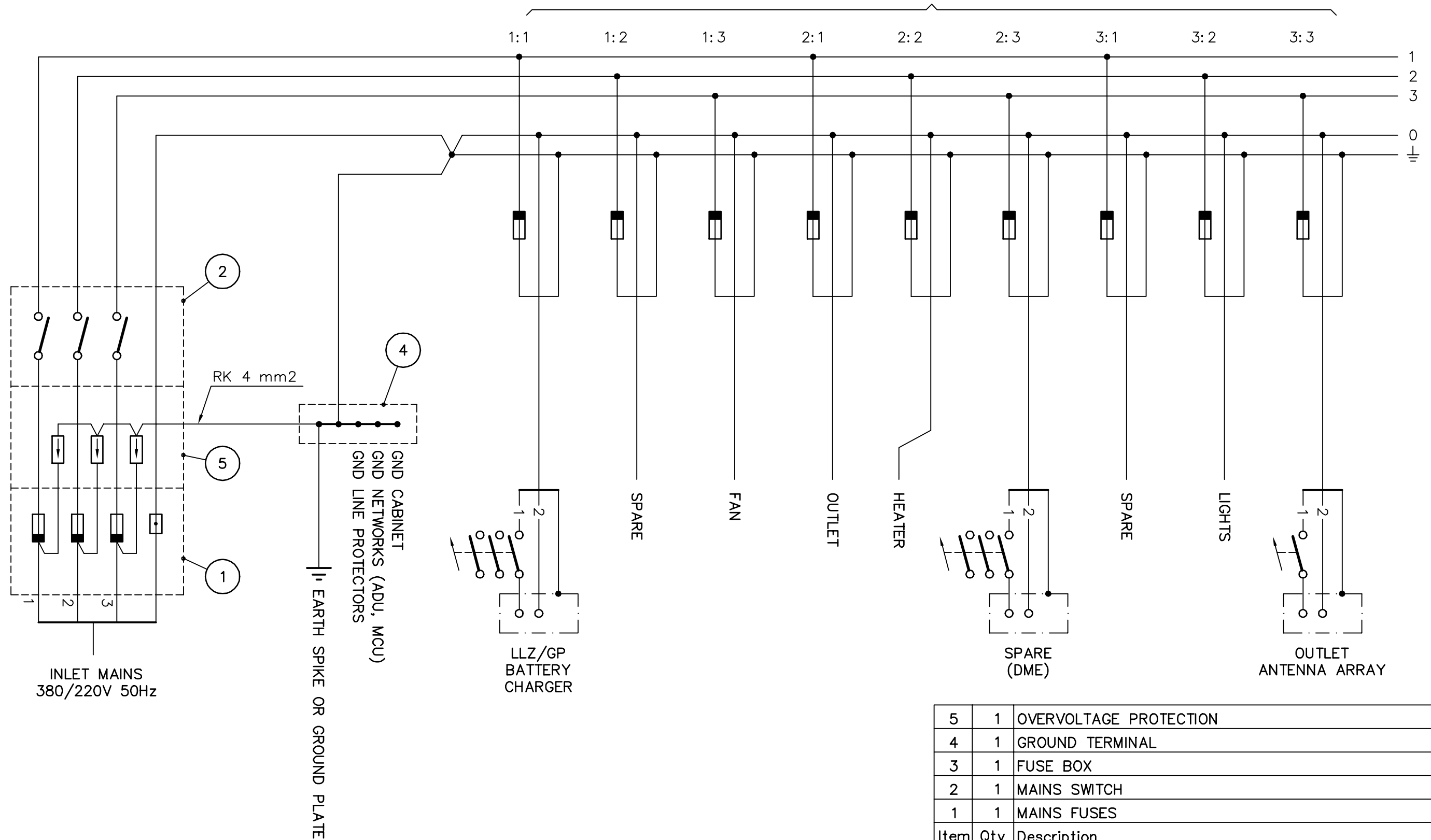
Dwg.no.: F 11463A3 Issue 4
Projection method: ☉ ◻



Item	Qty.	Description
21	1	Work bench
20	1	Fire extinguisher
19	1	Chair
18	2	Fluorecent lamps
17	1	Battery charger main switch w/Fuses
16	1	Marker Beacon Transmitter
15	1	Battery cupboard
14	2	Ventilator inside batt. cupboard
13	1	Line Protection
12	1	Air condition unit/heater
11	1	Door
10	1	Switch for indoor lights
9	1	Ventilator (outlet) with filter
8	1	Thermostate for aircond. unit
7	5	Dual el. outlets with ground
6	1	Telephone line terminal
5	1	Transient Termination Box
4	1	Ground Terminal
3	1	Fuse Panel
2	1	Main Power Switch
1	1	Mains fuses box

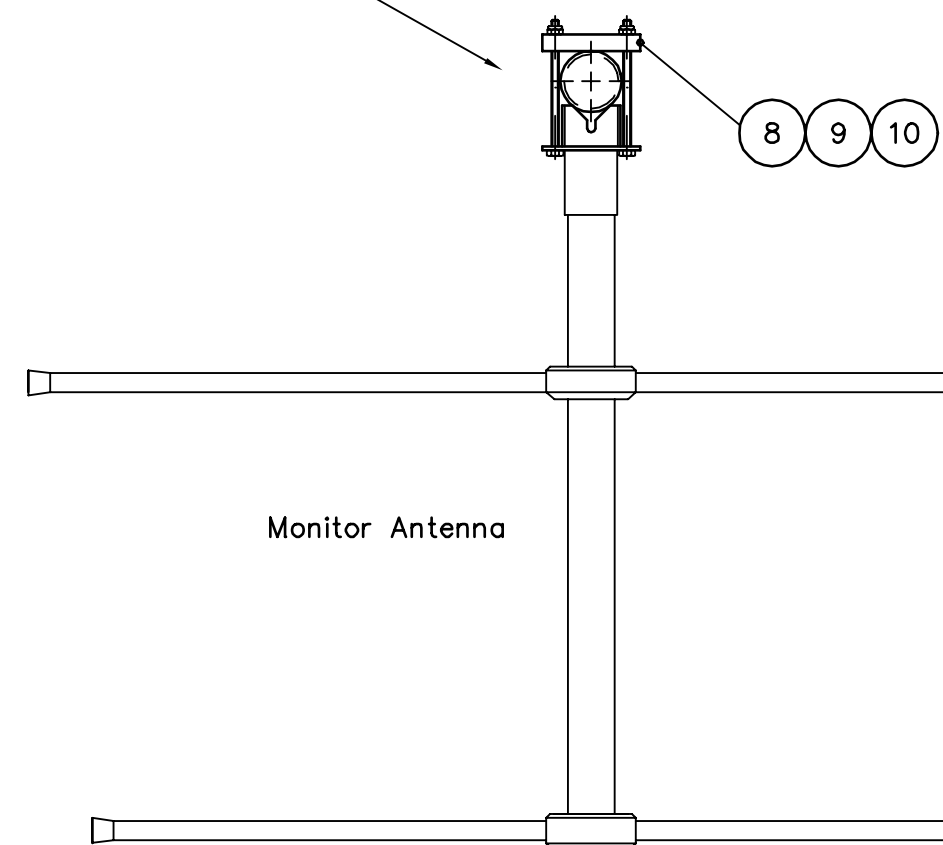
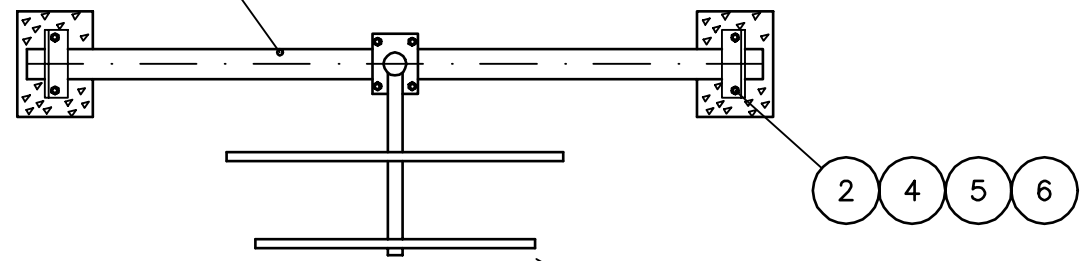
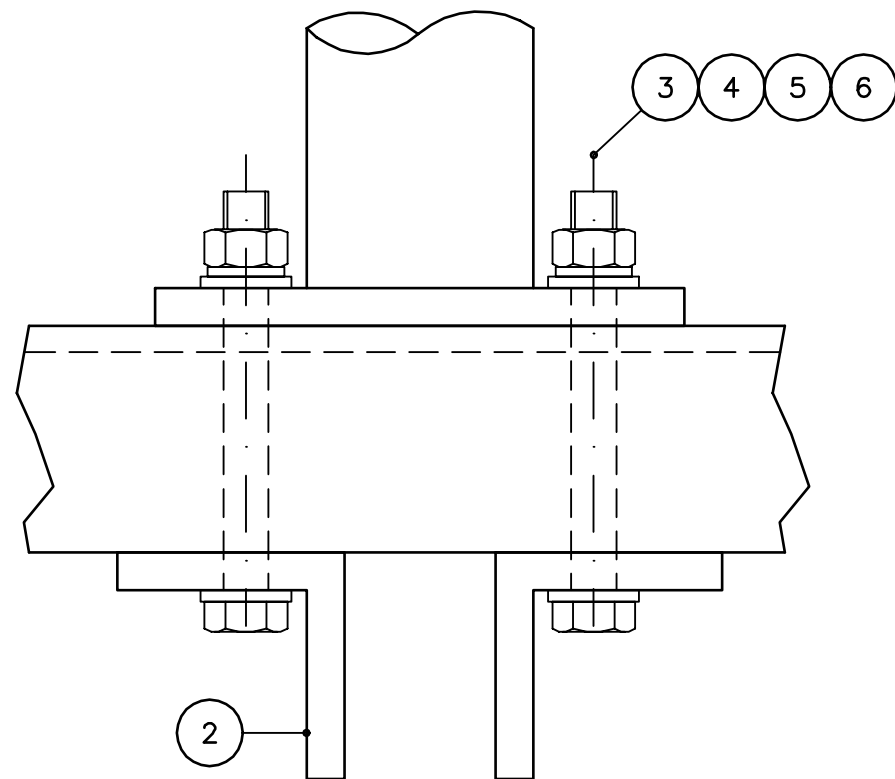
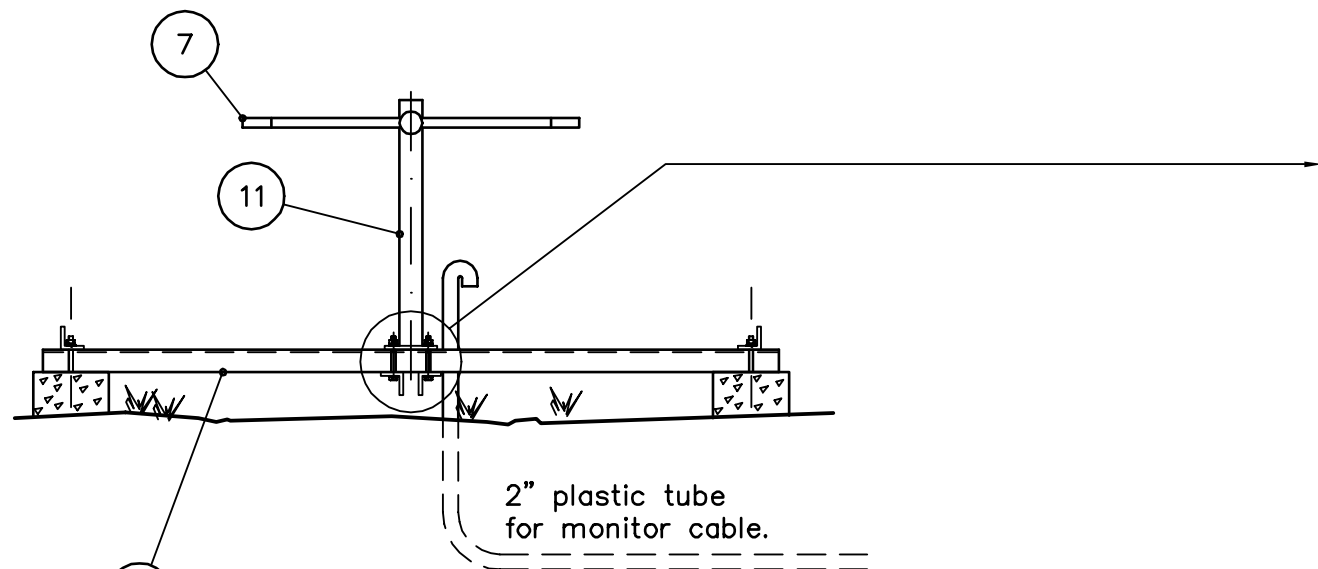
				Title: MARKER BEACON EQUIPMENT SHELTER		Scale: \approx		Drawn: 310190 A.J
				Subject: NM 3550/NM 7050		Checked:		Appr.: 060290 EH
						Sup.for:		Sup.by:
2593	2	090496	FrH			Dwg.no.: 13258A3		Issue: 2
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights reserved NAVA AVIATION AS, NORWAY			Projection method: \odot \square	

3



5	1	OVERVOLTAGE PROTECTION
4	1	GROUND TERMINAL
3	1	FUSE BOX
2	1	MAINS SWITCH
1	1	MAINS FUSES
Item	Qty	Description

Title: DIAGRAM EL. INSTALLATION				Scale: 1:1	Drawn: 200991 BS
Subject: NM 3500/7000				Checked:	Appr.: 241091 LWN
				Sup.for:	Sup.by:
3228	3	310398	ARJ	Dwg.no.: 14220A3	Issue 3
2593	2	270396	FrH	Projection method: <input type="radio"/> <input type="checkbox"/>	
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights reserved NAVA AVIATION AS, NORWAY	



Item	Qty	Description	NM Type/remark
11	1	Mast	NF 696A
10	4	Nut M10 DIN934 Galv.	NF 696A
9	4	Bolt M10x160 DIN931 Galv.	NF 696A
8	2	Bar for AV42-110	NF 696A
7	2	Antenna AV-42-110	NF 696A
6	8	Nut M12 DIN934 A4	NF 696A/FK 809A
5	8	Spring washer M12 DIN127B A4	NF 696A/FK 809A
4	8	Washer M12 DIN125 A4	NF 696A/FK 809A
3	4	Bolt M12x100 DIN931 A4	NF 696A
2	4	Clamping angle	NF 696A/FK 809A
1	1	Bar U140 - 2500 Galv.	NF 696A

Ref.no.	Issue	Date	Sign.
2932	4	130297	FrH
2593	3	090496	FrH
2092	2	211294	IT

Title: LLZ MONITOR ANTENNA ASSEMBLY

Subject: NM 3522-26

Normarc AS

Scale: —

Drawn: 201191 BS

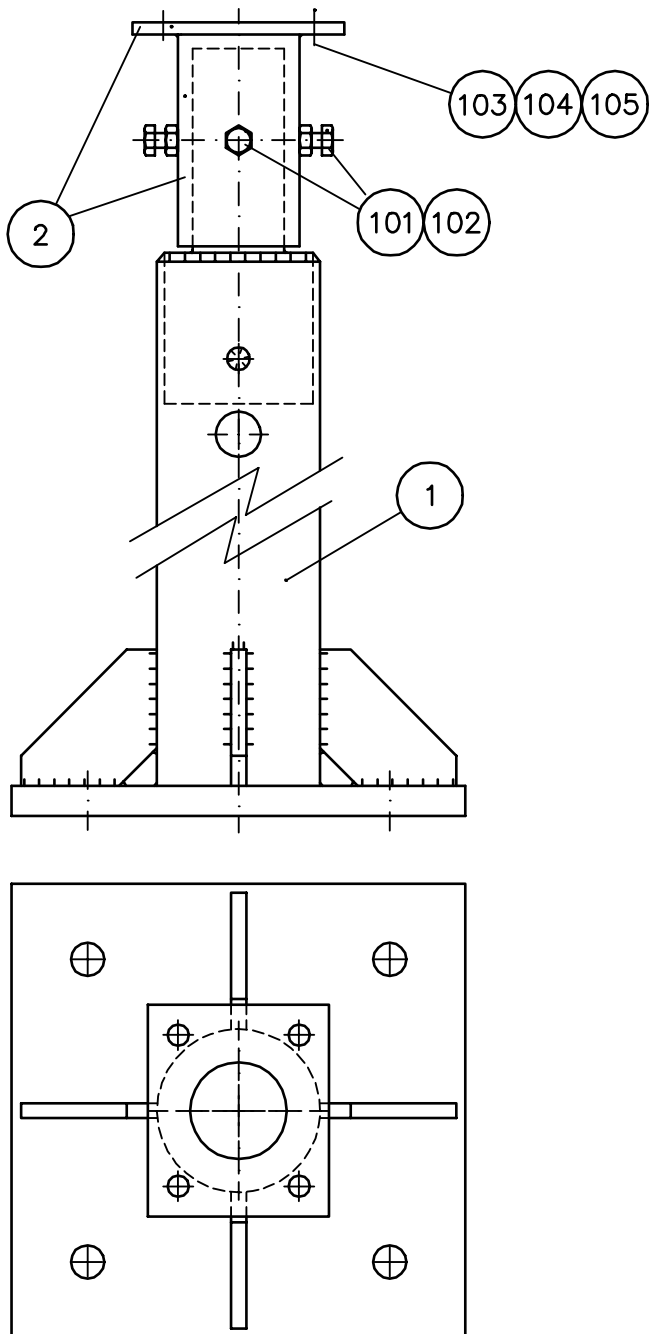
Checked: —

Appr.: 221191 EHO


Sup.for: 14256A3-2 | Sup.by: —

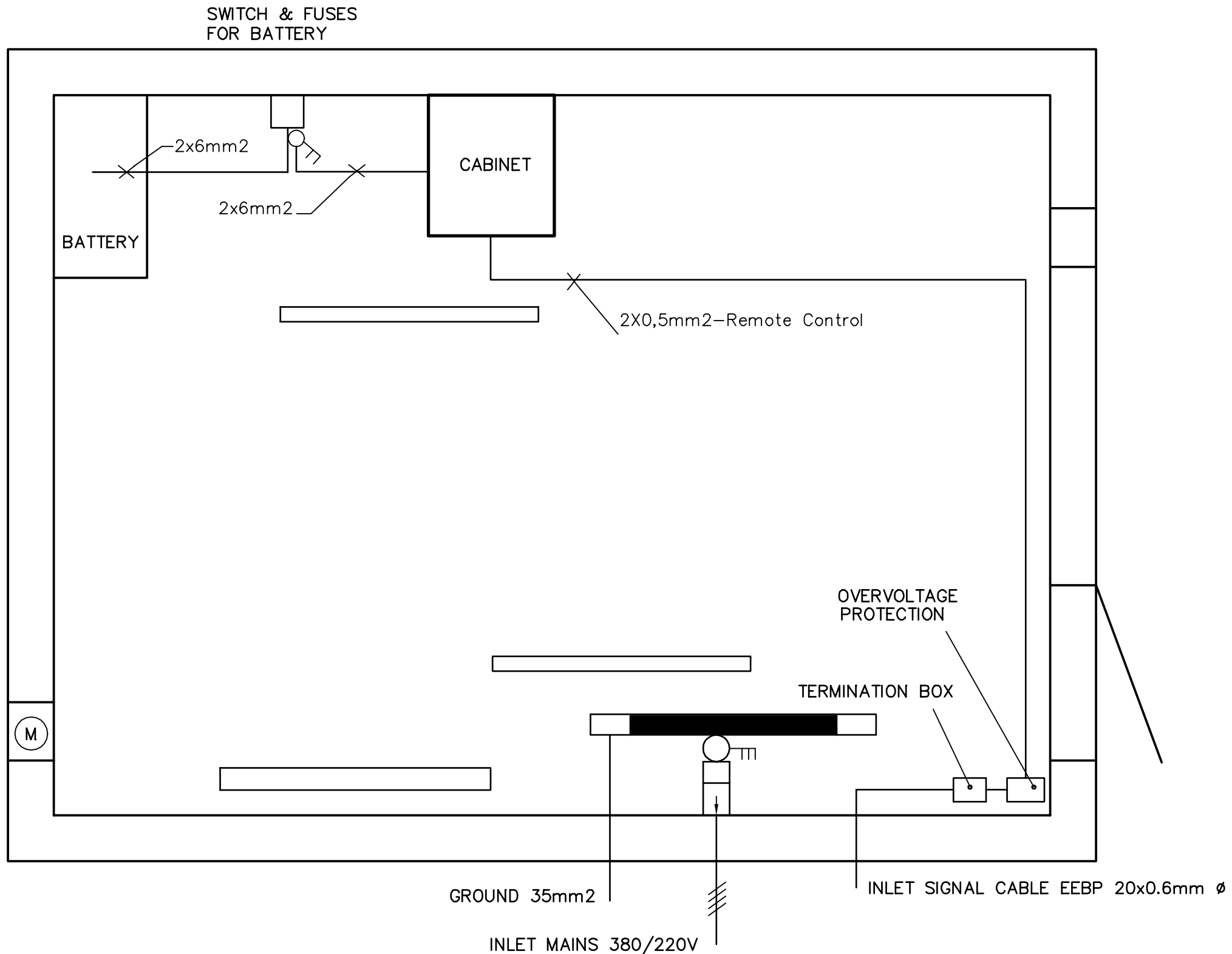
Dwg.no.: 14256A3 | Issue 4

Projection method: ☉ □

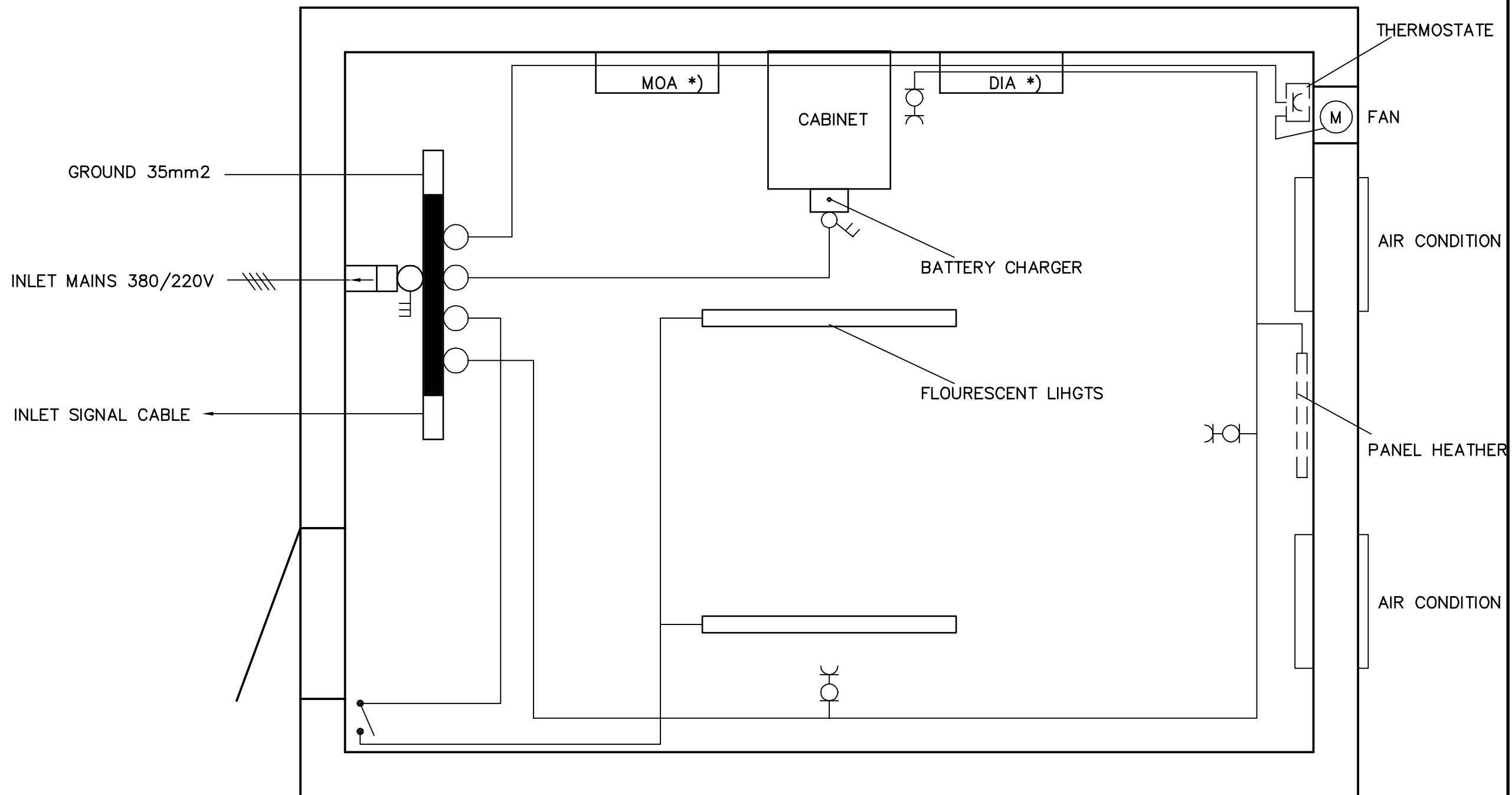


4	105	LOCKWASHER	DIN 127B M12 A4
4	104	HEX. NUT	DIN 934 M12 A4
4	103	SCREW	DIN 933 M12 x 40 A4
4	102	HEX. NUT	DIN 934 M10 A4
4	101	SCREW	DIN 933 M10 x 20 A4
1	2	BRACKET	
1	1	MAST	
Qty	Pos	Beskrivelse	Matr. Dim. Finish

				Title: MARKER BEACON KATHREIN ANTENNA		Scale: 1:5	Drawn: 250992 FrH
				Subject: MS 798C ANTENNA MAST			Checked:
						Sup.for:	Sup.by: 280992 AGE
3557	2	030899	TBj			Dwg.no.: 14460A4	Issue: 2
Ref.no.	Issue	Date	Sign.			Copyright and all modification rights reserved NAVIA AVATION AS, NORWAY	



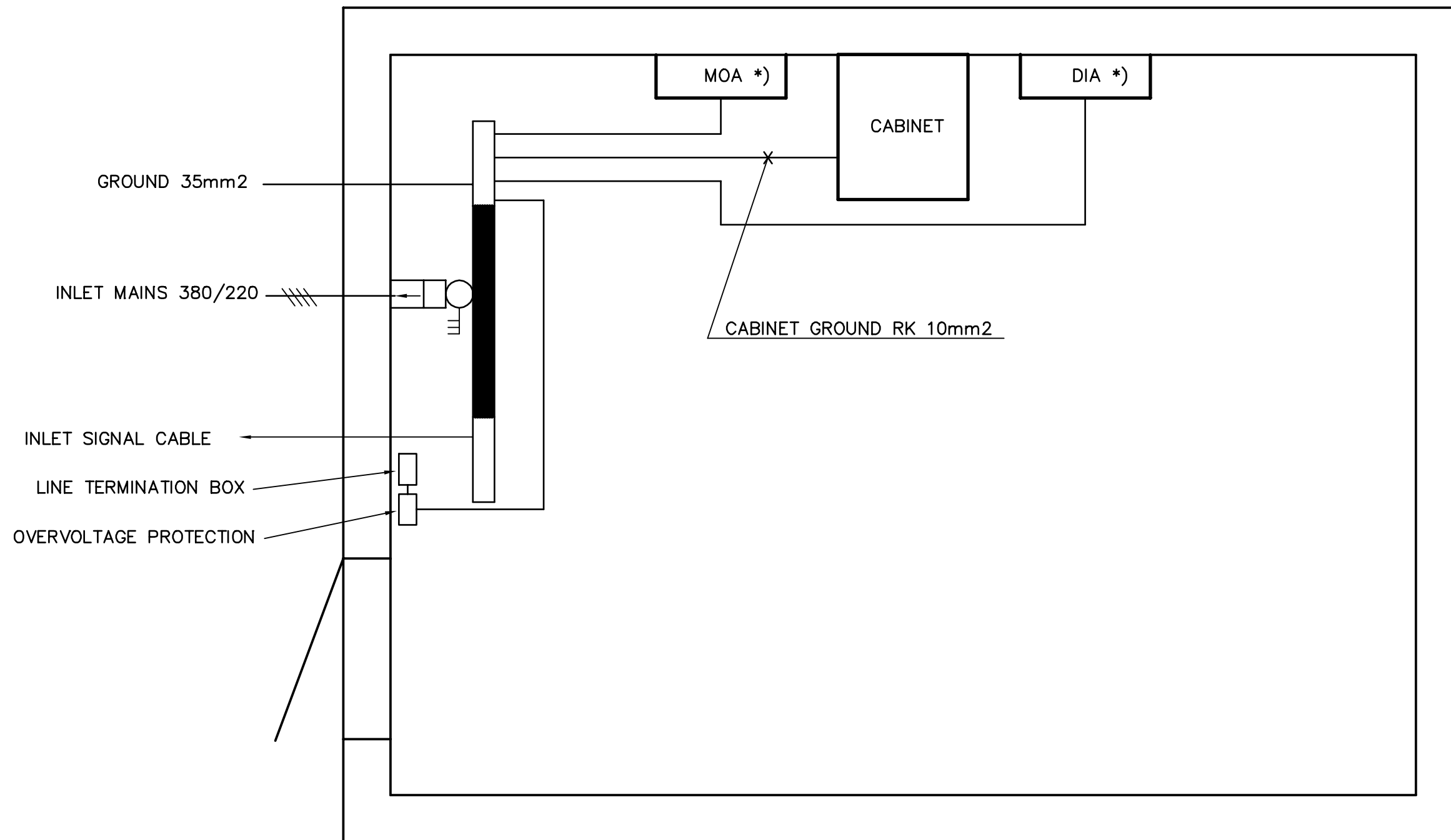
					Title: ILS SHELTER BATT. AND TELE INST.	Scale: —	Drawn: 041294 ARJ
					Subject: NM 7000		Checked: —
							Appr.: 061294 JSA
						Sup.for: —	Sup.by: —
					Normarc AS	Dwg.no.: 15975A3	Issue: 2
2593	2	280396	FrH			Projection method: ☉ □	
Ref.no.	Issue	Date	Sign.				



*) GP only or LLZ if networks installed in shelter.

				Title:	ILS SHELTER EL. INSTALLATION	Scale:	Drawn	041294	ARJ
				Subject:	NM 7000	—	Checked		
							Appr.	061294	JSA
						Sup.for:		Sup.by:	
3228	3	310398	ARJ						Issue
2593	2	280396	FrH				Dwg.no.:	15976A3	3
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights reserved NAMA AVIATION AS, NORWAY			Projection method:	☉	☐

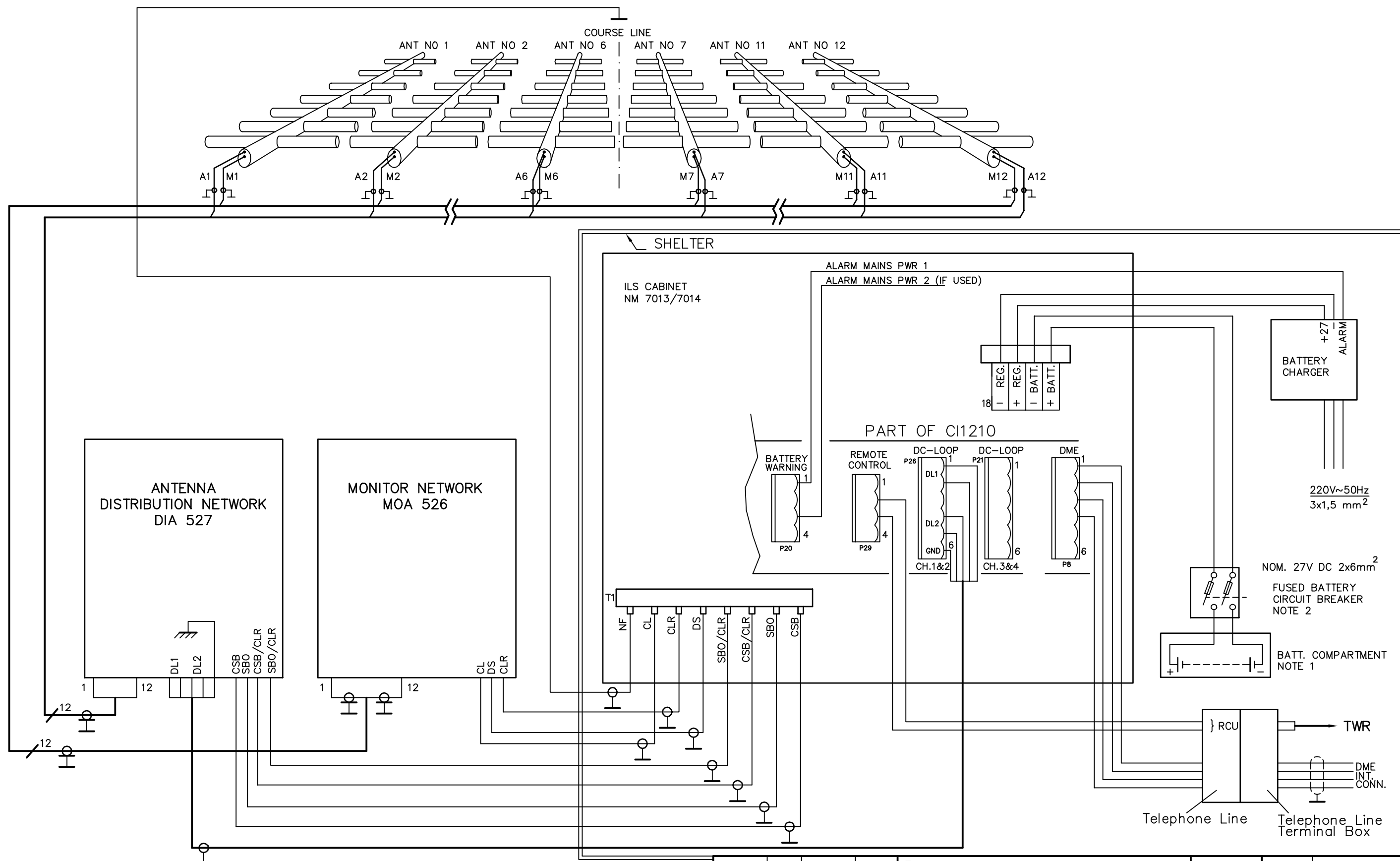




*) GP only or LLZ if networks installed in shelter.

				Title:	ILS SHELTER GROUNDING		Scale:	Drawn	041294	ARJ
				Subject:	NM 7000		—	Checked		
								Appr.	061294	JSA
							Sup.for:	Sup.by:		
3228	3	310398	ARJ					Dwg.no.:	15977A3	Issue
2593	2	280396	FrH							3
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights reserved NAMA AVIATION AS, NORWAY				Projection method: ☉ □		





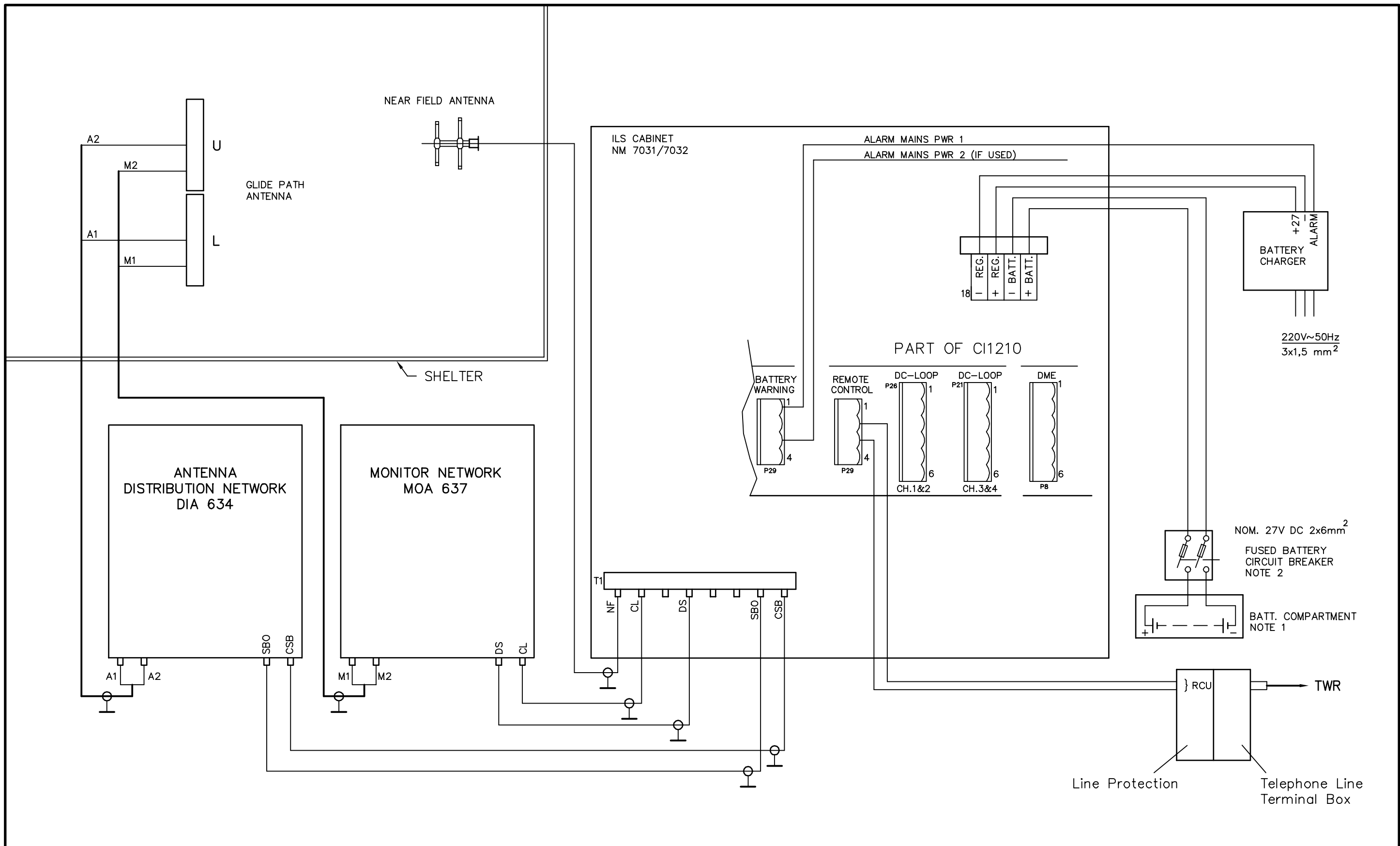
NOTE 1: Normally not supplied by Normarc.
 NOTE 2: Normally supplied by Normarc.

2593	3	270396	FrH
E02461	2	080995	ARJ
Ref.no.	Issue	Date	Sign.

Title: LLZ Installation Diagram
 12 element system
 Subject:
 NM 7000/NM 3524

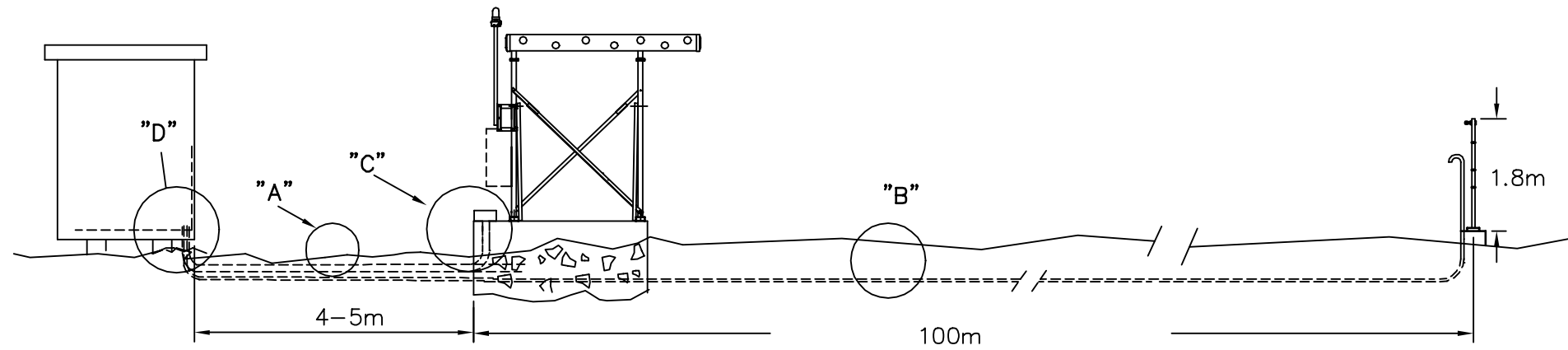


Scale:	1:1	Drawn:	051294	HS
		Checked:		
		Appr.:	061294	JSA
Sup.for:		Sup.by:		
Dwg.no.:	15986A3	Issue	3	
Projection method:	☉			



NOTE 1: Normally not supplied by Normarc.
 NOTE 2: Normally supplied by Normarc.

				Title: GP Installation Diagram Sideband Reference		Scale:	Drawn	051294	HS
				Subject:		1:1	Checked		
				NM 7000/NM 3544			Appr.	061294	JSA
						Sup.for:	Sup.by:		
3007	3	250697	FrH			Dwg.no.:	15988A3		Issue
2593	2	270396	FrH					3	
Ref.no.	Issue	Date	Sign.			Projection method: ☉ ◻			



Power And Control Cable Inlet

ANTENNA CABLE INLET

EQUIPMENT SHELTER

ANTENNA AND
MONITOR CABLE
DUCT

LLZ ANTENNA ARRAY

NEAR FIELD MONITOR CABLE

LOCALIZER
COURSE LINE

NEARFIELD
MONITOR ANTENNA

Scale 1:20

Detail "C"
Scale 1:20

3 PCS. OF 4" PVC
TUBE ANGELS 30°

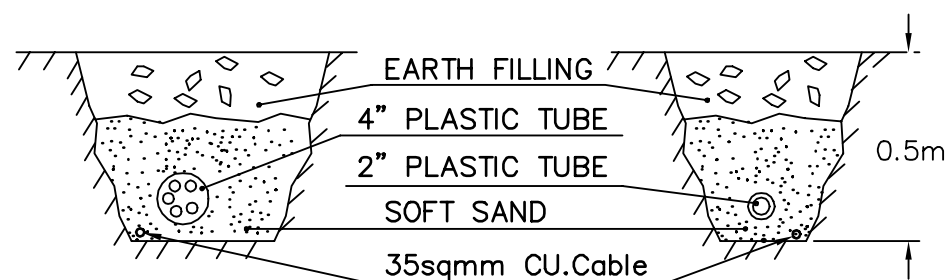
Detail "D"
Scale 1:20


2" PVC TUBE

4" PVC TUBE

DETAIL "A"

DETAIL "B"



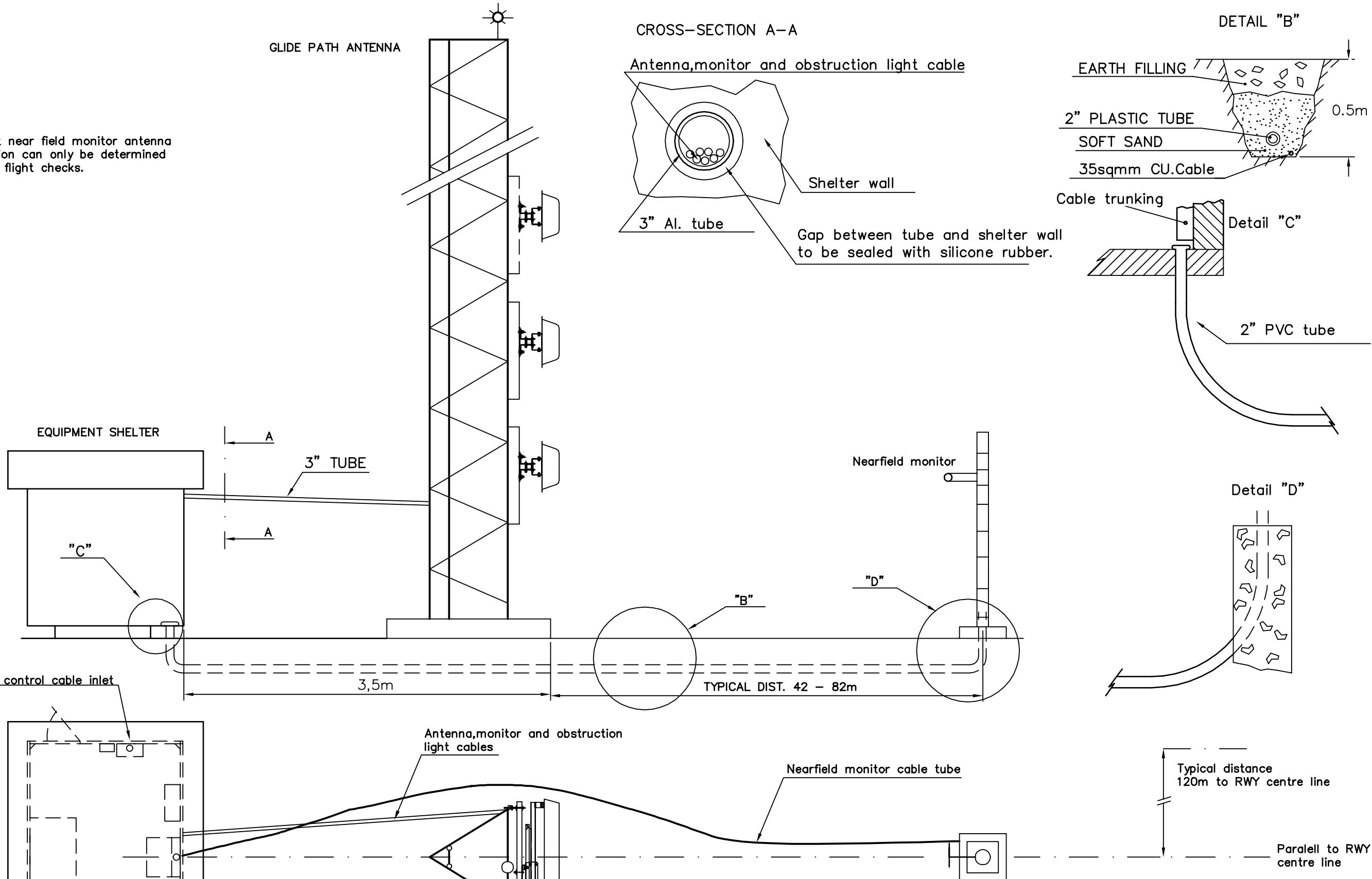
				Title:	TYPICAL LOCALIZER CONFIGURATION 1	Scale:	1:100	Drawn	061294	ARJ
				Subject:	NM 7000	Checked		Appr.	061294	JSA
						Sup.for:		Sup.by:		
3228	3	310398	ARJ			Dwg.no.:	15989A3	Issue	3	
2593	2	270396	FrH	Copyright and all modification rights reserved NAVA AVIATION AS, NORWAY		Projection method:	☉			

Exact near field monitor antenna location can only be determined after flight checks.

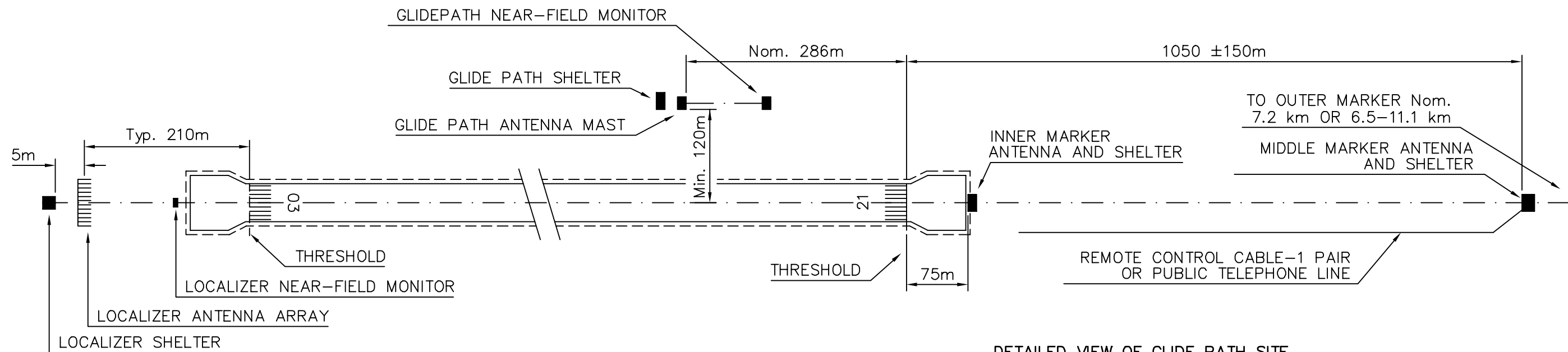
GLIDE PATH ANTENNA

CROSS-SECTION A-A

DETAIL "B"

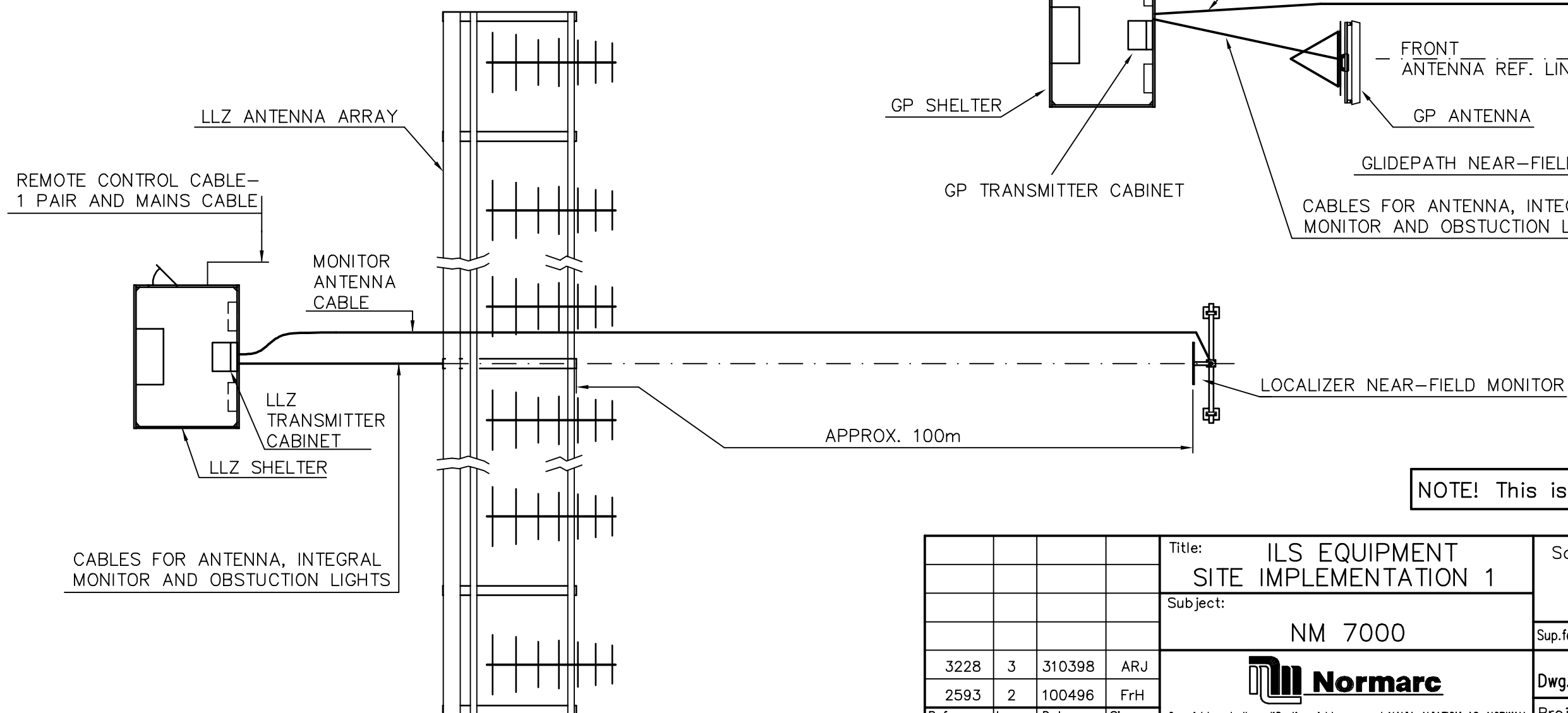


				Title: TYPICAL GLIDE PATH CONFIGURATION		Scale: \approx		Drawn: 061294 ARJ	
				Subject: NM 7000				Checked:	
								Appr.: 061294 JSA	
						Sup.for:		Sup.by:	
3228	3	310398	ARJ	Normarc		Dwg.no.: 15990A3		Issue 3	
2593	2	270396	FrH			Projection method: \odot \square			
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights reserved NAVA AVIATION AS, NORWAY					



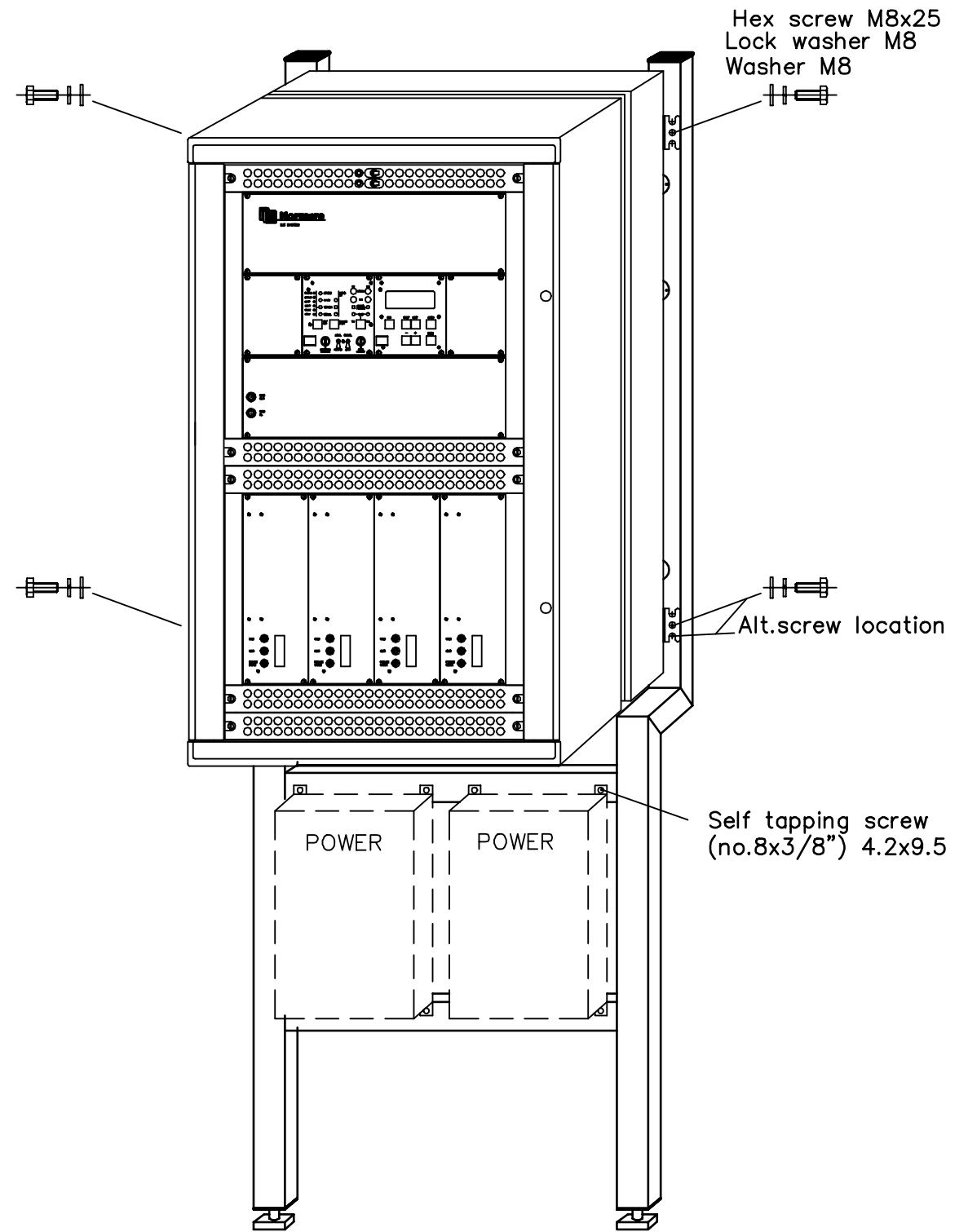
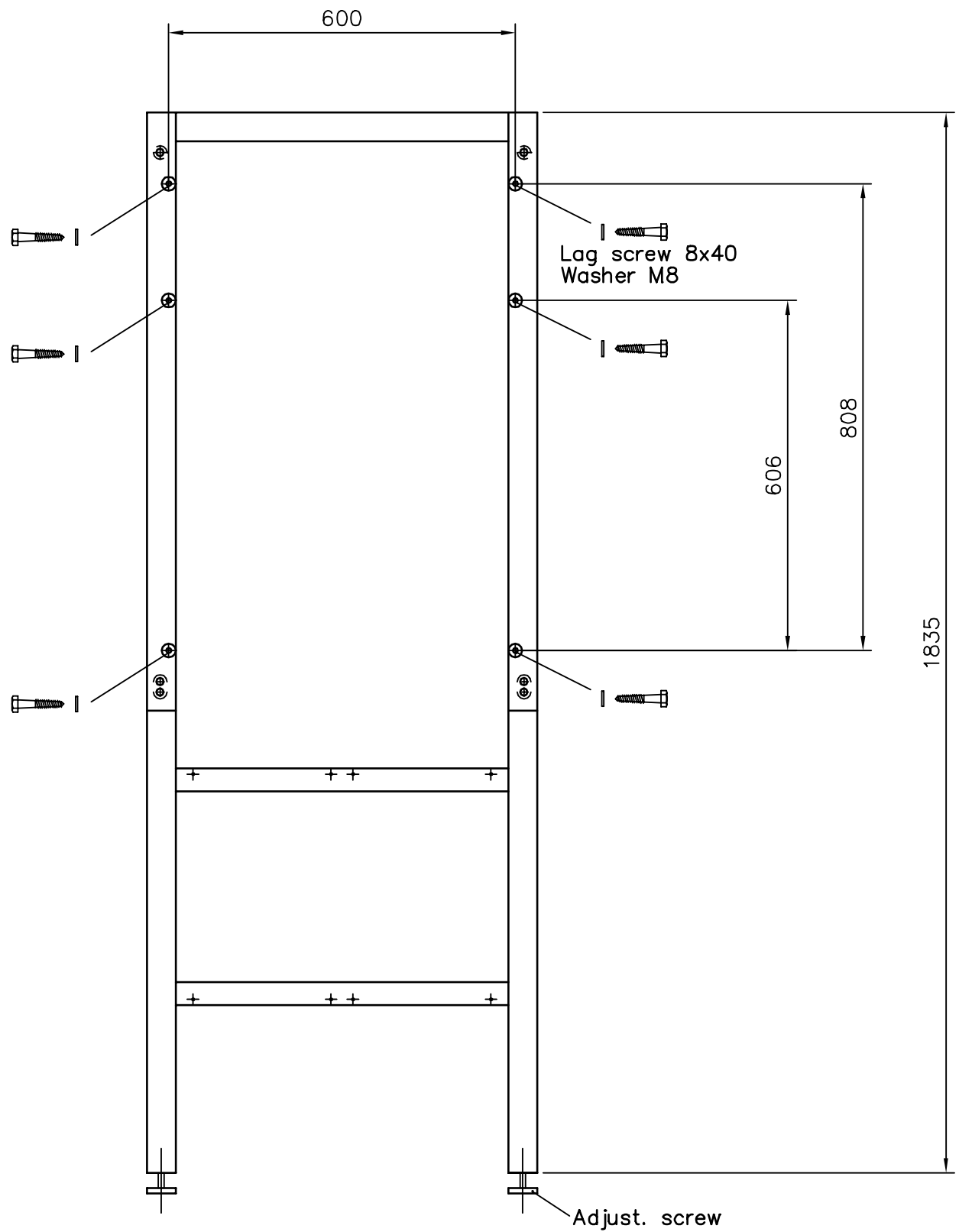
DETAILED VIEW OF GLIDE PATH SITE

DETAILED VIEW OF LOCALIZER SITE

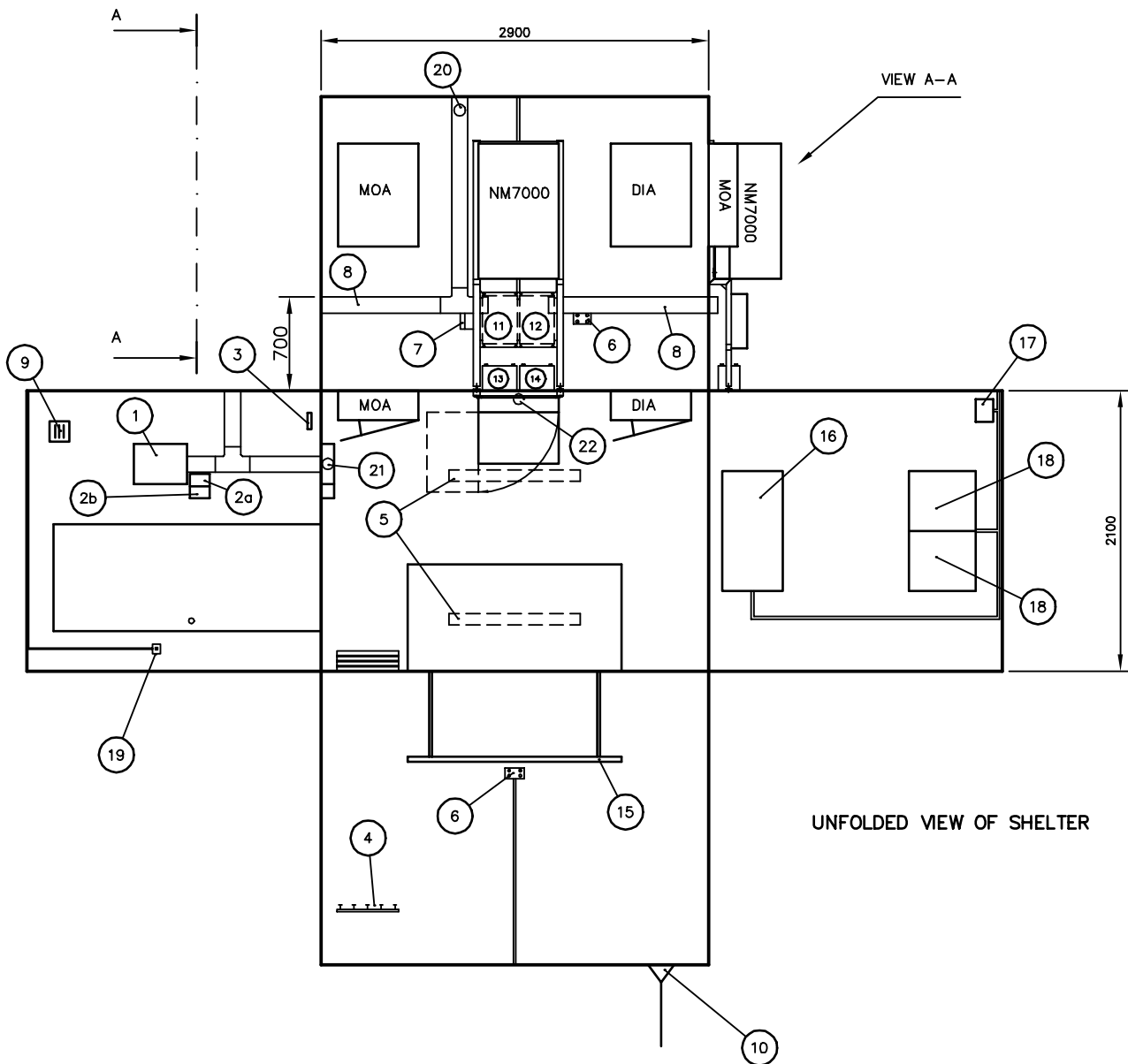


NOTE! This is only an exemple!


				Title: ILS EQUIPMENT SITE IMPLEMENTATION 1		Scale:	Drawn	290396	FrH
				Subject: NM 7000			Checked		
							Appr.	061294	JSA
						Sup.for:15991A3-1		Sup.by:	
3228	3	310398	ARJ			Dwg.no.: 15991A3		Issue 3	
2593	2	100496	FrH			Projection method: ☉ □			
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights reserved NAVIA AVIATION AS, NORWAY					

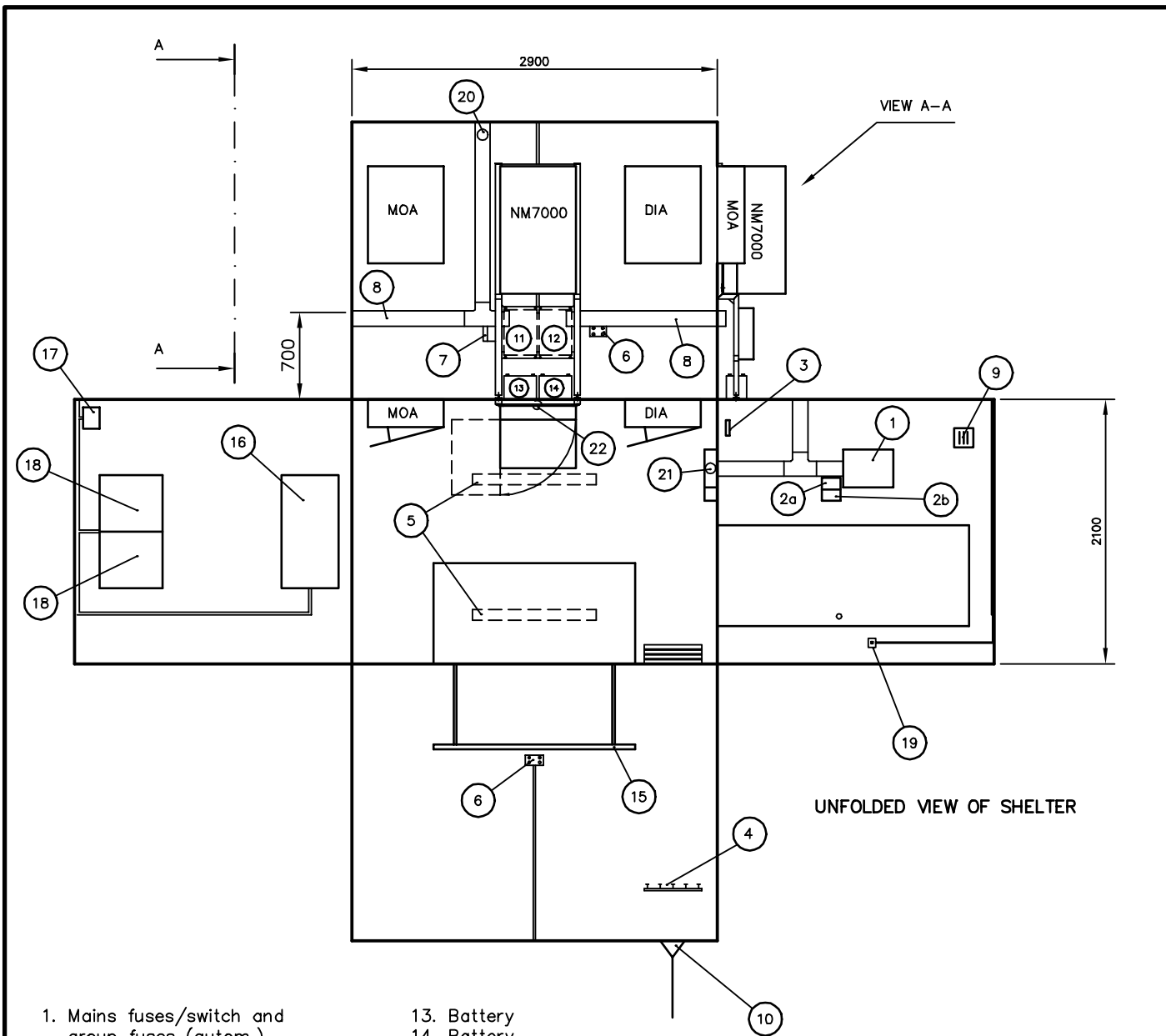


				Title: System Rack LLZ/GP Wallmounting	Scale: 1:10	Drawn: 220395 ARJ
				Subject: Eng. & commissioning handbook NM 7000 (MK 1343A)		Checked:
						Appr.: 220395 SK
					Sup.for:	Sup.by:
2953	2	020497	ARJ		Dwg.no.: F 16138A3	Issue: 2
Ref.no.	Issue	Date	Sign.		Projection method:	




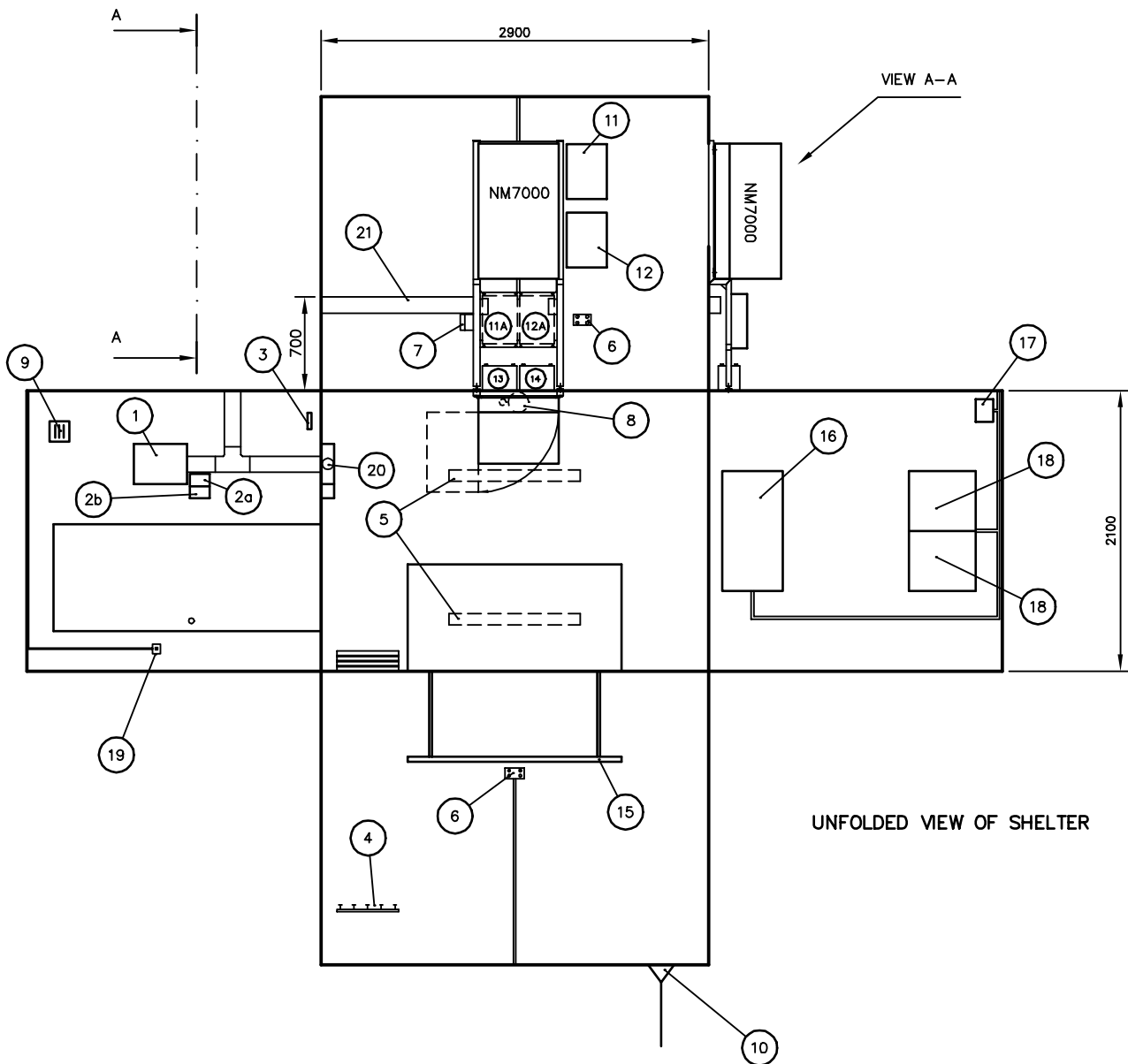
- | | |
|---|--|
| <ul style="list-style-type: none"> 1. Mains fuses/switch and group fuses (autom.) 2a. Telephone line terminal box 2b. Line protection for remote control 3. Ground connection 4. Hat rack 5. Flourecent lamps 6. Outlet 4-pole 7. Battery fuses (autom) 8. Cable trunking (Tehalit 110x80) 9. Ventilator outlet 10. Communication antenna 11. Battery charger 12. Battery charger (optional) | <ul style="list-style-type: none"> 13. Battery 14. Battery 15. Work bench 16. Heater (Not used when aircondition installed). 17. Thermostate controlled fan (when air cond. not used). 18. Air condition units 19. Light switch 20. Tube (ø65-ø75) inlet/outlet for coax cables 21. 4"Tube inlet for Power cables, Signal cables and Ground 22. NF-Coax Cables (ø50) |
|---|--|

	Title: GLIDE PATH SHELTER INSTALLATION I	Scale: 1:50	Drawn: 240495 ARJ	
	Subject: NM 7000		Checked:	
			Appr.: 290396 SK	
		Sup.for:	Sup.by:	
		Dwg.no.: 16212A4	2	Issue
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights reserved NAVIA AVATION AS, NORWAY
			Projection method:	<input type="radio"/> <input type="checkbox"/>



- | | |
|---|--|
| <ol style="list-style-type: none"> 1. Mains fuses/switch and group fuses (autom.) 2a. Telephone line terminal box 2b. Line protection for remote control 3. Ground connection 4. Hat rack 5. Fluorecent lamps 6. Outlet 4-pole 7. Battery fuses (autom) 8. Cable trunking (Tehalit 110x80) 9. Ventilator outlet 10. Communication antenna 11. Battery charger 12. Battery charger (optional) | <ol style="list-style-type: none"> 13. Battery 14. Battery 15. Work bench 16. Heater (Not used when aircondition installed). 17. Thermostate controlled fan (when air cond. not used). 18. Air condition units 19. Light switch 20. Tube (ø65-ø75) inlet/outlet for coax cables 21. 4"Tube inlet for Power cables, Signal cables and Ground 22. NF-Coax Cables (ø50) |
|---|--|

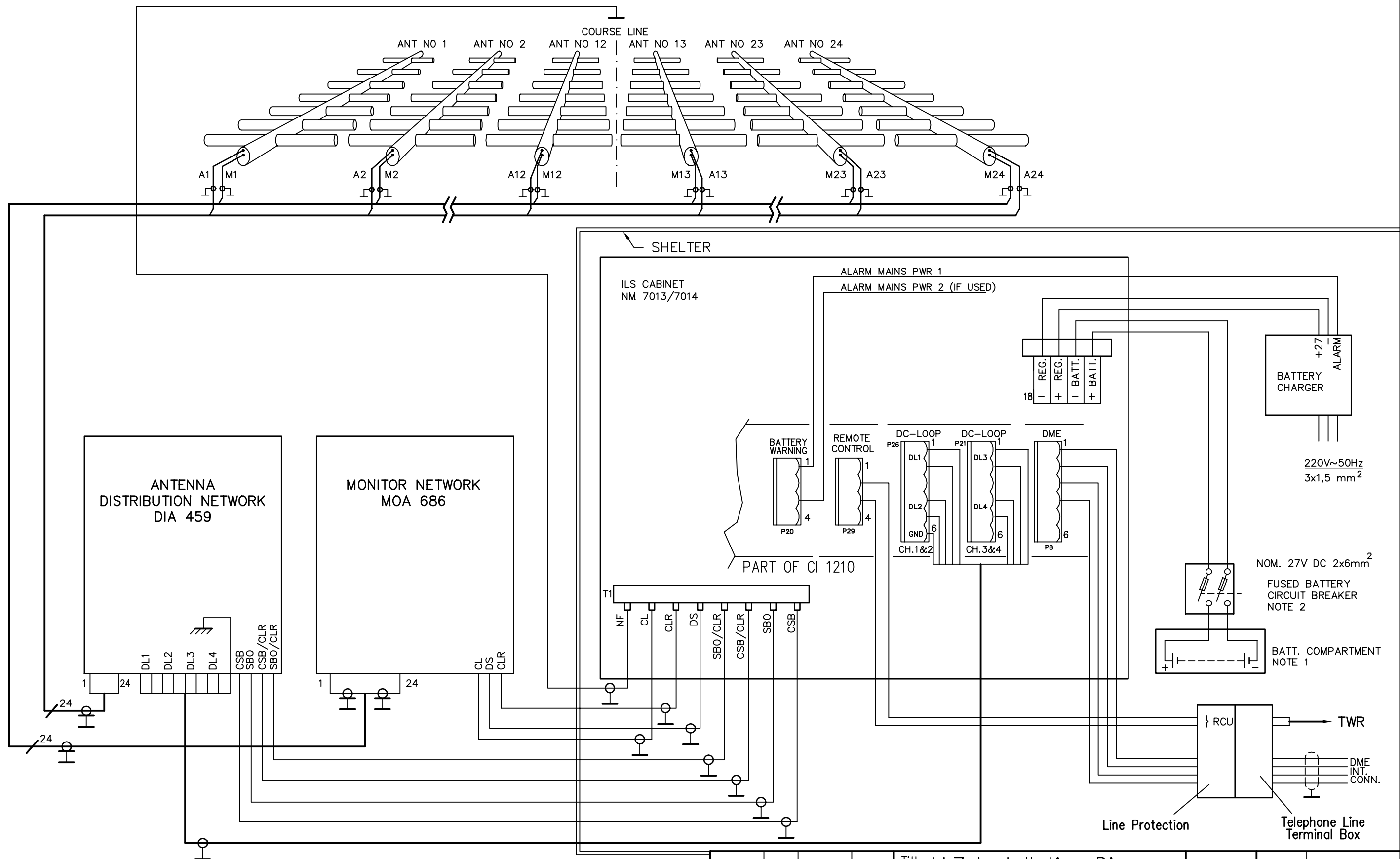
				Title:	GLIDE PATH SHELTER INSTALLATION II	Scale:	1:50	Drawn	240495	ARJ	
				Subject:	NM 7000			Checked			
						Sup.for:		Appr.	290396	SK	
								Sup.by:			
3279	2	040698	ARJ		Normarc	Dwg.no.:	16265A4	Issue	2		
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights reserved NAVIA AVATION AS, NORWAY			Projection method:	☉	☐		



UNFOLDED VIEW OF SHELTER

- | | |
|---|--|
| <ul style="list-style-type: none"> 1. Mains fuses/switch and group fuses (autom.) 2a. Telephone line terminal box 2b. Line protection for remote control 3. Ground connection 4. Hat rack 5. Fluorecent lamps 6. Outlet 4-pole 7. Battery fuses (autom) 8. 2" and 4" Tubes inlet/outlet for coax cables 9. Ventilator outlet 10. Communication antenna 11. Battery charger 12. Battery charger (optional) 11A,12A Aternative Position of Battery Chargers | <ul style="list-style-type: none"> 13. Battery 14. Battery 15. Work bench 16. Heater (Not used when aircondition installed). 17. Thermostate controlled fan (when air cond. not used). 18. Air condition units 19. Light switch 20. 4"Tube inlet for Power cables, Signal cables and Ground 21. Cable trunking (110x80) |
|---|--|

	Title:	Scale:	Drawn	240495	ARJ
	SHELTER INSTALLATION LLZ	1:50	Checked		
	Subject:		Appr.	290396	SK
	NM 7000	Sup.for:	Sup.by:		
3228	2	310398	ARJ	<div style="display: flex; align-items: center;"> Normarc </div>	
Ref.no.	Issue	Date	Sign.		
Copyright and all modification rights reserved NAVIA AVATION AS, NORWAY		Projection method: <input type="radio"/> <input checked="" type="radio"/> <input type="checkbox"/>			



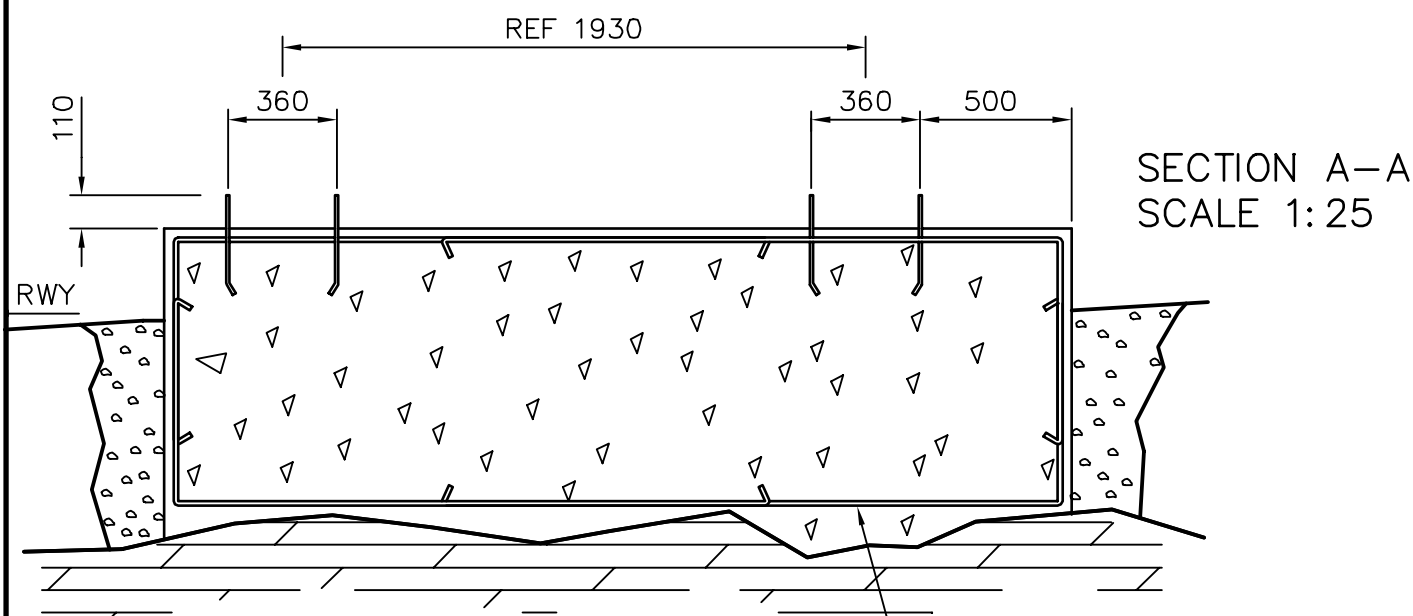
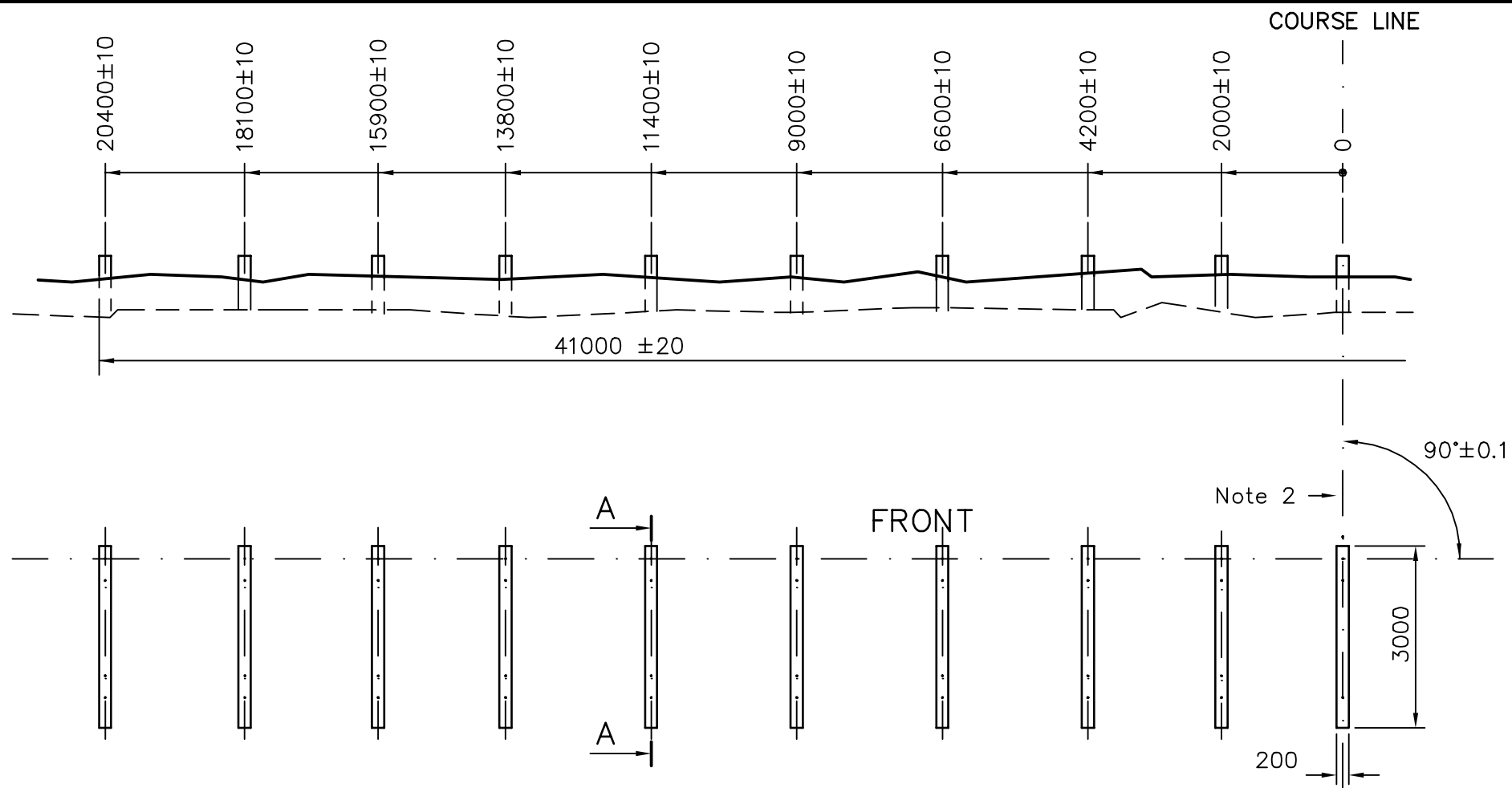
NOTE 1: Normally not supplied by Normarc.
 NOTE 2: Normally supplied by Normarc.

2593	2	270396	FrH
Ref.no.	Issue	Date	Sign.

Title: LLZ Installation Diagram
 24 element system
 Subject:
 NM 7000/NM 3525



Scale:	1:1	Drawn:	060995 HS
		Checked:	
		Appr.:	070995 JSA
Sup.for:		Sup.by:	
Dwg.no.:	16346A3	Issue	2
Projection method:			



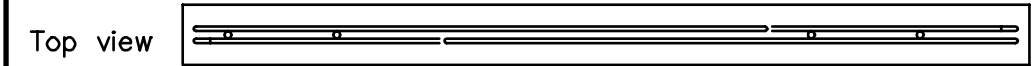
Drawing shows left half of foundation, right half is symmetric about selected course line.

Notes

- 1) All dimensions are in mm.
 - 2) The centerline of the middle concrete slab shall constitute the selected Course Line.
 - 3) The antenna foundation consists of 19 concrete slabs 200 x 3000 mm. The depth of the slabs shall be to a level ensuring rigid foundation, undisturbed by any severe weather condition.
 - 4) The top surface of each concrete slab shall be horizontal within ±5 mm.
 - 5) The top surface of the concrete slabs shall be on the same level within ±5 mm.
 - 6) Concrete grade 25 ACC. BRITISH STANDARD BS 449.
- ▼ Top of each slab to be surfaced.

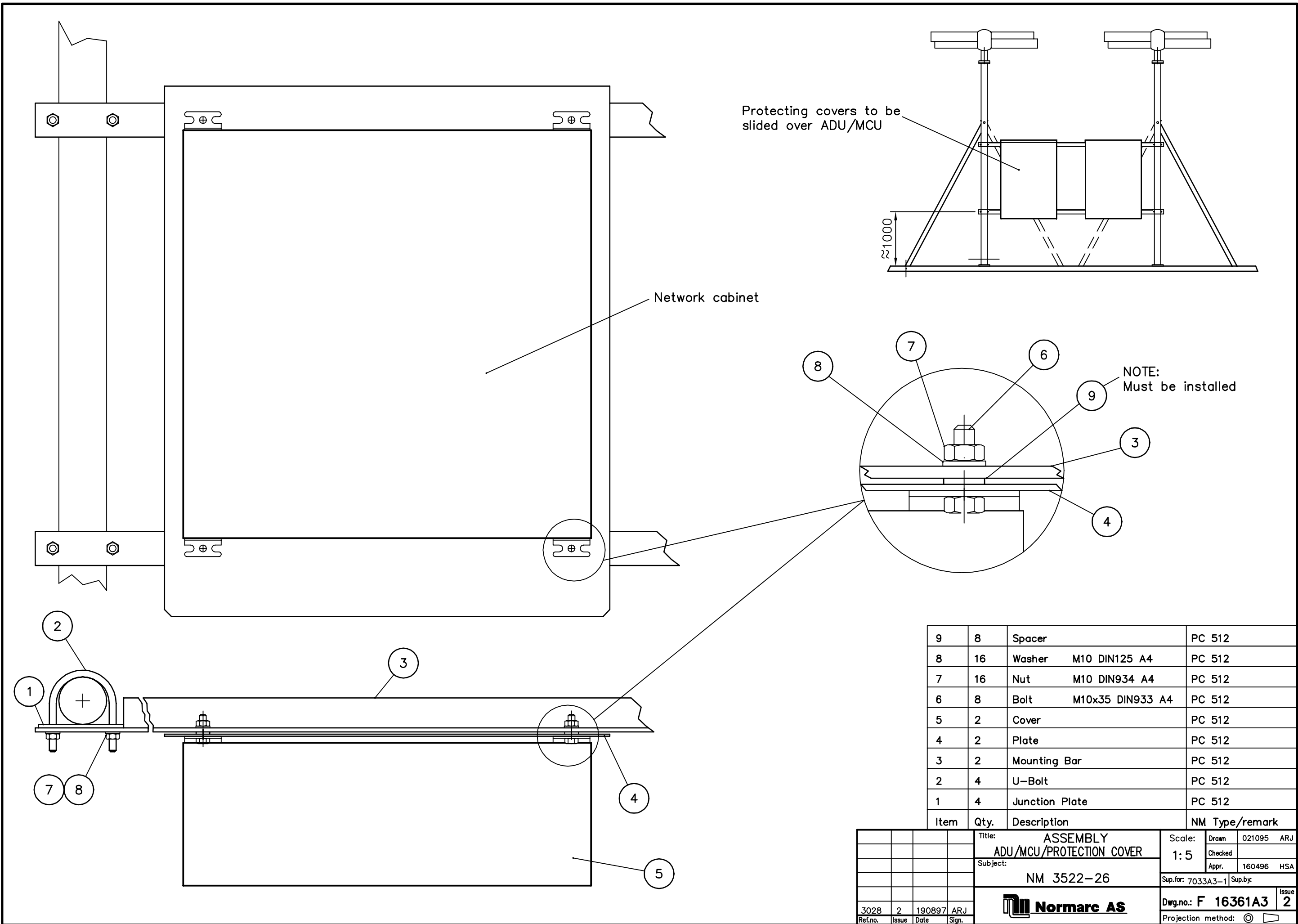
Proposed reinforcement.

76 pcs. M12 x 330 stainless steel bolts, NM Foundation Kit FK 809 dwg. no. 11221A4 as supplied, to be embedded in concrete foundation as shown.



Issue 2

				Title: 16 ELEMENTS/2 FREQ. LLZ ANTENNA FOUNDATION		Scale: 1:100		Drawn: 280995 ARJ
				Subject: NM 3526		Checked:		Appr. 28.03.96 S.K.
						Sup.for:		Sup.by:
						Dwg.no.: 16358A3		Issue 2
3318	2	260898	TBJ			Projection method: ☉ □		
Ref.no.	Issue	Date	Sign.					



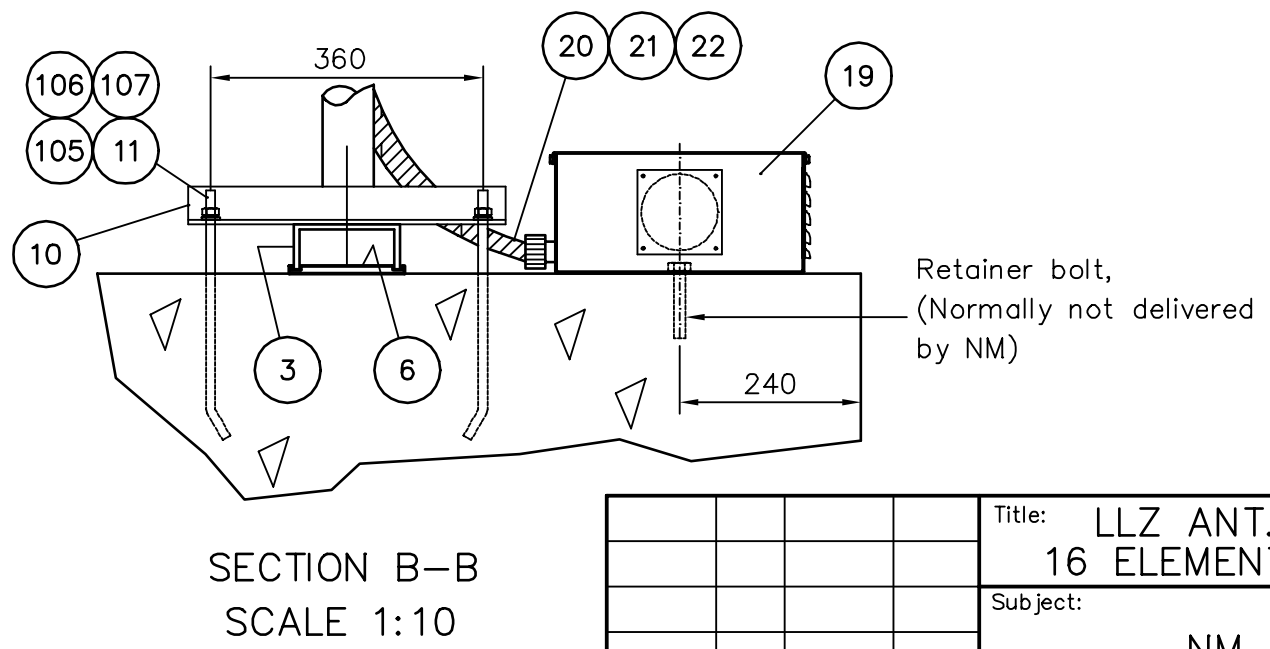
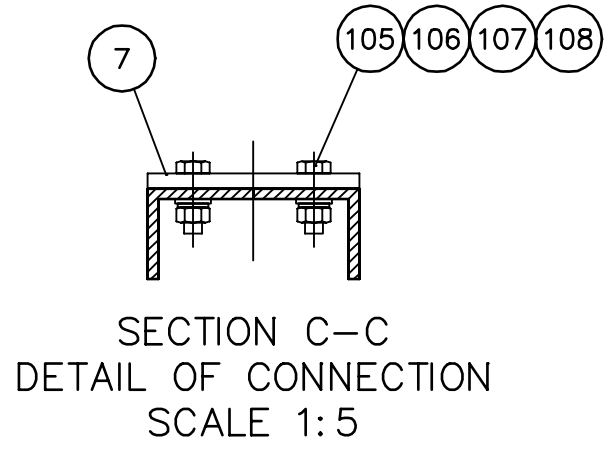
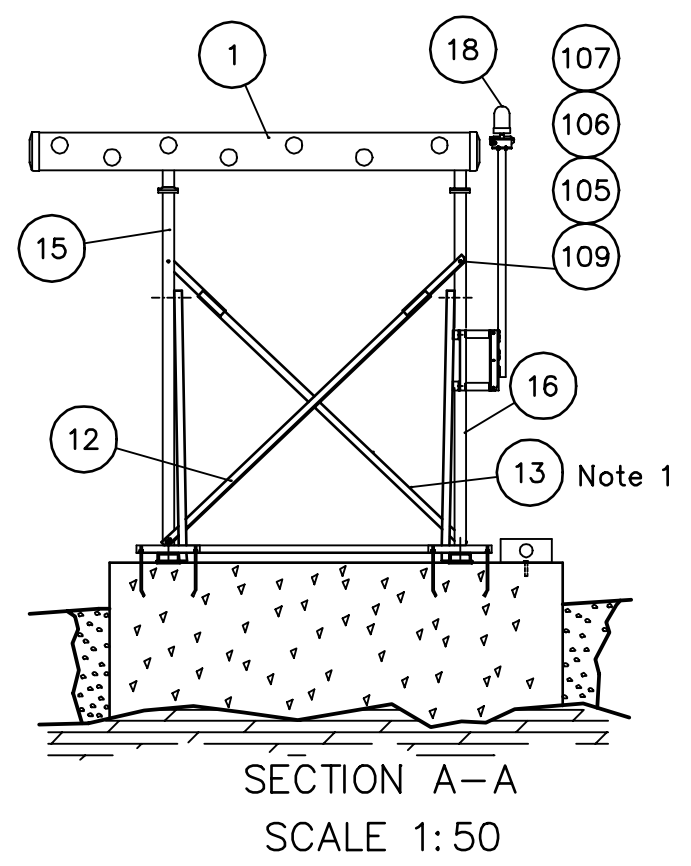
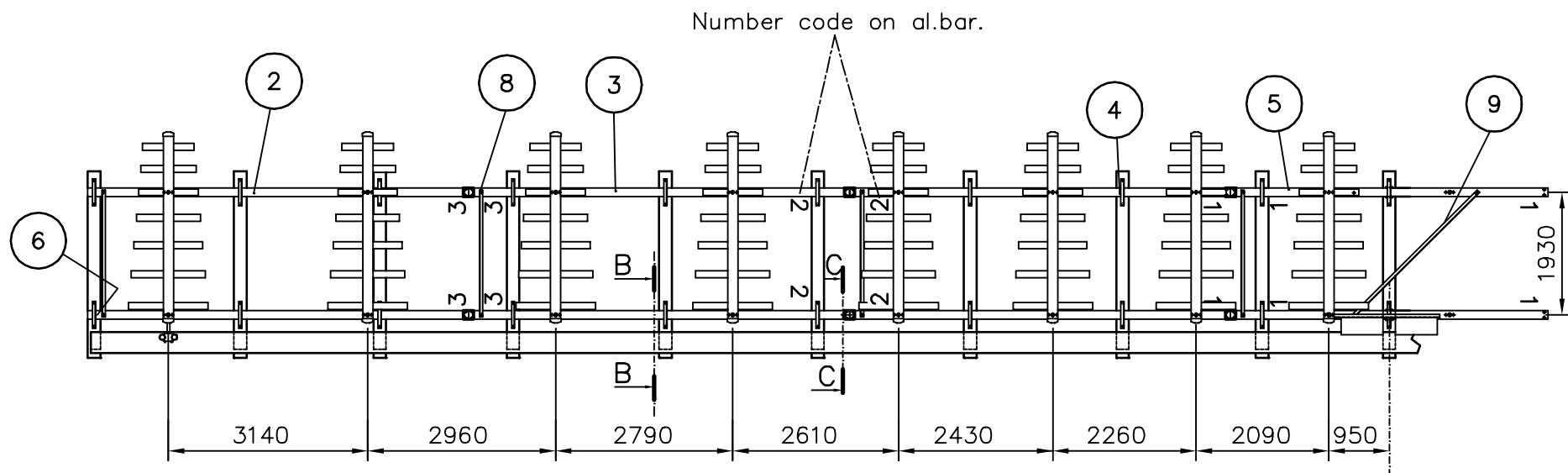
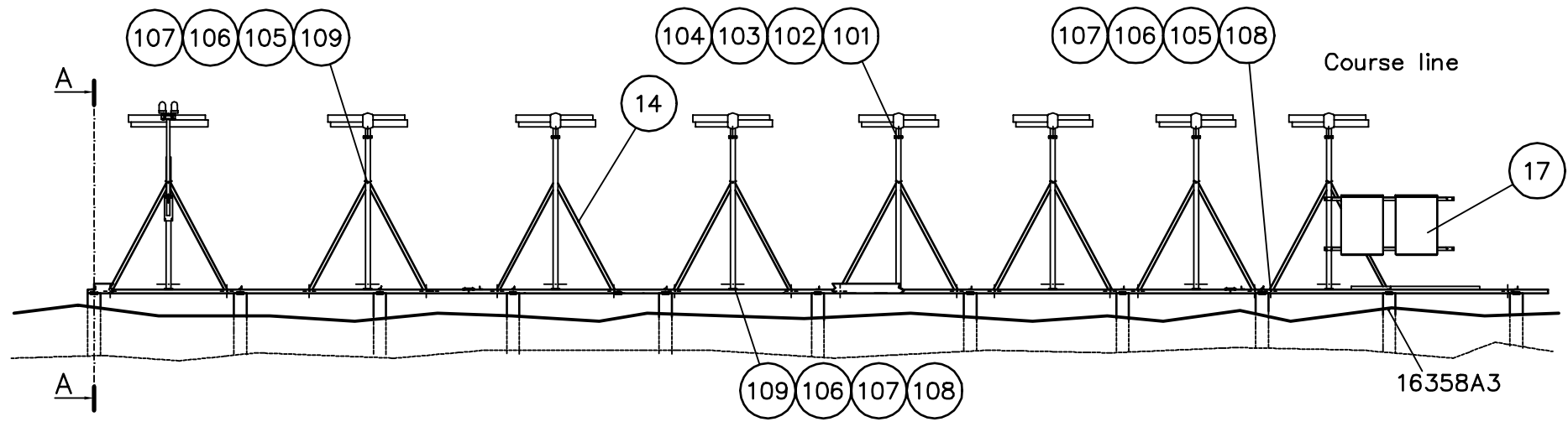
Protecting covers to be
slided over ADU/MCU

Network cabinet

NOTE:
Must be installed

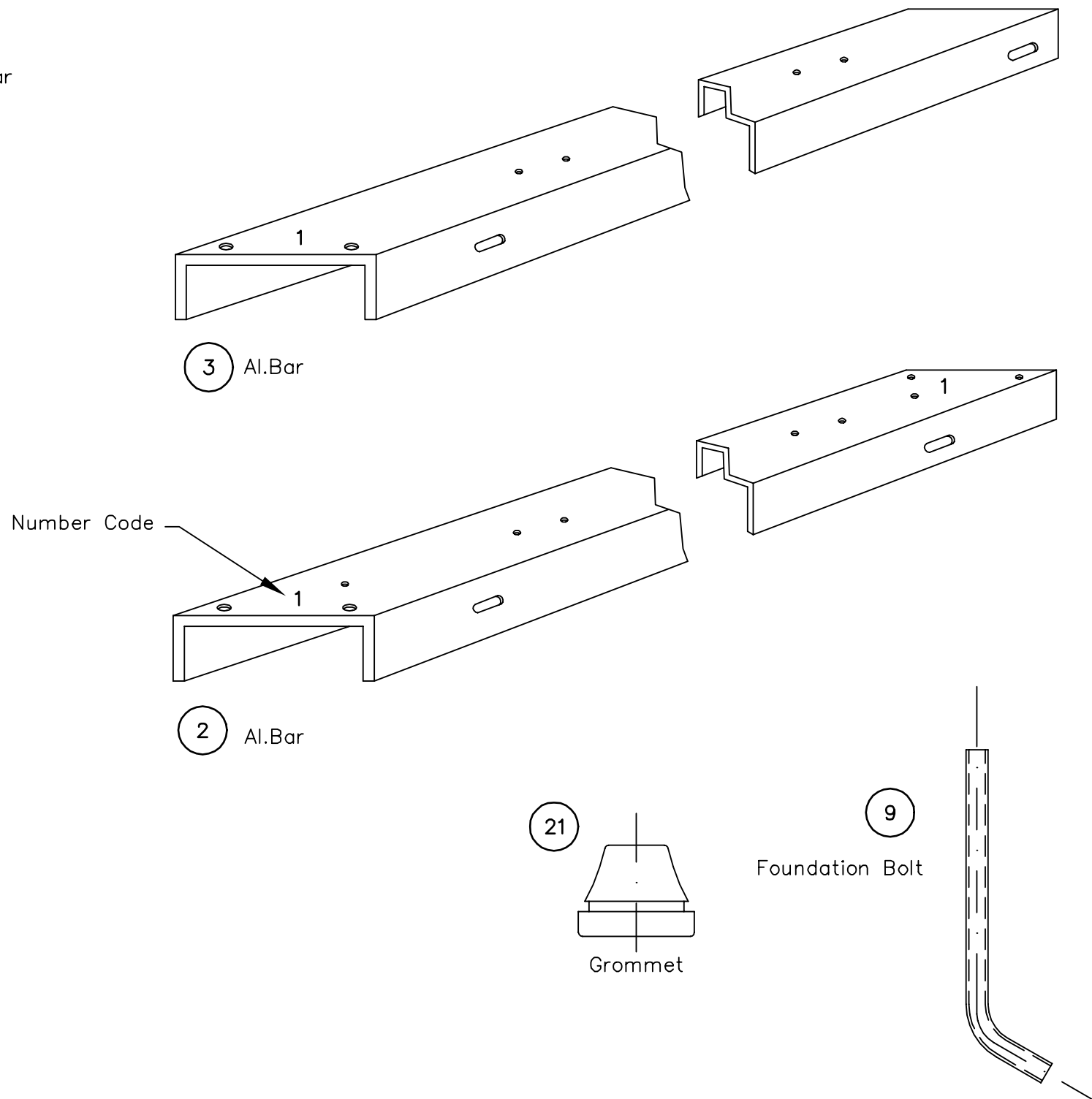
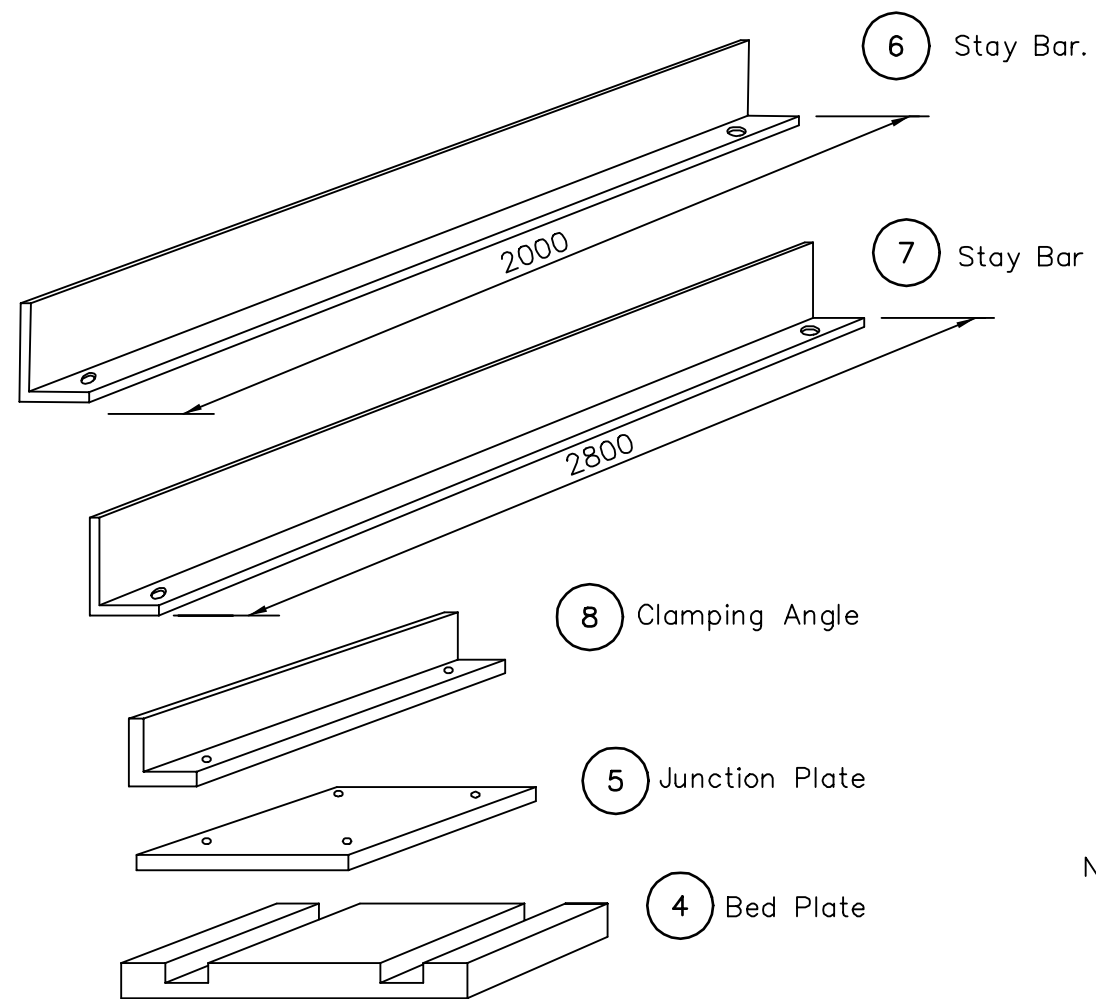
Item	Qty.	Description	NM Type/remark
9	8	Spacer	PC 512
8	16	Washer M10 DIN125 A4	PC 512
7	16	Nut M10 DIN934 A4	PC 512
6	8	Bolt M10x35 DIN933 A4	PC 512
5	2	Cover	PC 512
4	2	Plate	PC 512
3	2	Mounting Bar	PC 512
2	4	U-Bolt	PC 512
1	4	Junction Plate	PC 512




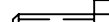







Title: ASSEMBLY ADU/MCU/PROTECTION COVER				Scale: 1:5	Drawn: 021095 ARJ
Subject: NM 3522-26				Checked:	Appr.: 160496 HSA
				Sup.for: 7033A3-1	Sup.by:
				Dwg.no.: F 16361A3	Issue: 2
3028	2	190897	ARJ	Projection method: ☉ □	
Ref.no.	Issue	Date	Sign.		





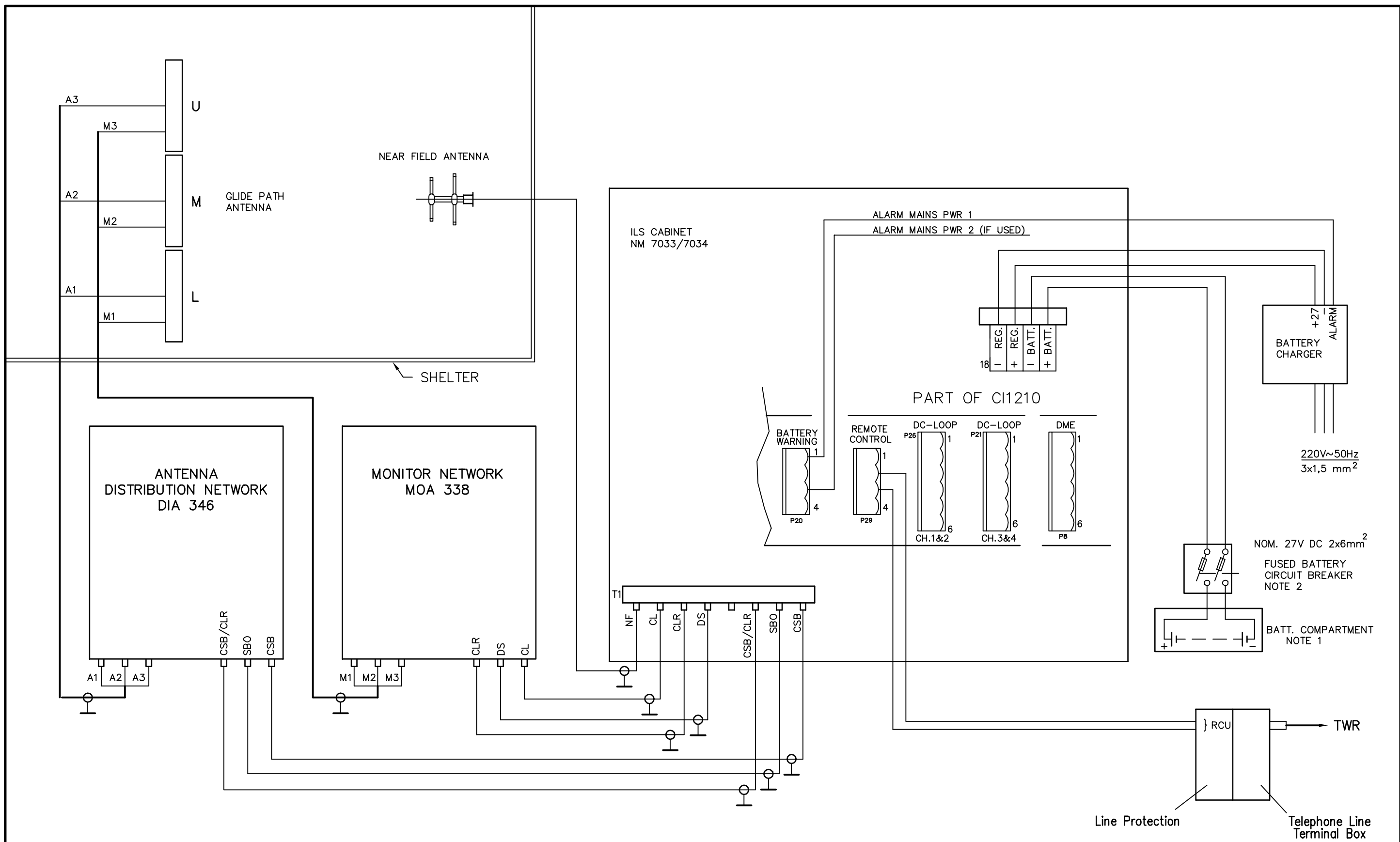
All dimensions are in mm.
 Note 1:
 Applicable to 3.2 – 5m mast only.
 Item no. see parts list no.: 2670
 drawings reference to in partslist.

				Title: LLZ ANT. ASSEMBLY 16 ELEMENTS/2 FREQ.		Scale: 1:100		Drawn: 250995 ARJ	
				Subject: NM 3526				Checked:	
								Appr.: 260496 HSA	
						Sup.for:		Sup.by:	
						Dwg.no.: 16362A3		Issue: 2	
3140		2				101297		ARJ	
Ref.no.	Issue	Date	Sign.			Projection method: ☉ □			



- (112)  Washer M6 DIN125 A4
- (111)  Screw M6x16 DIN933 A4
- (110)  Screw M12x100 DIN933 A4
- (109)  Screw M12x40 DIN933 A4
- (101)  Screw M10x60 DIN933 A4
- (106)  Nut M12 DIN934 A4
- (102)  Nut M10 DIN934 A4
- (107)  Washer M12 DIN125 A4
- (104)  Washer M10 DIN125 A4
- (108)  Springwasher M12 DIN127B A4
- (103)  Springwasher M10 DIN127B A4

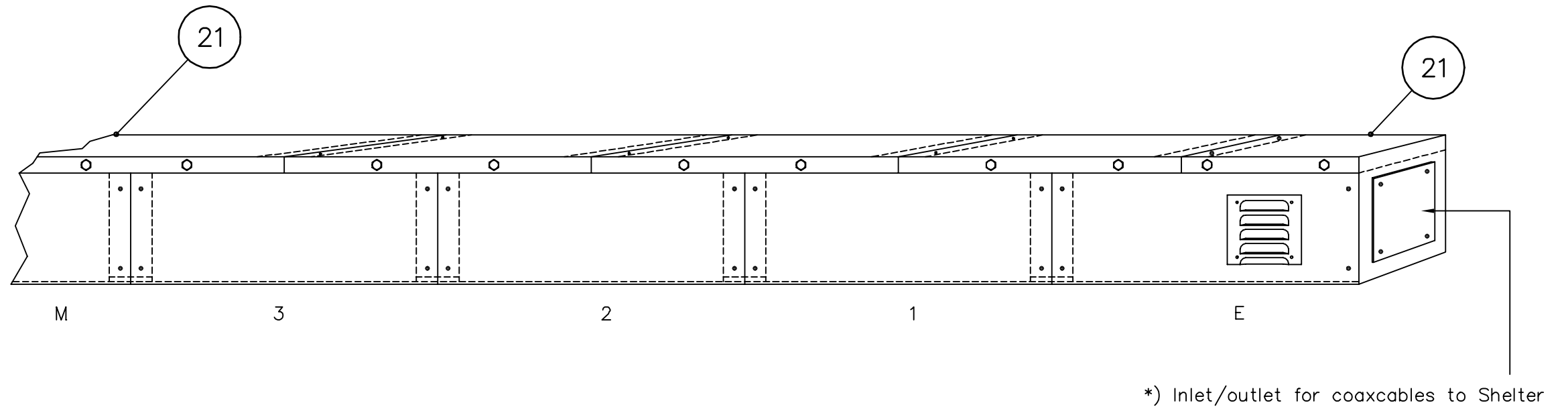
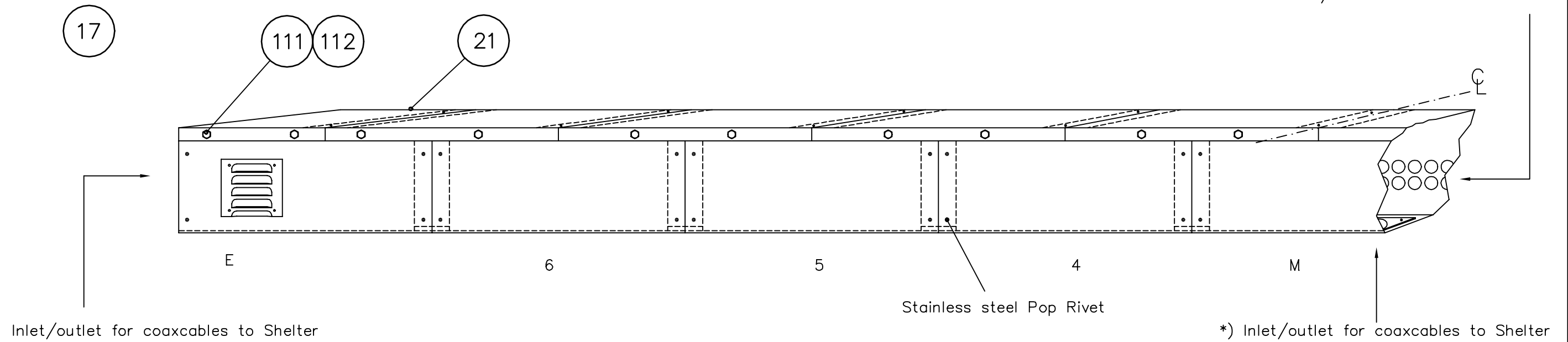
				Title: Framework AF 1166A Mechanical details		Scale: —		Drawn: 141095 ARJ	
				Subject: NM 3522		Checked: —		Appr. —	
						Sup.for: —		Sup.by: —	
						Dwg.no.: 16373A3		Issue: 1	
Ref.no.	Issue	Date	Sign.			Projection method: 			




NOTE 1: Normally not supplied by Normarc.
 NOTE 2: Normally supplied by Normarc.

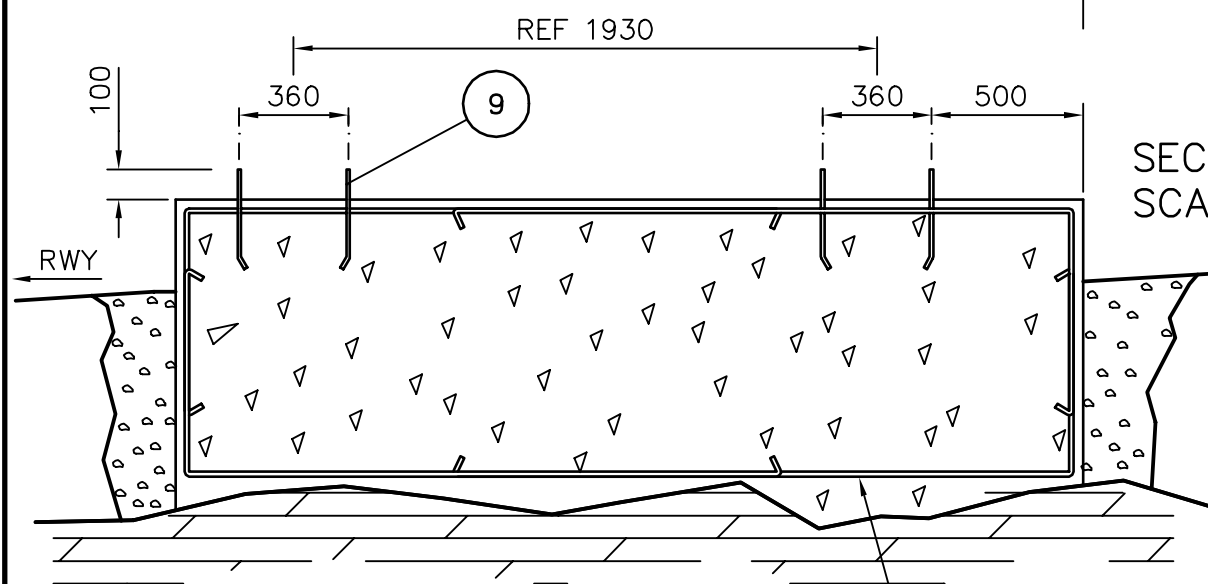
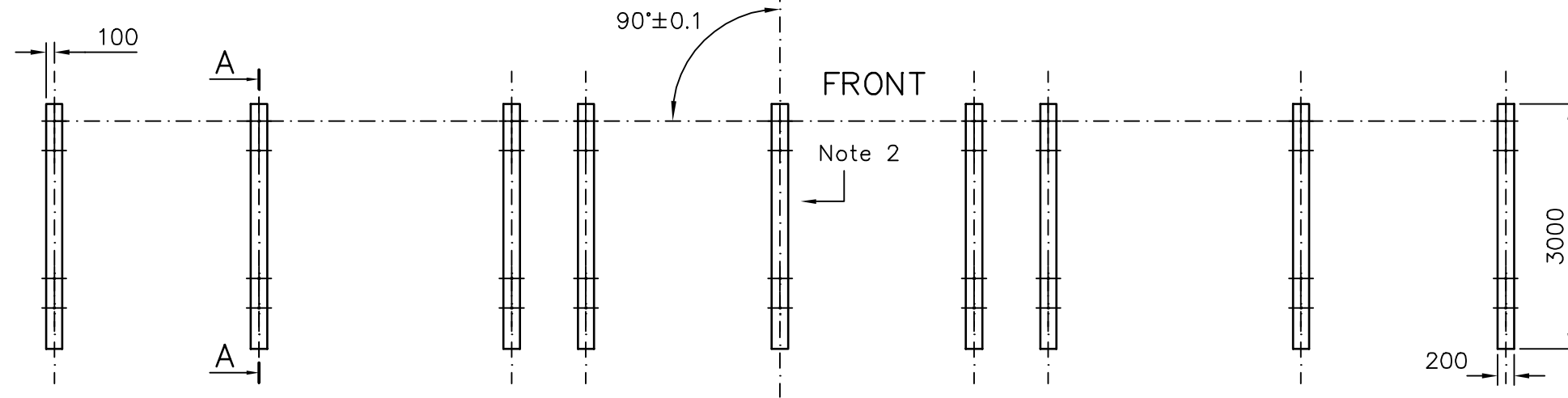
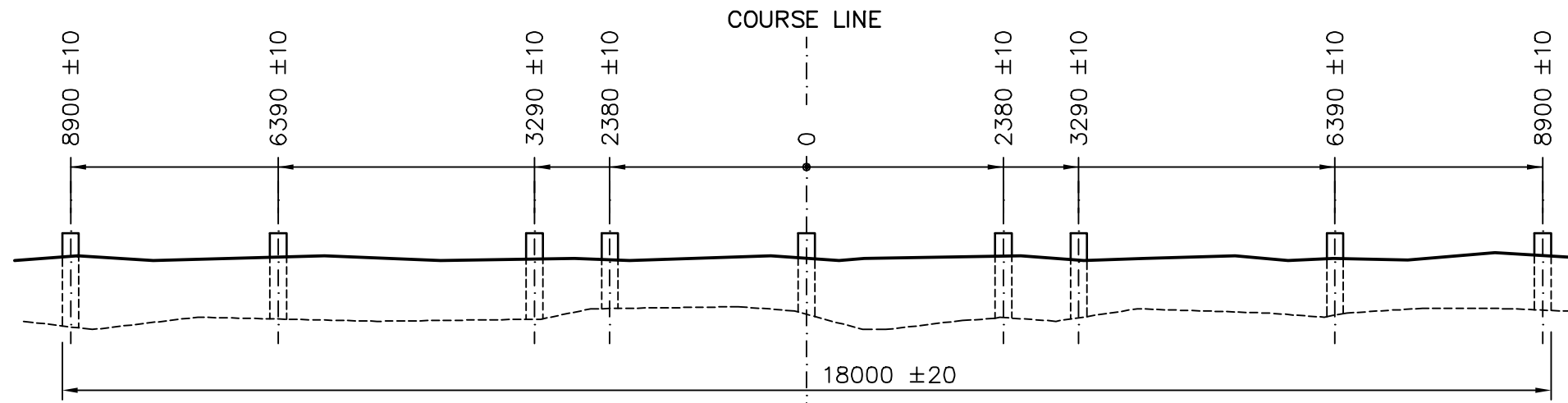
				Title: GP Installation Diagram M-Array		Scale:	Drawn	181095	ARJ
				Subject:		1:1	Checked		
				NM 7000/NM 3545			Appr.	231095	JSA
3007	3	250697	FrH			Sup.for:	15987A3	Sup.by:	
2593	2	270396	FrH			Dwg.no.:	16375A3	Issue	3
Ref.no.	Issue	Date	Sign.			Projection method:			

*) Inlet/outlet for coaxcables when ADU/MCU are mounted outdoor.



*) Removal of Cover Plates depends on configuration 1 or 2.

				Title: Cable Duct Assembly CDA 1044A/B		Scale: —		Drawn	191095	ARJ	
				Subject: NM 3522				Checked			
								Appr.	290396	SK	
						Sup.for:		Sup.by:			
						Dwg.no.: 16384A3		Issue 2			
3228	2	310398	ARJ			Projection method: ☉ □					
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights reserved NAVA AVIATION AS, NORWAY							

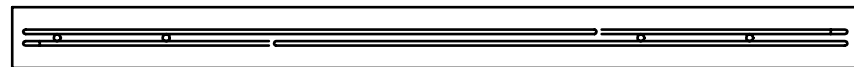


- Notes
- 1) All dimensions are in mm.
 - 2) The centerline of the middle concrete slab shall constitute the selected Course Line.
 - 3) The antenna foundation consists of 9 concrete slabs 200 x 3000mm. The depth of the slabs shall be to a level ensuring rigid foundation, undisturbed by any severe weather condition.
 - 4) The top surface of each concrete slab shall be horizontal within ±5 mm.
 - 5) The top surface of the concrete slabs shall be on the same level within ±5 mm.
 - 6) Concrete grade 25 ACC. BRITISH STANDARD BS 449.
- ▼ Top of each slab to be surfaced.

Proposed reinforcement

⑨ 36 pcs. M12 x 330 stainless steel bolts as supplied to be embedded in concrete foundation as shown.

Top view



Issue 2

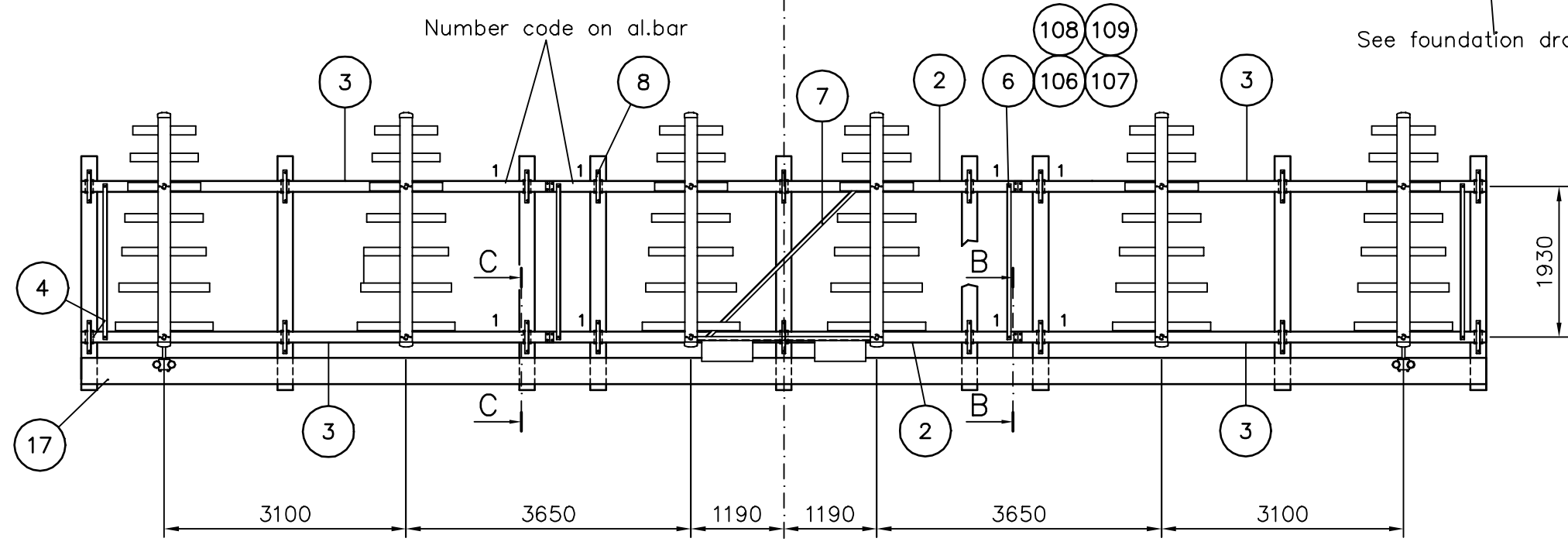
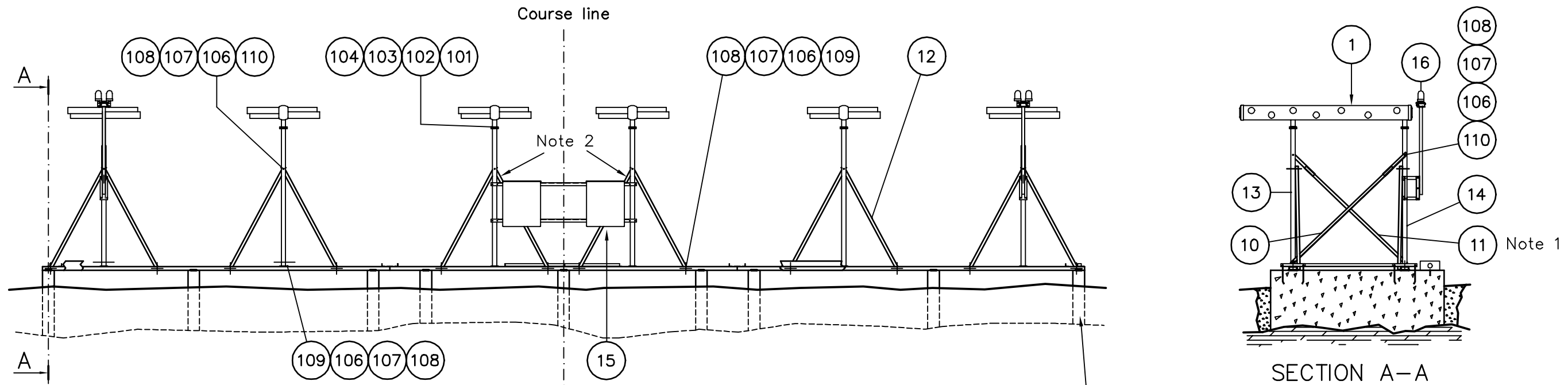
Item no. se Parts List no.2134

3318	2	260898	Tbj
Ref.no.	Issue	Date	Sign.

Title: LLZ ANT. FOUNDATION
6ELEMNTS/1 FREQ.
Subject: NM 3522



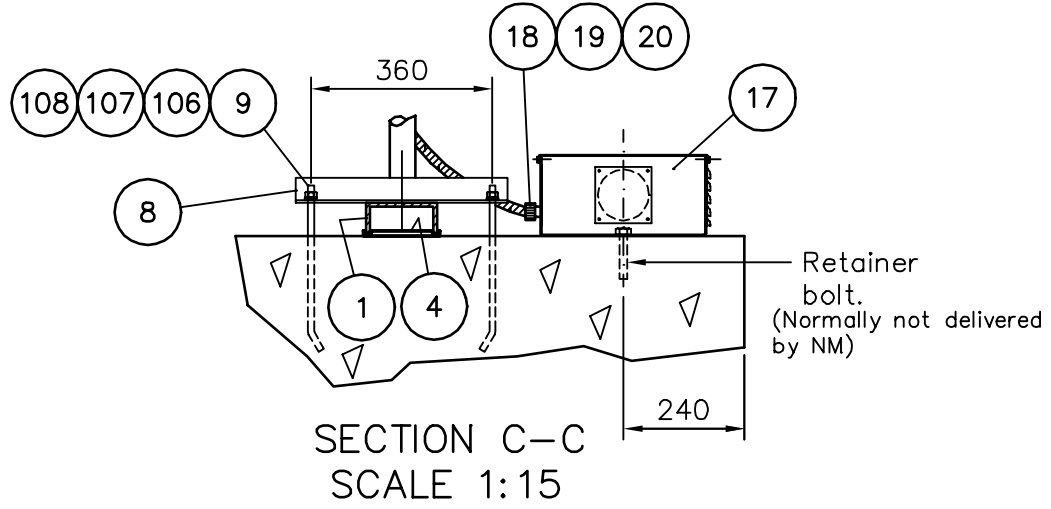
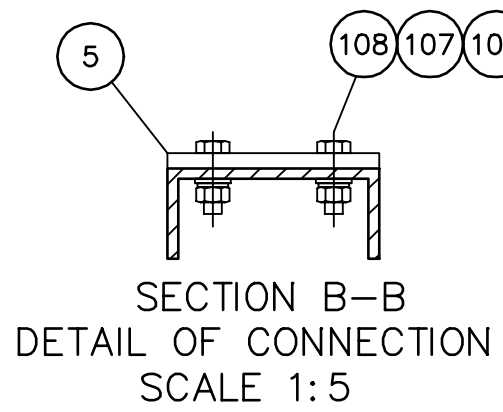
Scale: 1:75	Drawn: 231095 ARJ
	Checked:
	Appr.: 28.03.96 S.K.
Sup.for: 6243A3-3	Sup.by:
Dwg.no.: 16385A3	Issue 2
Projection method: ☉ □	



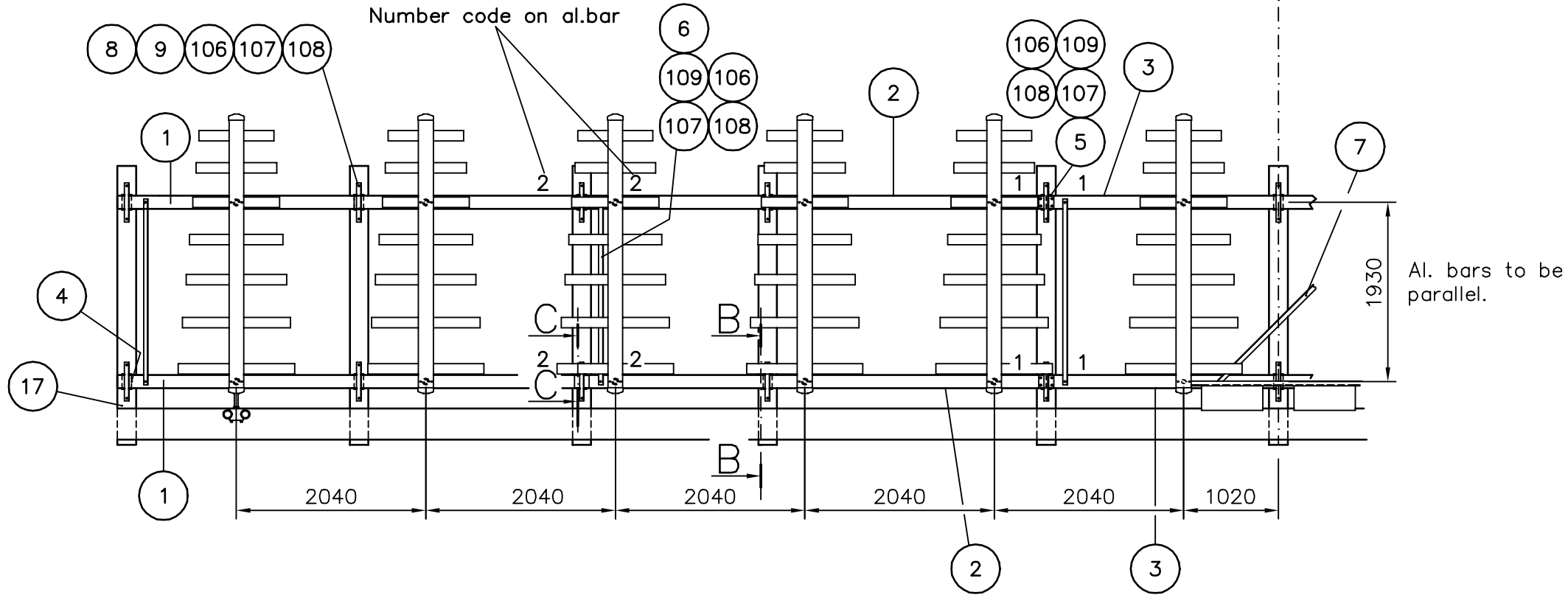
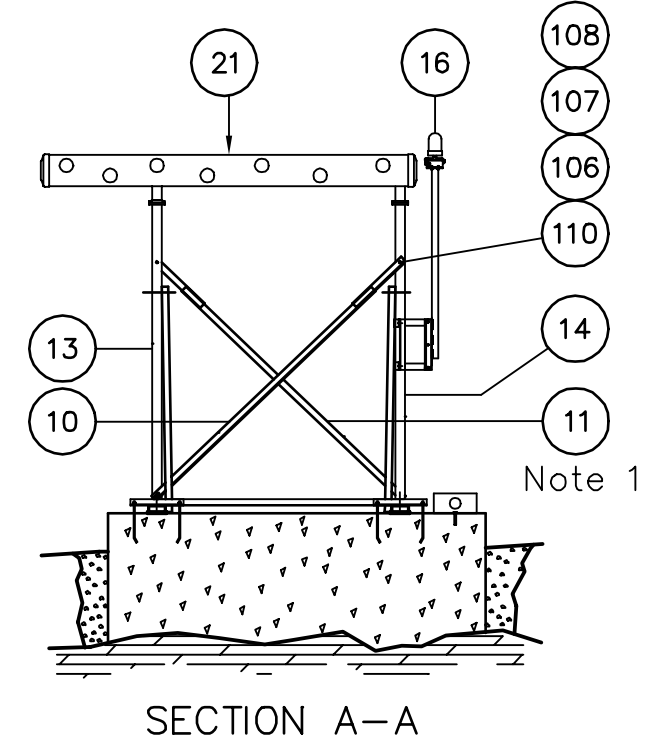
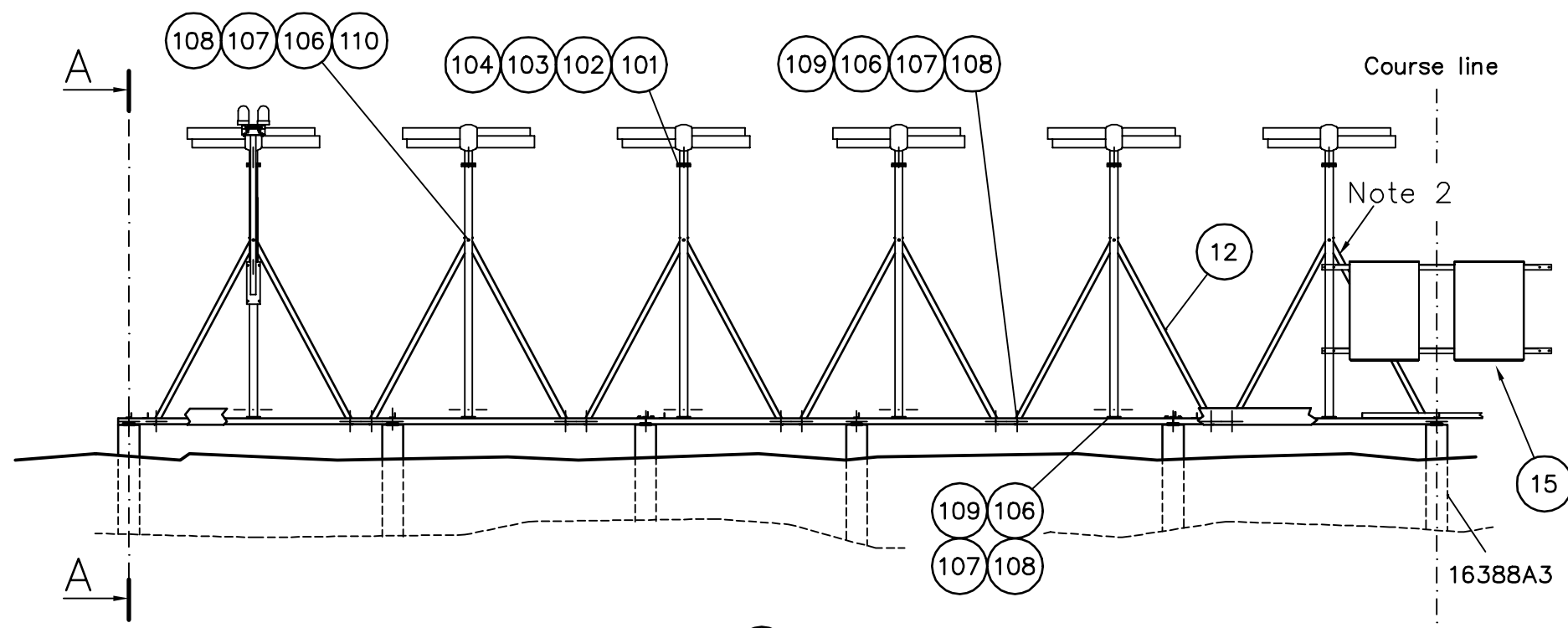
All dimensions are in mm.

Note 1:
Applicable to 3.2 – 5m mast only.
Item no. see parts list no.: 2134
Drawing references in Parts List.

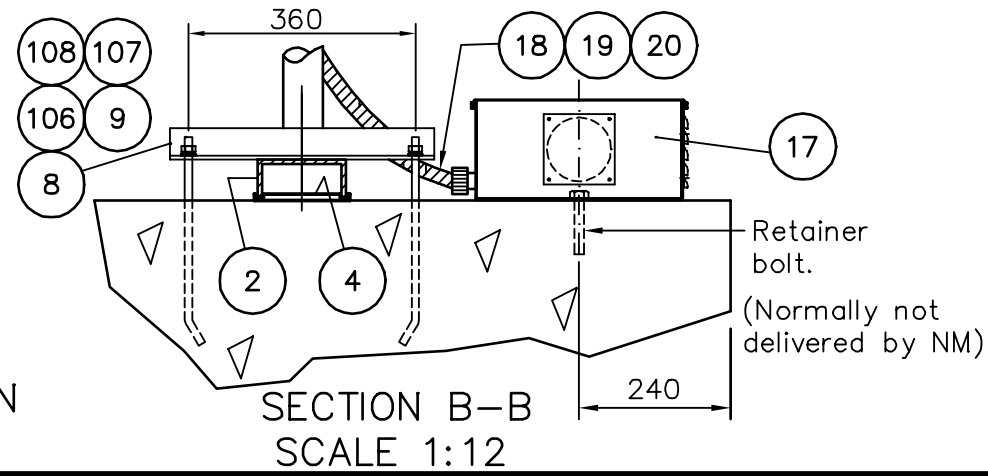
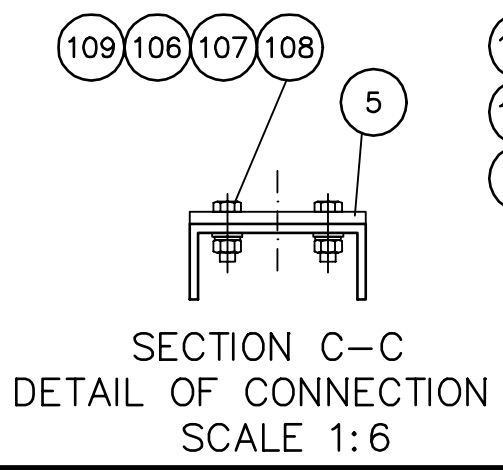
Note 2:
Front side only!



				Title: LLZ ANT. ASSEMBLY 6 ELEMENTS/1 FREQ.		Scale: 1:75	Drawn: 231095 ARJ
				Subject: NM 3522		Checked:	Appr.: 280396 SK
						Sup.for: 7106A3-3 Sup.by:	
						Dwg.no.: 16386A3	Issue: 2
3140	2	101297	ARJ			Projection method: ☉	
Ref.no.	Issue	Date	Sign.				



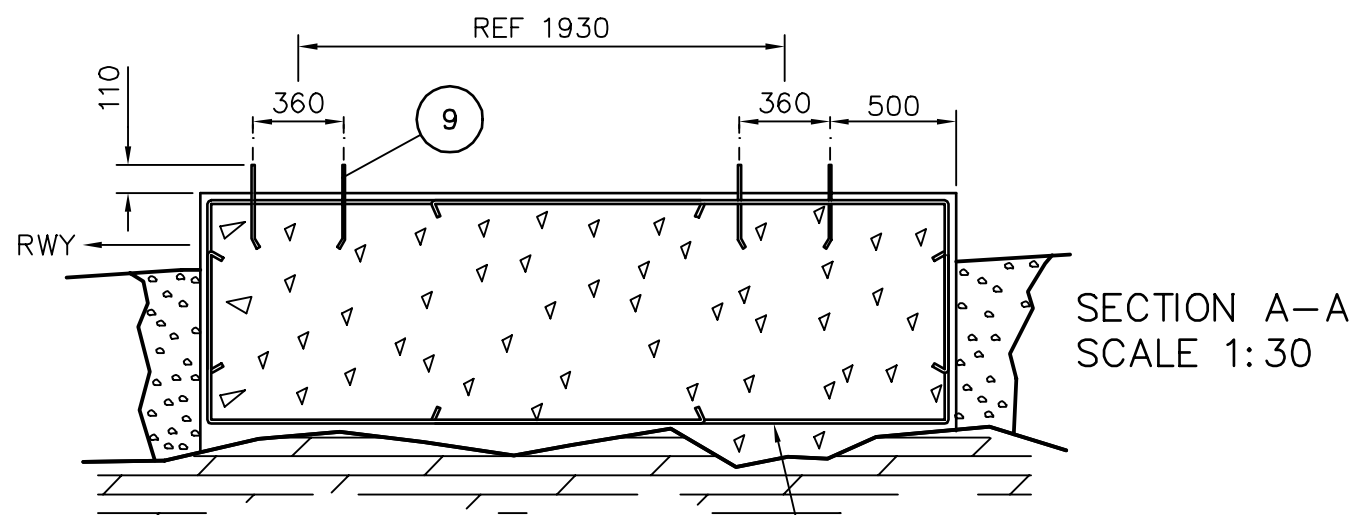
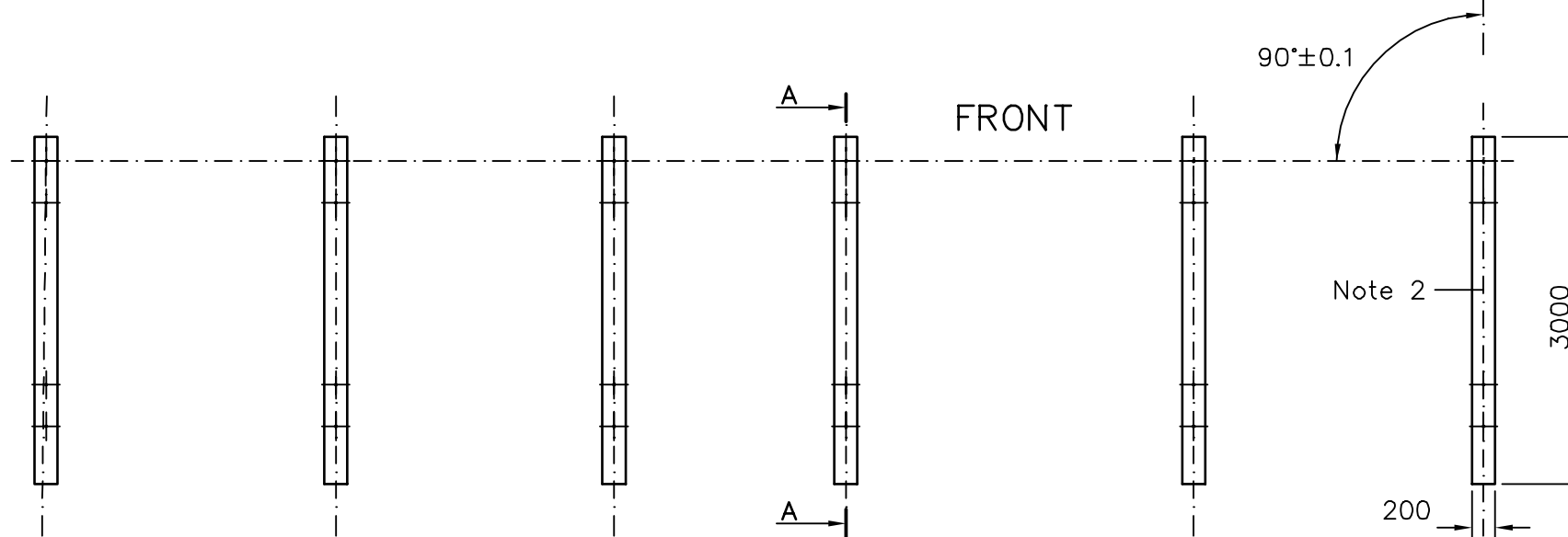
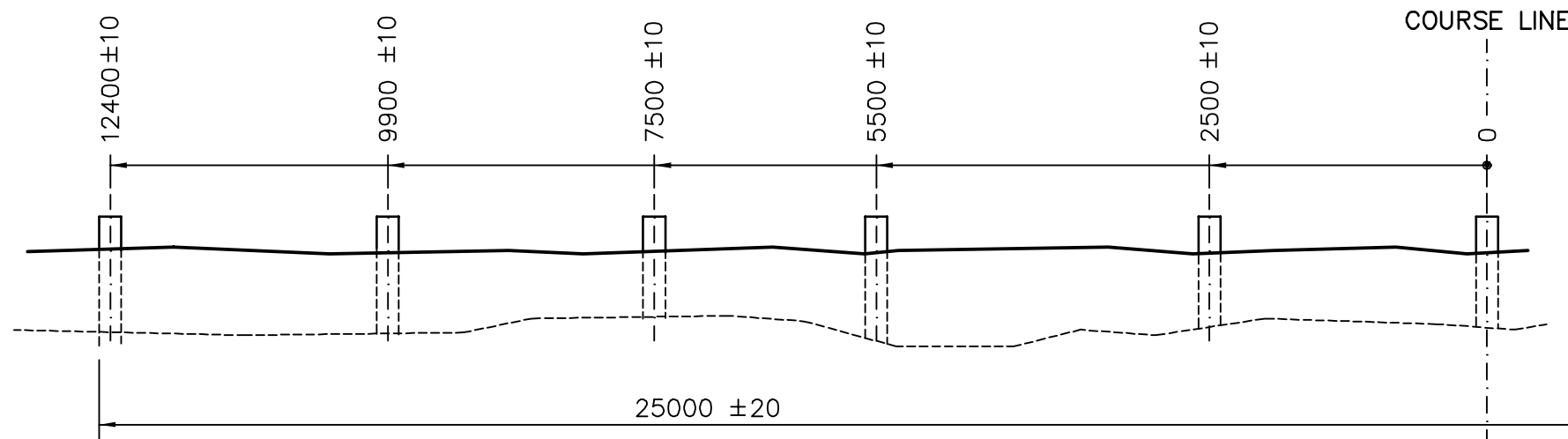
All dimensions are in mm.
 Note 1:
 Applicable to 3.2 – 5m mast only.
 Item no. see parts list no.: 2136
 Drawing references in Parts List.
 Note 2:
 Front side only!



3140	2	101297	ARJ
Ref.no.	Issue	Date	Sign.

Title: LLZ ANT. ASSEMBLY 12 ELEMENTS/2 FREQ.		Scale: 1:60	Drawn: 271095 ARJ
Subject: NM 3524		Checked:	Appr.: 280396 SK
Sup.for: 9857A3-6		Sup.by:	
Dwg.no.: 16389A3		Issue 2	
Projection method: ☉ □			

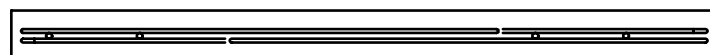




Proposed reinforcement

9
44 pcs. M12 x 330 stainless steel bolts as supplied to be embedded in concrete foundation as shown.

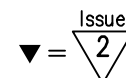
Top view



Drawing shows left half of foundation, right half is symmetric about course line.

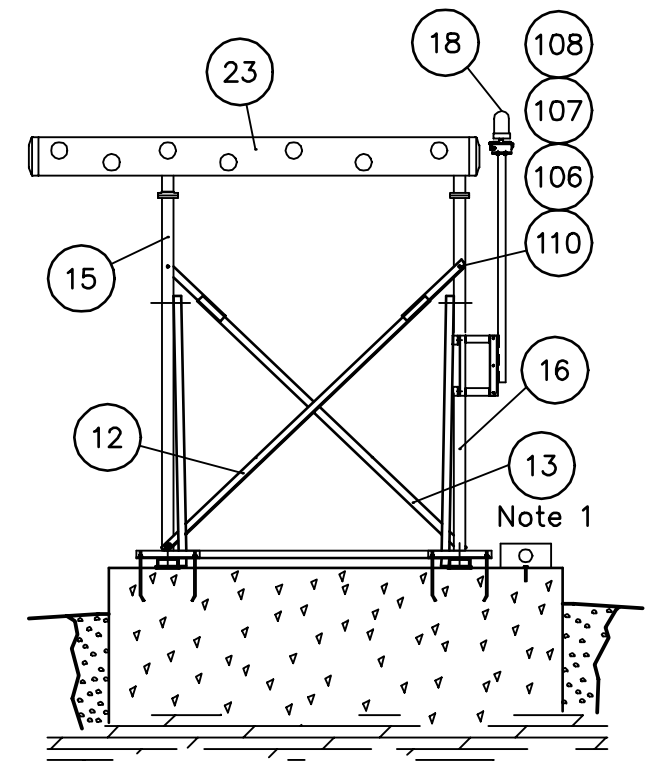
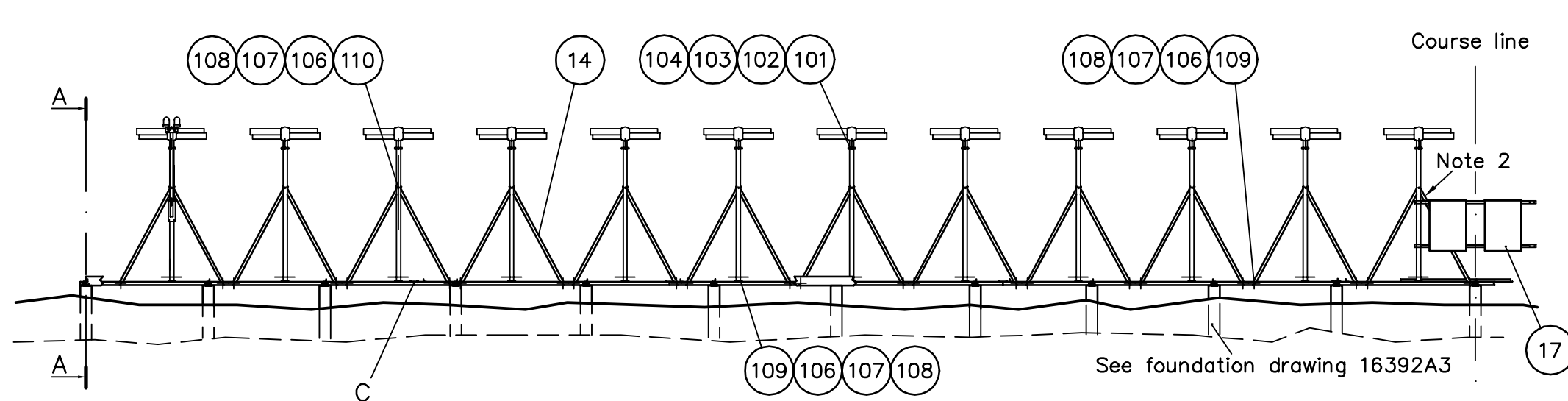
Notes

- 1) All dimensions are in mm.
 - 2) The centerline of the middle concrete slab shall constitute the selected Course Line.
 - 3) The antenna foundation consists of 11 concrete slabs 200 x 3000 mm. The depth of the slabs shall be to a level ensuring rigid foundation, undisturbed by any severe weather condition.
 - 4) The top surface of each concrete slab shall be horizontal within ±5 mm.
 - 5) The top surface of the concrete slabs shall be on the same level within ±5 mm.
 - 6) Concrete grade 25 ACC. BRITISH STANDARD BS 449.
- ▼ Top of each slab to be surfaced.

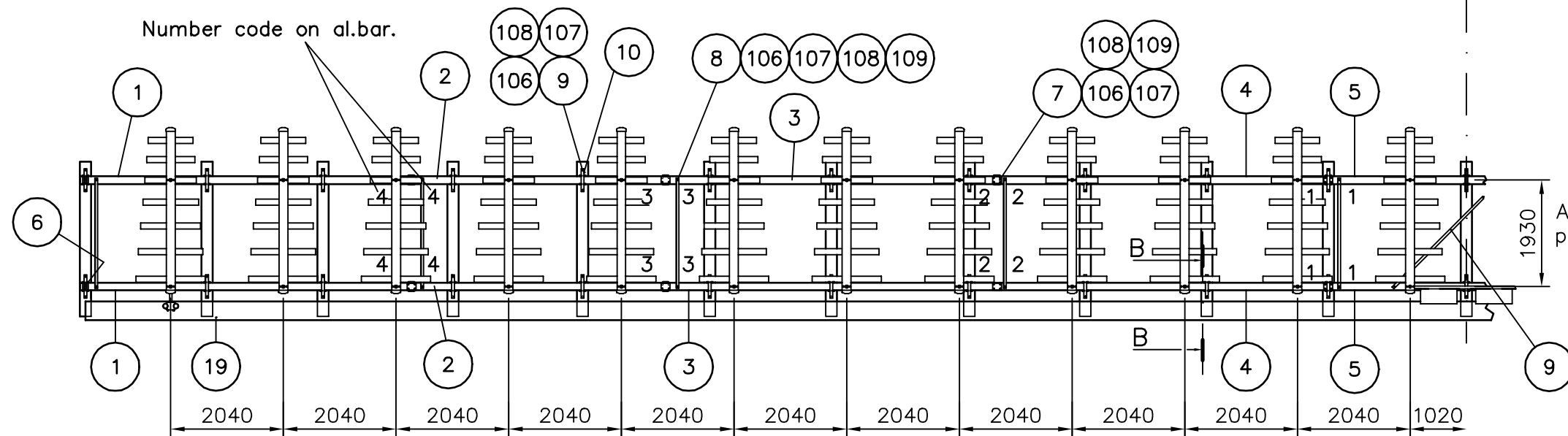


Item see Parts List no.2136

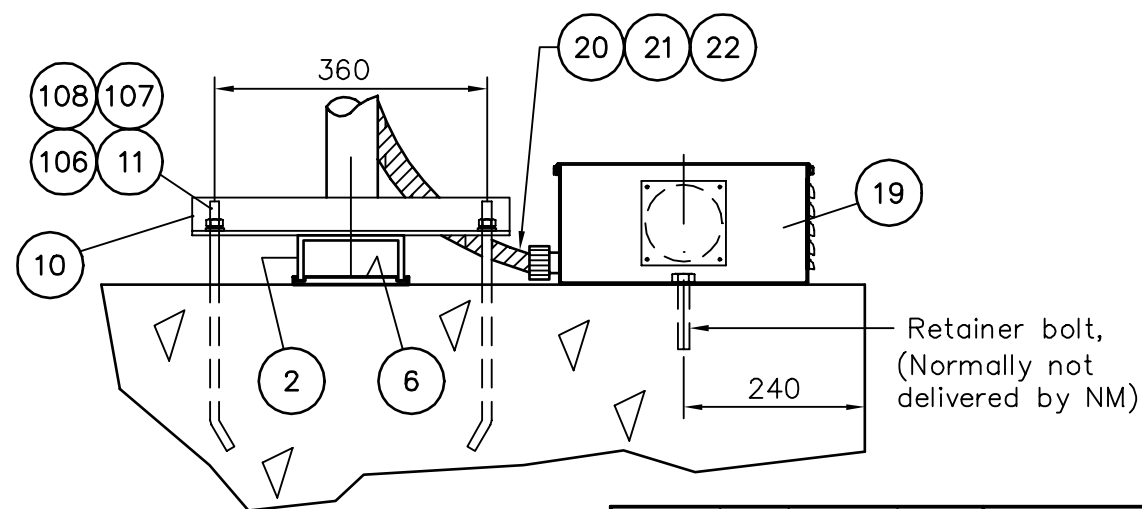
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				Subject: NM 3524			Checked:
							Appr.: 28.03.96 S.K.
						Sup.for: 9606A3-4 Sup.by:	
						Dwg.no.: 16390A3	
						Issue 2	
3318	2	260898	Tbj	Projection method: ☉ □			
Ref.no.	Issue	Date	Sign.				



SECTION A-A
SCALE 1:50



Detail C
OF CONNECTION
SCALE 1:5



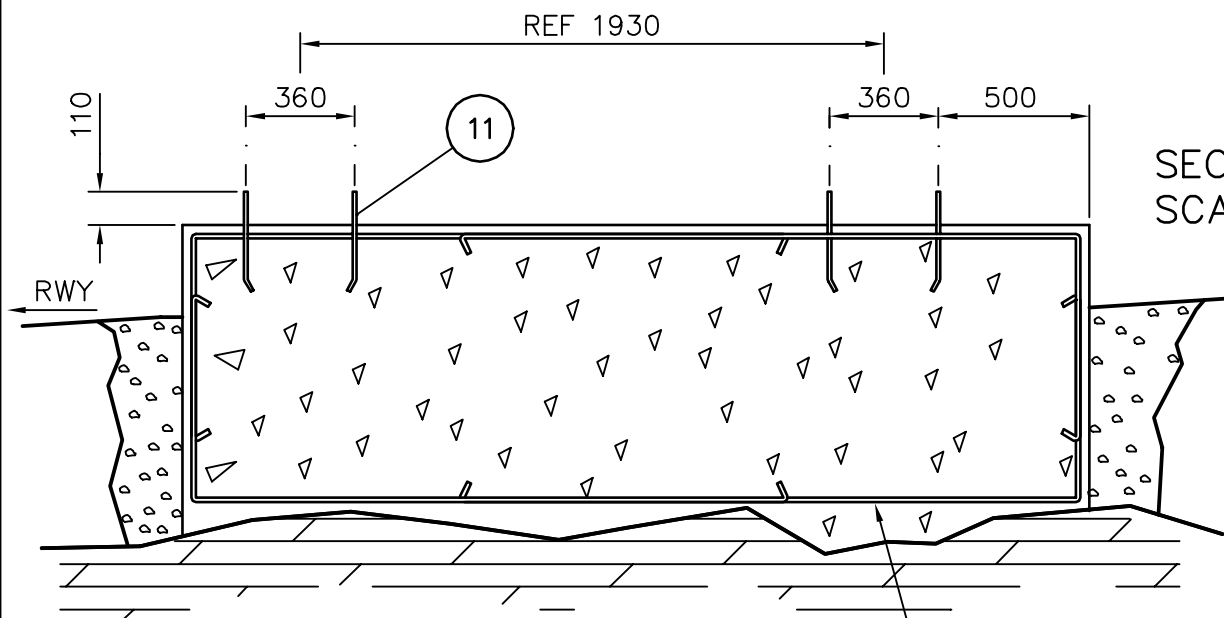
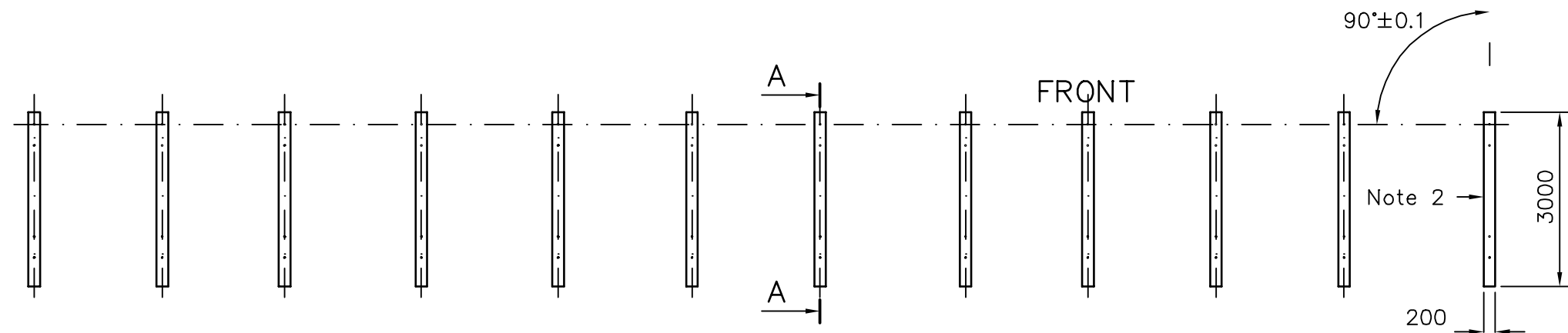
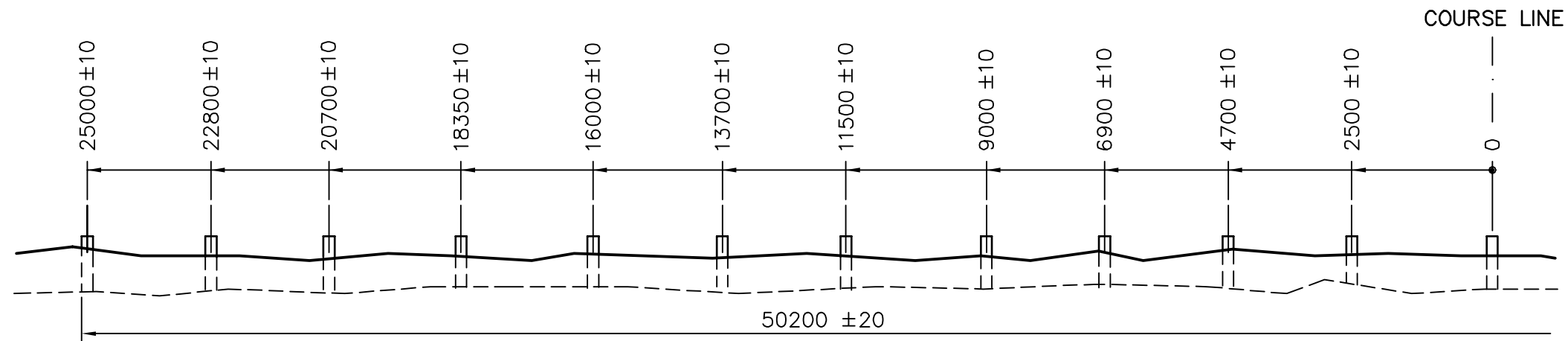
SECTION B-B
SCALE 1:10

All dimensions are in mm.

Note 1:
Applicable to 3.2 – 5m mast only.
Item no. see parts list no.: 2137
Drawing references in Parts List.

Note 2:
Front side only!

				Title: LLZ ANT. ASSEMBLY 24 ELEMENTS/2 FREQ.		Scale: 1:100		Drawn: 291095 ARJ
				Subject: NM 3525		Checked:		Appr.: 280396 SKR
3140	4	101297	ARJ			Sup.for: 9858A3-5		Sup.by:
2908	3	220197	ARJ			Dwg.no.: 16391A3		Issue: 4
2727	2	100596	ARJ			Projection method: ☉		
Ref.no.	Issue	Date	Sign.	Normarc AS				



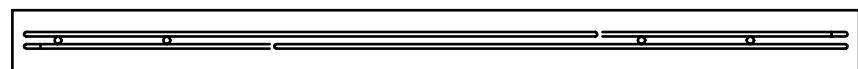
Drawing shows left half of foundation, right half is symmetric about course line.

Notes

- 1) All dimensions are in mm.
 - 2) The centerline of the middle concrete slab shall constitute the selected Course Line.
 - 3) The antenna foundation consists of 23 concrete slabs 200 x 3000 mm. The depth of the slabs shall be to a level ensuring rigid foundation, undisturbed by any severe weather condition.
 - 4) The top surface of each concrete slab shall be horizontal within ±5 mm.
 - 5) The top surface of the concrete slabs shall be on the same level within ±5 mm.
 - 6) Concrete grade 25 ACC. BRITISH STANDARD BS 449.
- ▼ Top of each slab to be surfaced.

Proposed reinforcement.

Top view



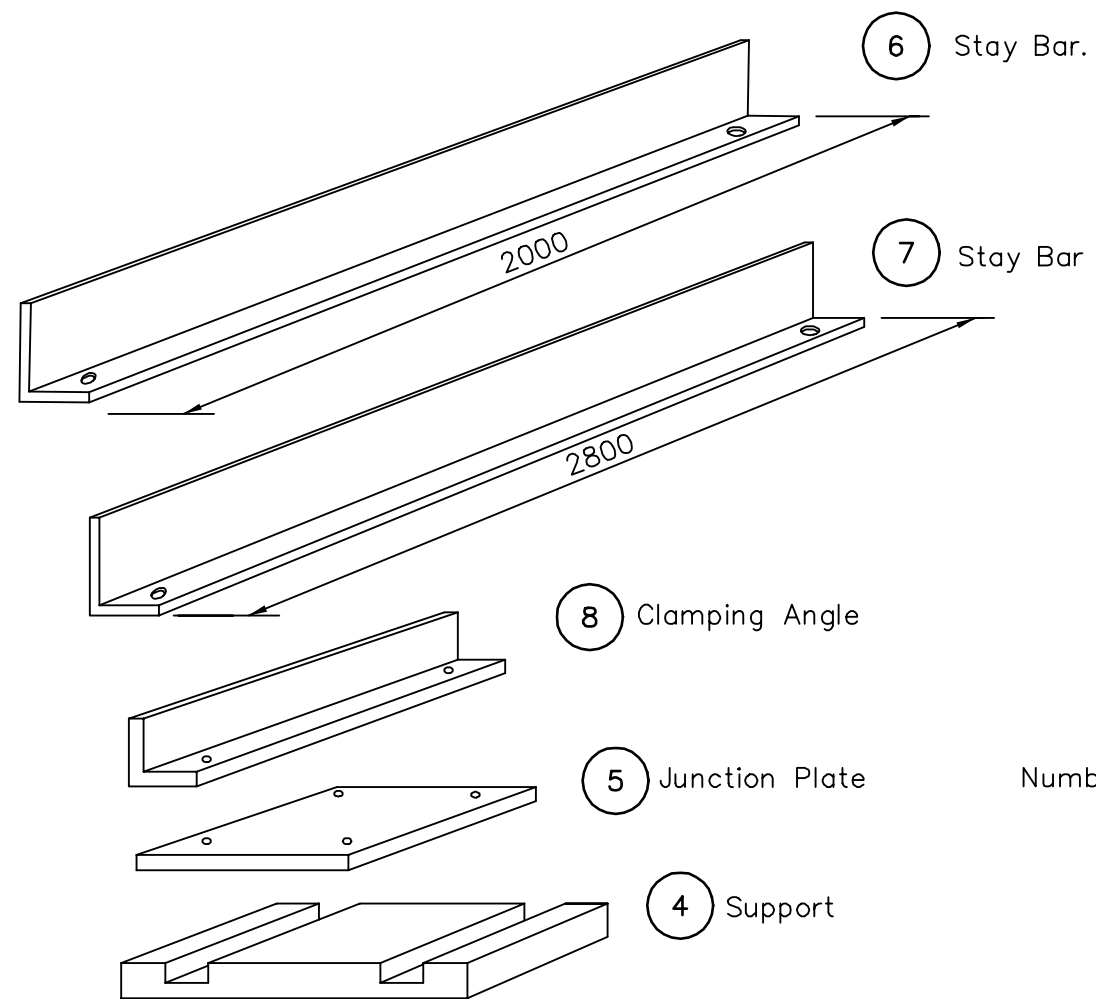
11 92 pcs. M12 x 330 stainless steel bolts as supplied to be embedded in concrete foundation as shown.

Issue 4

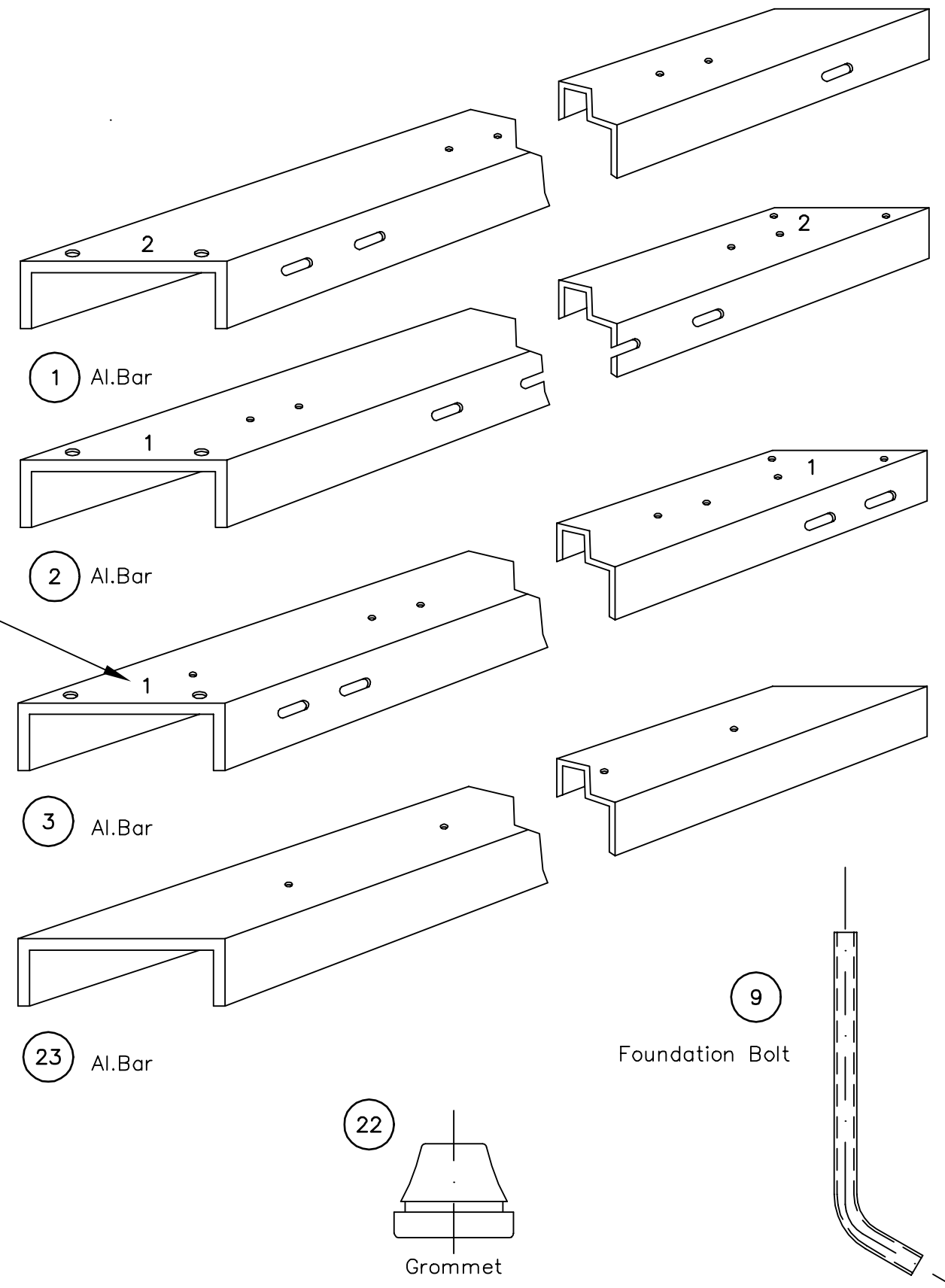
Item no. se Parts List no.2137












				Title: LLZ ANT.FOUNDATION 24 ELEMENTS/2 FREQ.		Scale: 1:100		Drawn: 291095 ARJ	
				Subject: NM 3525		Checked:		280396 SKR	
						Sup.for: 9605A3-4		Sup.by:	
						Dwg.no.: 16392A3		Issue 4	
						Projection method: ☉			
3318	4	260898	TBj						
2908	3	220197	ARJ						
2727	2	100596	ARJ						
Ref.no.	Issue	Date	Sign.						





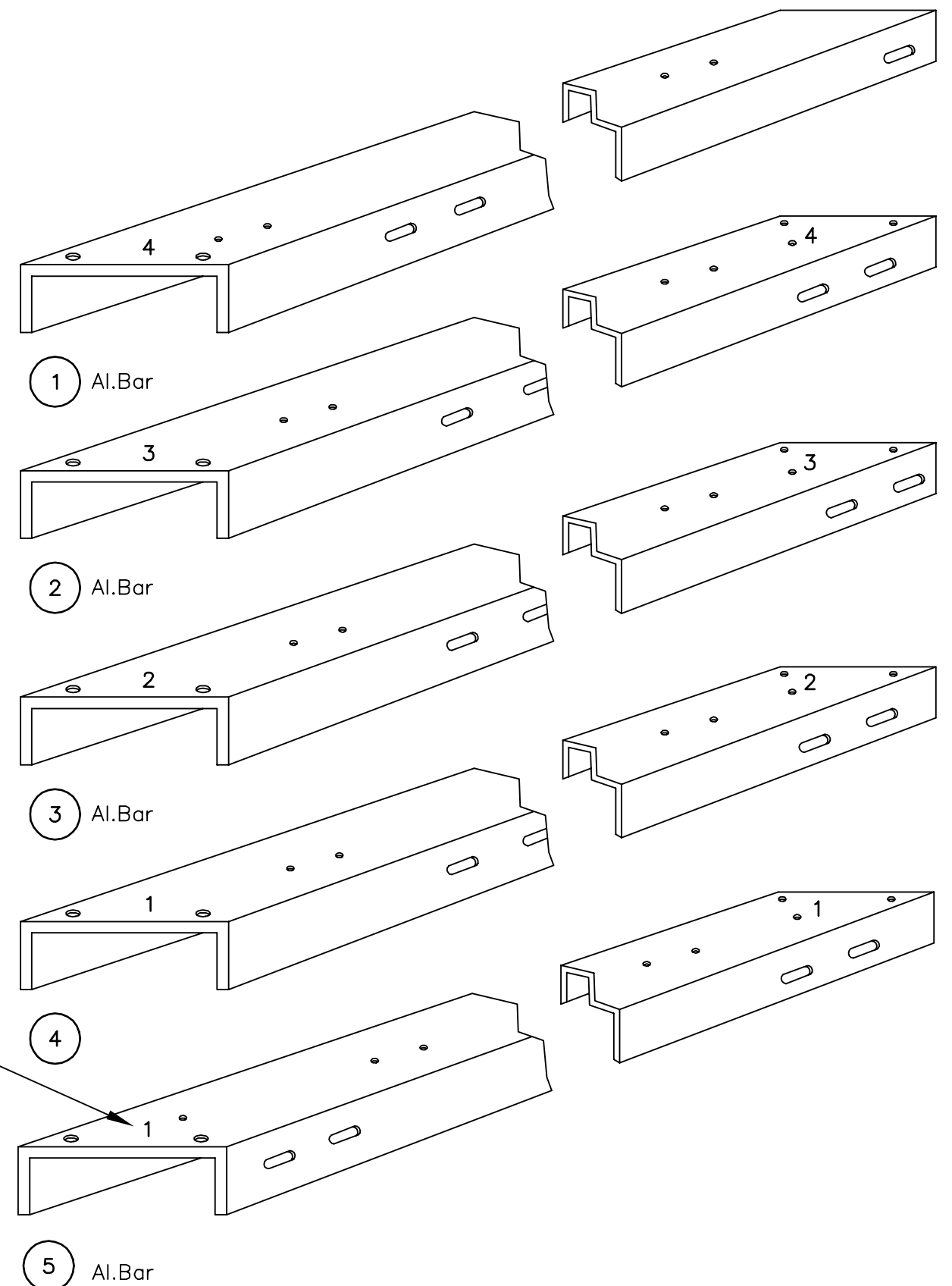
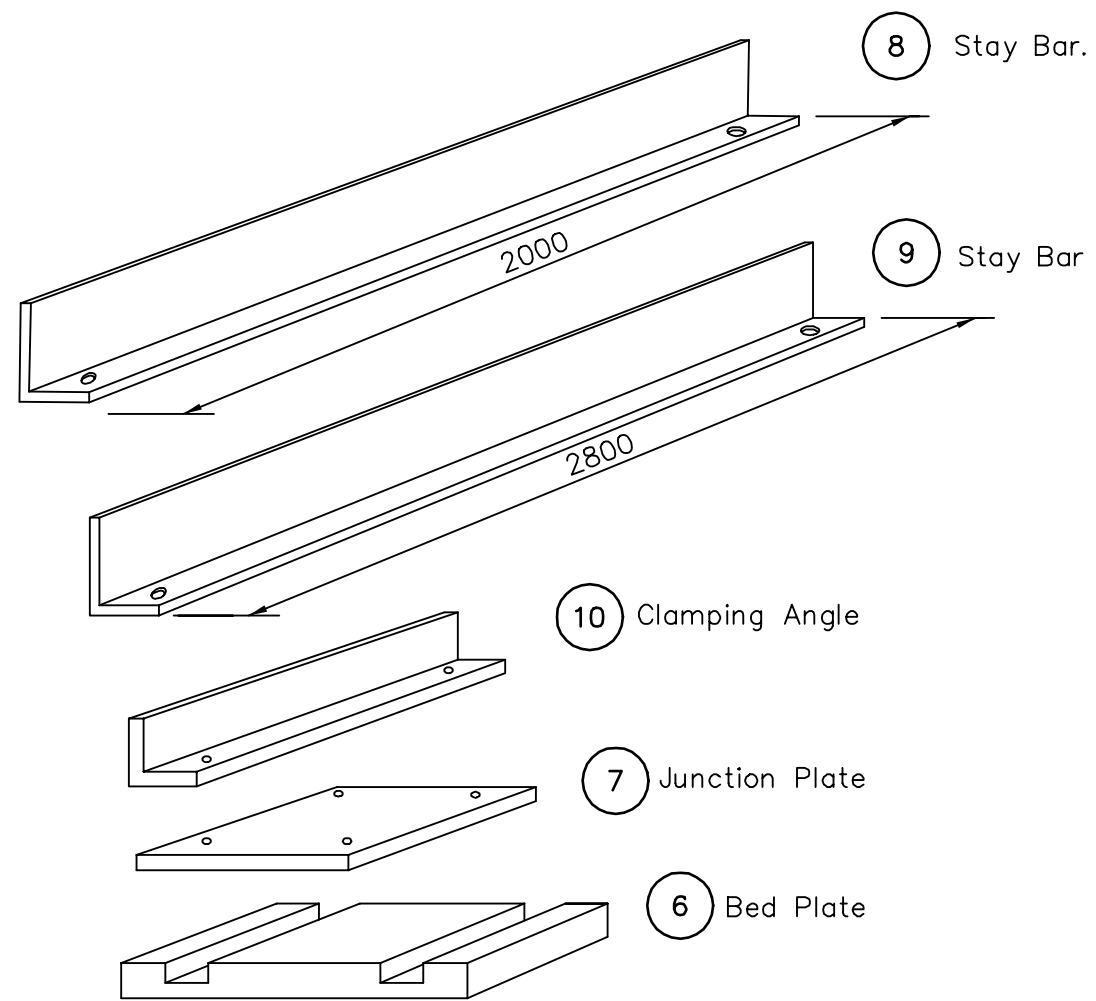


Number code

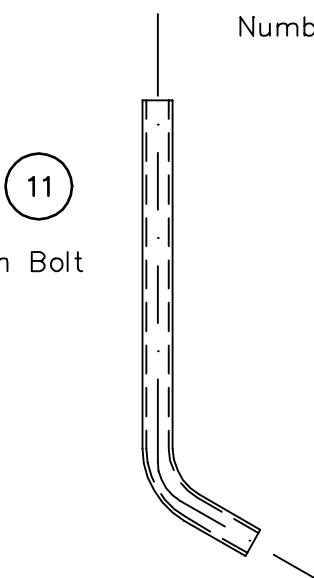
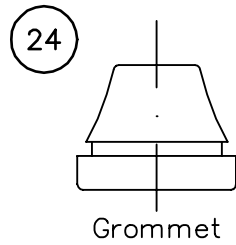


- (112)  Washer M6 DIN125 A4
- (111)  Screw M6x16 DIN933 A4
- (110)  Screw M12x100 DIN933 A4
- (109)  Screw M12x40 DIN933 A4
- (101)  Screw M10x60 DIN933 A4
- (106)  Nut M12 DIN934 A4
- (102)  Nut M10 DIN934 A4
- (107)  Washer M12 DIN125 A4
- (104)  Washer M10 DIN125 A4
- (108)  Springwasher M12 DIN127B A4
- (103)  Springwasher M10 DIN127B A4

				Title: Framework AF 693A Mechanical details	Scale: —	Drawn: 291095 ARJ
				Subject: NM 3524		Checked: —
						Appr.: 290396 SK
					Sup.for: —	Sup.by: —
					Dwg.no.: 16413A3	Issue: 2
EO2934	2	190297	ARJ		Projection method: 	
Ref.no.	Issue	Date	Sign.			



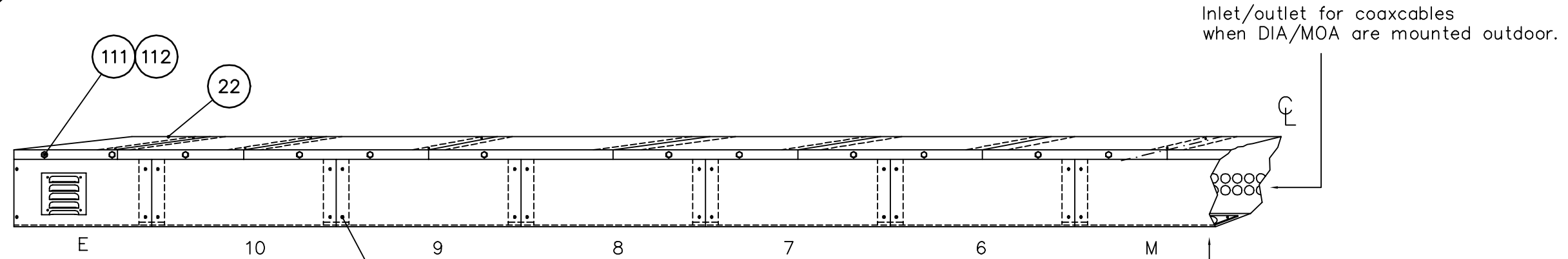
- 112 Washer M6 DIN125 A4
- 111 Screw M6x16 DIN933 A4
- 110 Screw M12x100 DIN933 A4
- 109 Screw M12x40 DIN933 A4
- 101 Screw M10x60 DIN933 A4
- 106 Nut M12 DIN934 A4
- 102 Nut M10 DIN934 A4
- 107 Washer M12 DIN125 A4
- 104 Washer M10 DIN125 A4
- 108 Springwasher M12 DIN127B A4
- 103 Springwasher M10 DIN127B A4



Number code

	Title: Framework AF 695A Mechanical details		Scale: —	Drawn: 291095 ARJ
	Subject: NM 3525		Checked:	
			Appr.:	
			Sup.for:	Sup.by:
Normarc AS		Dwg.no.: 16414A3		Issue 1
Ref.no.	Issue	Date	Sign.	Projection method:

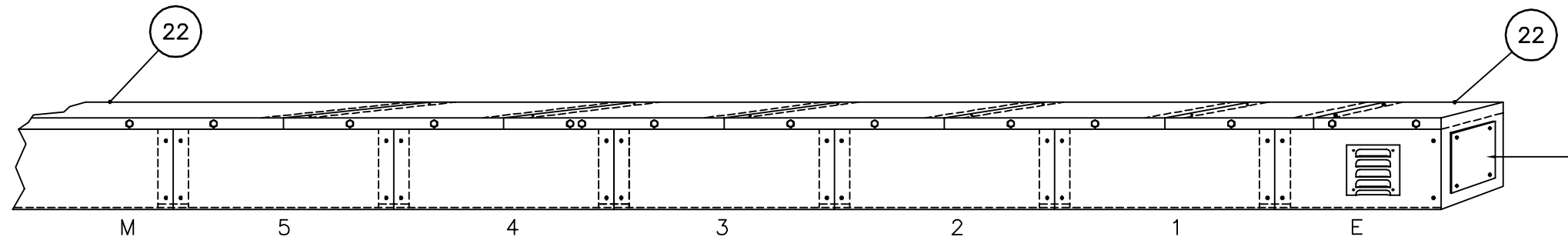
17



*) Inlet/outlet for coaxcables to Shelter


Stainless steel Pop Rivet

*) Inlet/outlet for coaxcables to Shelter

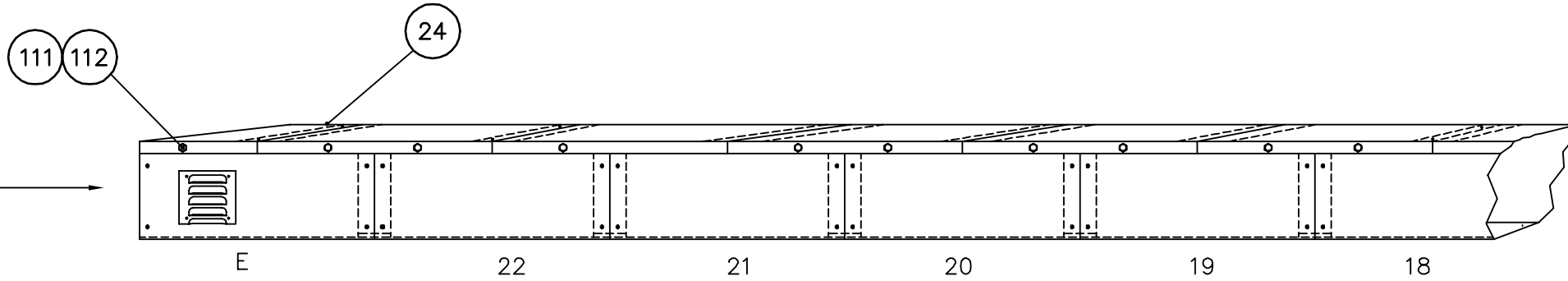


*) Inlet/outlet for coaxcables to Shelter

*) Removal of Cover Plates dependes on configuration 1 or 2.

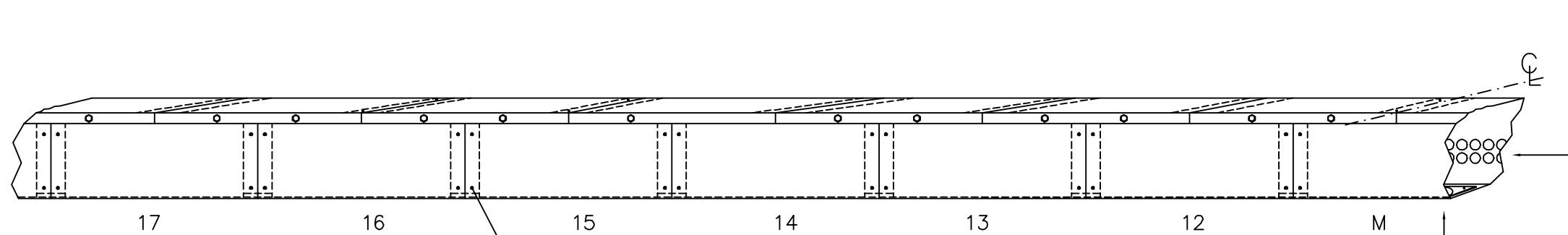
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				Subject: NM 3524		Checked: —	Appr.: 290396 SK
						Sup.for: —	Sup.by: —
3228	2	310398	ARJ			Dwg.no.: 16416A3	Issue: 2
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights reserved NAVA AVIATION AS, NORWAY		Projection method: ☉ ◻	

19



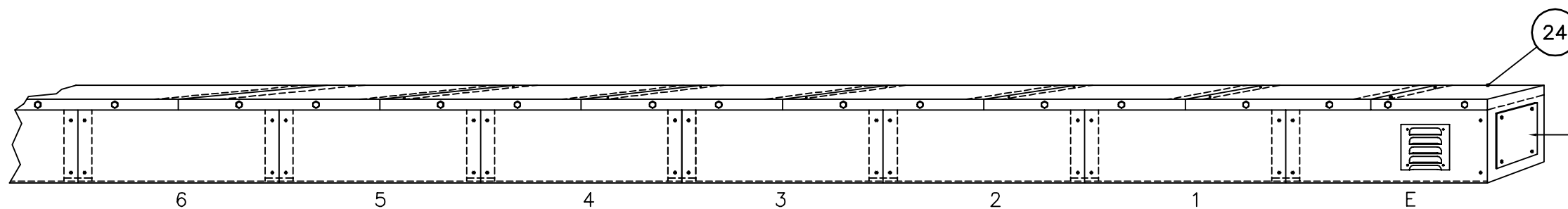
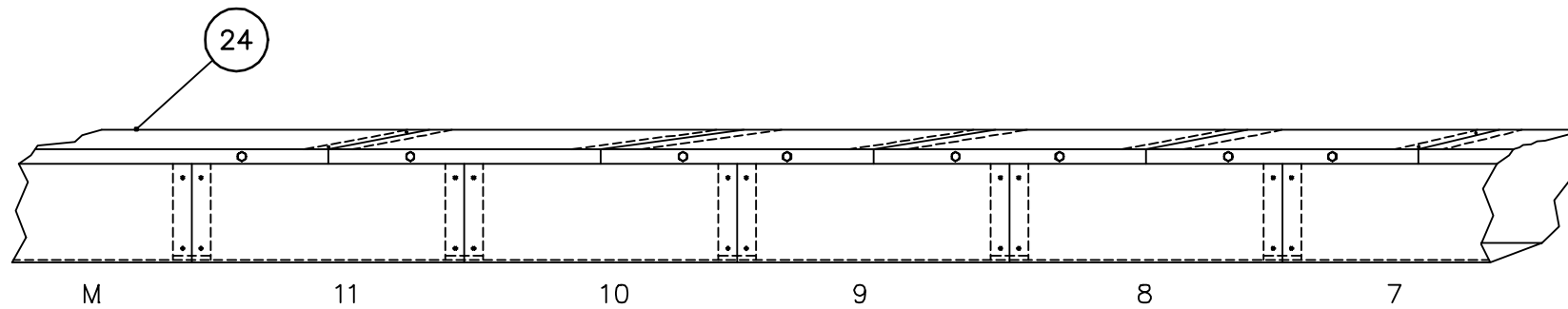
*) Inlet/outlet for coaxcables to Shelter

*) Inlet/outlet for coaxcables when DIA/MOA are mounted outdoor.




Stainless steel Pop Rivet

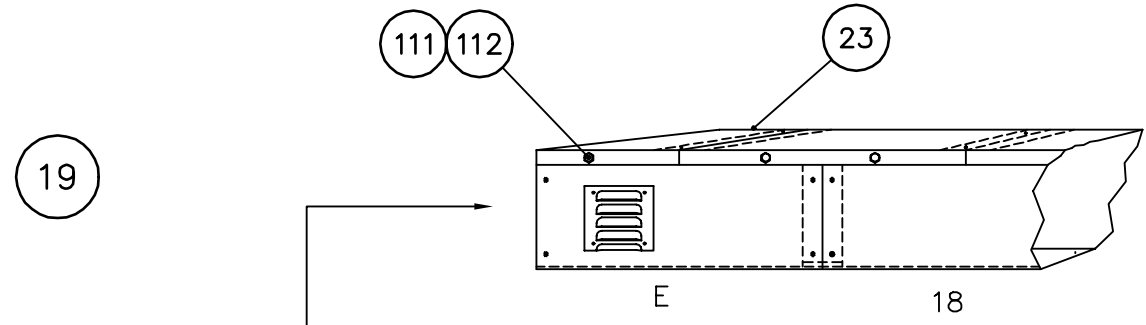
*) Inlet/outlet for coaxcables to Shelter



*) Inlet/outlet for coaxcables to Shelter

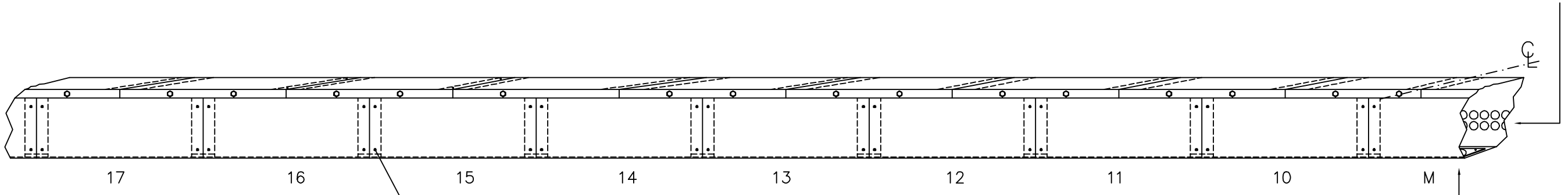
*) Removal of Cover Plates depends on configuration 1 or 2.

				Title: Cable Duct Assembly CDA 1044G/H	Scale: —	Drawn: 291095 ARJ
				Subject: NM 3525	Checked:	
					Appr.:	290396 SK
					Sup.for:	Sup.by:
3228	2	310398	ARJ	 Copyright and all modification rights reserved NAVA AVIATION AS, NORWAY	Dwg.no.: 16417A3	Issue: 2
Ref.no.	Issue	Date	Sign.		Projection method: ☉ ◻	



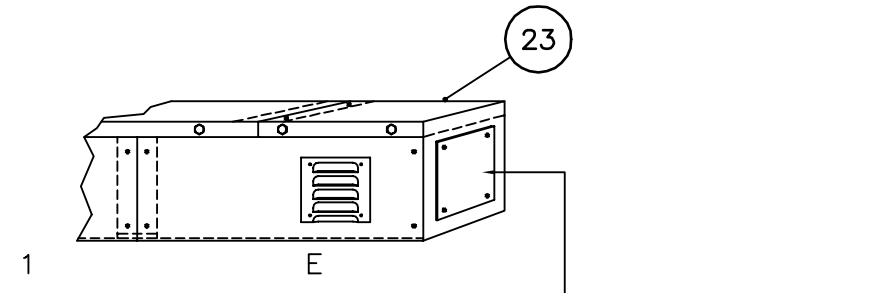
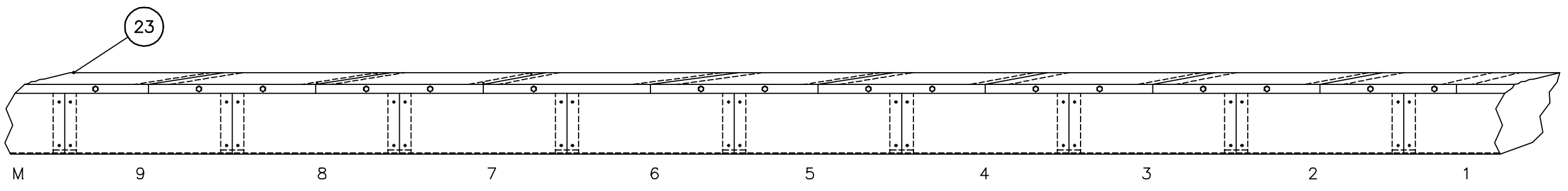
*) Inlet/outlet for coaxcables to Shelter

*) Inlet/outlet for coaxcables when DIA/MOA are mounted outdoor.




Stainless steel Pop Rivet

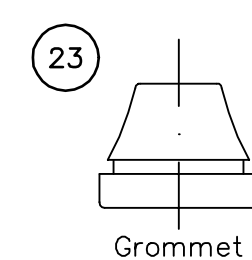
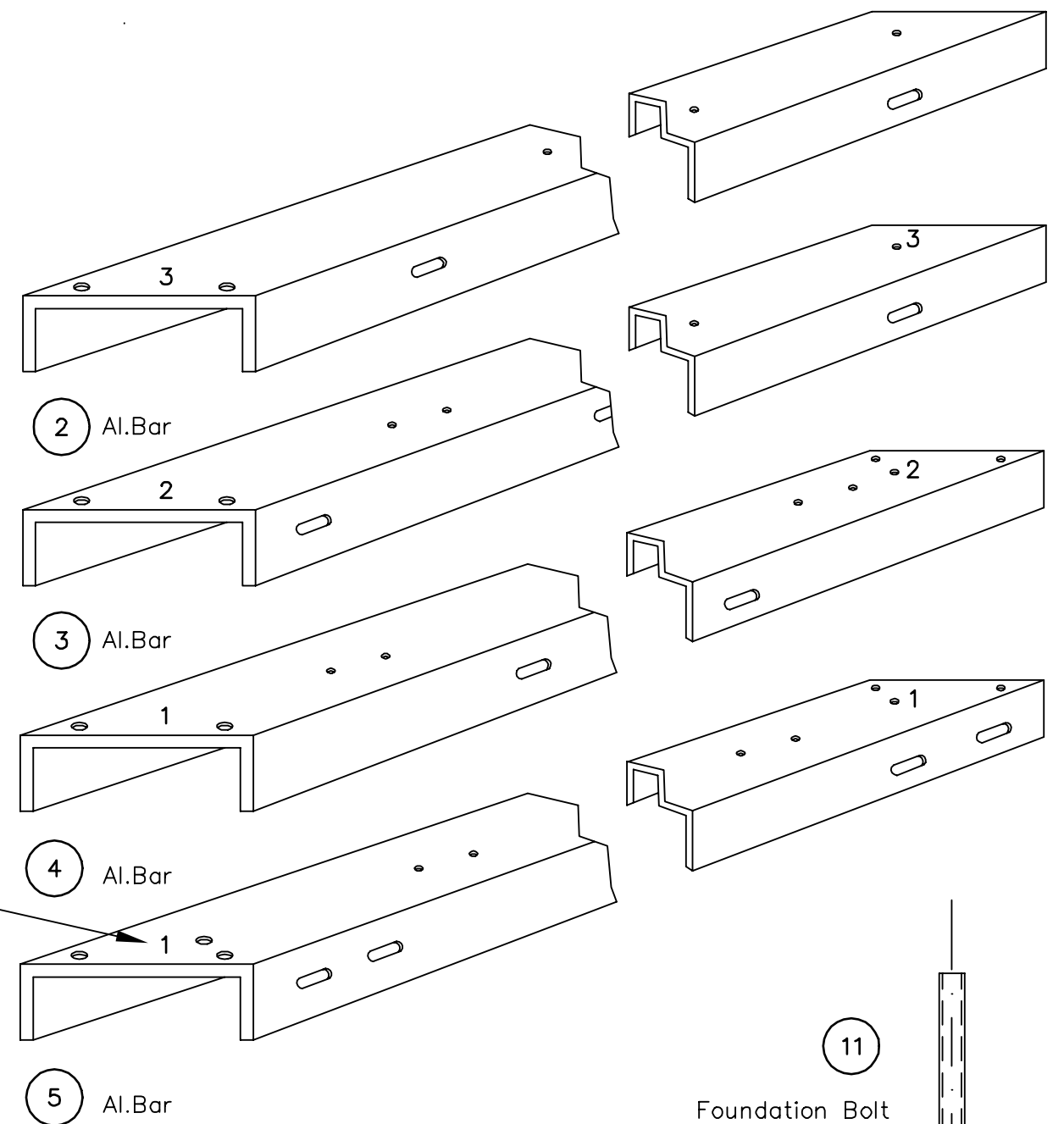
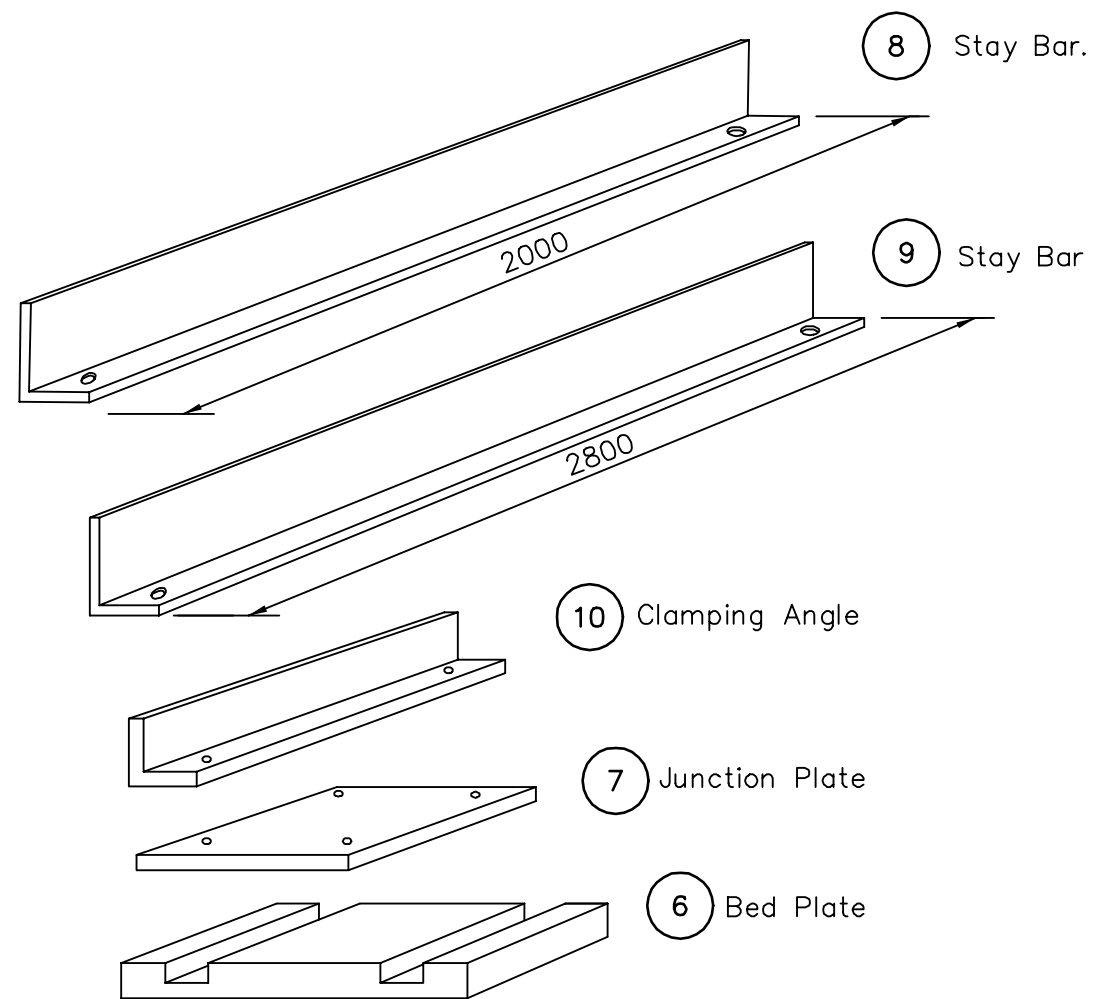
*) Inlet/outlet for coaxcables to Shelter














*) Inlet/outlet for coaxcables to Shelter



*) Removal of Cover Plates dependes on configuration 1 or 2.

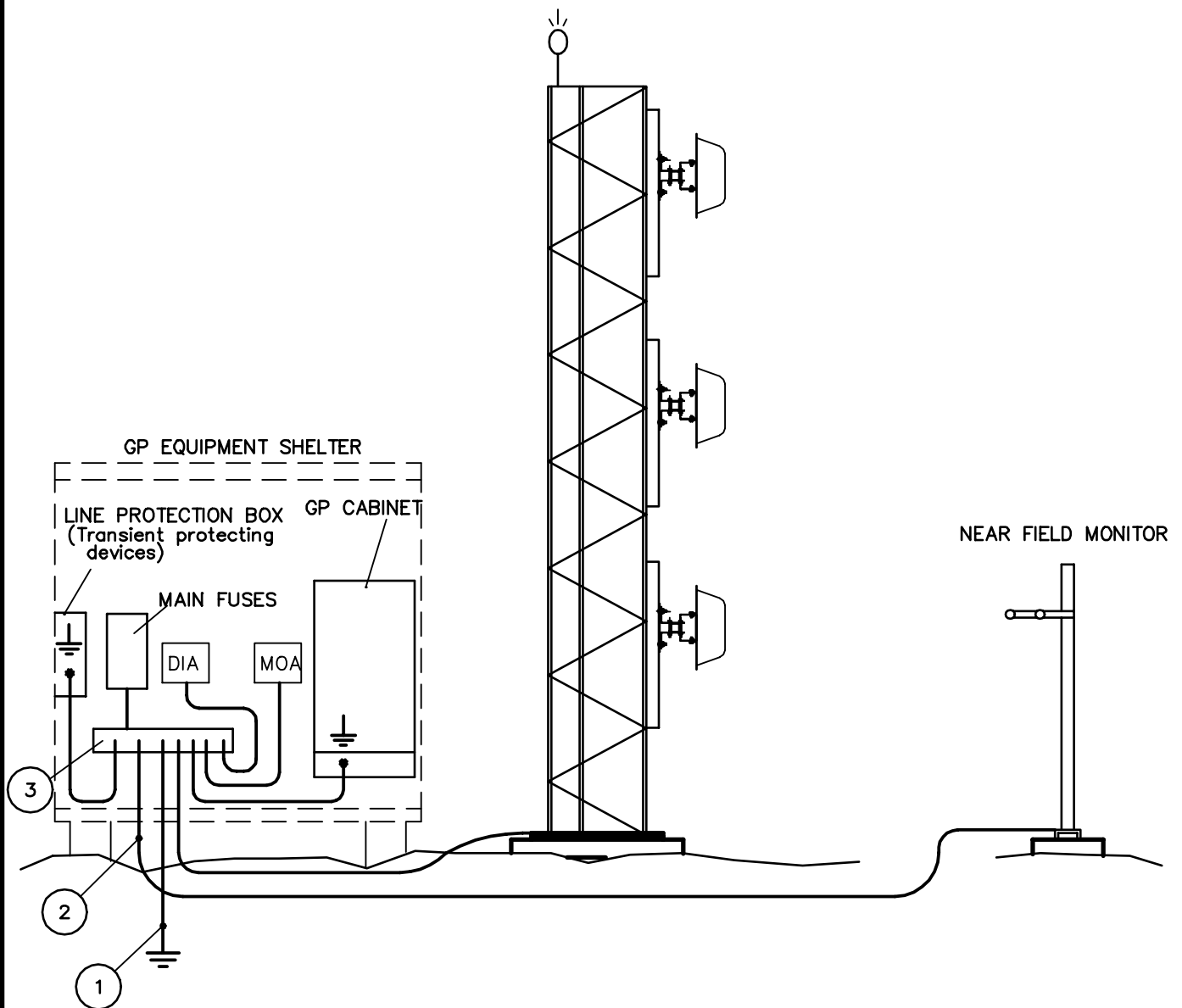
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				Subject: NM 3526	Checked:	
					Appr.: 290396 SK	
					Sup.for:	Sup.by:
3228	2	310398	ARJ	 Copyright and all modification rights reserved NAVA AVIATION AS, NORWAY	Dwg.no.: 16429A3	Issue: 2
Ref.no.	Issue	Date	Sign.		Projection method: ☉ □	




- (112)  Washer M6 DIN125 A4
- (111)  Screw M6x16 DIN933 A4
- (110)  Screw M12x100 DIN933 A4
- (109)  Screw M12x40 DIN933 A4
- (101)  Screw M10x60 DIN933 A4
- (106)  Nut M12 DIN934 A4
- (102)  Nut M10 DIN934 A4
- (107)  Washer M12 DIN125 A4
- (104)  Washer M10 DIN125 A4
- (108)  Springwasher M12 DIN127B A4
- (103)  Springwasher M10 DIN127B A4

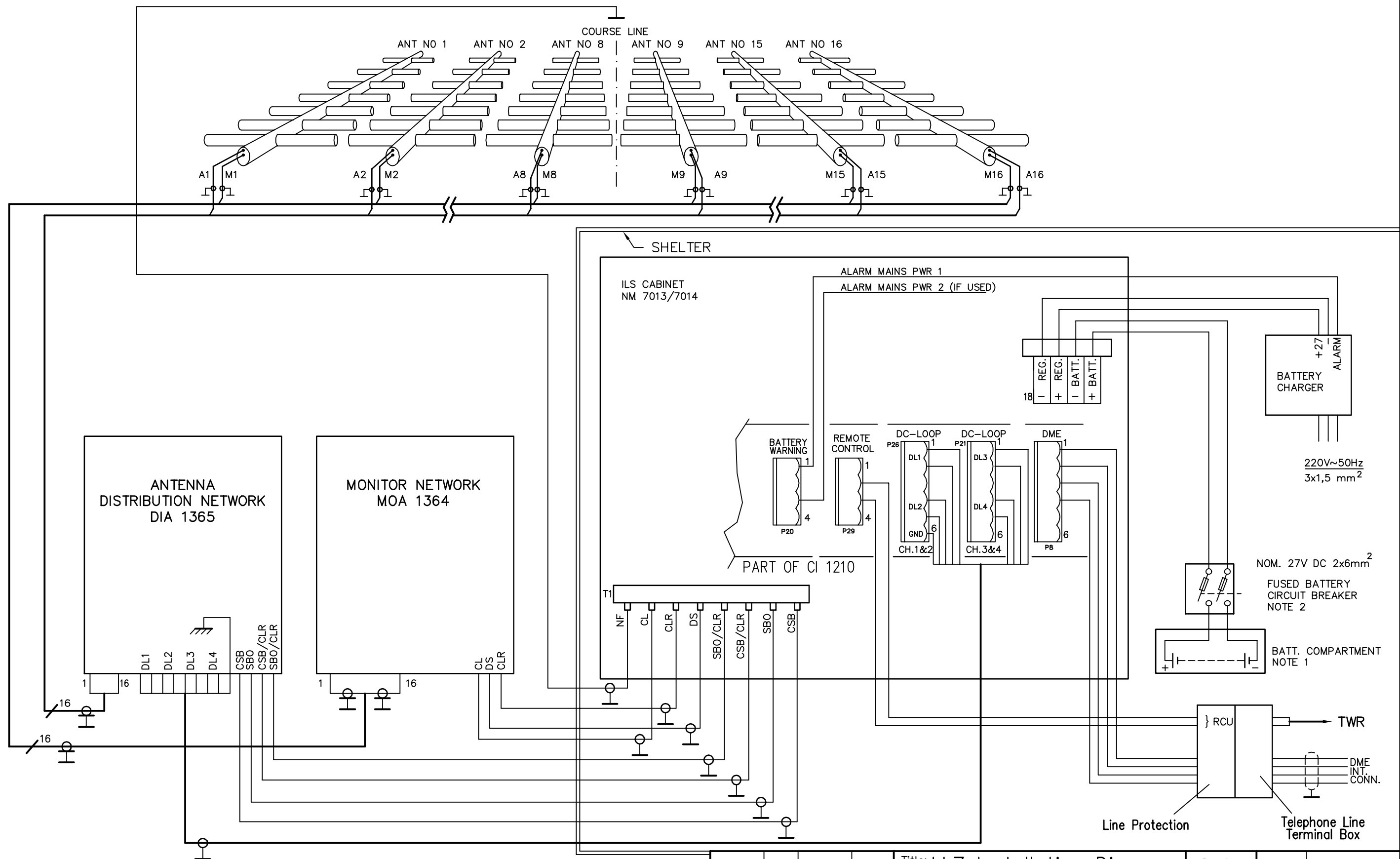
Number code

				Title: Framework AF 695B Mechanical details		Scale: —		Drawn: 171195 ARJ	
				Subject: NM 3526		Checked: —		Appr. —	
						Sup.for: —		Sup.by: —	
Ref.no. Issue Date Sign.						Dwg.no.: 16430A3		Issue: 1	
						Projection method: 			



3	1	GROUND TERMINAL – Delivered by Normarc
2	–	COPPER WIRE (35mm ²)
1	1	COPPER ROD OR COPPER PLATE
Item	Qty	Description

				Title: M-ARRAY GLIDE PATH GROUNDING		Scale: —		Drawn	231195	ARJ
				Subject: NM 3545/46				Checked		
						Sup.for:		Sup.by:		
3228	2	310398	ARJ			Dwg.no.: 16475A4		Issue		2
Ref.no.	Issue	Date	Sign.			Copyright and all modification rights reserved NAVIA AVATION AS, NORWAY		Projection method: ☉ □		



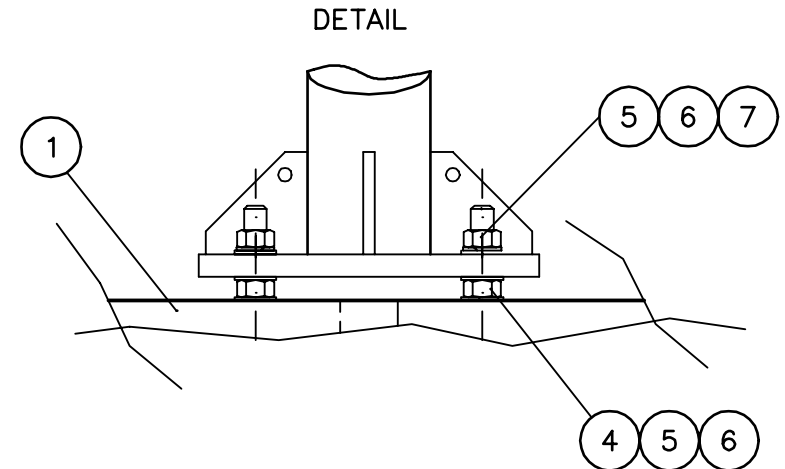
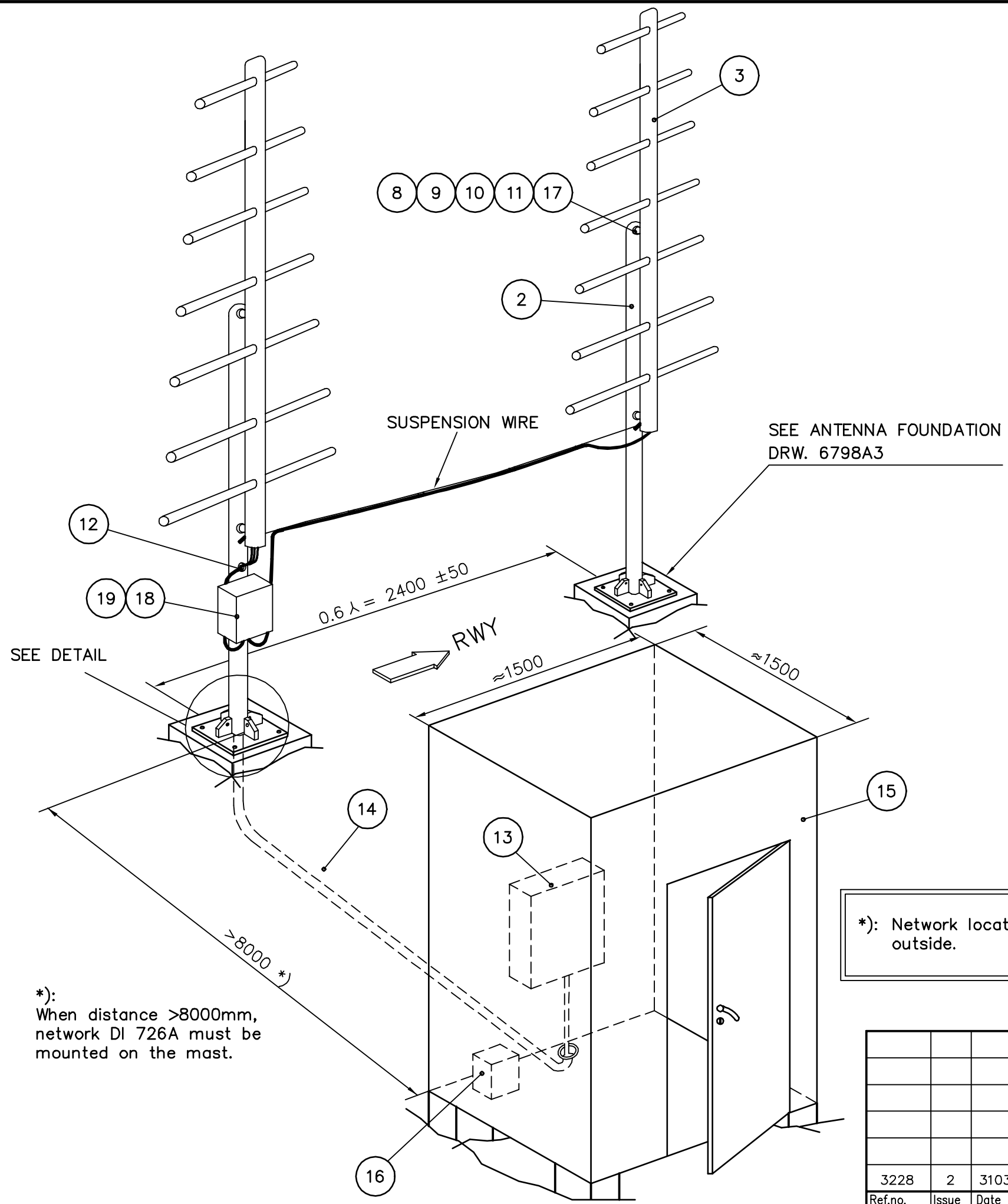
NOTE 1: Normally not supplied by Normarc.
 NOTE 2: Normally supplied by Normarc.

Ref.no.	Issue	Date	Sign.

Title: LLZ Installation Diagram
 16 element system
 Subject:
 NM 7000/NM 3526



Scale:	1:1	Drawn:	210396	FrH
		Checked:		
		Appr.:		
Sup.for:		Sup.by:		
Dwg.no.:	16577A3	Issue	1	
Projection method:	☉			



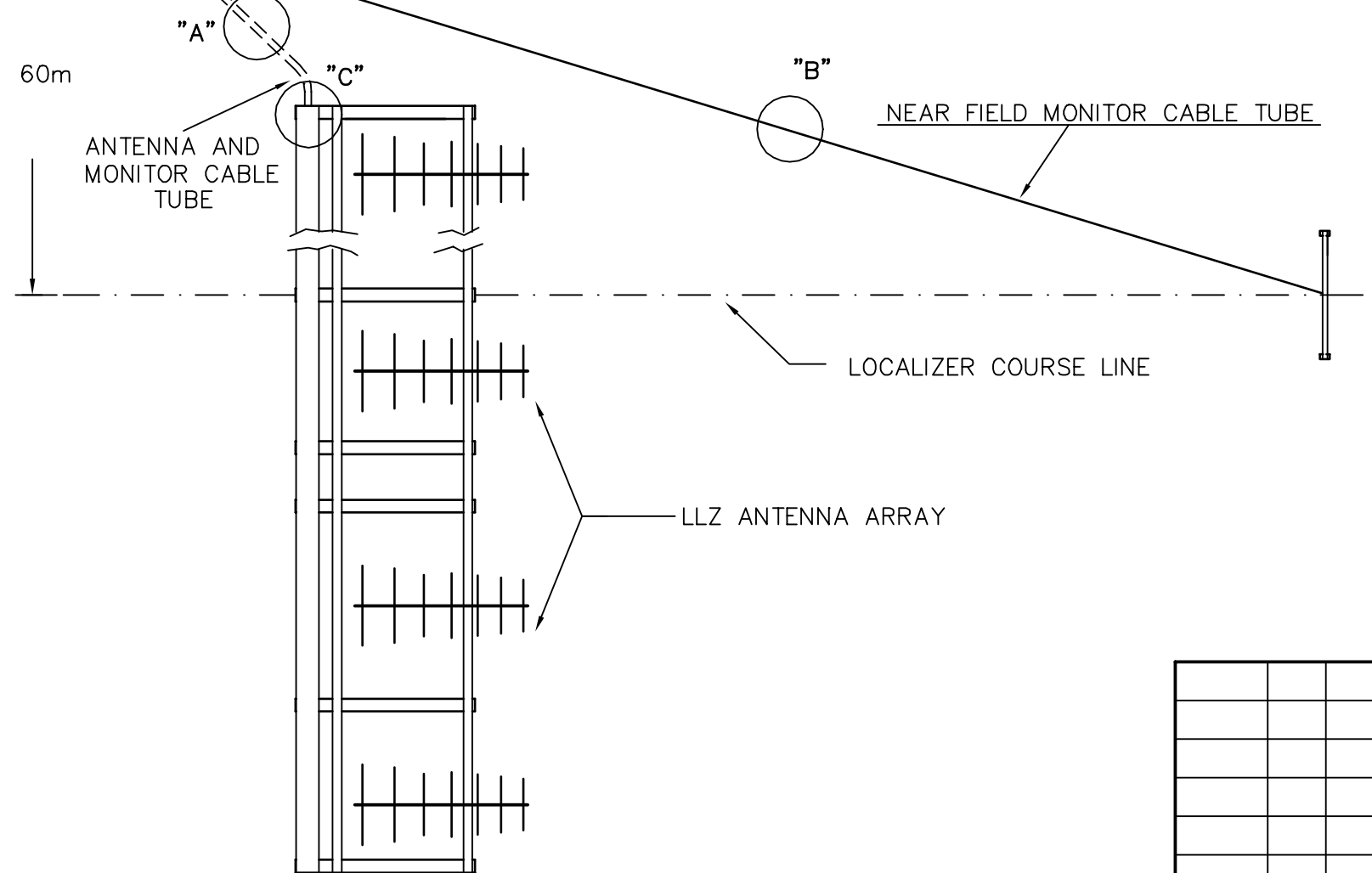
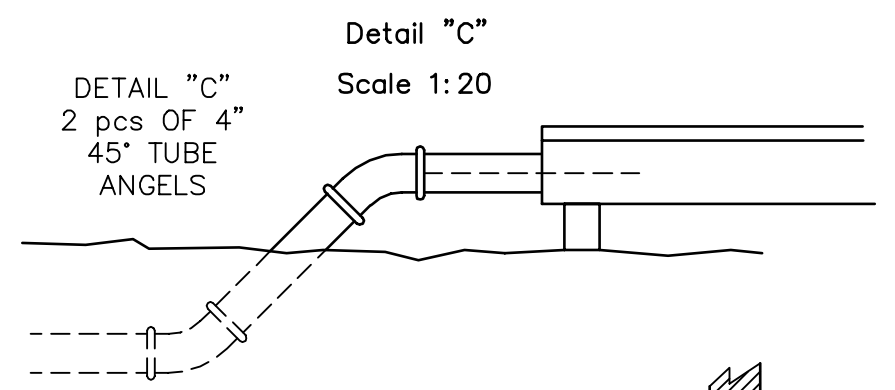
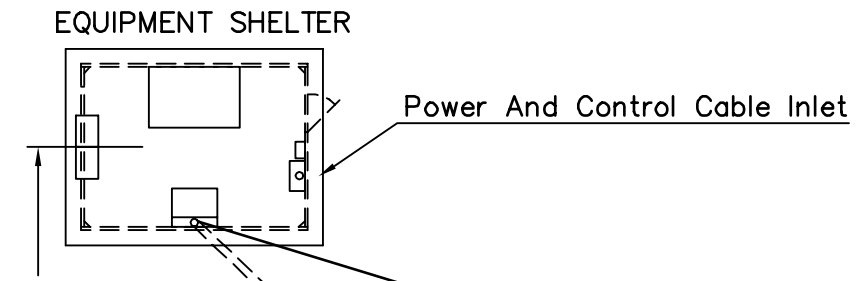
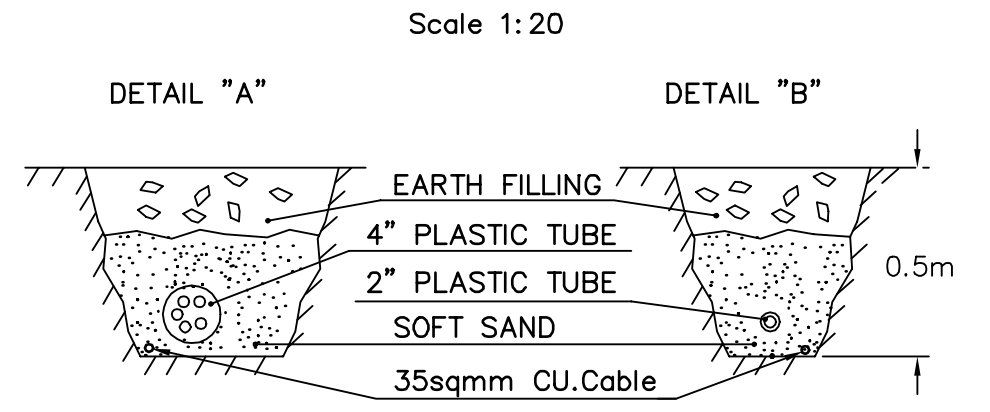
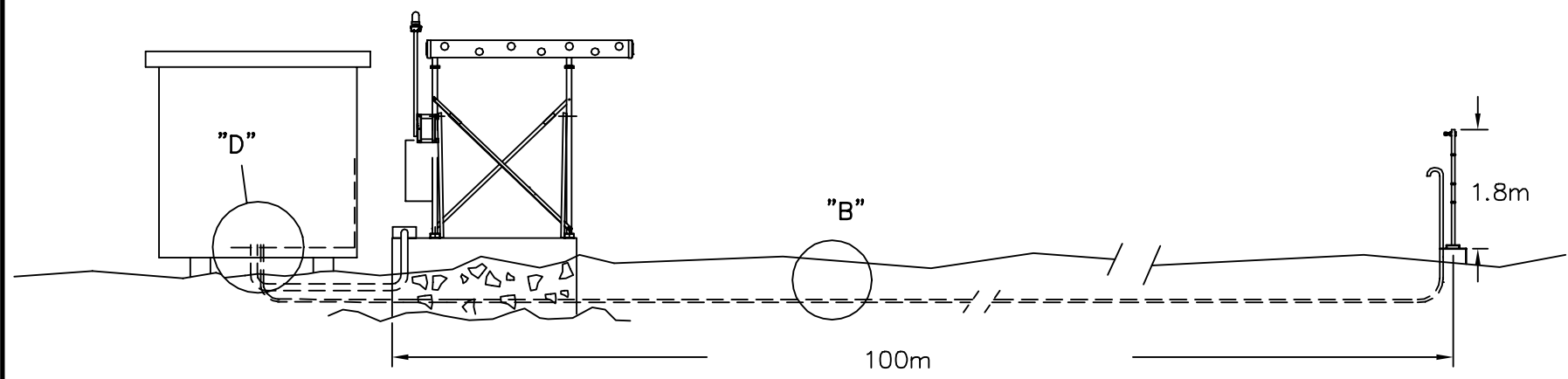
NOTE: The Marker Beacon shall be installed not more than ±75m from the extended RWY centerline, and with the Antenna dipoles parallel to the RWY.

Item	Qty.	Description	NM Type/remark
19	1	Mounting Bracket	Supplied by Normarc
18	1	Network	DI 726A
17	4	Gasket Neopren 3mm	MS 799A
16	1	Battery Box	Not supplied by Normarc
15	1	Proposed Equipment Shelter	Not supplied by Normarc
14	1	Cable Tube 2"	Not supplied by Normarc
13	1	MB-Transmitter	NM 3550
12	1	Antenna and Monitor cable	CK 1146A
11	16	Springwasher M10 DIN127B A4	MS 799A
10	16	Washer M10 DIN125 A4	MS 799A
9	16	Nut M10 DIN934 A4	MS 799A
8	16	Bolt M10x45 DIN933 A4	MS 799A
7	8	Springwasher M20 DIN127B A4	FK 823A
6	16	Washer M20 DIN125 A4	FK 823A
5	24	Nut M20 DIN934 A4	FK 823A
4	8	Retainer Bolt M20x500	FK 823A
3	2	Antenna	AE 534A
2	2	Antenna Mast	MS 799A
1	2	Concrete Foundation	See dwg.no.6798A3

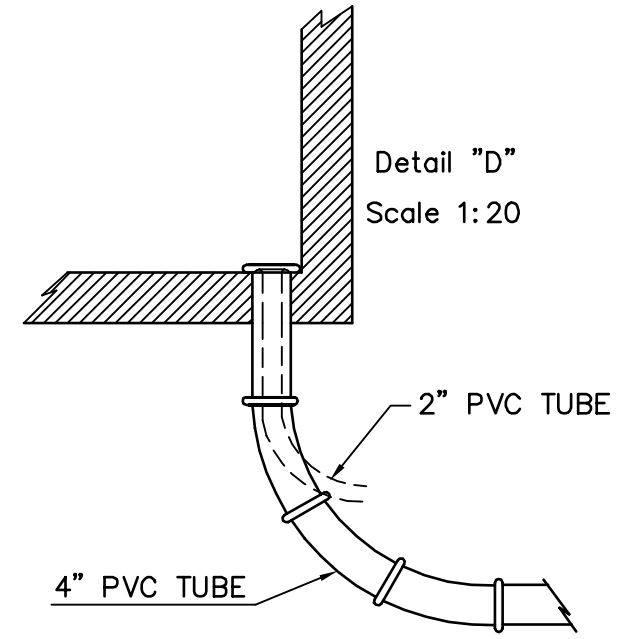
*) : Network located outside.

*) : When distance >8000mm, network DI 726A must be mounted on the mast.

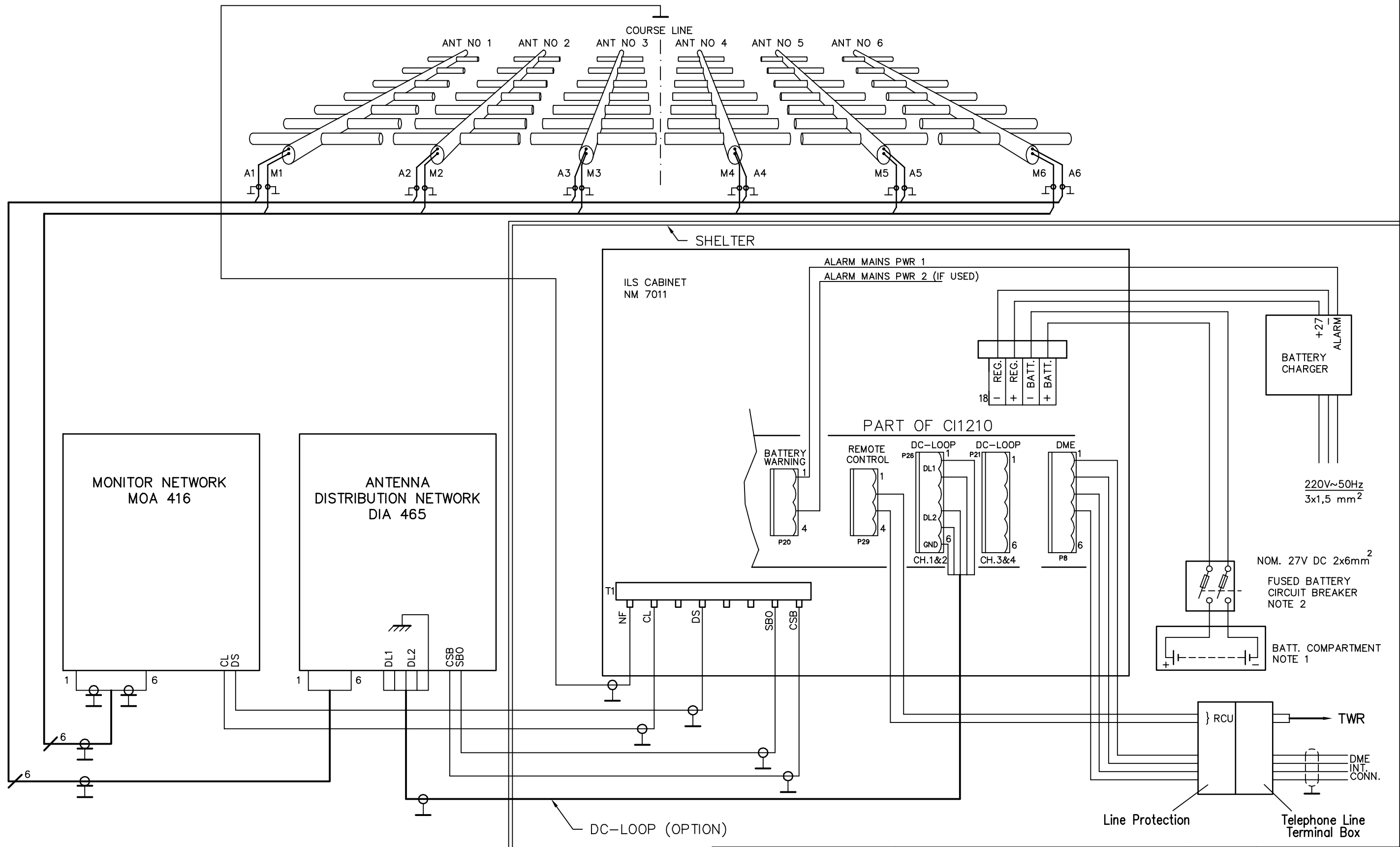
Title: ANTENNA SYSTEM *) 2 ELEMENT MARKER BEACON				Scale: —	
Subject: NM 3562				Drawn: 280396 FrH	
				Checked: —	
				Appr.: 280396 SK	
Ref.no. 3228				Sup.for: —	
Issue 2				Sup.by: —	
Date 310398				Dwg.no.: 16583A3	
Sign. ARJ				Issue 2	
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NEARFIELD MONITOR ANTENNA



				Title: TYPICAL LOCALIZER CONFIGURATION 2	Scale: 1:100	Drawn: 250396 FrH
				Subject: NM 7000		Checked:
						Appr.: 280396 HSA
					Sup.for:	Sup.by:
				Normarc	Dwg.no.: 16584A3	Issue: 2
3228	2	310398	ARJ	Copyright and all modification rights reserved NAVIA AVATION AS, NORWAY		
Ref.no.	Issue	Date	Sign.	Projection method: ☉ □		

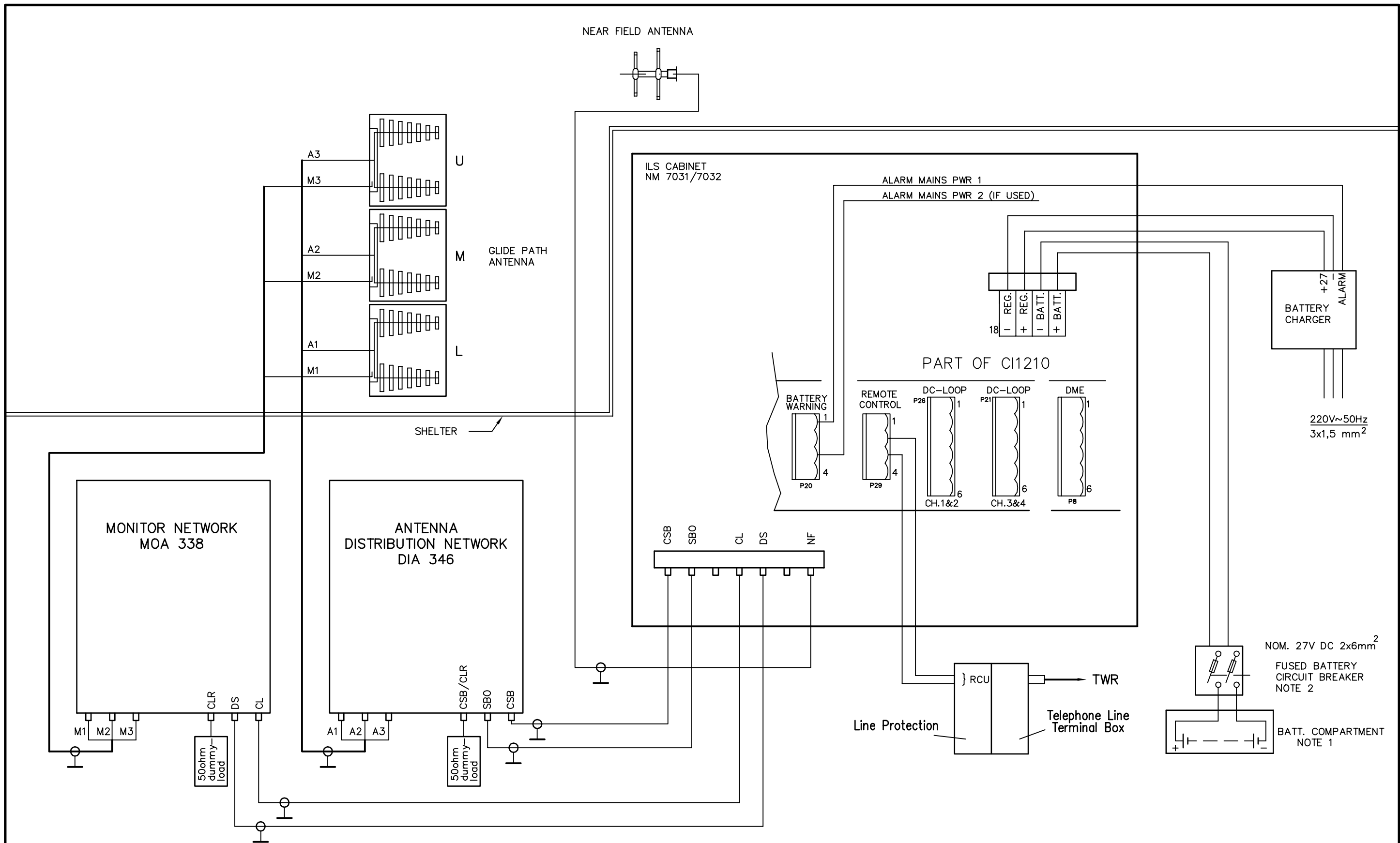


NOTE 1: Normally not supplied by Normarc.
 NOTE 2: Supplied by Normarc.

Title: LLZ Installation Diagram 6 element system				Scale: 1:1	Drawn: 250396 FrH
Subject: NM 7000/NM 3522				Checked:	Appr.:
Sup.for:				Sup.by:	
Dwg.no.: 16585A3				Issue 1	
Projection method: ☉					

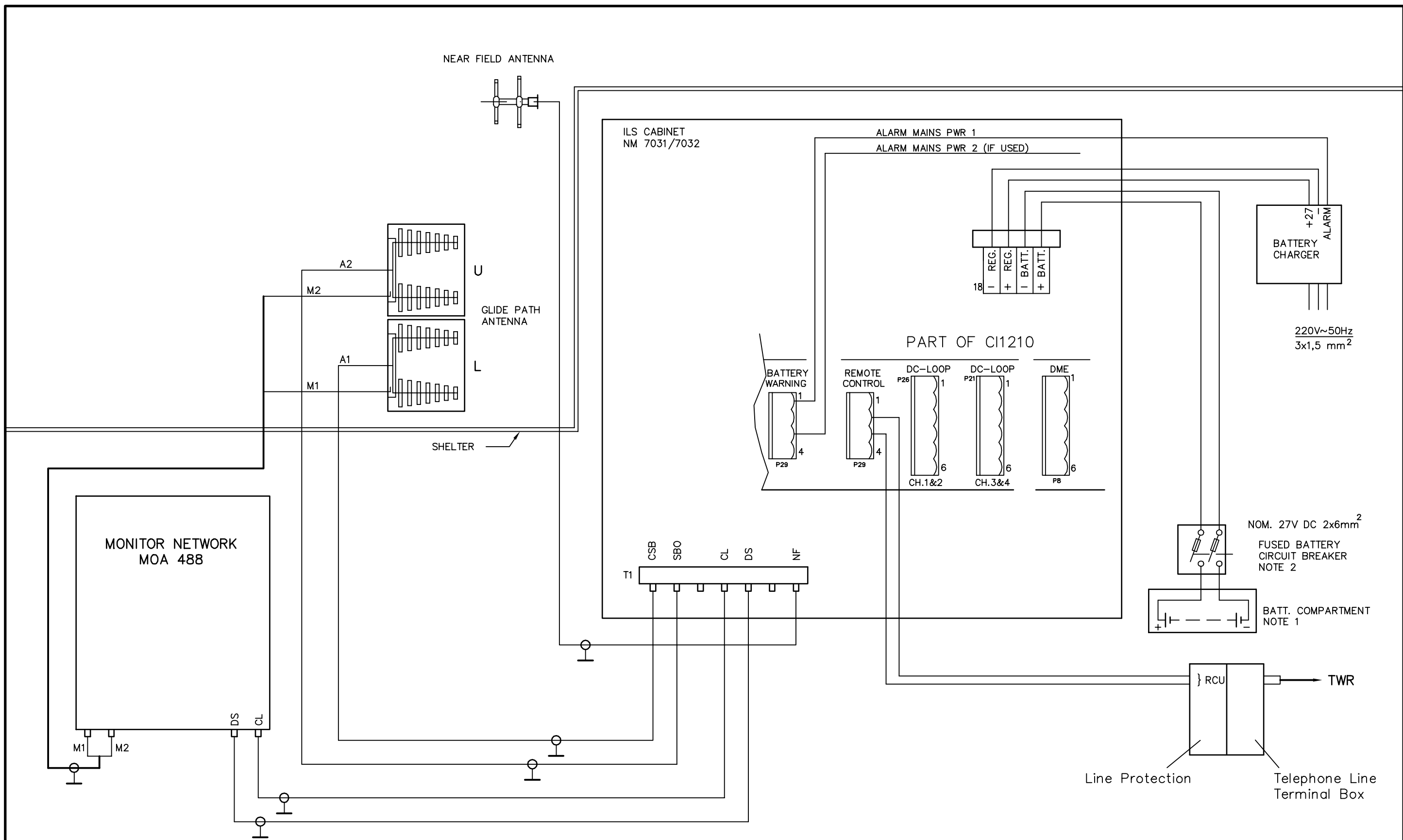


Ref.no.	Issue	Date	Sign.



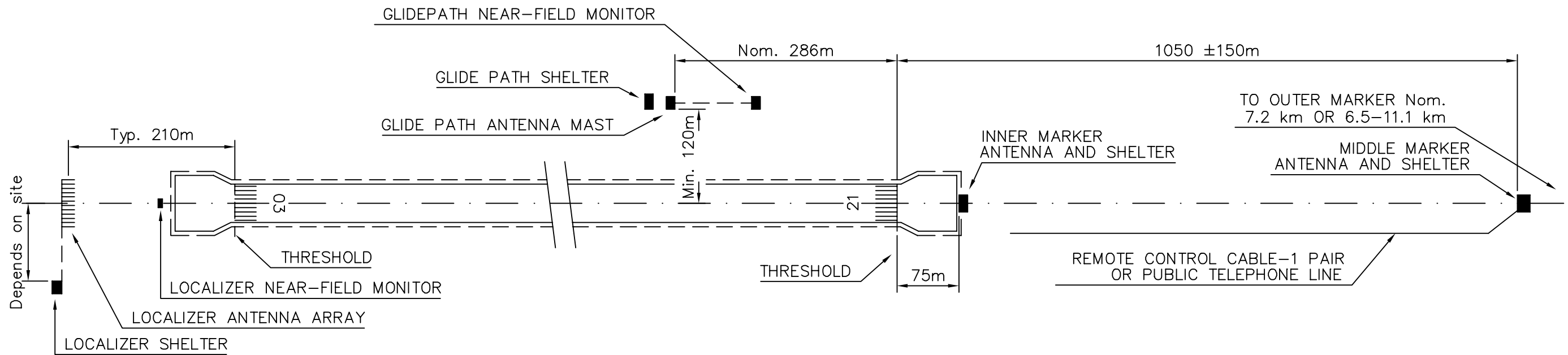
NOTE 1: Normally not supplied by Normarc.
 NOTE 2: Normally supplied by Normarc.

				Title: GP Installation Diagram Modified M-Array		Scale:	Drawn	260396	FrH
				Subject:		1:1	Checked		
				NM 7000/NM 3546		Sup.for:	Sup.by:		
						Dwg.no.:	16586A3		Issue
Ref.no. Issue Date Sign.						Projection method: ☉ ◻		1	

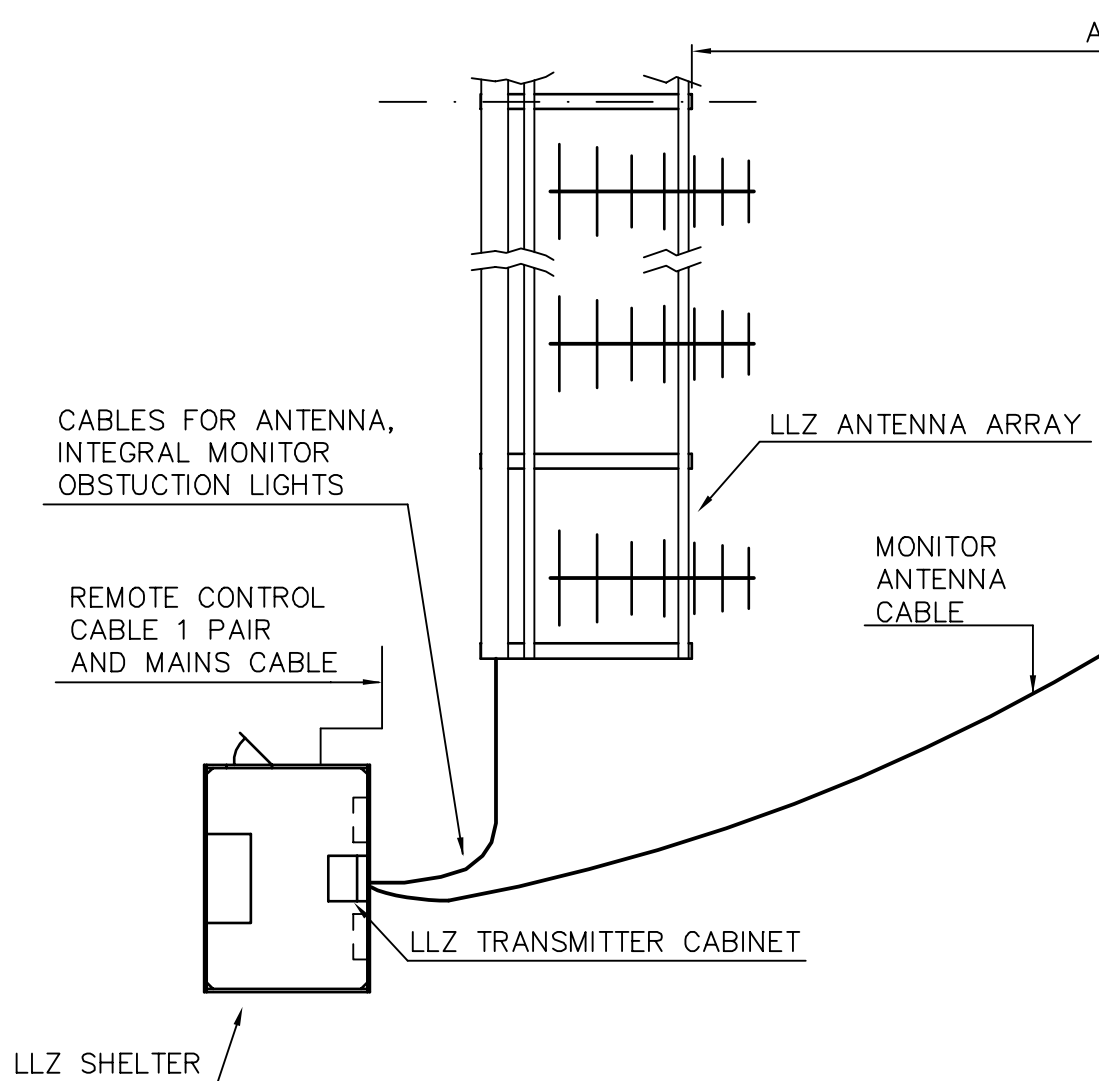


NOTE 1: Normally not supplied by Normarc.
 NOTE 2: Normally supplied by Normarc.

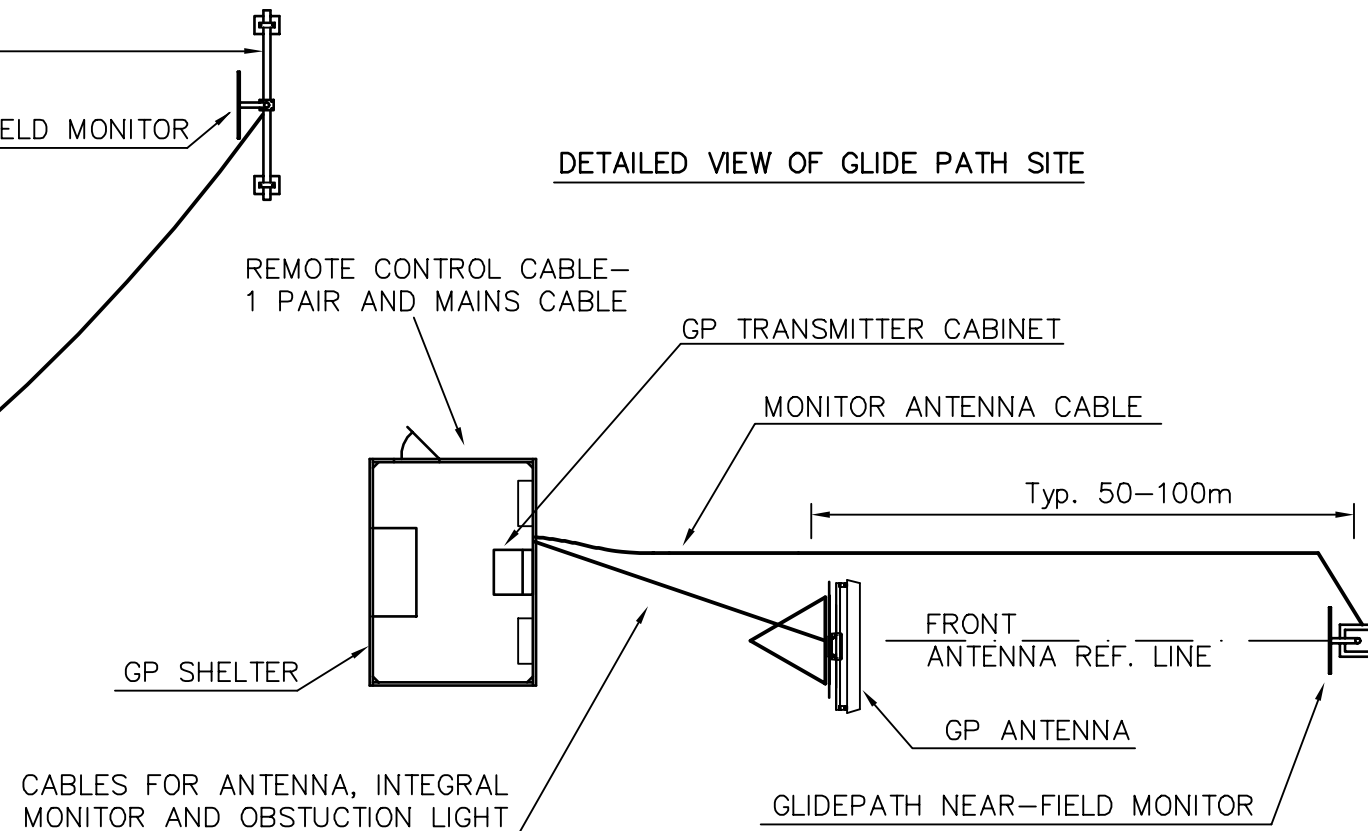
Ref.no.	Issue	Date	Sign.	Title: GP Installation Diagram Null Reference		Scale:	Drawn	260396	FrH	
				Subject: NM 7000/NM 3543		1:1	Checked			
						Sup.for:		Sup.by:		
				Dwg.no.: 16587A3		Issue		1		Projection method: ☉ □



DETAILED VIEW OF LOCALIZER SITE

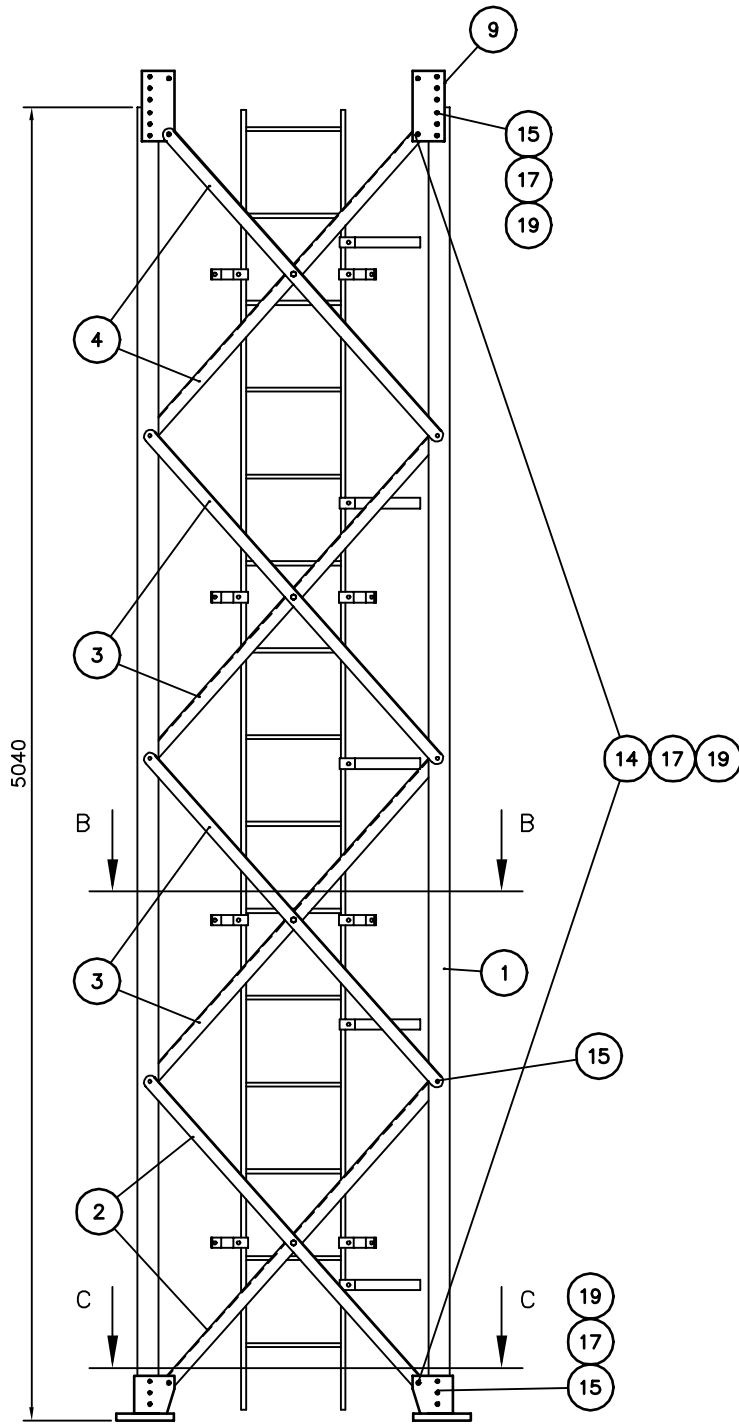
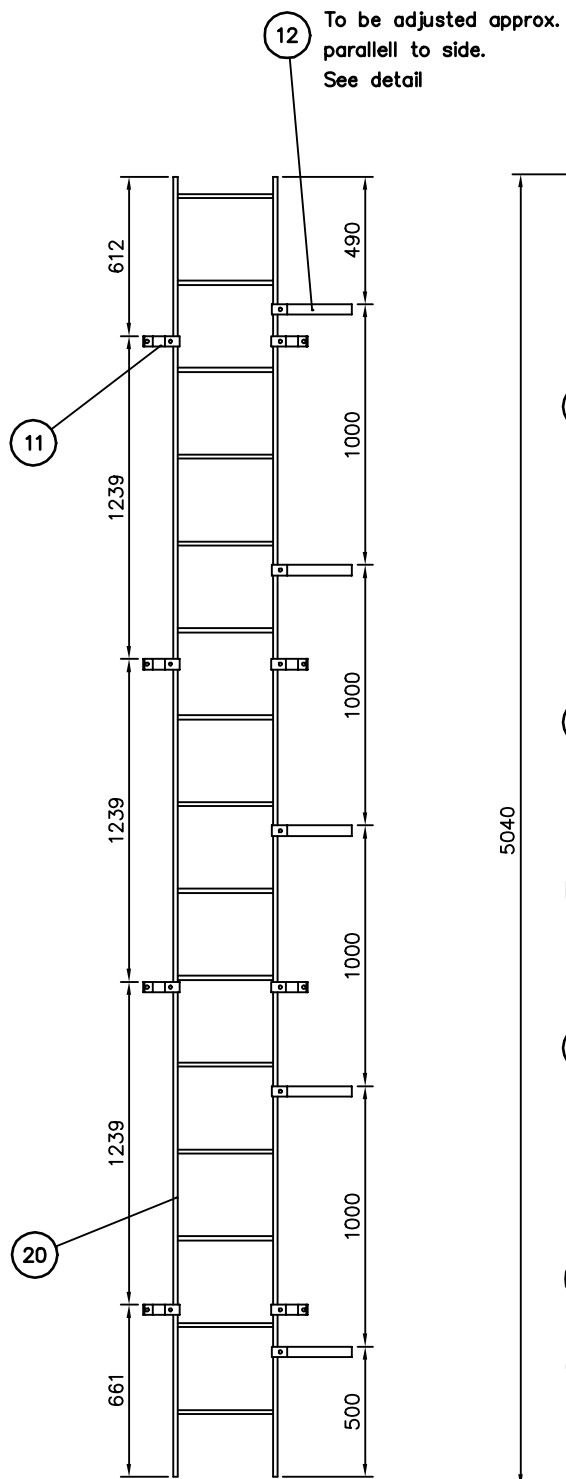


DETAILED VIEW OF GLIDE PATH SITE

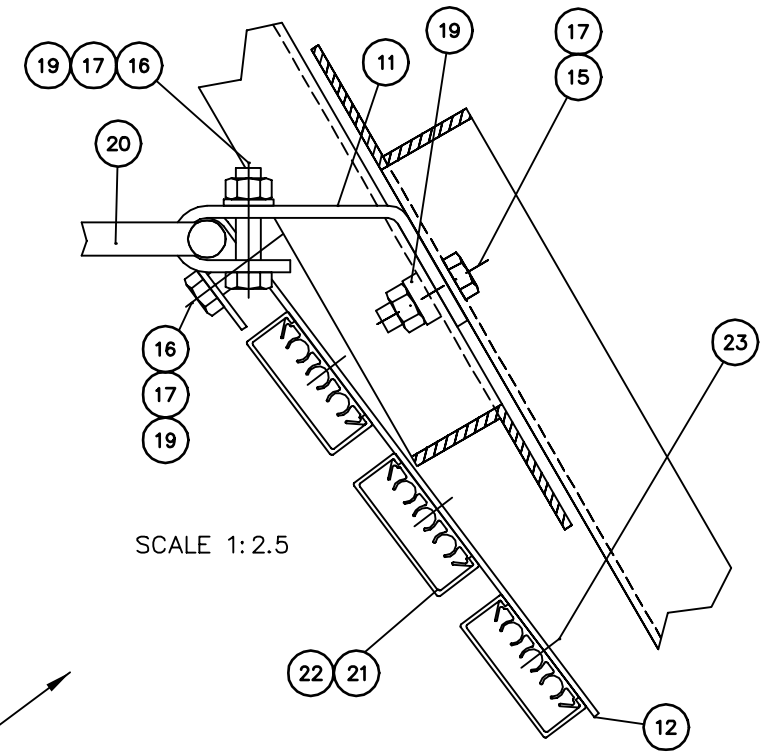
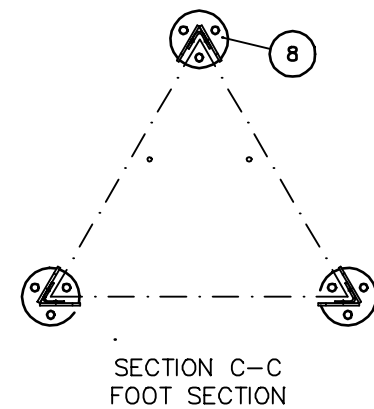
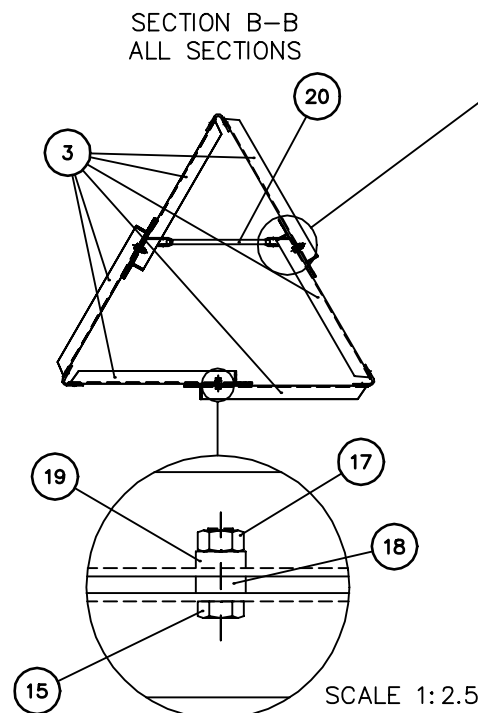
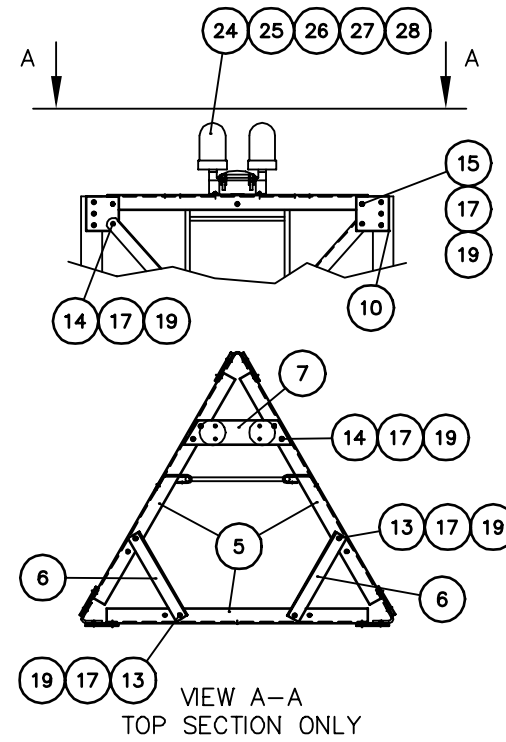


OBS! This is only an example!

				Title:	ILS EQUIPMENT SITE IMPLEMENTATION 2	Scale:	Drawn	290396	FrH
				Subject:	NM 7000		Checked		
							Appr.	100496	JSA
						Sup.for:		Sup.by:	
3228	2	310398	ARJ		Normarc	Dwg.no.:	16588A3	Issue	2
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights reserved NAVA AVIATION AS, NORWAY		Projection method:	☉ □		



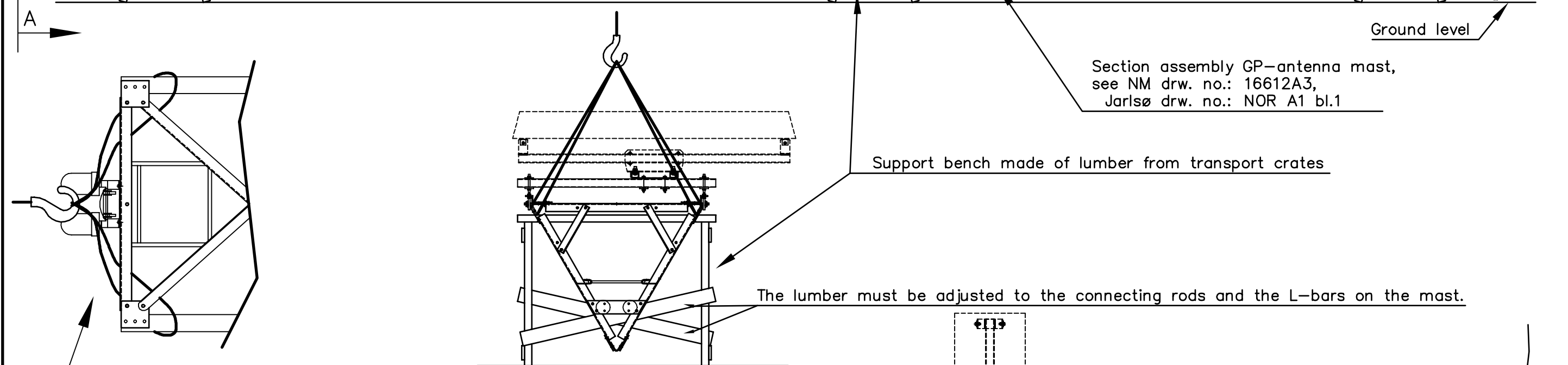
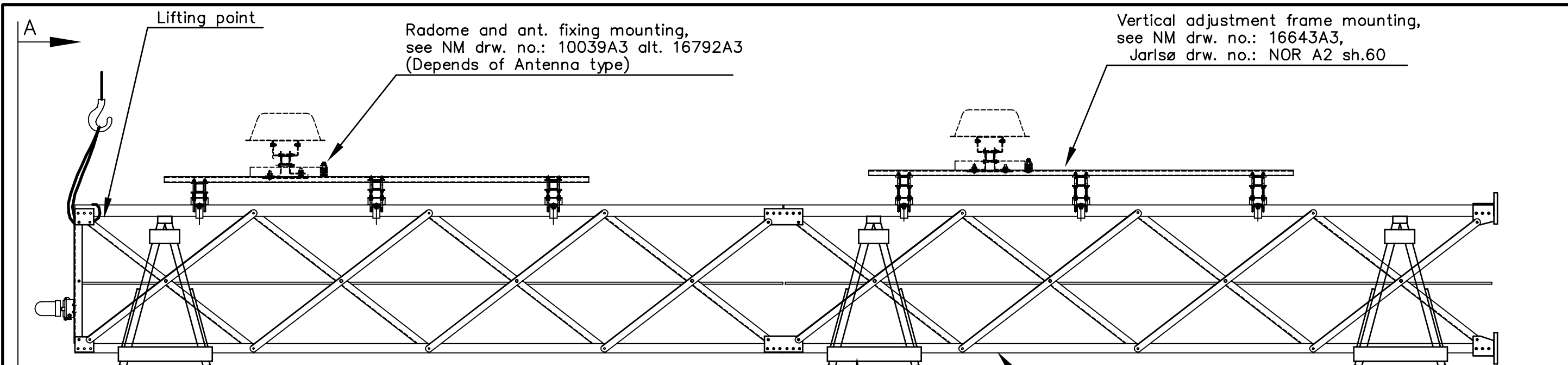
REAR L-BAR WITH CONNECTING
RODS NOT SHOWN



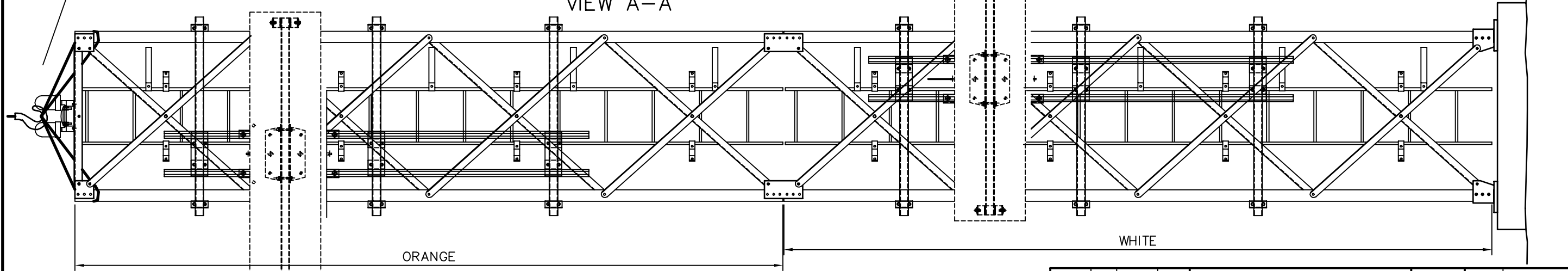
NB!: UPPER MASTSECTION ALWAYS ORANGE

28	1	Hex.Nut, M6, DIN 934		13911
27	1	Split Lock Washer M6, DIN 127B		13888
26	1	Washer M6, DIN 125 A4		13883
25	4	Bolt, M6 x 30 DIN 933		
24	1	Obstruction Light		13106
23	15	Rivet, TAP/D-48-BS ø3,2-9,7		
22	3	Cabelduct, cover		15010
21	3	Cabelduct		15009
20	1	Ladder	S7 40	
19	117	Washer, 24/14x6 11492-2	100.10	
18	4	Washer, 24/14x8 DIN 7989	100.09	
17	105	Hex.Nut, M12 NS1827	091.12	
16	13	Bolt, M12 x 50 DIN 933, NS1824	314.17	
15	57	Bolt, M12 x 40 DIN 7990	360.12	
14	16	Bolt, M12 x 35 DIN 7990	360.11	
13	4	Bolt, M12 x 30 DIN 7990	360.10	
12	5	Cable-bracket	NOR 12	
11	8	Ladder-bracket	NOR 11	
10	6	Top-plate / leg	NOR 10	
9	6	Conection-plate / leg	NOR 9	
8	3	Foot-slab	NOR 8	
7	1	Obstr.light bracket	NOR 7	
6	2	Cross-diagonal / top	NOR 6	
5	3	Horisontal top	NOR 5	
4	6	Diagonal	NOR 4	
3	12	Diagonal	NOR 3	
2	6	Diagonal	NOR 2	
1	3	Main Leg	NOR 1	
Item	Qty.	Description	Jarlsø Items	NM Items

3228	2	310398	ARJ			
Ref.no.	Issue	Date	Sign.	Title: GP ANTENNA MAST SECTION ASSEMBLY		
				Scale: (1:20)	Drawn: 020596 FrH	
				Subject: NM 3543-46	Checked:	
				Sup.for: (NOR-A1)	Appr.: 300896 AWB	
				Dwg.no.: 16612A3	Issue: 2	
				Projection method: ☉ □		
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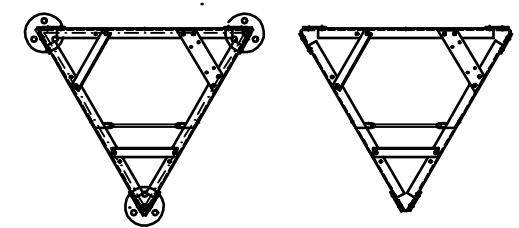
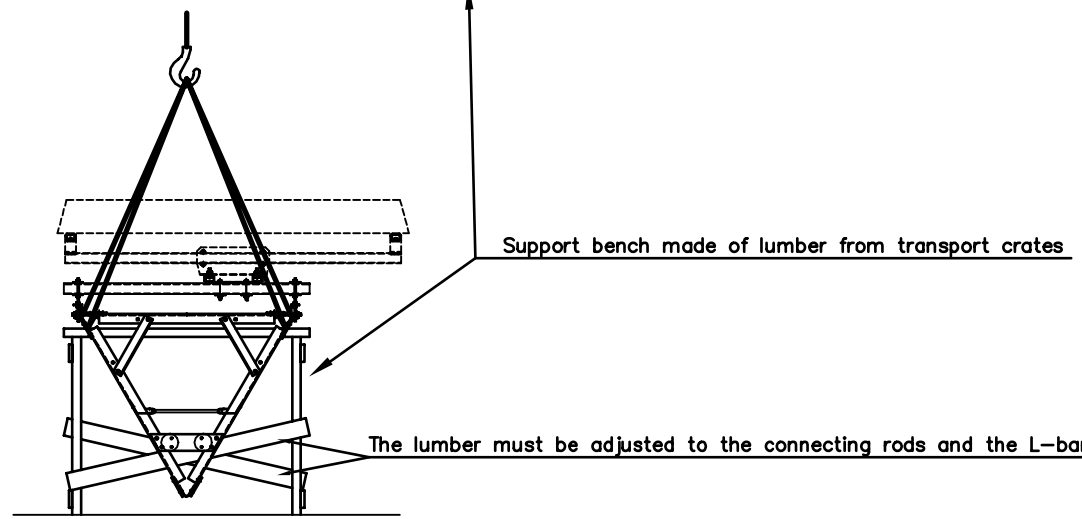
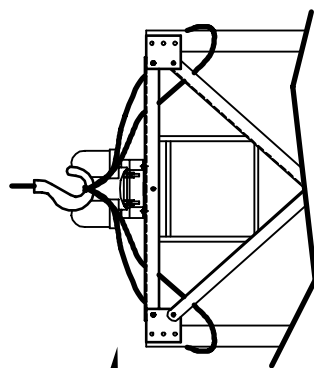
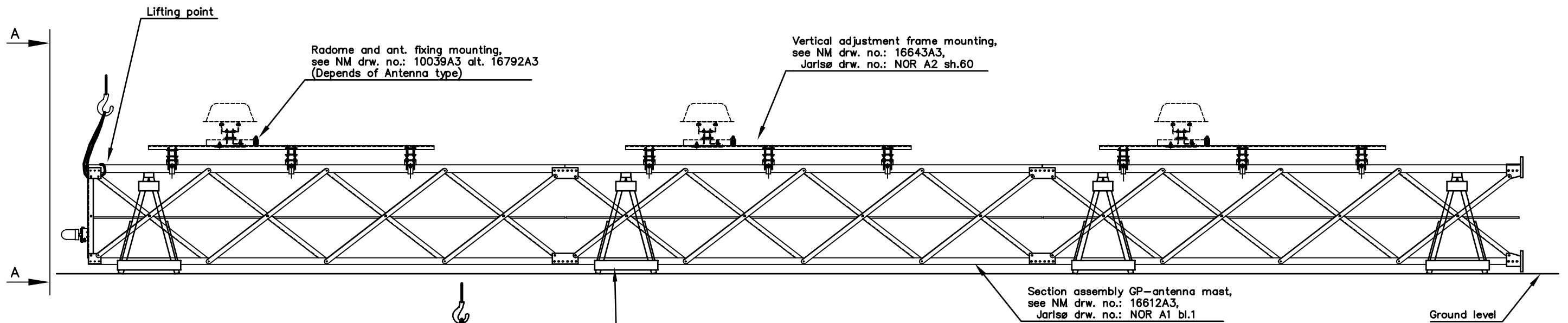


VIEW A-A

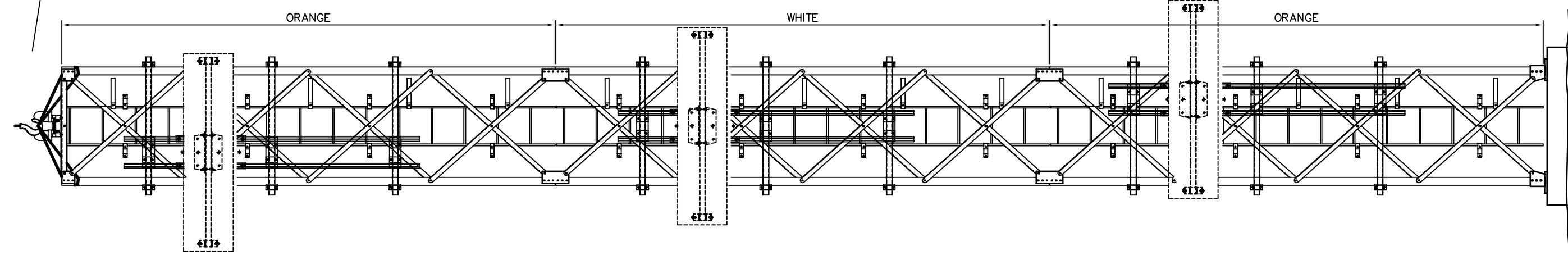


Offset of upper and lower antennas depends on calculations.
 Assembly: See Installation & Com. Handbook Vol I

				Title: ANTENNA MAST 10m		Scale: (1:20)	Drawn: 080596 FrH
				Subject: NM 3543-44		A2 SIZE	Checked: 300896 AWB
						Sup.for:	Sup.by:
3228	3	310398	ARJ	Normarc		Dwg.no.: 16641A3	Issue 3
3007	2	250697	FrH			Projection method: ☉ □	
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights reserved NAVIA AMATION AS, NORWAY			

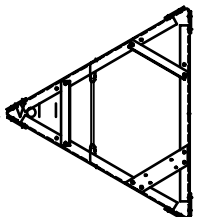



VIEW A-A

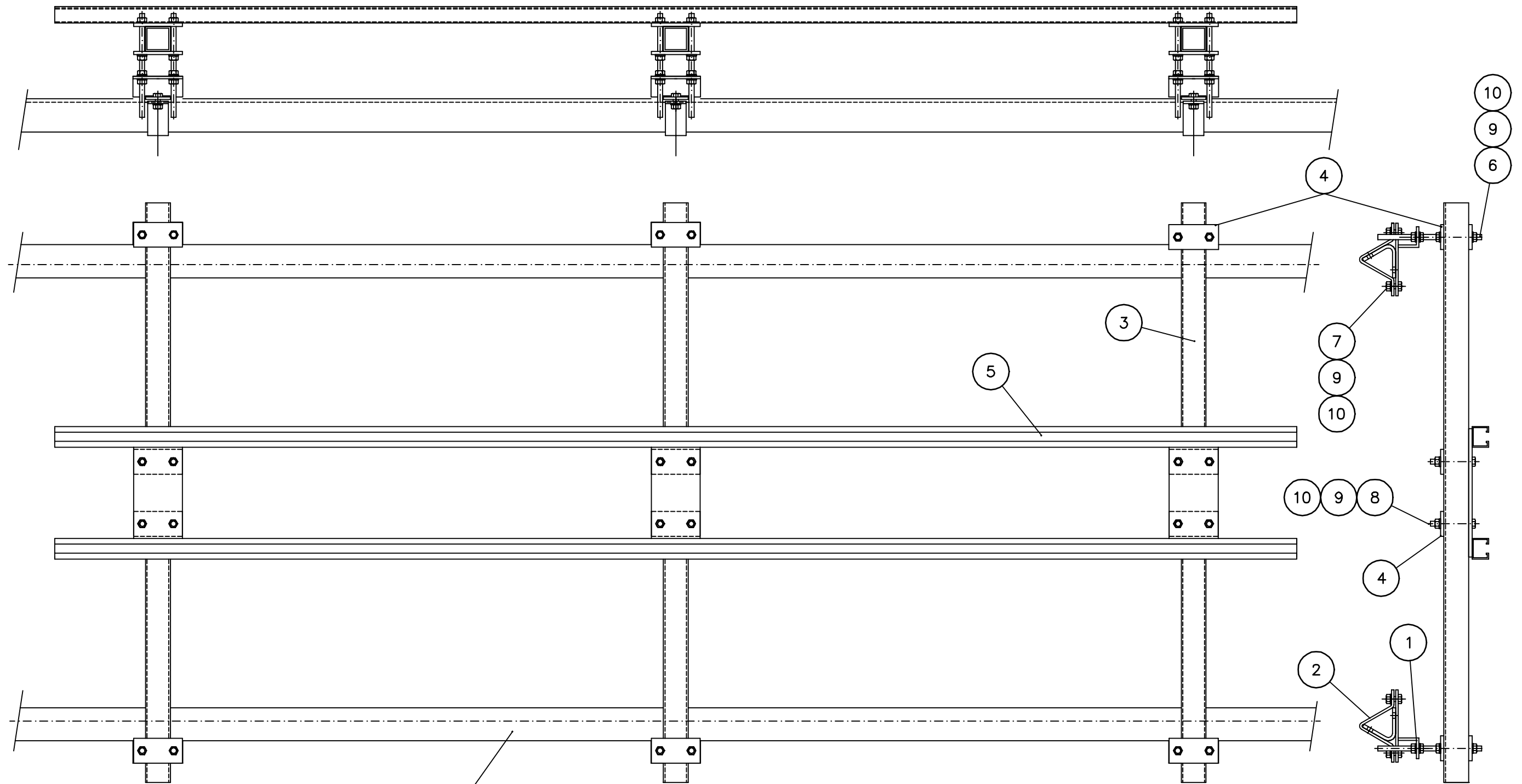


Offset of upper and lower antennas depends on calculations.

Assembly: See Installation & Com. Handbook



				Title: ANTENNA MAST 15m		Scale: (1:30)	Drawn: 080596 FrH
				Subject: NM 3545-46		A2 SIZE	Checked: 300896 AWB
						Sup.for:	Sup.by:
3228	3	310398	ARJ	 Normarc		Dwg.no.:	16642A3
3007	2	250697	FrH			Issue	3
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights reserved NAVIA AVIATION AS, NORWAY		Projection method: ☉	

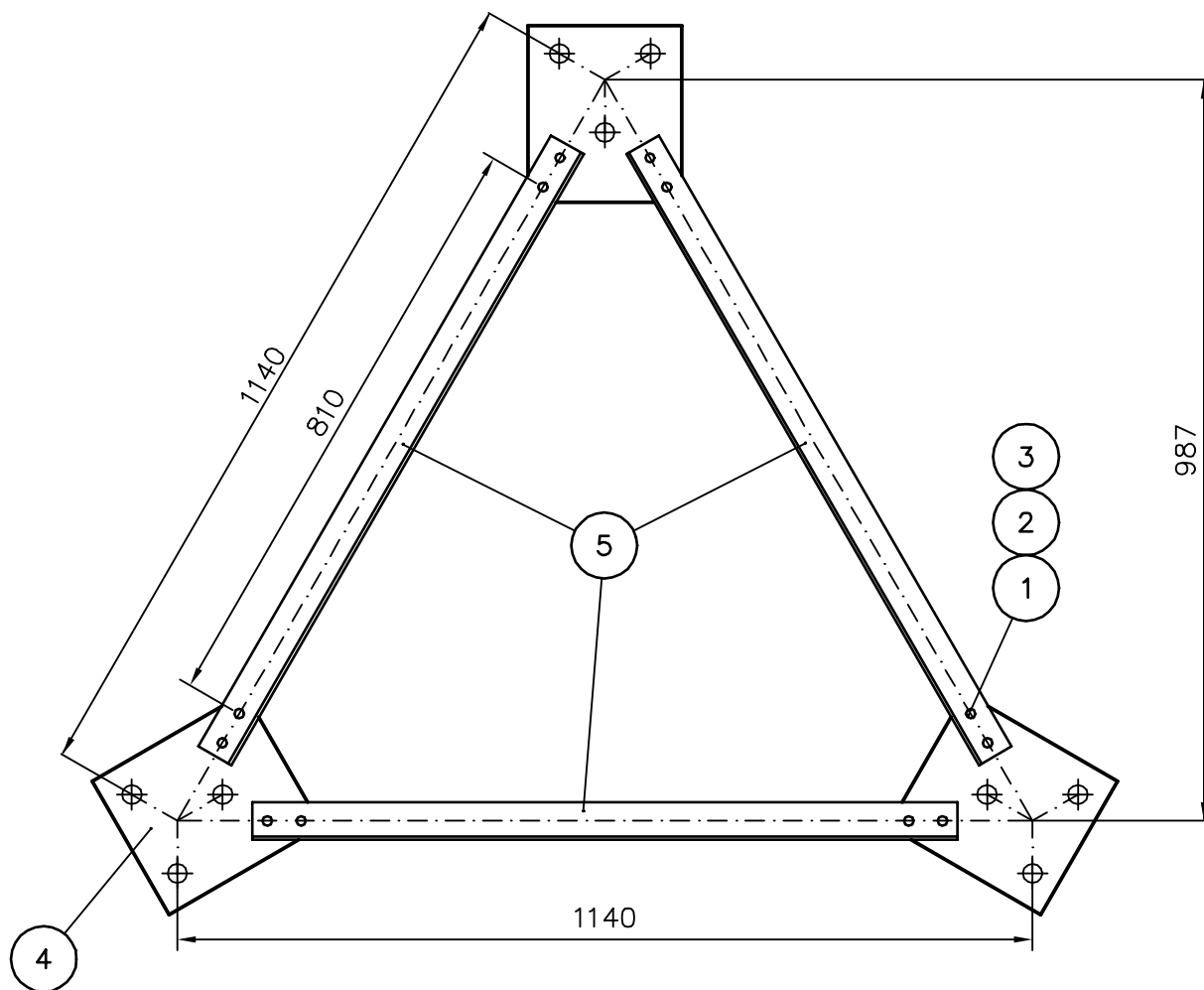


Main Leg

Ref. Jarlsø Drwg.: NOR-A2 Sh.60

	10M	15M		
10	144	168	Hex. Nut, M12 NS 1827	091.12
9	144	168	Washer, 24/14x6 11492-2	100.09
8	24	36	Bolt M12 x 100, NS1823	301.20
7	24	36	Bolt M12 x 50, NS1824	314.17
6	24	36	Threaded rod M12 x 250, DIN 975	NOR 73
5	2	3	Vertical Adjustment Frame	NOR 64
4	36	54	Holdingplate	NOR 63
3	6	9	Horizontal Beam	NOR 62
2	12	18	Holding Bracket	NOR 61
1	12	18	Leg Bracket	NOR 60
Item	Qty.	Qty.	Description	Jarlsø Items

Title: VERTICAL ADJUSTMENT FRAME		Scale: 1:10	Drawn: 080596 FrH
Subject: NM 3543-46		Checked:	Appr.: 300896 AWB
3228 2 310398 ARJ		Sup.for: NOR-A2, SH60	Sup.by:
Ref.no. Issue Date Sign.		Dwg.no.: 16643A3	Issue 2
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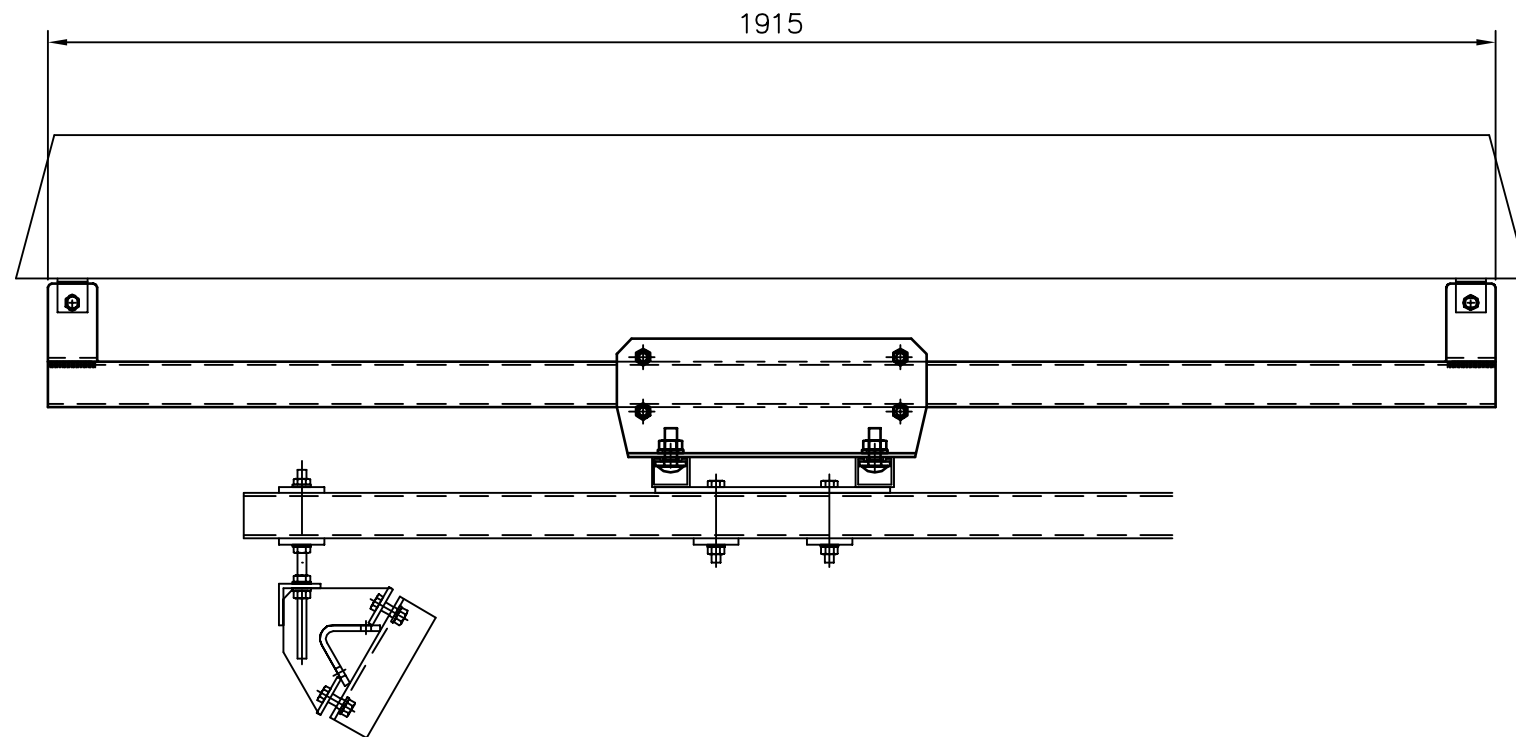
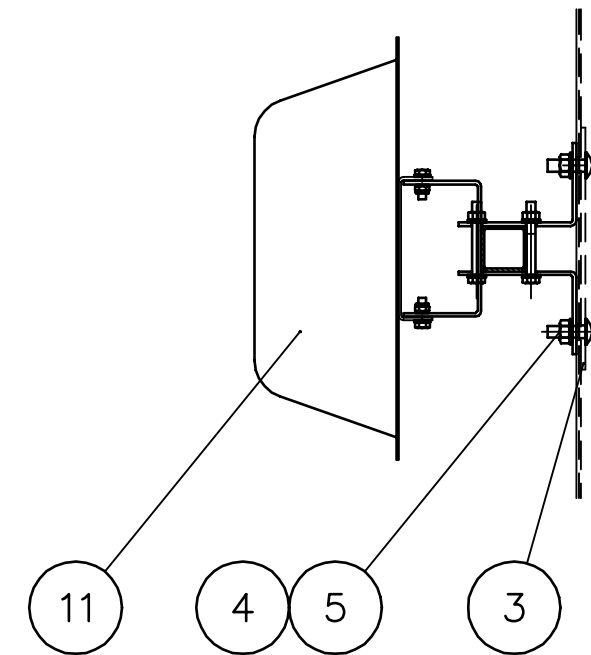
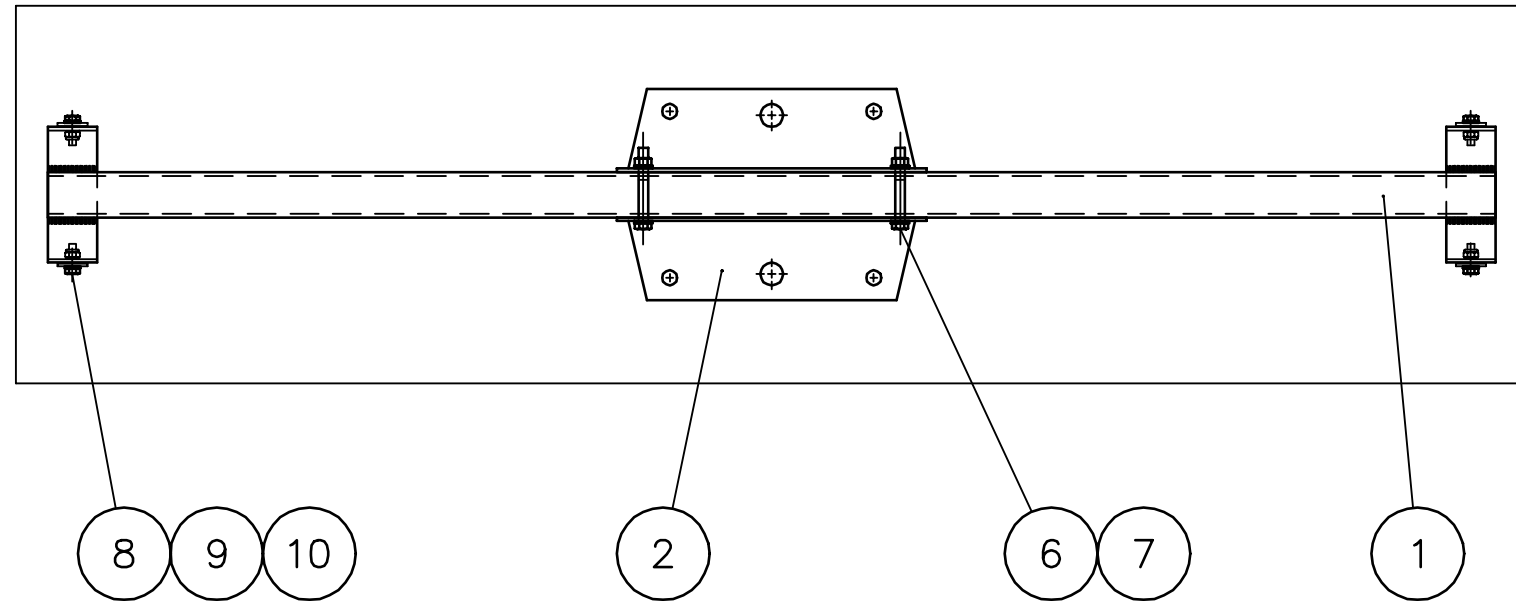


This drawing corresponds to foundationplan – templates
Jarlsø AS, drwg.no. NOR-A4, bl.20A

5	3	Template fixture	NOR 21
4	3	Template	NOR 20
3	12	Hex. Nut M12	325.11
2	12	Washer, 24/14x6 11492-2	100.09
1	12	Hexagon screw, M12x35	325.11
Item	Qty.	Description	Jarlsø Items

				Title:	TEMPLATE GP ANTENNA FOUNDATION	Scale:	1:10	Drawn	080596	FrH
				Subject:	NM 3543-46			Checked		
						Sup.for:		Appr.		
								Sup.by:		
								Dwg.no.:	16644A4	Issue 1
Ref.no.	Issue	Date	Sign.					Projection method:	☉	▭

 **Normarc AS**



NM Part no. 20367

Item	Qty.	Description	NM Items	Jarlsø Items
11	1	GP-Antenna Kathrein 713 316B	15050	
10	4	Lockwasher M10 DIN127 galv.		
9	4	Washer M10 DIN125A galv.		
8	4	Bolt w/n M10x30 DIN601/555 galv.		
7	11	Washer M12 DIN125A galv.		
6	4	Bolt w/n M12x100 DIN601/555 galv.		
5	4	Washer 30/18x6 DIN126 galv.		
4	4	Bolt w/n M16x50 DIN603/555 galv.		
3	2	Locking bar galv.	16790A3-2	75
2	2	Bracket (Clamp) galv.	16790A3-1	74
1	1	Antennasupport galv.	16791A3	76

Ref.no.	Issue	Date	Sign.
3228	2	310398	ARJ

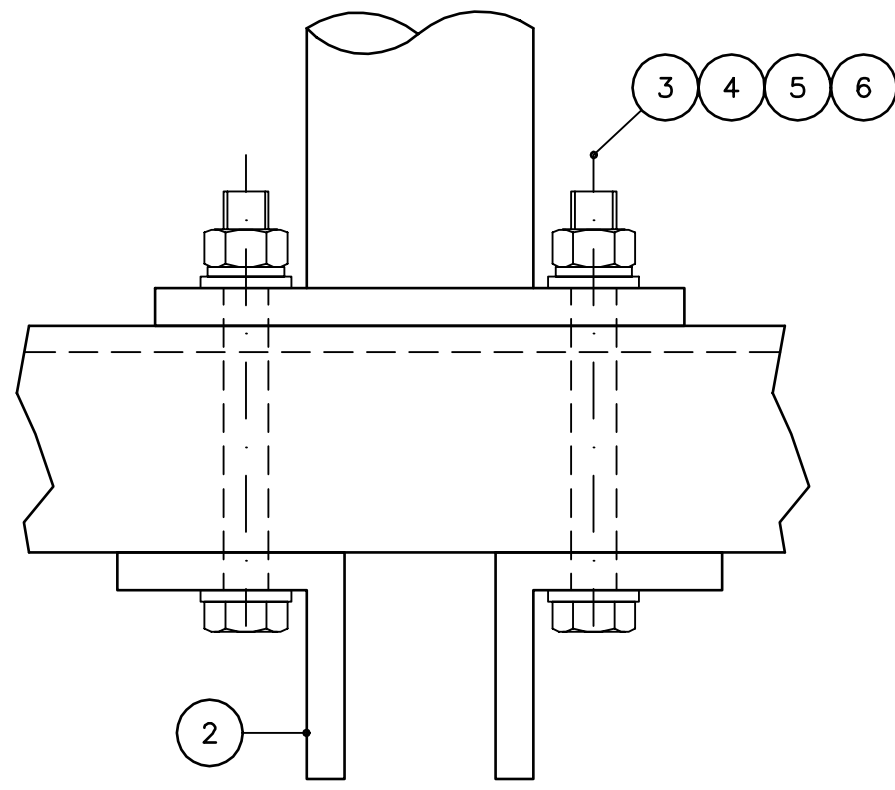
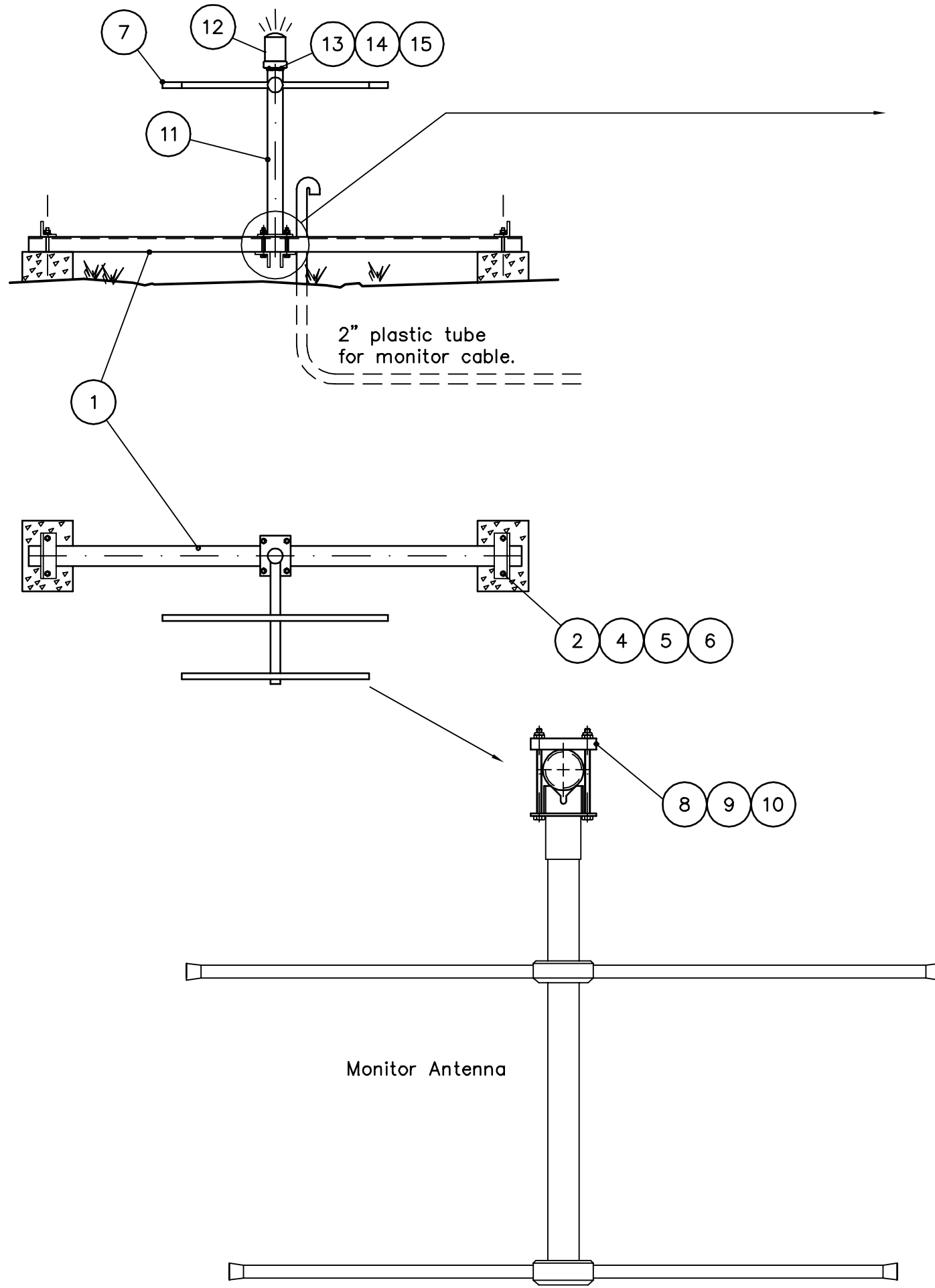
Title: Assembly Adapter f. Kathrein Antenna
 Subject: NM 3543-46

Scale: 1:10
 Drawn: 131296 CBA
 Checked:
 Appr.: 060297 HSA
 Sup.for:
 Sup.by:



Dwg.no.: 16792A3 Issue 2
 Projection method: ☉ □

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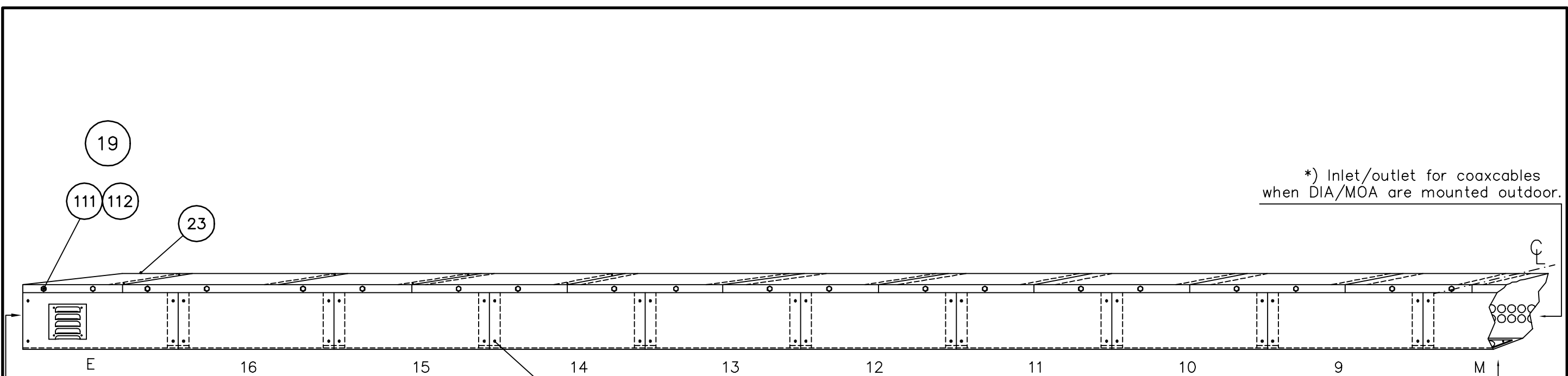


Item	Qty	Description	NM Type/remark
15	2	Spring washer M5 DIN127B A4	NF 696A
14	2	Washer M5 DIN125 A4	NF 696A
13	2	Screw M5x16 DIN7985 A4	NF 696A
12	1	Obstruction light	NF 696A
11	1	Mast	NF 696A
10	4	Nut M10 DIN934 Galv.	NF 696A
9	4	Bolt M10x160 DIN931 Galv.	NF 696A
8	2	Bar for AV42-110	NF 696A
7	2	Antenna AV-42-110	NF 696A
6	8	Nut M12 DIN934 A4	NF 696A
5	8	Spring washer M12 DIN127B A4	NF 696A/FK 809A
4	8	Washer M12 DIN125 A4	NF 696A/FK 809A
3	4	Bolt M12x100 DIN931 A4	NF 696A
2	4	Clamping angle	NF 696A/FK 809A
1	1	Bar U140 - 2500 Galv.	NF 696A

Monitor Antenna

Ref.no.	Issue	Date	Sign.	Title: LLZ MONITOR ANTENNA ASS. WITH OBSTR. LIGHT		Scale:	Drawn	030297	FrH
				Subject: NM 3522-26		Checked			
				Sup.for:		Sup.by:			
				Dwg.no.: 16806A3		Issue		1	
				Projection method:		☉ □			

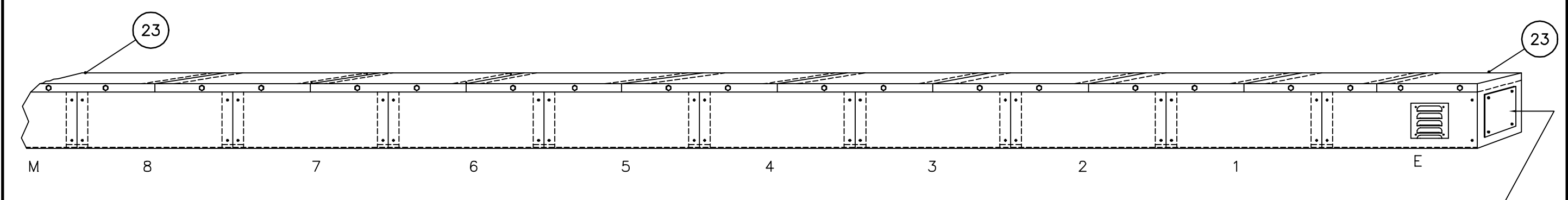




*) Inlet/outlet for coaxcables to Shelter


Stainless steel Pop Rivet

*) Inlet/outlet for coaxcables to Shelter

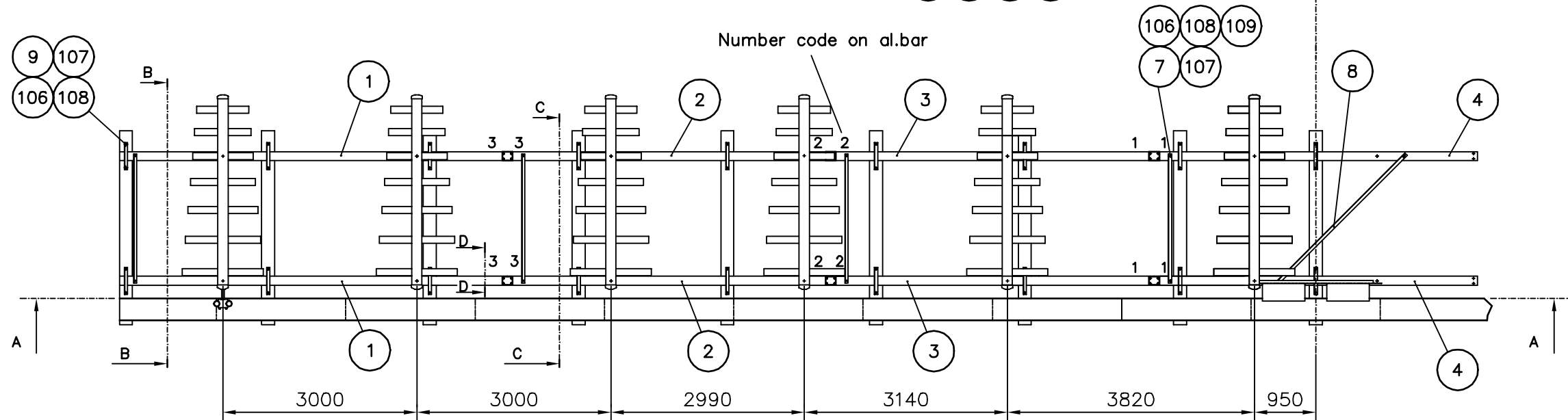
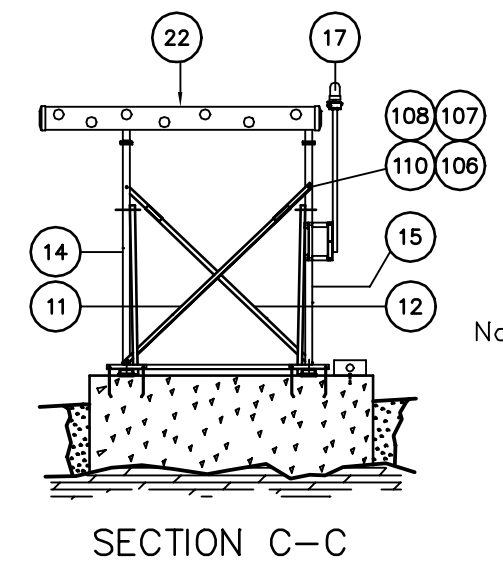
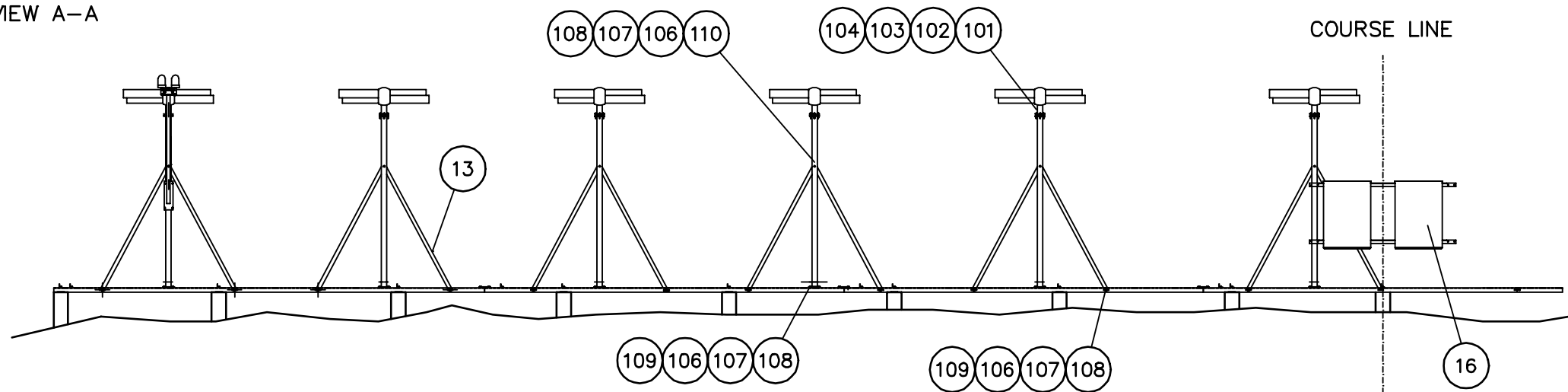


*) Inlet/outlet for coaxcables to Shelter

*) Removal of Cover Plates dependes on configuration 1 or 2.

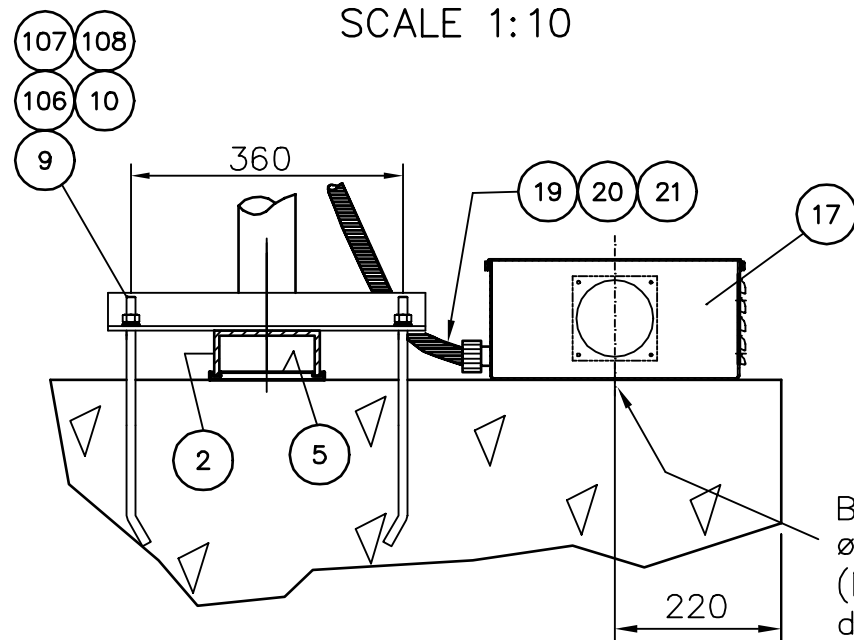
				Title: Cable Duct Assembly CDA 1044K/L		Scale: —		Drawn	030797	ARJ	
				Subject: NM 3523B				Checked			
								Appr.	020997	AWB	
						Sup.for:		Sup.by:			
						Dwg.no.: 16857A3		Issue 2			
3228	2	310398	ARJ			Projection method: ☉ □					
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights reserved NAVA AVIATION AS, NORWAY							

VIEW A-A



SECTION B-B
SCALE 1:10

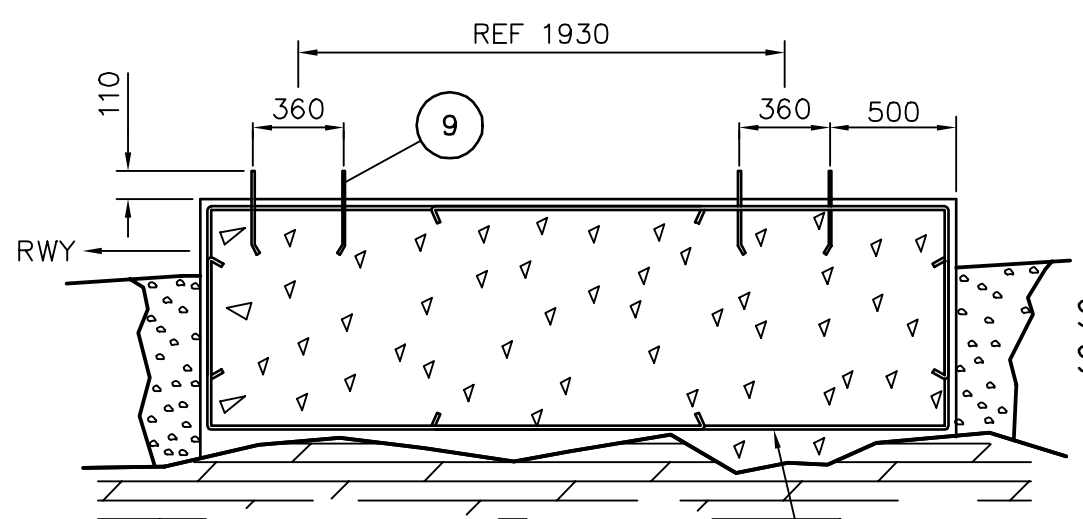
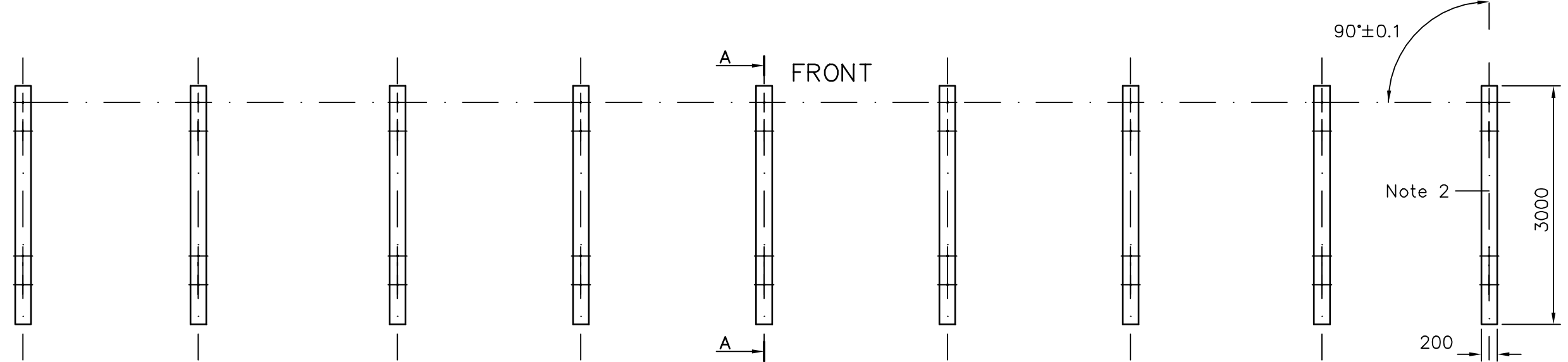
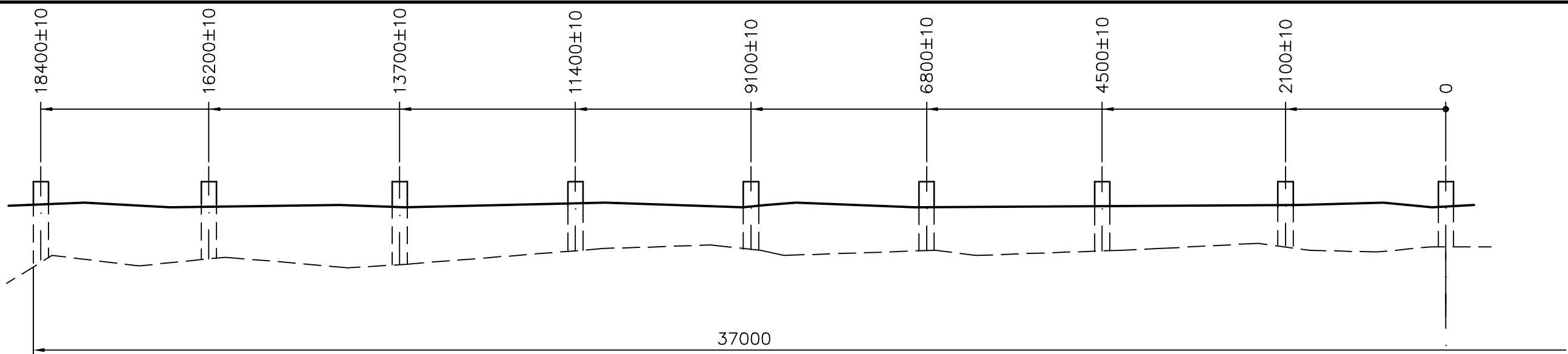
SECTION D-D
DETAIL OF CONNECTION
SCALE 1:12



Blind rivet
ø4-10.5 STST
(Normally not
delivered by NM)

All dimensions are in mm.
Note 1:
Applicable to 3.2 - 5m mast only.
Item no. see parts list no.: 2748
Drawing references in Parts List.

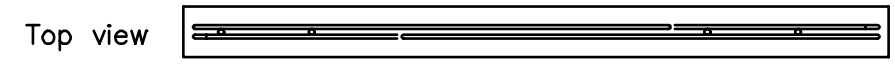
				Title: LLZ ANT. ASSEMBLY 12 ELEMTS/1 FREQ.		Scale: 1:80		Drawn: 100497 ARJ	
				Subject: NM 3523B		Checked:		Appr.: 020997 AWB	
						Sup.for:		Sup.by:	
3140	3	101297	ARJ	Normarc AS		Dwg.no.: 16874A3		Issue: 3	
3116	2	171197	ARJ			Projection method: ☉ □			
Ref.no.	Issue	Date	Sign.						



SECTION A-A
SCALE 1:30

Proposed reinforcement

9
68 pcs. M12 x 330
stainless steel bolts as supplied
to be embedded in concrete
foundation as shown.



Drawing shows left half of foundation, right half is symmetric about course line.

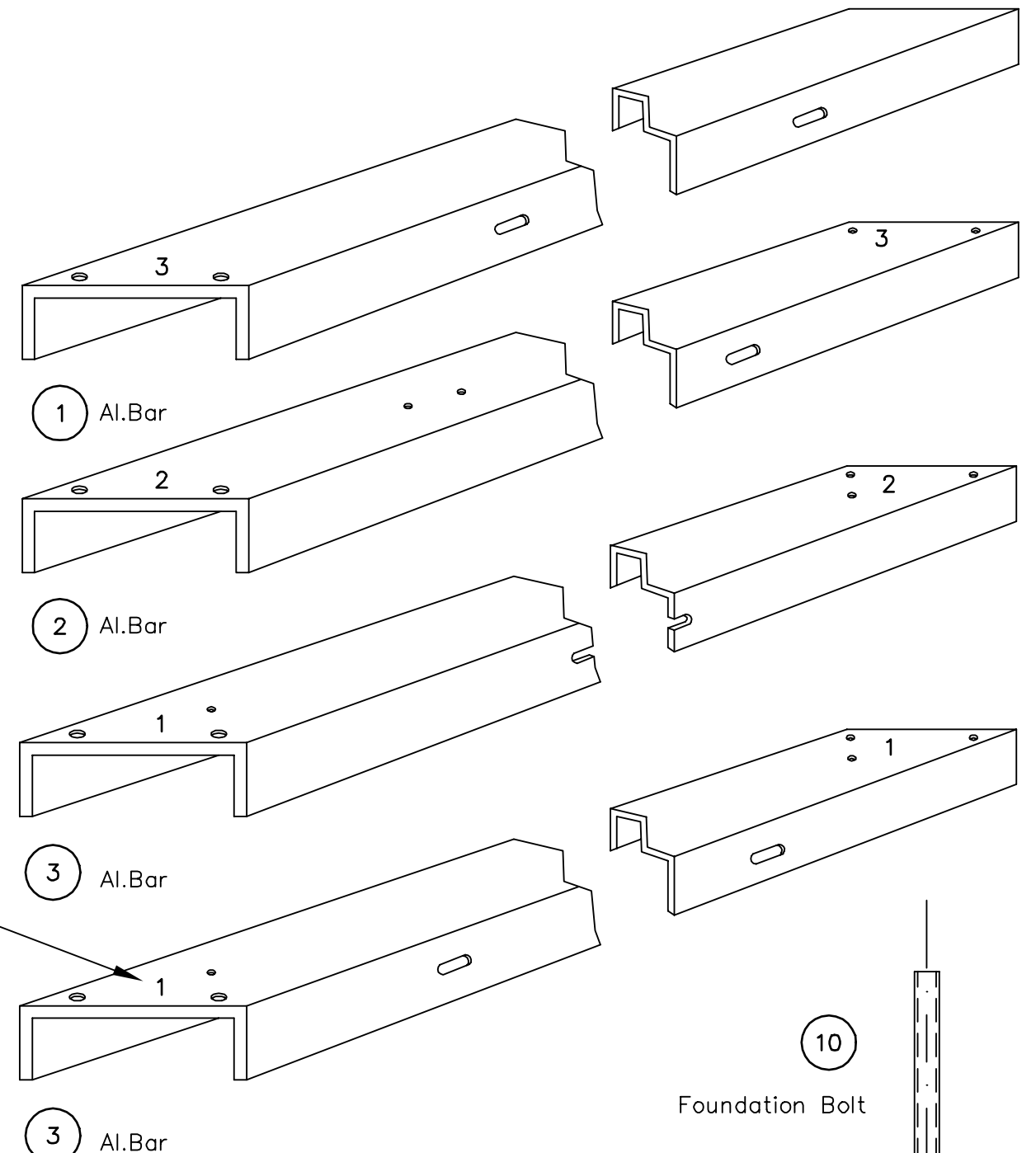
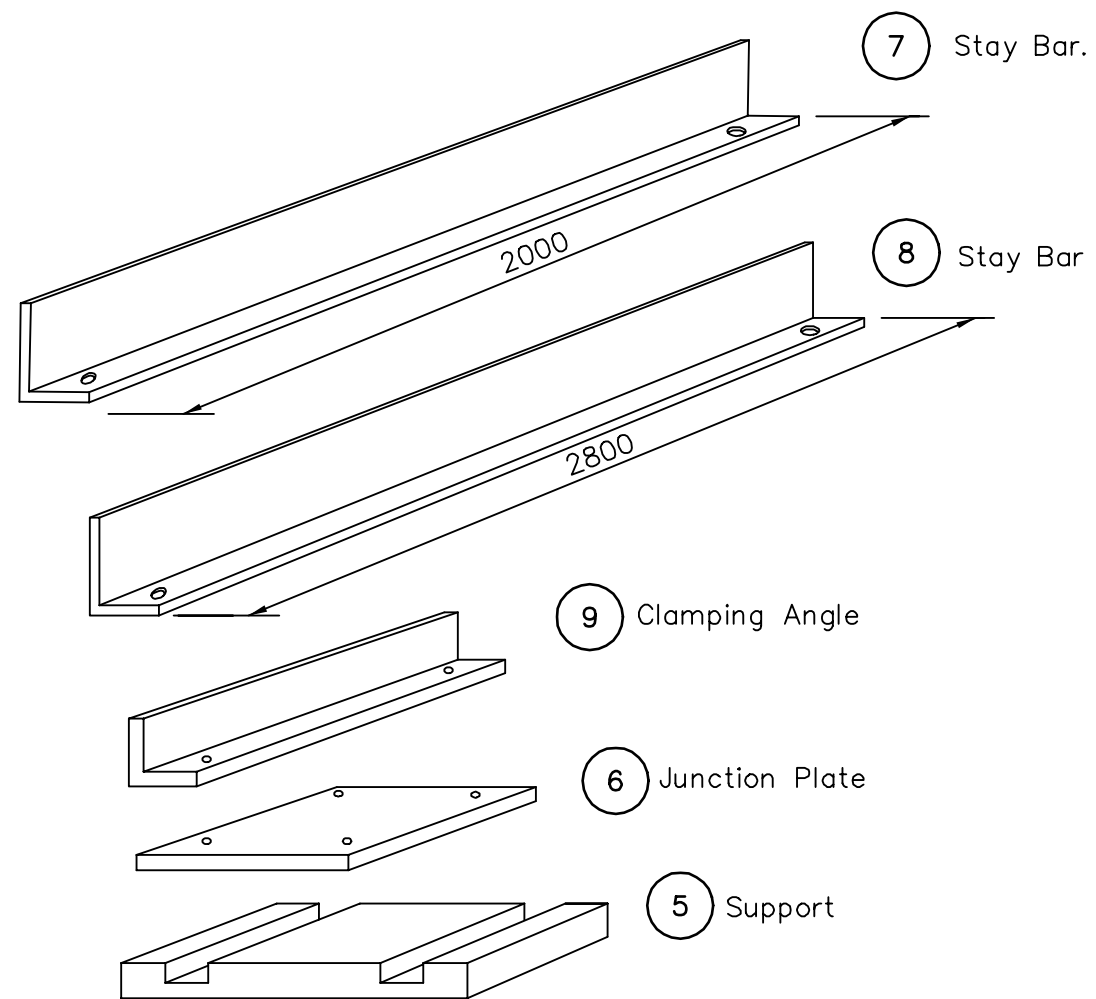
Notes




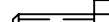







- 1) All dimensions are in mm.
 - 2) The centerline of the middle concrete slab shall constitute the selected Course Line.
 - 3) The antenna foundation consists of 17 concrete slabs 200 x 3000 mm. The depth of the slabs shall be to a level ensuring rigid foundation, undisturbed by any severe weather condition.
 - 4) The top surface of each concrete slab shall be horizontal within ± 5 mm.
 - 5) The top surface of the concrete slabs shall be on the same level within ± 5 mm.
 - 6) Concrete grade 25 ACC. BRITISH STANDARD BS 449.
- ▼ Top of each slab to be surfaced.

Issue 3

Item see Parts List no.2748


				Title: LLZ ANT. FOUNDATION 12 ELEMENTS/1 FREQ.		Scale: 1:60		Drawn: 100497 ARJ	
				Subject: NM 3523B				Checked:	
								Appr.: 020997 AWB	
						Sup.for:		Sup.by:	
3318	3	260898	TBj	Normarc AS		Dwg.no.: 16875A3		Issue 3	
3116	2	171197	ARJ			Projection method:			
Ref.no.	Issue	Date	Sign.						



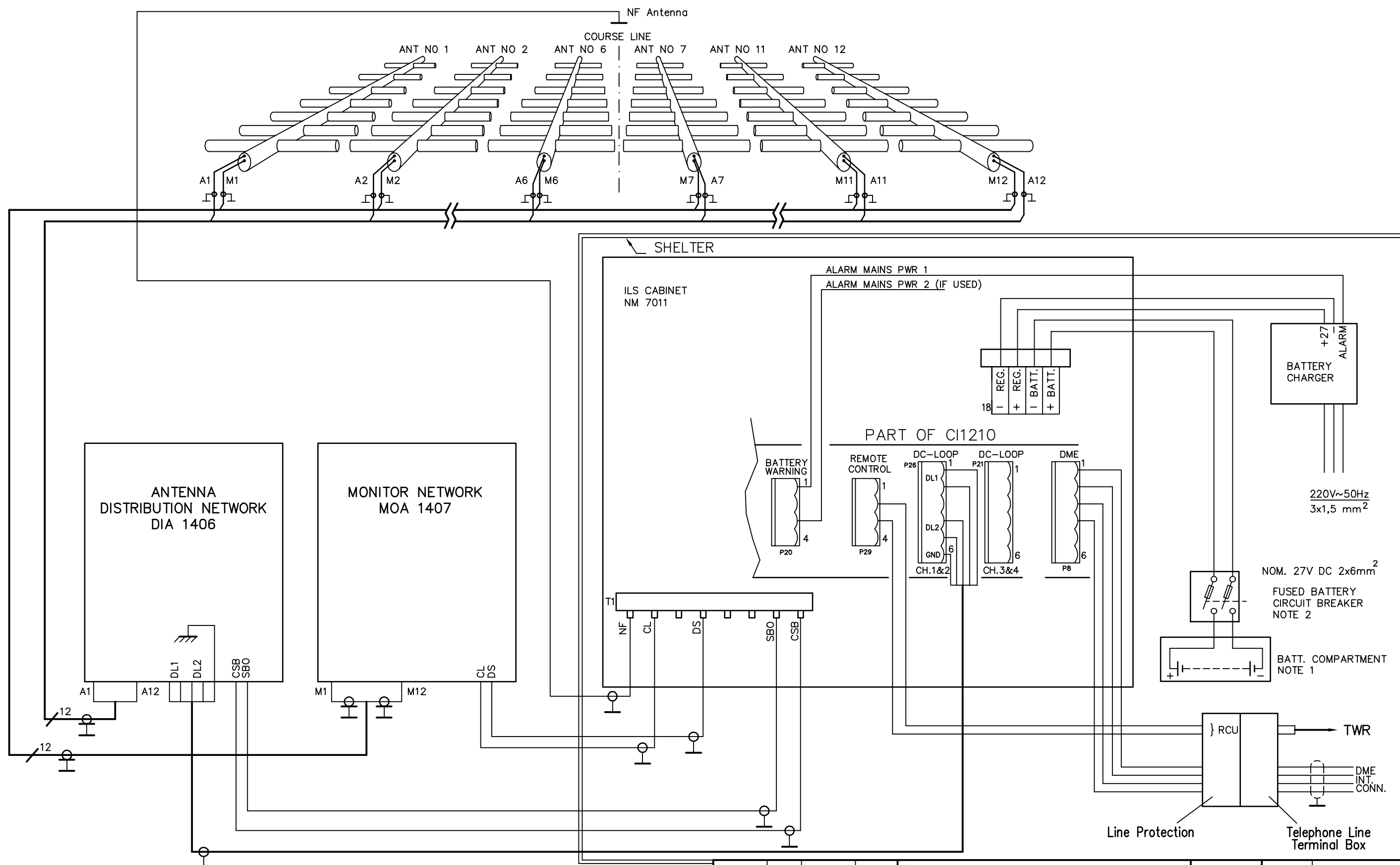
- (112)  Washer M6 DIN125 A4
- (111)  Screw M6x16 DIN933 A4
- (110)  Screw M12x100 DIN933 A4
- (109)  Screw M12x40 DIN933 A4
- (101)  Screw M10x60 DIN933 A4
- (106)  Nut M12 DIN934 A4
- (102)  Nut M10 DIN934 A4
- (107)  Washer M12 DIN125 A4
- (104)  Washer M10 DIN125 A4
- (108)  Springwasher M12 DIN127B A4
- (103)  Springwasher M10 DIN127B A4

Number code



Ref.no.	Issue	Date	Sign.	Title: Framework AF 544B Mechanical details		Scale: —	Drawn: 140497 ARJ
				Subject: NM 3523B		Checked:	
						Appr.:	
						Sup.for:	Sup.by:
				Dwg.no.: 16876A3		Issue 1	
				Projection method: 			

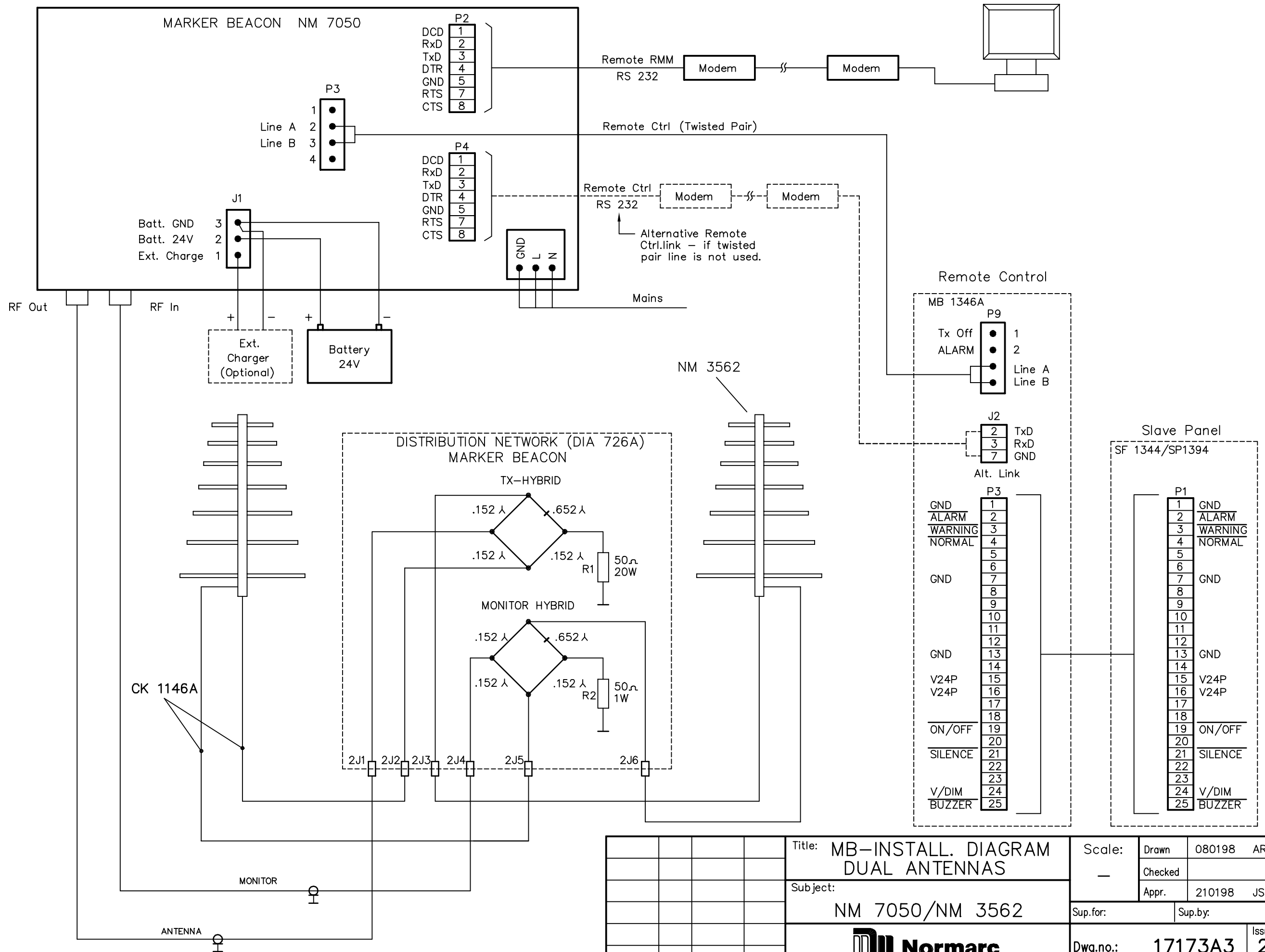




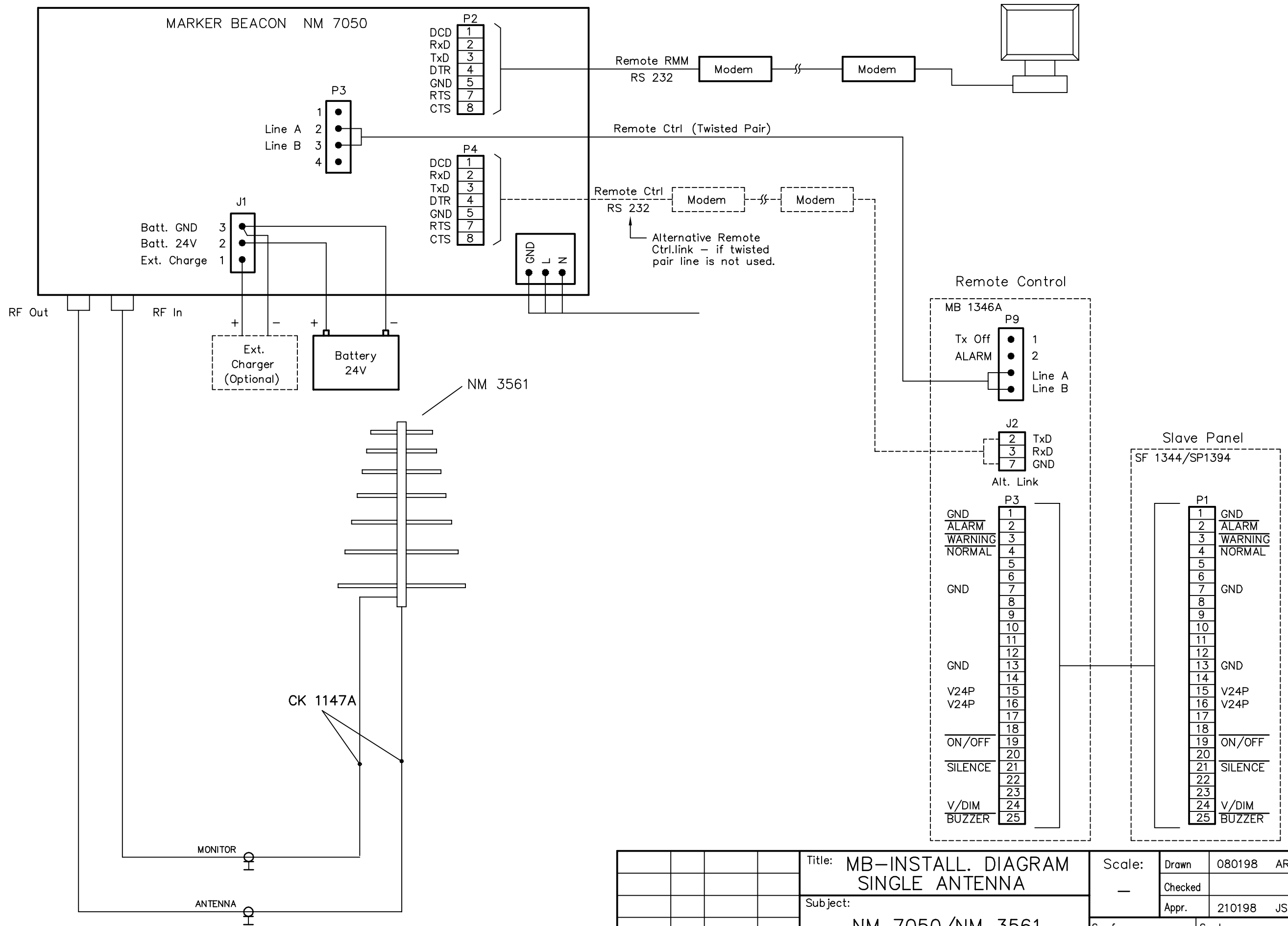
NOTE 1: Normally not supplied by Normarc.
 NOTE 2: Normally supplied by Normarc.

Title: LLZ Installation Diagram 12 element system				Scale: 1:1	Drawn: 210897 ARJ
Subject: NM 7000/NM 3523B				Checked:	Appr.:
Sup.for:				Sup.by:	
Dwg.no.: 16939A3				Issue 1	
Projection method: ☉					
Ref.no.	Issue	Date	Sign.		





				Title: MB-INSTALL. DIAGRAM DUAL ANTENNAS		Scale: —		Drawn: 080198 ARJ	
				Subject: NM 7050/NM 3562		Checked:		Appr.: 210198 JSA	
				Sup.for:		Sup.by:			
						Dwg.no.: 17173A3		Issue: 2	
3228	2	310398	ARJ			Projection method: ☉ □			
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights reserved NAVA AVIATION AS, NORWAY					



				Title: MB-INSTALL. DIAGRAM SINGLE ANTENNA		Scale: —	Drawn: 080198 ARJ
				Subject: NM 7050/NM 3561		Checked:	Appr.: 210198 JSA
						Sup.for:	Sup.by:
						Dwg.no.: 17174A3	
						Issue: 2	
3228	2	310398	ARJ	Copyright and all modification rights reserved NAVA AVIATION AS, NORWAY		Projection method: ☉ □	
Ref.no.	Issue	Date	Sign.				

Product NM 3522	Title 6 Elements /1 Freq.LLZ Ant. System			Doc.no. 2134	Issue 6
Prepared / Date ARJ /171095	Approved / Date	Assembly dwg.no. 16386A3	Issue 2	Reference 2134M06.DOC/PE3140	

Item	Qty.	Description	Dwg.no.	NM Type/remark	
1	6	Antenna element		AE 493H	
2	2	Al.bar	16373A3	AF 1166A	
3	4	Al.bar	16373A3	AF 1166A	
4	18	Bed plate	16373A3	AF 1166A	
5	4	Junction plate	16373A3	AF 1166A	
6	4	Stay bar	16373A3	AF 1166A	
7	1	Stay bar	16373A3	AF 1166A	
8	18	Clamping angle	16373A3	FK 809B	
9	36	Foundation bolts	16373A3	FK 809B	
10	6	Stays w/safe joint	16376A3	MS 692 *1*	
11	6	Stays w/safe joint *2*	16376A3	MS 692 *1*	
12	24	Al.Stays	16376A3	MS 692 *1*	
13	6	Mast front	16376A3	MS 692 *1*	
14	6	Mast rear	16376A3	MS 692 *1*	
15	1	Protection cover Assembly *5*	16361A3	PC 512A/E	
16	2	Obstruction light Assembly	11463A3	OL 522D	
17	1	Cable duct Assembly	16384A3	CDA 1044A/B *4*	
18	1	Flexible conduit à 25 m		CDA 1044A/B	
19	23	Conduit nippel		CDA 1044A/B *4* 6 pcs.	
20	23	Nut		CDA 1044A/B *4* 6 pcs.	
21	3	Grommet		CDA 1044A/B	
101	48	Bolt M10x60	DIN 933 A4	16373A3	
102	48	Nut M10	DIN 934 A4	16373A3	
103	48	Springwasher M10	DIN 127B A4	16373A3	
104	48	Washer M10	DIN 125 A4	16373A3	
106	134	Nut M12	DIN 934 A4	16373A3	146 pcs. *3*
107	134	Washer M12	DIN 125 A4	16373A3	146 pcs. *3*
108	134	Spring washer M12	DIN 127B A4	16373A3	146 pcs. *3*
109	72	Bolt M12x40	DIN 933 A4	16373A3	
110	24	Bolt M12x100	DIN 933 A4	16373A3	36 pcs. *3*
111	40	Bolt M6x16	DIN 933 A4	16373A3	
112	40	Washer M6	DIN 125 A4	16373A3	
	1:	Type depends on mast height, to be agreed with customer.			
	2:	Applicable to 3,2-5M masts only.			
	3:	Quantity when 3,2-5M masts are used.			
	4:	Quantity and type depends of installation, to be agreed with customer.			
	5:	Type with bottomplate, to be agreed with customer (dwg.no.14744A3)			

Product NM 3524	Title 12 Elements /2 Freq.LLZ Ant. System			Doc.no. 2136	Issue 6
Prepared / Date ARJ /291095	Approved / Date	Assembly dwg.no. 16389A3	Issue 2	Reference 2136M06.DOC/PE3140	

Item	Qty.	Description	Dwg.no.	NM Type/remark
1	4	Al.bar	16413A3	AF 693A
2	4	Al.bar	16413A3	AF 693A
3	2	Al.bar	16413A3	AF 693A
4	22	Support	16413A3	AF 693A
5	8	Junction plate	16413A3	AF 693A
6	6	Stay bar	16413A3	AF 693A
7	1	Stay bar	16413A3	AF 693A
8	22	Clamping angle	16413A3	FK 809A
9	44	Foundation bolts	16413A3	FK 809A
10	12	Stays w/safe.joint	16376A3	MS 692 *1*
11	12	Stays w/safe joint *2*	16376A3	MS 692 *1*
12	48	Al.Stays	16376A3	MS 692 *1*
13	12	Mast front	16376A3	MS 692 *1*
14	12	Mast rear	16376A3	MS 692 *1*
15	1	Protection cover Assembly *5*	16361A3	PC 512C/G
16	2	Obstruction light Assembly	11463A3	OL 522C
17	1	Cable duct Assembly	16416A3	CDA 1044E/F *4*
18	1	Flexible conduit a 25m		CDA 1044E/F
19	44	Conduit nippel		CDA 1044E/F *4* 12 pcs.
20	44	Nut		CDA 1044E/F *4* 12 pcs.
21	12	Antenna Element		AE 493H
22	3	Grommet		CDA 1044E/F
23	11	Al.Bars for bedplate (option)		20373
101	96	Bolt M10x60 DIN 933 A4	16413A3	
102	96	Nut M10 DIN 934 A4	16413A3	
103	96	Springwasher M10 DIN 127B A4	16413A3	
104	96	Washer M10 DIN 125 A4	16413A3	
106	232	Nut M12 DIN 934 A4	16413A3	256 pcs. *3*
107	232	Washer M12 DIN 125 A4	16413A3	256 pcs. *3*
108	232	Spring washer M12 DIN 127B A4	16413A3	256 pcs. *3*
109	142	Bolt M12x40 DIN 933 A4	16413A3	
110	48	Bolt M12x100 DIN 933 A4	16413A3	72 pcs. *3*
111	64	Bolt M6x16 DIN 933 A4	16413A3	
112	64	Washer M6 DIN 125 A4	16413A3	
	1:	Type depends on mast height, to be agreed with customer.		
	2:	Applicable to 3.2-5M masts only.		
	3:	Quantity when 3.2-5M masts are used.		
	4:	Quantity and type depends of installation, to be agreed with customer.		
	5:	Type with bottomplate, to be agreed with customer (dwg.no. 14757A3)		

Product NM 3525	Title 24 Elements /2 Freq.LLZ Ant. System			Doc.no. 2137	Issue 7
Prepared / Date ARJ /291095	Approved / Date	Assembly dwg.no. 16391A3	Issue 4	Reference 2137M07.DOC/PE3140	

Item	Qty.	Description	Dwg.no.	NM Type/remark	
1	4	Al.bar	16414A3	AF 695A	
2	4	Al.bar	16414A3	AF 695A	
3	4	Al.bar	16414A3	AF 695A	
4	4	Al.bar	16414A3	AF 695A	
5	2	Al.bar	16414A3	AF 695A	
6	46	Bed plate	16414A3	AF 695A	
7	16	Junction plate	16414A3	AF 695A	
8	10	Stay bar	16414A3	AF 695A	
9	1	Stay bar	16414A3	AF 695A	
10	46	Clamping angle	16414A3	FK 809E	
11	92	Foundation bolts	16414A3	FK 809E	
12	24	Stays w/safe joint	16376A3	MS 692 *1*	
13	24	Stays w/safe joint *2*	16376A3	MS 692 *1*	
14	96	Al.Stays	16376A3	MS 692 *1*	
15	24	Mast front	16376A3	MS 692 *1*	
16	24	Mast rear	16376A3	MS 692 *1*	
17	1	Protection cover Assembly *5*	16361A3	PC 512C/G	
18	2	Obstruction light Assembly	11463A3	OL 522D	
19	1	Cable duct Assembly	16417A3	CDA 1044G/H *4*	
20	3	Flexible conduit à 25 mm		CDA 1044G/H	
21	80	Conduit nippel		CDA 1044G/H *4* 24 pcs.	
22	80	Nut		CDA 1044G/H *4* 24 pcs.	
23	24	Antenna Element		AE 493H	
24	3	Grommet		CDA 1044G/H	
101	192	Bolt M10x60	DIN 933 A4	16414A3	
102	192	Nut M10	DIN 934 A4	16414A3	
103	192	Springwasher M10	DIN 127B A4	16414A3	
104	192	Washer M10	DIN 125 A4	16414A3	
106	466	Nut M12	DIN 934 A4	16414A3	498 pcs. *3*
107	466	Washer M12	DIN 125 A4	16414A3	498 pcs. *3*
108	466	Spring washer M12	DIN 127B A4	16414A3	498 pcs. *3*
109	278	Bolt M12x40	DIN 933 A4	16414A3	
110	96	Bolt M12x100	DIN 933 A4	16414A3	144 pcs. *3*
111	104	Bolt M6x16	DIN 933 A4	16414A3	
112	104	Washer M6	DIN 125 A4	16414A3	
	1:	Type depends on mast height, to be agreed with customer.			
	2:	Applicable to 3.2-5M masts only.			
	3:	Quantity when 3.2-5M masts are used.			
	4:	Quantity and type depends of installation, to be agreed wiyh customer.			
	5:	Type with bottomplate, to be agreed with customer (dwg.no. 14757A3)			

Product NM 3526	Title 16 Elements /2 Freq.LLZ Ant. System			Doc.no. 2670	Issue 4
Prepared / Date ARJ /291095	Approved / Date	Assembly dwg.no. 16362A3	Issue 2	Reference 2670M04.DOC/PE3164	

Item	Qty.	Description	Dwg.no.	NM Type/remark
1	16	Antenna		AE 493H
2	4	Al.bar	16430A3	AF 695B
3	4	Al.bar	16430A3	AF 695B
4	4	Al.bar	16430A3	AF 695B
5	2	Al.bar	16430A3	AF 695B
6	38	Bed plate	16430A3	AF 695B
7	12	Junction plate	16430A3	AF 695B
8	8	Stay bar	16430A3	AF 695B
9	1	Stay bar	16430A3	AF 695B
10	38	Clamping angle	16430A3	FK 809F
11	76	Foundation bolts	16430A3	FK 809F
12	16	Stays w/safe joint	16376A3	MS 692 *1*
13	16	Stays w/safe joint *2*	16376A3	MS 692 *1*
14	64	Al.Stays	16376A3	MS 692 *1*
15	16	Mast front	16376A3	MS 692 *1*
16	16	Mast rear	16376A3	MS 692 *1*
17	1	Protection cover Assembly *5*	16361A3	PC 512H/i
18	2	Obstruction light Assembly	11463A3	OL 522D
19	1	Cable duct Assembly	16429A3	CDA 1044i/J *4*
20	3	Flexible conduit à 25 m		CDA 1044i/J
21	58	Conduit nippel		CDA 1044i/J *4* 12 psc.
22	58	Nut		CDA 1044i/J *4* 12 psc.
23	3	Grommet		CDA 1044i/J
101	128	Bolt M10x60	DIN 933 A4	16430A3
102	128	Nut M10	DIN 934 A4	16430A3
103	128	Springwasher M10	DIN 127B A4	16430A3
104	128	Washer M10	DIN 125 A4	16430A3
105	324	Nut M12	DIN 934 A4	16430A3
106	324	Washer M12	DIN 125 A4	16430A3
107	324	Spring washer M12	DIN 127B A4	16430A3
108	192	Bolt M12x40	DIN 933 A4	16430A3
109	64	Bolt M12x100	DIN 933 A4	16430A3
110	88	Bolt M6x16	DIN 933 A4	16430A3
111	88	Washer M6	DIN 125 A4	16430A3
	1:	Type depends on mast height, to be agreed with customer.		
	2:	Applicable to 3.2-5M masts only.		
	3:	Quantity when 3.2-5M masts are used.		
	4:	Quantity and type depends of installation, to be agreed with customer.		
	5:	Type with bottomplate, to be agreed with customer (dwg.no.17168A3)		

Product NM 3523B	Title 12 Elements /1 Freq.LLZ Ant. System			Doc.no. 2748	Issue 2
Prepared / Date ARJ /140497	Approved / Date	Assembly dwg.no. 16874A3	Issue 3	Reference 2748M02.DOC/PE3140	

Item	Qty.	Description	Dwg.no.	NM Type/remark
1	4	Al.bar	16876A3	AF 544B
2	4	Al.bar	16876A3	AF 544B
3	4	Al.bar	16876A3	AF 544B
4	2	Al.bar	16876A3	AF 544B
5	34	Support	16876A3	AF 544B
6	12	Junction plate	16876A3	AF 544B
7	8	Stay bar	16876A3	AF 544B
8	1	Stay bar	16876A3	AF 544B
9	34	Clamping angle	16876A3	FK 809G
10	68	Foundation bolts	16876A3	FK 809G
11	12	Stays w/safe.joint	16376A3	MS 692 *1*
12	12	Stays w/safe joint *2*	16376A3	MS 692 *1*
13	48	Al.Stays	16376A3	MS 692 *1*
14	12	Mast front	16376A3	MS 692 *1*
15	12	Mast rear	16376A3	MS 692 *1*
16	1	Protection cover Assembly *5*	16361A3	PC 512J/K
17	2	Obstruction light Assembly	11463A3	OL 522D
18	1	Cable duct Assembly	16417A3	CDA 1044K/L *4*
19	3	Flexible conduit à 25 m		CDA 1044K/L
20	41	Conduit nippel		CDA 1044K/L *4* 12 pcs.
21	41	Nut		CDA 1044K/L *4* 12 pcs.
22	12	Antenna Element		AE 493H
23	3	Grommet		CDA 1044K/L
101	96	Bolt M10x60	DIN 933 A4	16876A3
102	96	Nut M10	DIN 934 A4	16876A3
103	96	Springwasher M10	DIN 127B A4	16876A3
104	96	Washer M10	DIN 125 A4	16876A3
106	238	Nut M12	DIN 934 A4	16876A3
107	238	Washer M12	DIN 125 A4	16876A3
108	238	Spring washer M12	DIN 127B A4	16876A3
109	142	Bolt M12x40	DIN 933 A4	16876A3
110	48	Bolt M12x100	DIN 933 A4	16876A3
111	80	Bolt M6x16	DIN 933 A4	16876A3
112	80	Washer M6	DIN 125 A4	16876A3
	1:	Type depends on mast height, to be agreed with customer.		
	2:	Applicable to 3.2-5M masts only.		
	3:	Quantity when 3.2-5M masts are used.		
	4:	Quantity and type depends of installation, to be agreed with customer.		
	5:	Type with bottom plate, to be agreed with customer. (Dwg.no.16871A3)		