



NORMARC 7000

INSTRUMENT LANDING SYSTEM

Installation & Commissioning Handbook Vol. 2



NAVIA AVIATION

TABLE OF CONTENTS

Installation and Commissioning Handbook Vol. 2

NM 7000 Series

SECTION 1 SITE IMPLEMENTATIONS

SECTION 2 LOCALIZER

SECTION 3 GLIDE PATH

SECTION 4 MARKER BEACON

For further information, please look up Installation & Commissioning Handbook Volume 1.

SECTION 1

SITE IMPLEMENTATIONS

Site Implementation 1	15991A3
Site Implementation 2	16588A3

SECTION 2

LOCALIZER

Chapter 1. CONFIGURATIONS

Typical configuration 1 LLZ on course line	15989A3
Typical configuration 2 LLZ off set	16584A3

Chapter 2. SHELTER INSTALLATION MECHANICAL

System rack	16138A3
Shelter installation	16266A4

Chapter 3. SHELTER INSTALLATION ELECTRICAL

Diagram el. installation	14220A3
Battery and tele installation	15975A3
El. installation	15976A3
Grounding	15977A3

Chapter 4. EQUIPMENT INST. DIAGRAMS

NM 3522	1-frekv	6-element	16585A3
NM 3523B	1-frekv	12-element	16939A3
NM 3524	2-frekv	12-element	15986A3
NM 3525	2-frekv	24-element	16346A3
NM 3526	2-frekv	16-element	16577A3

Chapter 5. ANTENNA FOUNDATION

NM 3522	1-frekv	6-element	16385A3
NM 3523B	1-frekv	12-element	16875A3
NM 3524	2-frekv	12-element	16390A3
NM 3525	2-frekv	24-element	16392A3
NM 3526	2-frekv	16-element	16358A3

Chapter 6. ANTENNA ASSEMBLY

NM 3522	Antenna assembly	16386A3
NM 3522	Parts List	2134
NM 3522	Mechanical details	16373A3
NM 3522	Cable duct	16384A3
NM 3522	ADU/MCU assembly	16361A3
NM 3522	ADU/MCU cables in duct	10288A4

Chapter 6. ANTENNA ASSEMBLY (Continued)

NM 3523B	Antenna assembly	16874A3
NM 3523B	Parts List	2748
NM 3523B	Mechanical details	16876A3
NM 3523B	Cable duct	16857A3
NM 3523B	ADU/MCU assembly	16361A3
NM 3523B	ADU/MCU cables in duct	10288A4
NM 3524	Antenna assembly	16389A3
NM 3524	Parts List	2136
NM 3524	Mechanical details	16413A3
NM 3524	Cable duct	16416A3
NM 3424	ADU/MCU assembly	16361A3
NM 3524	ADU/MCU cables in duct	10288A4
NM 3525	Antenna assembly	16391A3
NM 3525	Parts List	2137
NM 3525	Mechanical details	16414A3
NM 3525	Cable duct	16417A3
NM 3525	ADU/MCU assembly	16361A3
NM 3525	ADU/MCU cables in duct	10288A4
NM 3526	Antenna assembly	16362A3
NM 3526	Parts List	2670
NM 3526	Mechanical details	16430A3
NM 3526	Cable duct	16429A3
NM 3526	ADU/MCU assembly	16361A3
NM 3526	ADU/MCU cables in duct	10288A4

Chapter 7. OBSTRUCTION LIGHT

OL 522 Installation	11463A3
OL 522 Wiring	6348A4

Chapter 8. NEAR FIELD MONITOR LLZ

NF-Antenna foundation	6245A3
NF-Assembly	14256A3
NF-Assembly w/Obstruction Light	16806A3

Chapter 9. GROUNDING

LLZ-NF Grounding	8467A4
LLZ-NF Aperture grounding	6346A4

SECTION 3

GLIDE PATH

Chapter 1.	CONFIGURATIONS	
	Typical configuration	15990A3
Chapter 2.	SHELTER INSTALLATION MECHANICAL	
	System rack	16138A3
	Shelter installation I RWY to the right	16212A4
	Shelter installation II RWY to the left	16265A4
Chapter 3.	SHELTER INSTALLATION ELECTRICAL	
	Diagram el. Installation	14220A3
	Battery and tele installation	15975A3
	El. Installation	15976A3
	Grounding	15977A3
Chapter 4.	EQUIPMENT INST. DIAGRAM	
	NM 3543 Null reference	16587A3
	NM 3544 Sideband reference	15988A3
	NM 3545 M-array	16375A3
	NM 3546 Modified M-array	16586A3
Chapter 5.	ANTENNA FOUNDATION	
	NM 3543 - 46 Antenna Foundation	7084A3
	Template Foundation bolts	16644A4
Chapter 6.	ANTENNA MAST ASSEMBLY	
	NM 3543 - 44 10 m	16641A3
	NM 3545 - 46 15 m	16642A3
	Mast Section Assembly	16612A3
	Vertical Adjustment Frame	16643A3
	Assembly Adapter Kathrein antenna	16792A3
	Suppliers drawings supplied with mast.	
Chapter 7.	OBSTRUCTION LIGHTS	
	Obstruction Light wiring	6344A4

Chapter 8. NEAR FIELD MOITOR GP

NF-Antenna Foundation	6798A3
NF-Antenna Assembly	7058A3

Chapter 9. GROUNDING

NM 3543 - 44 Grounding	6345A4
NM 3545 - 46 Grounding	16475A4

SECTION 4

MARKER BEACON

Chapter 1. CONFIGURATIONS

NM 3561 1- Element Marker Beacon	7059A3
NM 3562 2- Element Marker Beacon (Distr. Netw. inside)	7109A3
NM 3562 2- Element Marker Beacon (Distr. Netw. outside)	16583A3
Marker Beacon Mast w/Kathrein Antenna Adapter	14460A4

Chapter 2. SHELTER INSTALLATION MECHANICAL

MB Equipment Shelter	13258A3
----------------------	---------

Chapter 3. EQUIPMENT INST. DIAGRAM

Marker Beacon Single Antenna	17174A3
Marker Beacon Dual Antenna	17173A3

Chapter 4. MARKER BEACON FOUNDATION

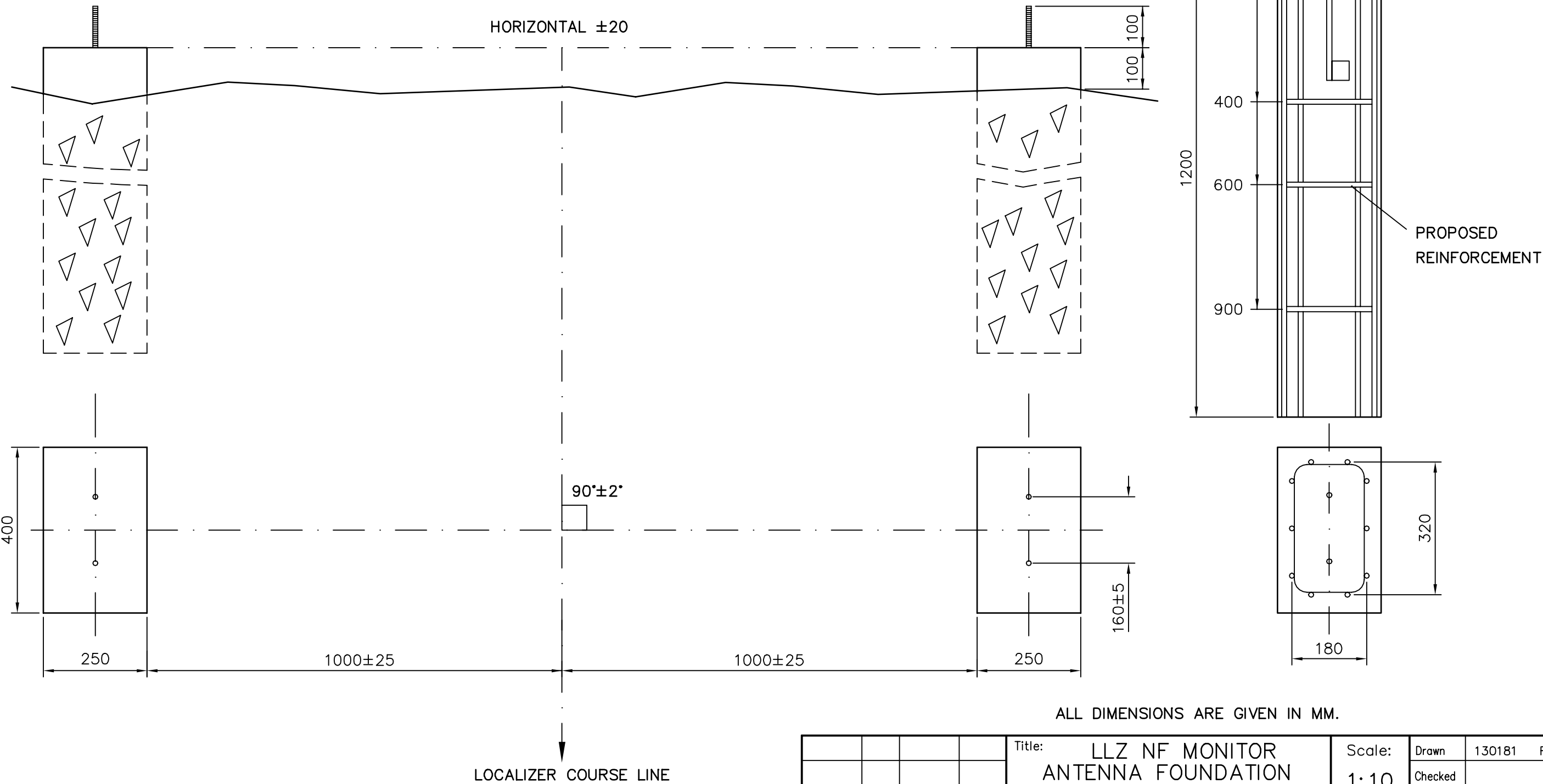
Antenna Foundation	6798A3
--------------------	--------

Chapter 5. GROUNDING

MB Grounding	8468A4
--------------	--------

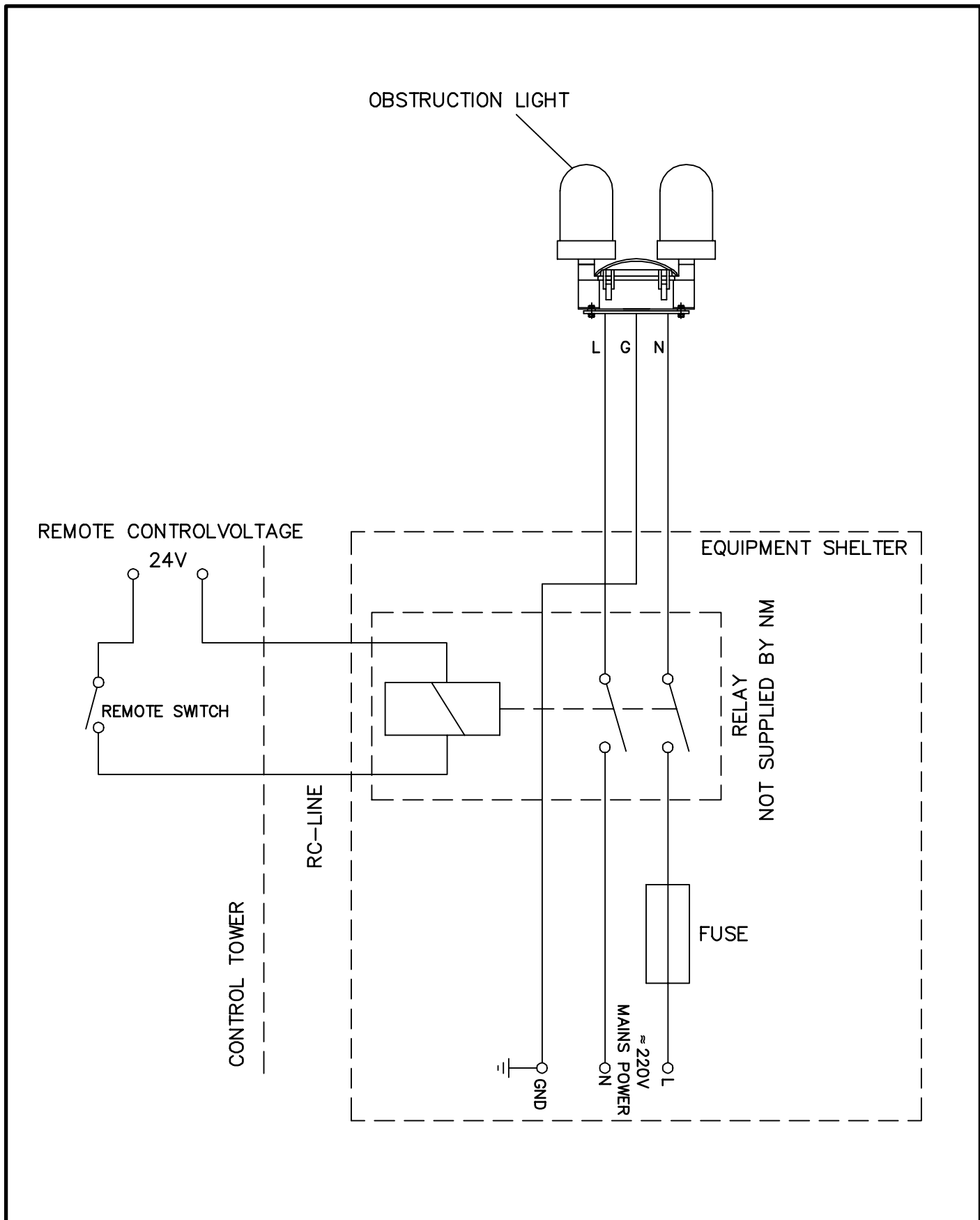
CRONCRETE GRADE 25. ACC BRITISH STANDARD BS 449.
The depth and reinforcement of the foundation
will depend upon the stability of the SUB-SOIL.
The load of the construction is negligible
and the foundations must be designed more
with regard to stability than load bearing strength.

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



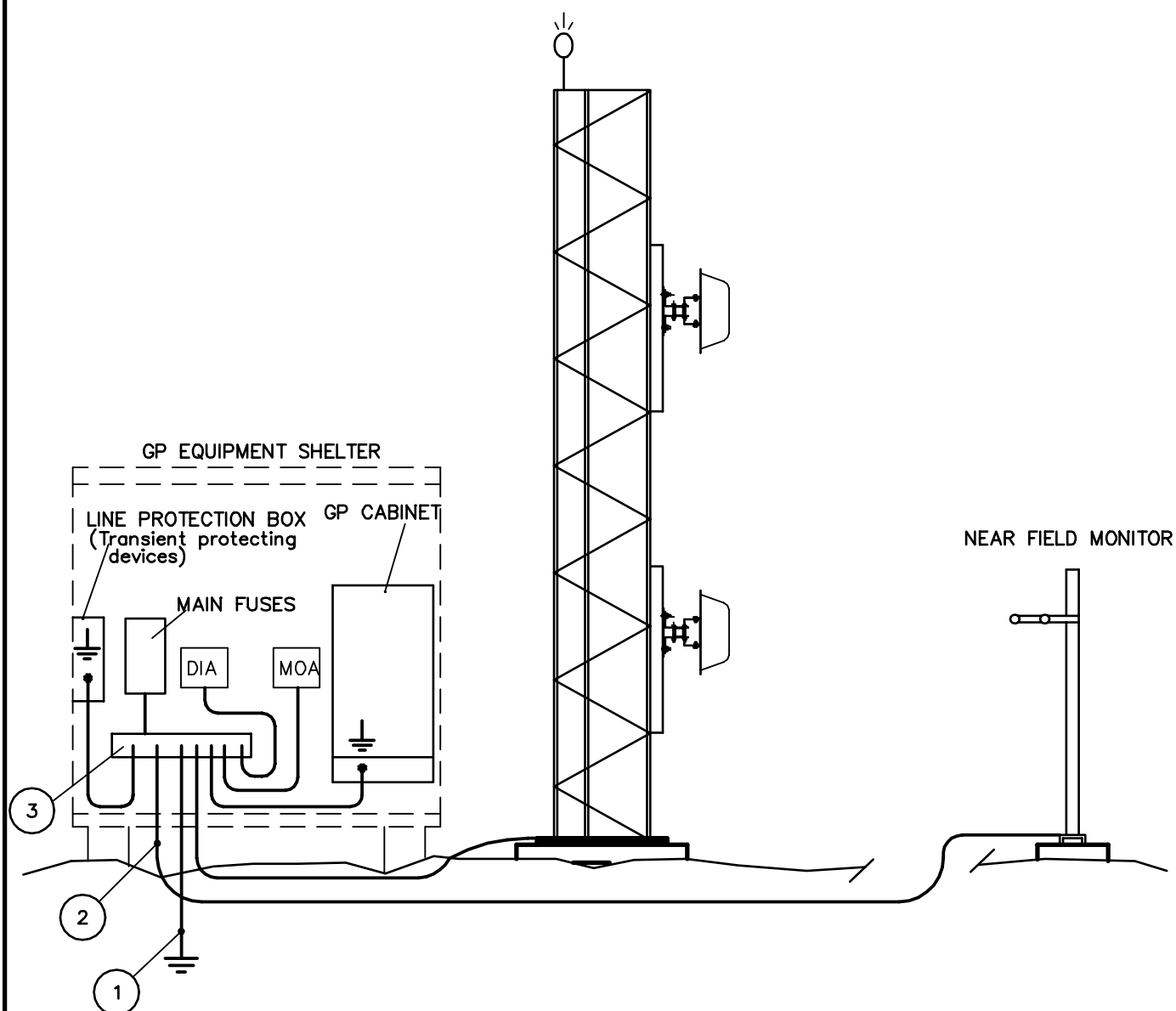
ALL DIMENSIONS ARE GIVEN IN MM.

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



				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:	☉	☐	

Normarc AS



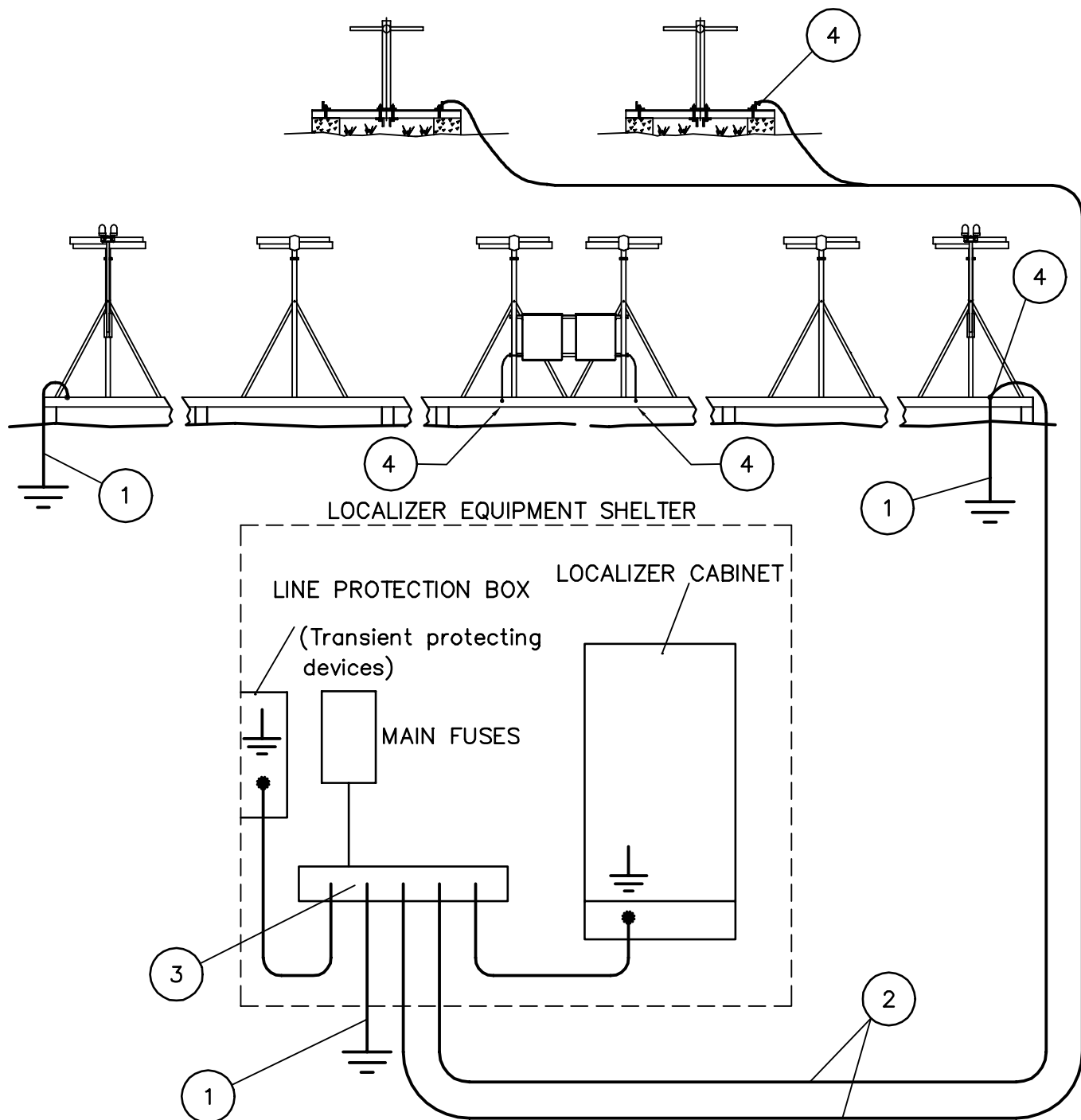
3	1	GROUND TERMINAL – Delivered by Normarc
2	–	COPPER WIRE (35mm2)
1	1	COPPER ROD OR COPPER PLATE
Item	Qty	Description

				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						
2593	5	030496	FrH						
Ref.no.	Issue	Date	Sign.						



Copyright and all modification rights reserved NAVIA AVATION AS, NORWAY

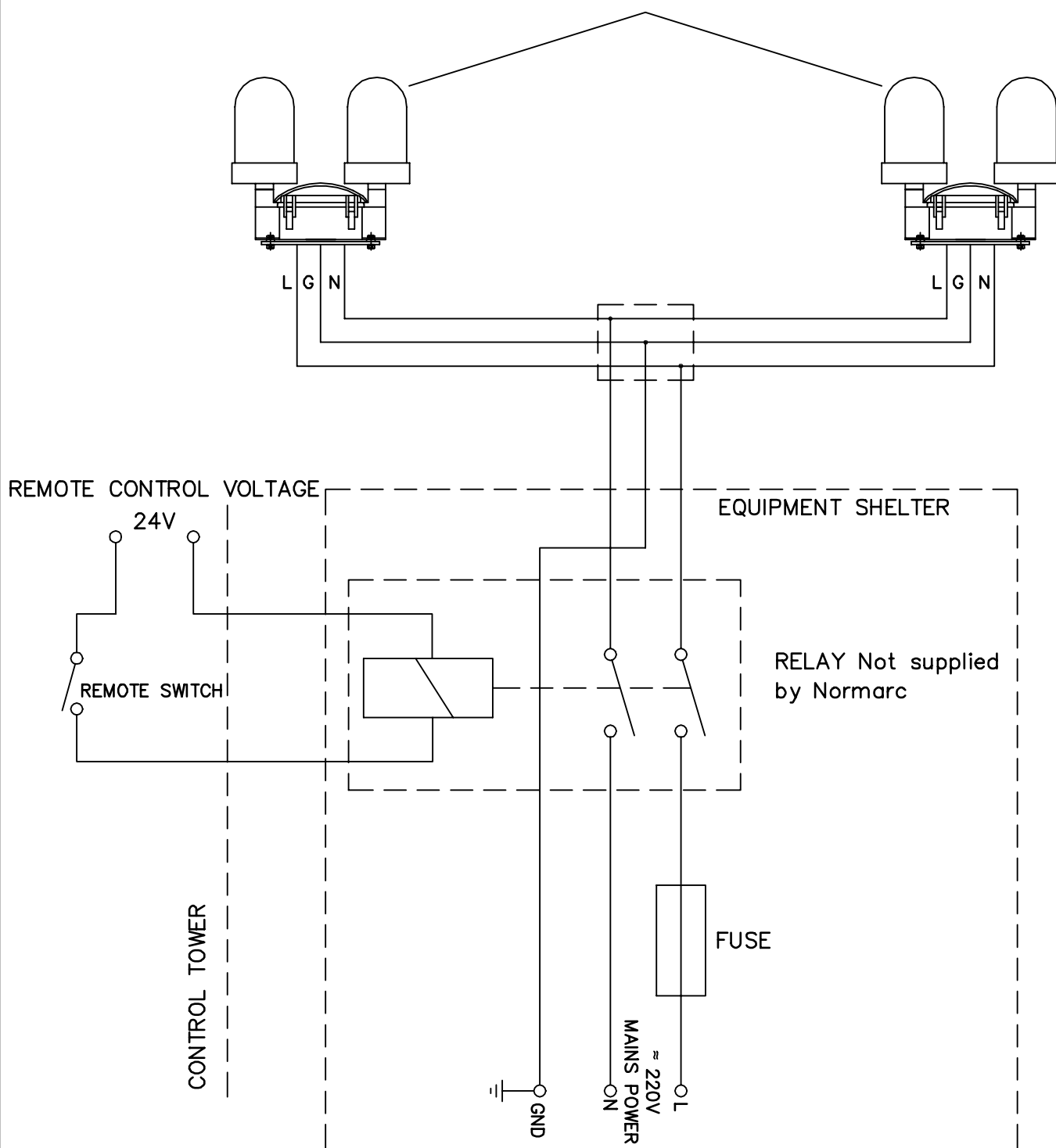
Dwg.no.: F 6345A4	Issue 6
Projection method:	☉ ☐



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

OBSTRUCTION LIGHT



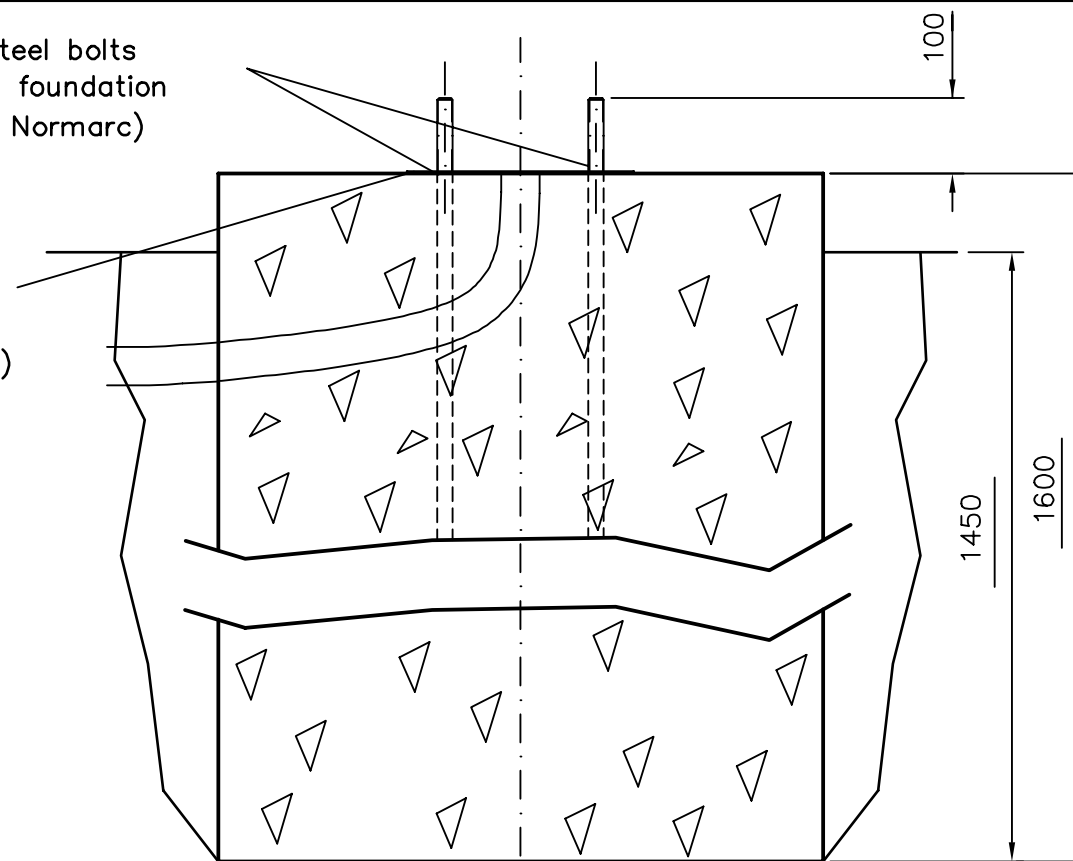
				Title:	Scale:	Drawn	230281	FrH
				LLZ OBSTR.LIGHT WIRING	1:10	Checked		
				Subject:		Appr.	061294	JSA
				NM 3522-26	Sup.for: 6348A4-3	Sup.by:		
					Dwg.no.: F 6348A4			Issue
2593	4	280396	ARJ					4
Ref.no.	Issue	Date	Sign.		Projection method: 			

1

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

2

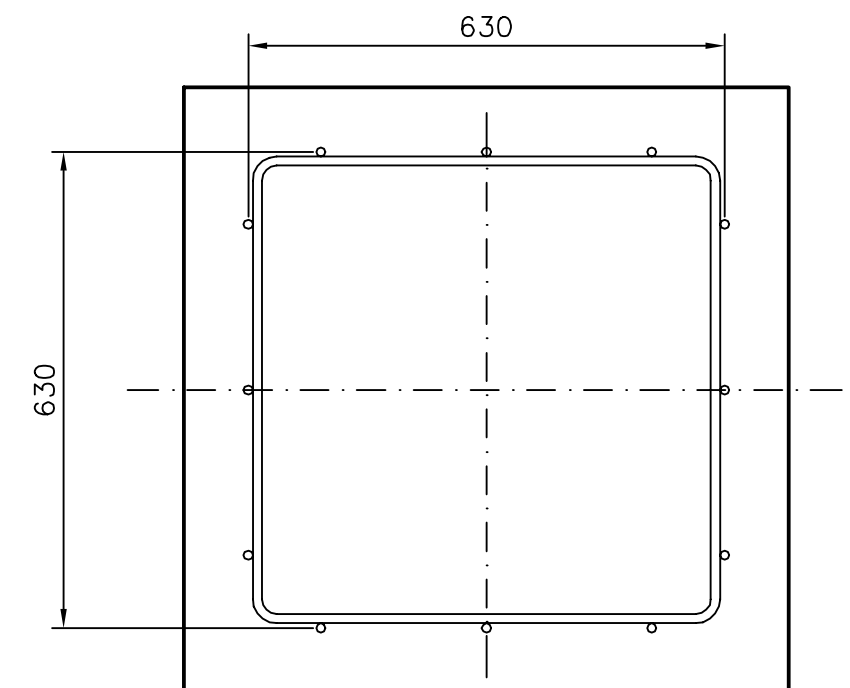
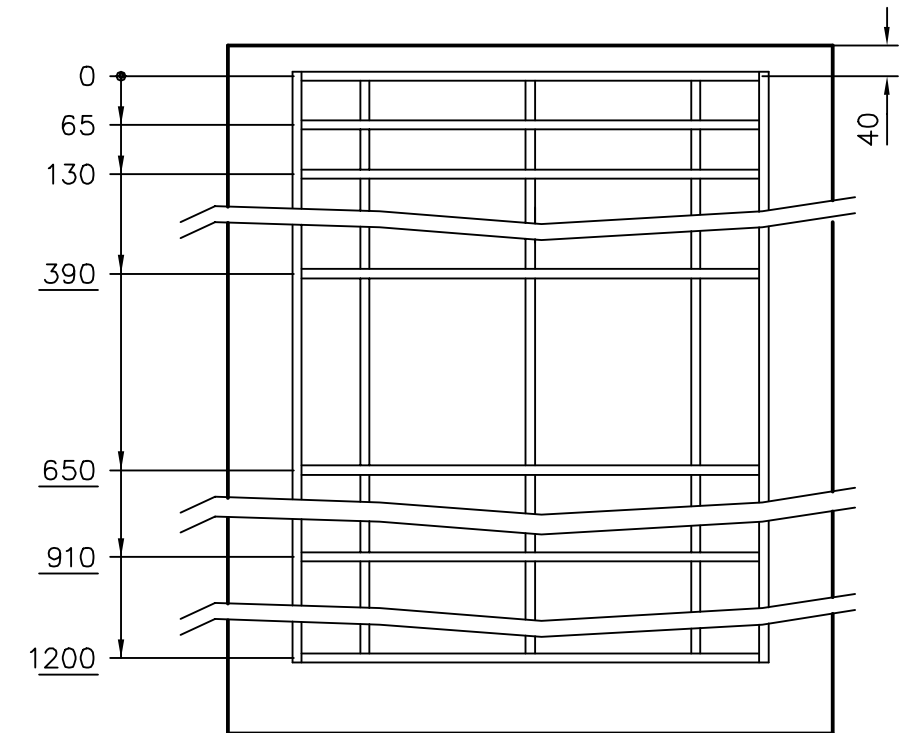
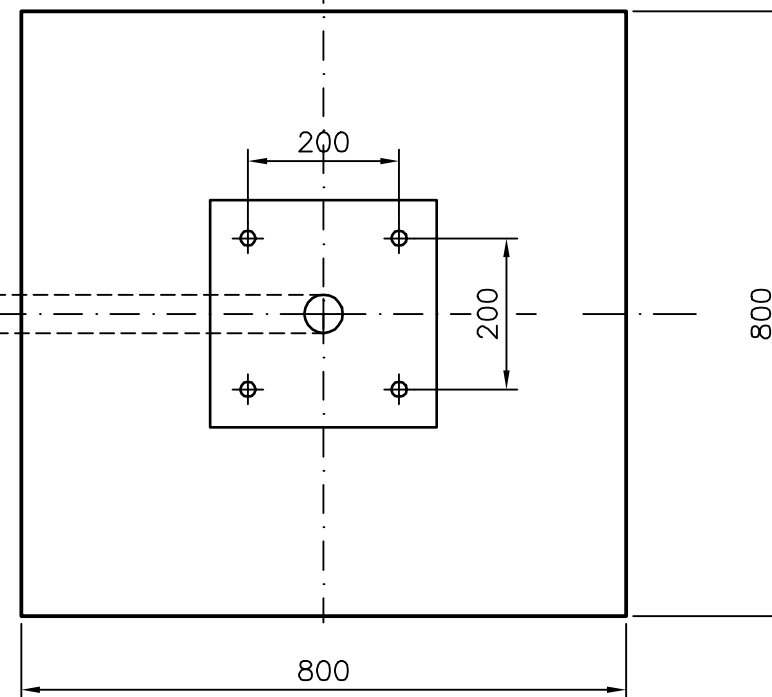
Guide plate for spacing of bolts.
(Guide plate supplied by Normarc)



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

CABLE TUBE 2"

EQUIP.SHELTER



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

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 wether condition.
The total vertical load of the antenna construction
is 200 Kg. max. wind load is 600 Kgm
(At wind speed 200 Km/h)

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

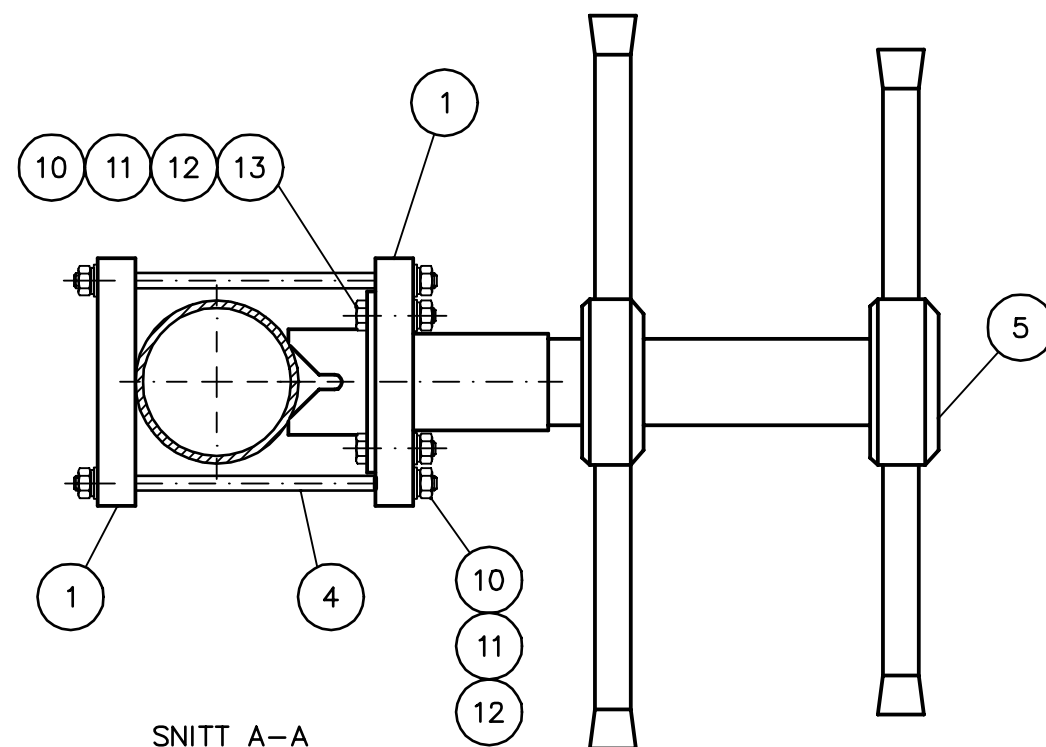
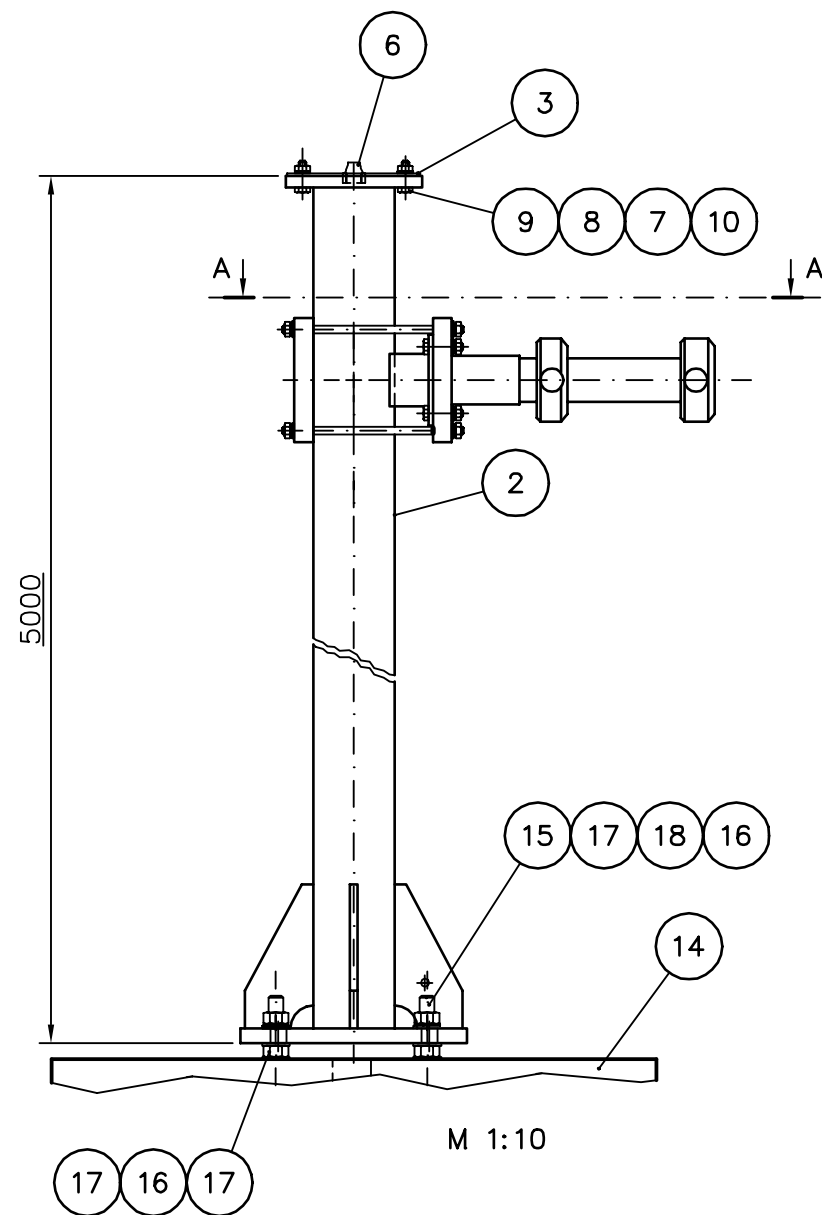
Title: ANTENNA FOUNDATION
DME/GP.MON/MARKER BEACON
Subject: NM3500/NM7000

 **Normarc AS**

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

Dwg.no.: F 6798A3 6

Projection method: 

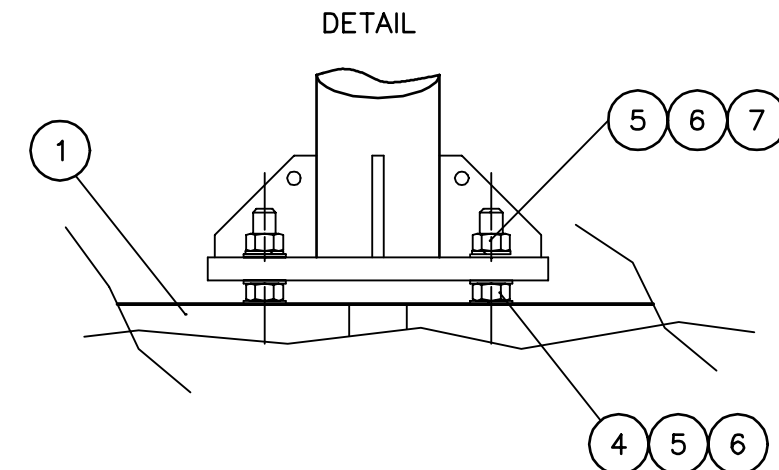
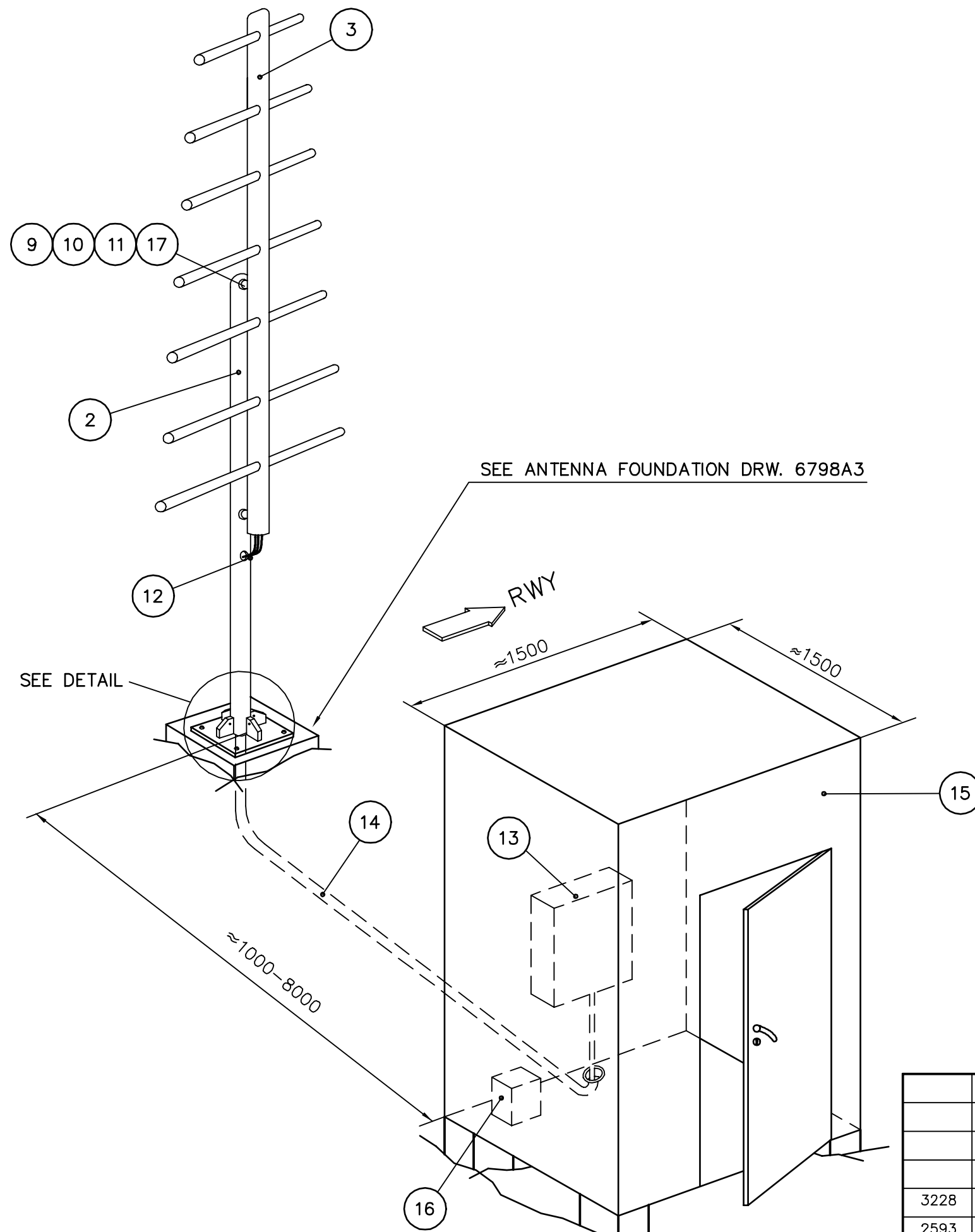


18	4	Springwasher M20 DIN127B A4	FK 823A
17	12	Washer M20 DIN125 A4	FK 823A
16	8	Nut M20 DIN933 A4	FK 823A
15	4	Retainer Bolt M20 x 500	FK 823A
14	1	Concrete Foundation	DWG 6798A3
13	4	Bolt M10x45 DIN933 A4	MS 1157A
12	12	Springwasher M10 DIN127B A4	MS 1157A
11	12	Washer M10 DIN125 A4	MS 1157A
10	12	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

				Title:	ASSEMBLY GP-NF-MONITOR			Scale:	Drawn	081091	BS
				Subject:	NM 3543-46			1:5	Checked		
3228	4	310398	ARJ					Sup.for:	Appr.	301091	EHO
2593	3	110496	FrH					Sup.by:			
E0902	2	080191	BS					Dwg.no.:	7058A3		Issue
Ref.no.	Issue	Date	Sign.					Projection method:			



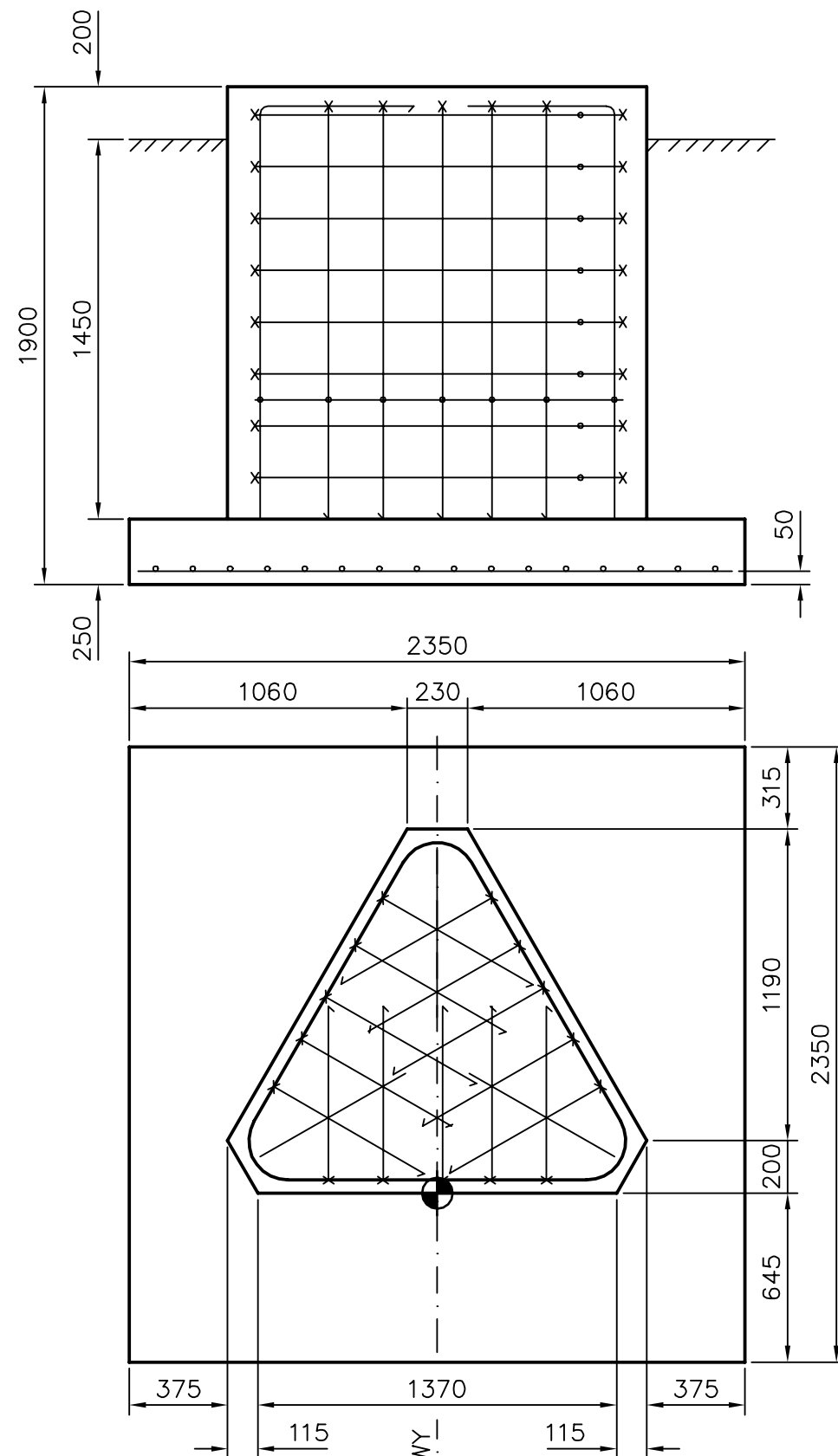
Copyright and all modification rights reserved NAVIA AVATION AS, NORWAY



NOTE: The Marker Beacon shall be installed not more than $\pm 75\text{m}$ 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	

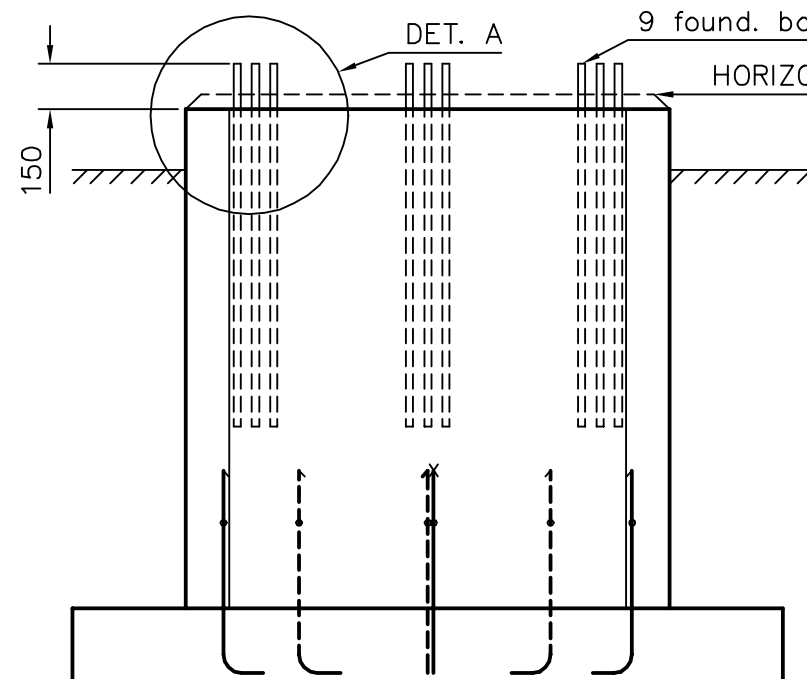
				Title: 1 ELEMENT MARKER BEACON ANTENNA SYSTEM	Scale: —	Drawn	251195	AR
						Checked		
						Appr.	060891	HS
						Sup.for: 7059A3—3		
3228	5	310398	ARJ	 Normarc	Dwg.no.:	7059A3		Issu
2593	4	280396	FrH					5
Ref.no. Issue Date Sign.						Projection method:		© 
				Copyright and all modification rights reserved NAVIA AVATION AS, NORWAY				



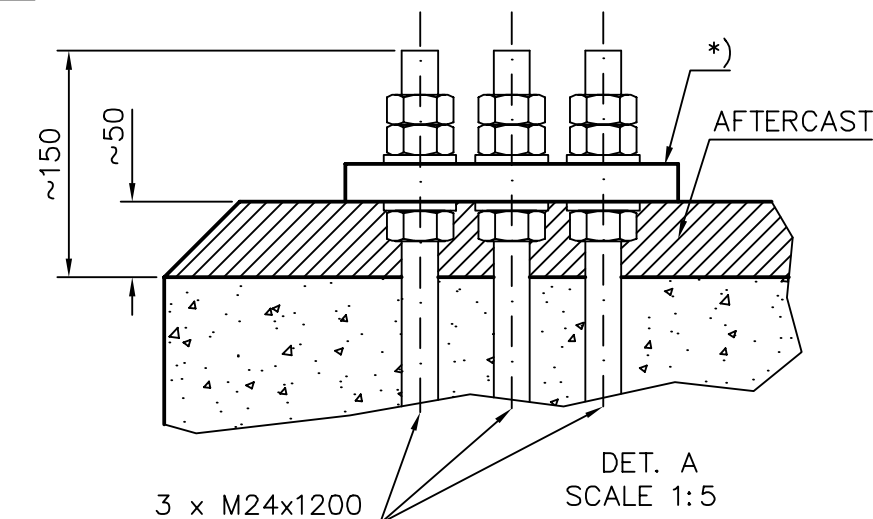
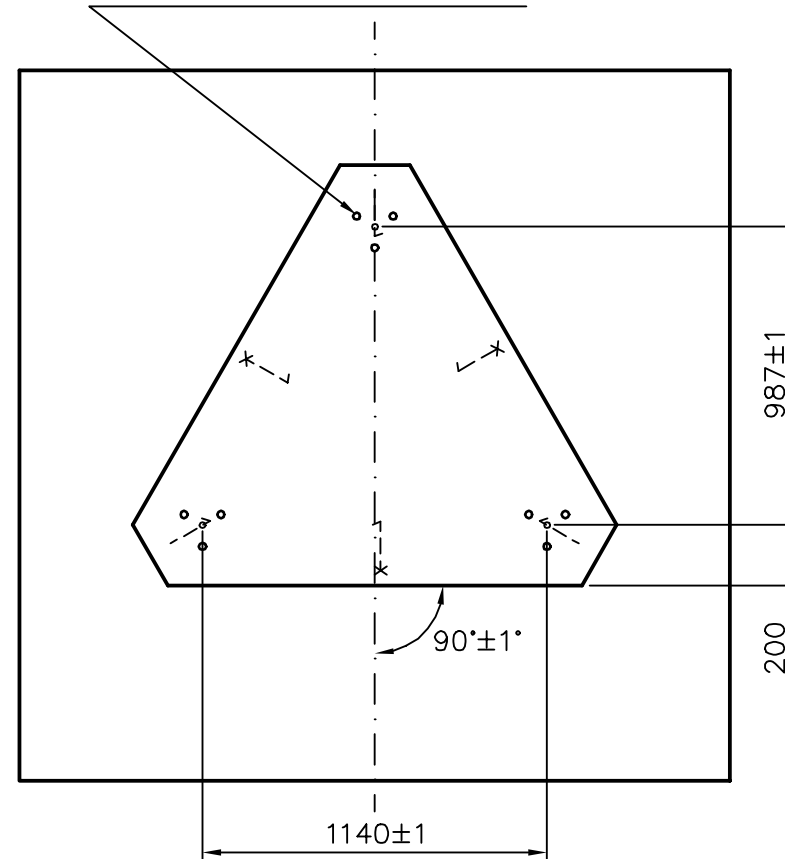
Parallel to RWY
TO RWY THRESHOLD



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.

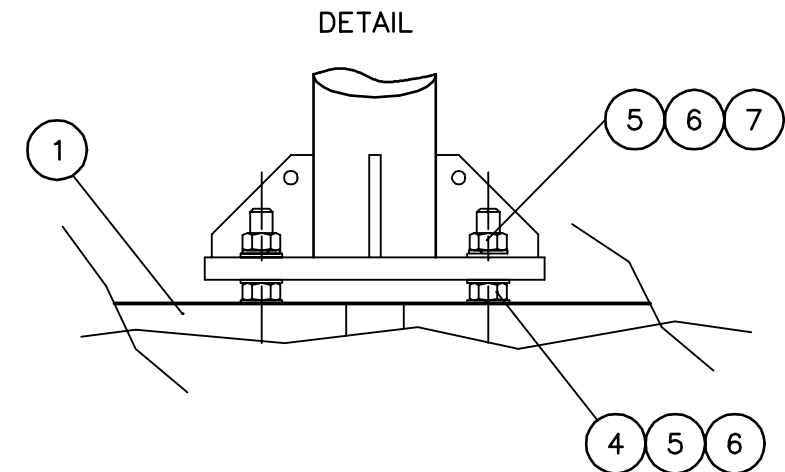
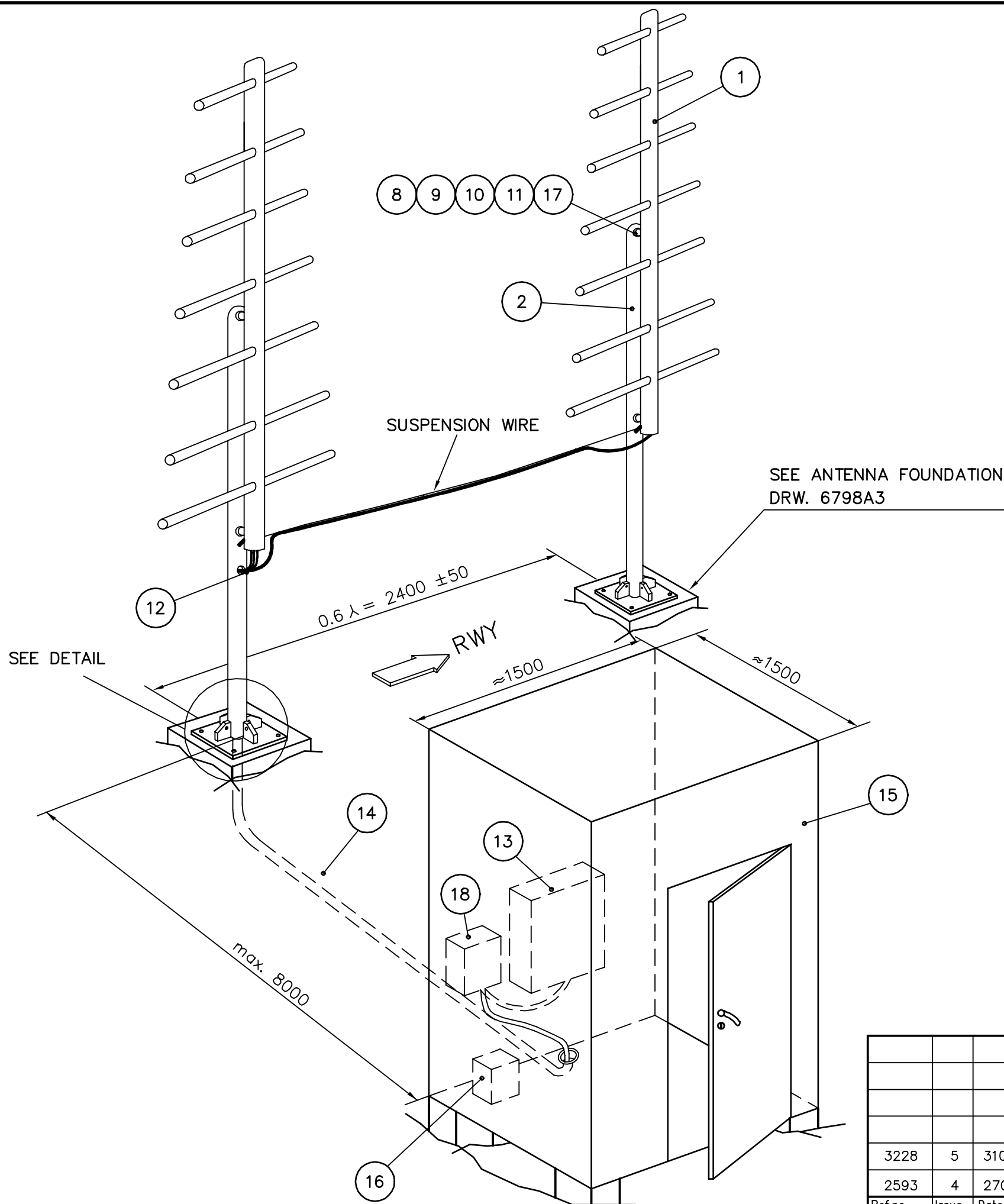
The dimensions given are for soil types earth, sand and hardpacked clay with a bearing capacity of at least: 110KN/m².
The water table must lie below the level of the bottom of the foundation.

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

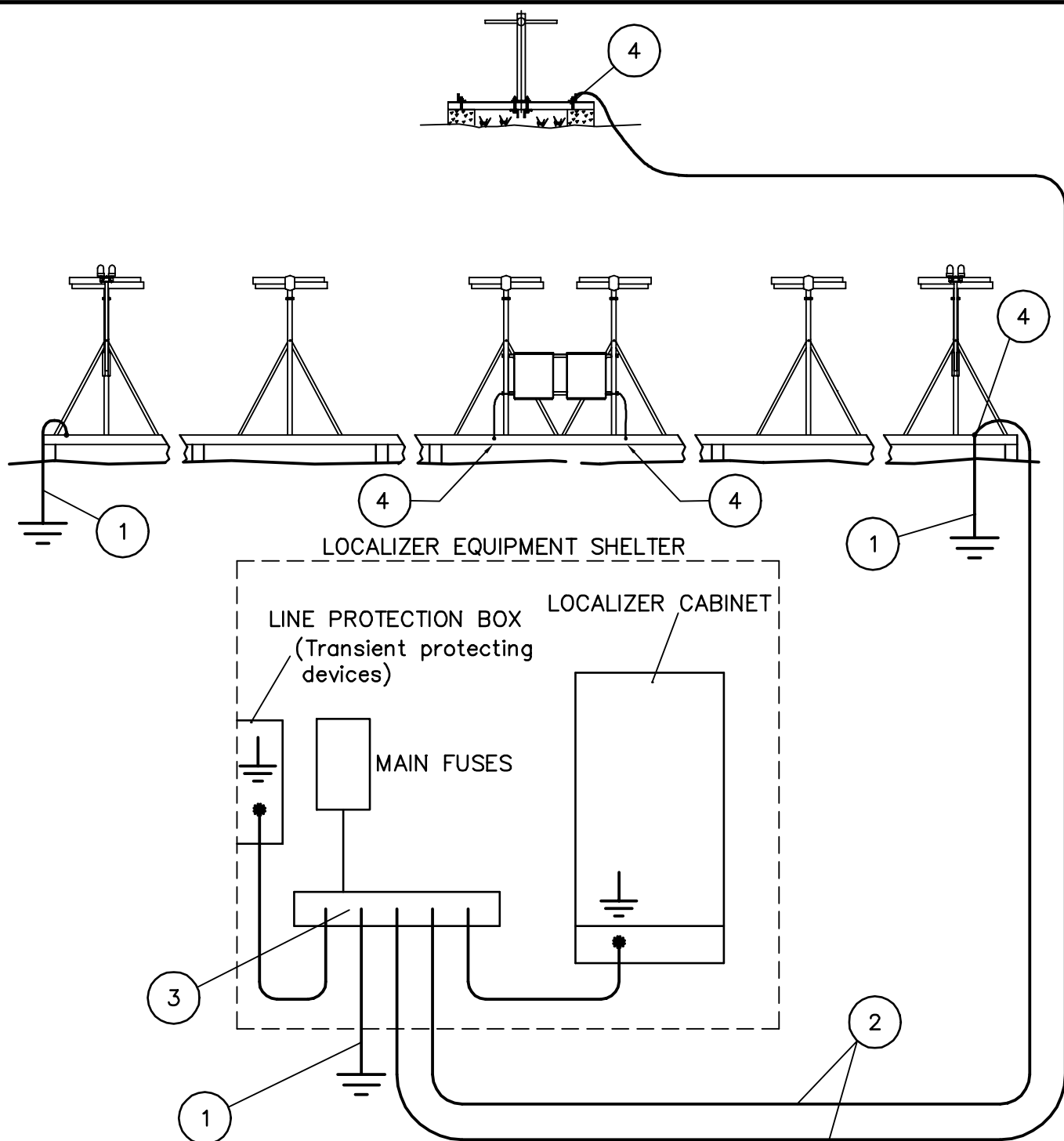
				Title: GLIDEPATH ANTENNA FOUNDATION	Scale: 1: 25	Drawn	100496	FrH	
						Checked			
				Subject: NM 3543-46		Appr.			
					Sup.for: 7084A3-1	Sup.by:			
				 Normarc AS	Dwg.no.: 7084A3		Issue 2		
2593	2	100496	FrH		Projection method:  				
Ref.no.	Issue	Date	Sign.						



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

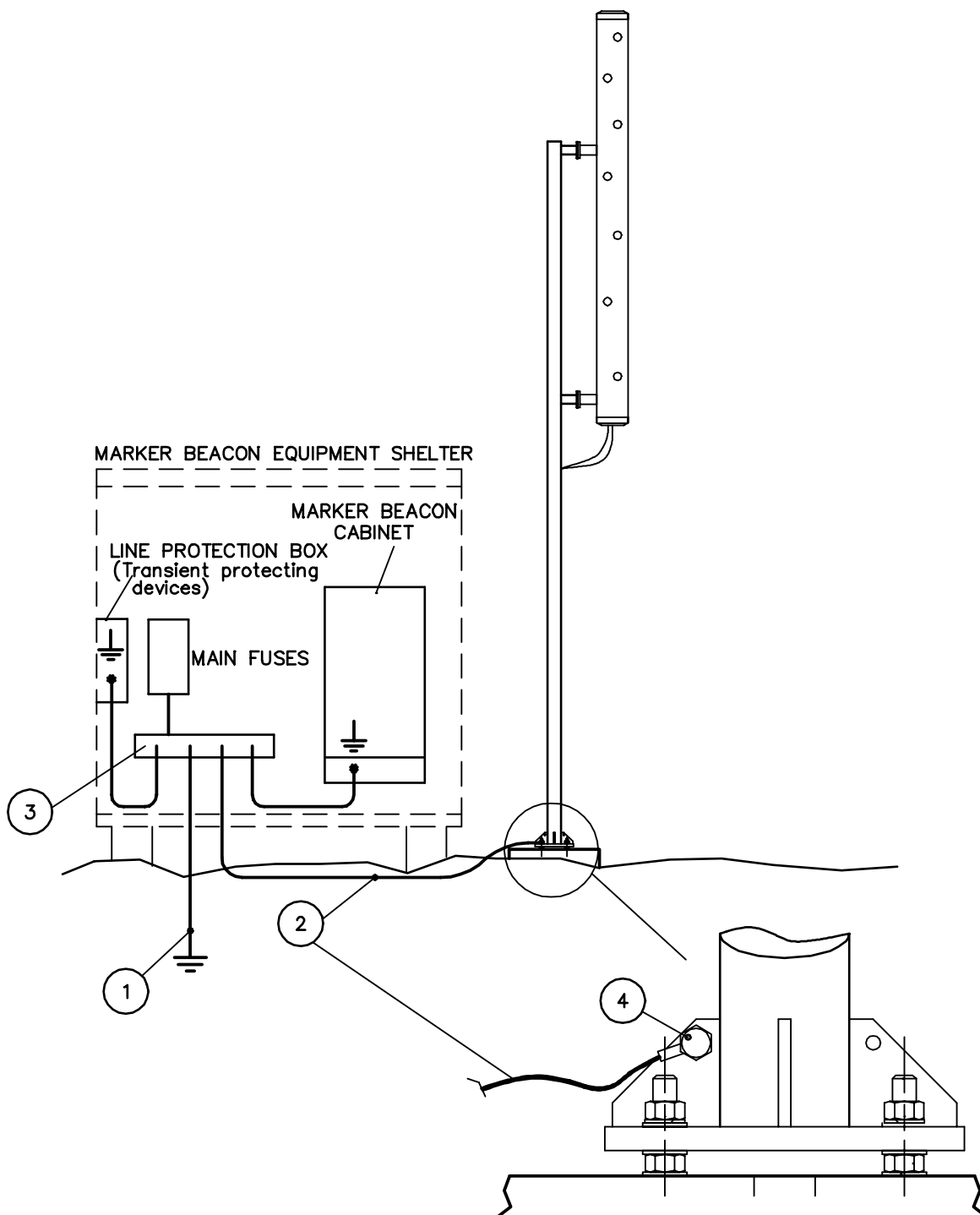
18	1	Network	DI 726A
17	4	Gasket Neopren 3mm	MS 799A
16	1	Battery Box	Not supplied by Normarc
15	1	Proposed Equipment Shelter	Not supplied by Normarc
14	1	Cable Tube 2"	Not supplied by Normarc
13	1	MB-Transmitter	NM 3550
12	1	Antenna and Monitor cable	CK 1146A
11	16	Springwasher M10 DIN127B A4	MS 799A
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
Item	Qty.	Description	NM Type/remark

				Title:	ANTENNA SYSTEM 2 ELEMENT MARKER BEACON	Scale:	Drawn	251195	ARJ				
						—	Checked						
				Subject:	NM 3562		Appr.	061294	JSA				
						Sup.for: 7109A3—3	Sup.by:						
3228	5	310398	ARJ	 Normarc						Dwg.no.:	7109A3	Issue	5
2593	4	270396	FrH										
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights reserved NAVIA AVIATION 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–Nearfield Monitor Grounding	Scale: —	Drawn	131095	ARJ
						Checked		
				Subject: NM 3522–26		Appr.	051294	JSA
					Sup.for: 8467A4–3	Sup.by:		
3228	5	310398	ARJ	 Normarc	Dwg.no.:	8467A4	Issue 5	
2593	4	280396	FrH					
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights reserved NAVIA AVIATION AS, NORWAY	Projection method:	 		

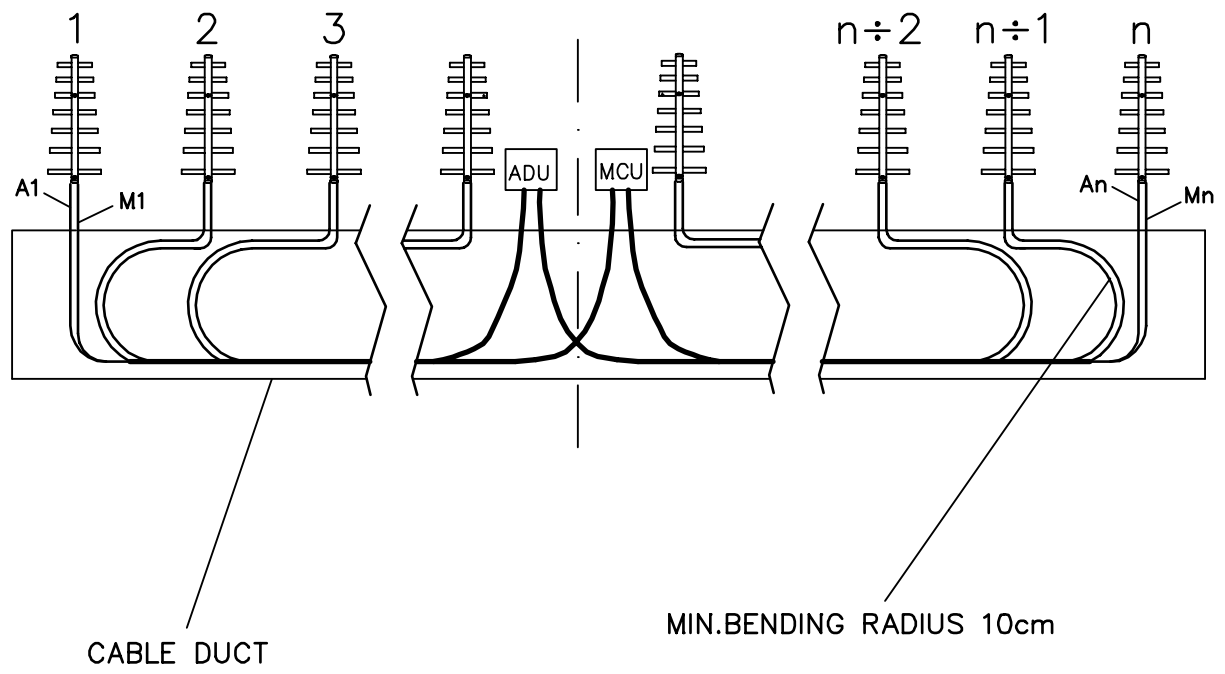


4	-	Connection Parts – Installation kit Items 14–18	Delivered by NM
3	1	Ground Terminal	Delivered by NM
2		Copper Wire (35 mm ²)	
1	1	Copper rod or Copper plate	

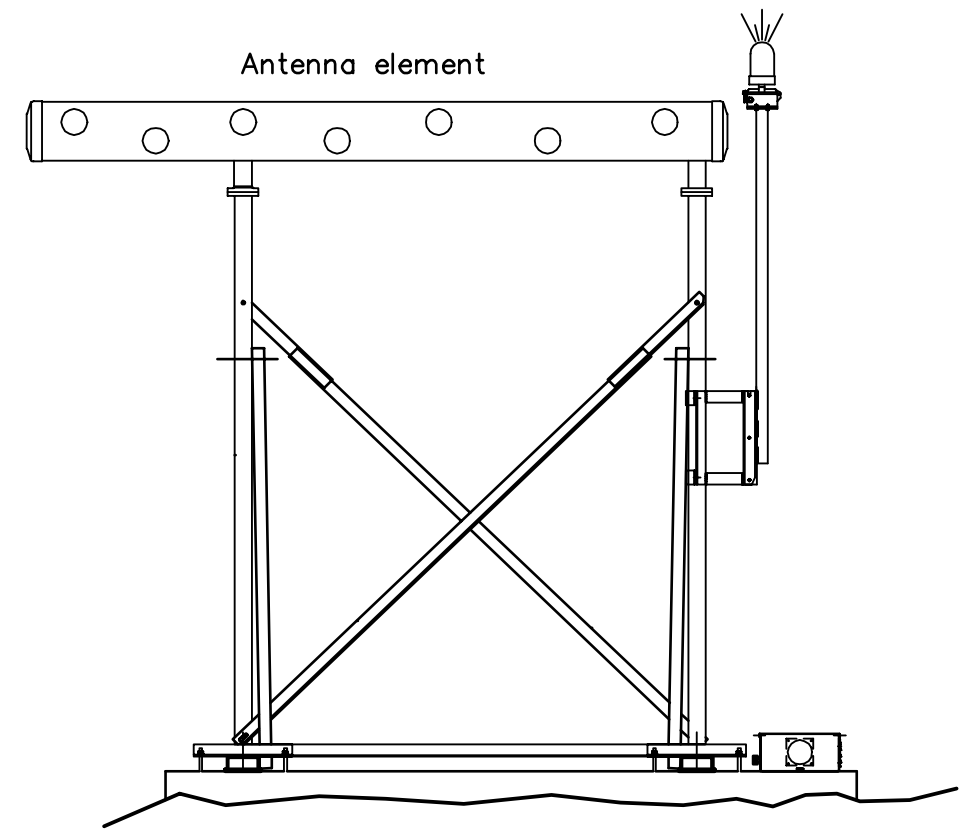
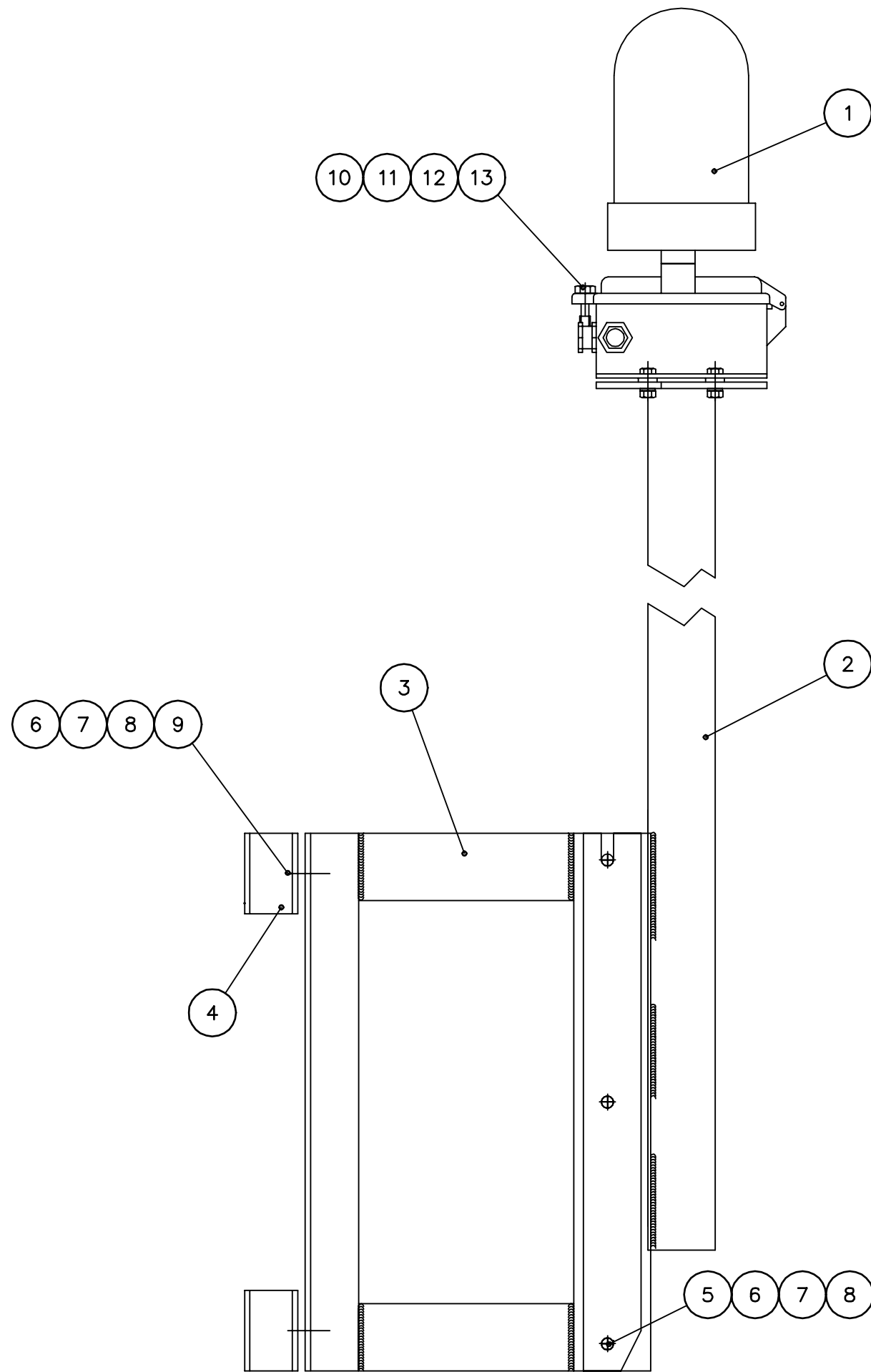
Item	Qty.	Description	Nm Type/remark
------	------	-------------	----------------

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

n = Total no. of antennas

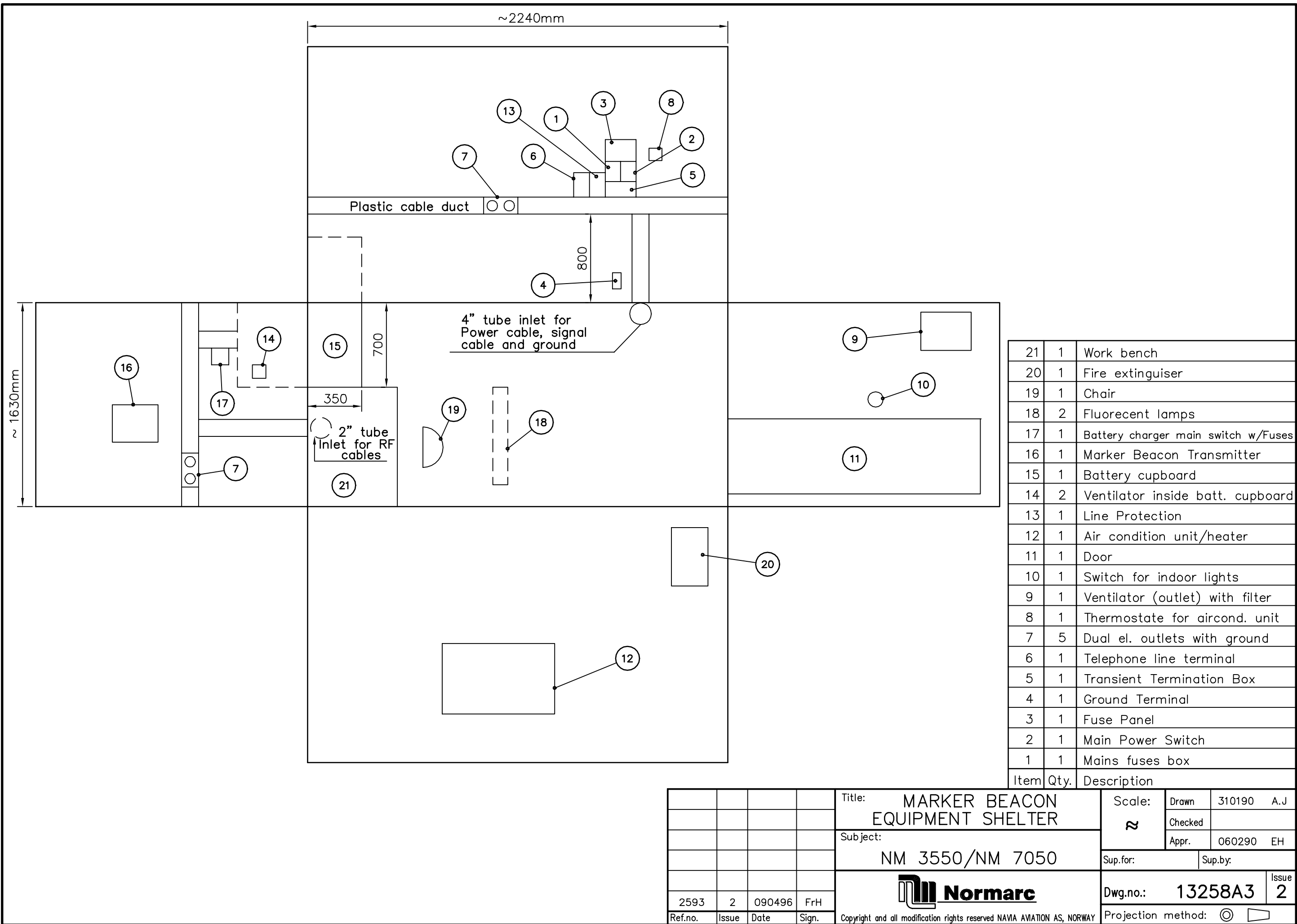


				Title:	Scale:		
				ADU/MCU CABLES IN DUCT	—	Drawn	311095 ARJ
				Subject:		Checked	
				NM 3522-26		Appr.	060891 HS
					Sup.for: 10288A4-1		Sup.by:
2593	2	280396	ARJ		Dwg.no.: 10288A4		Issue
Ref.no.	Issue	Date	Sign.		Projection method: ☉		2



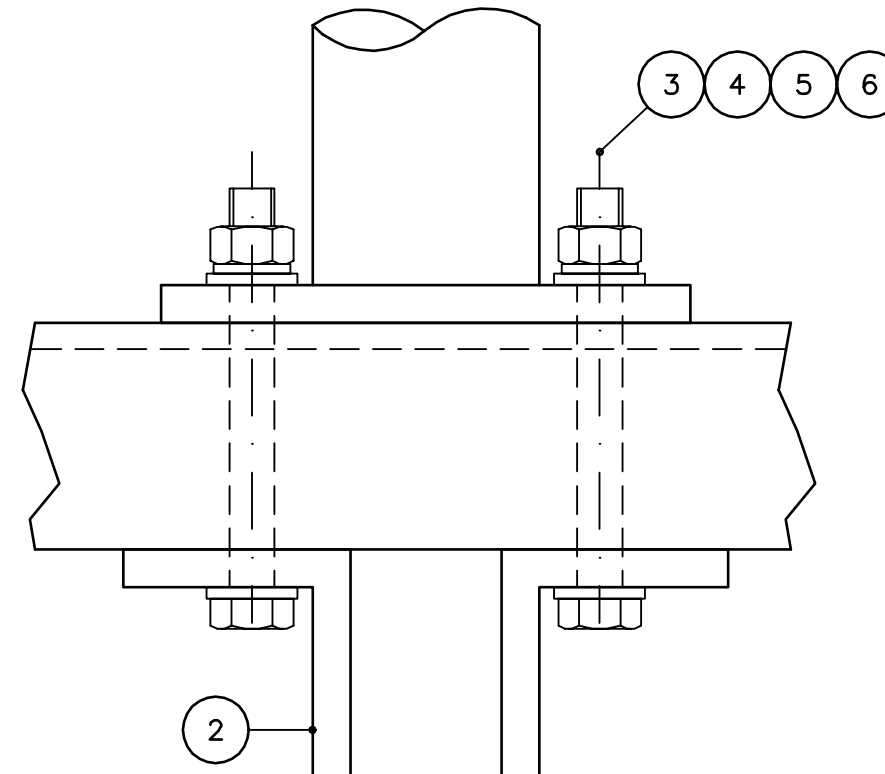
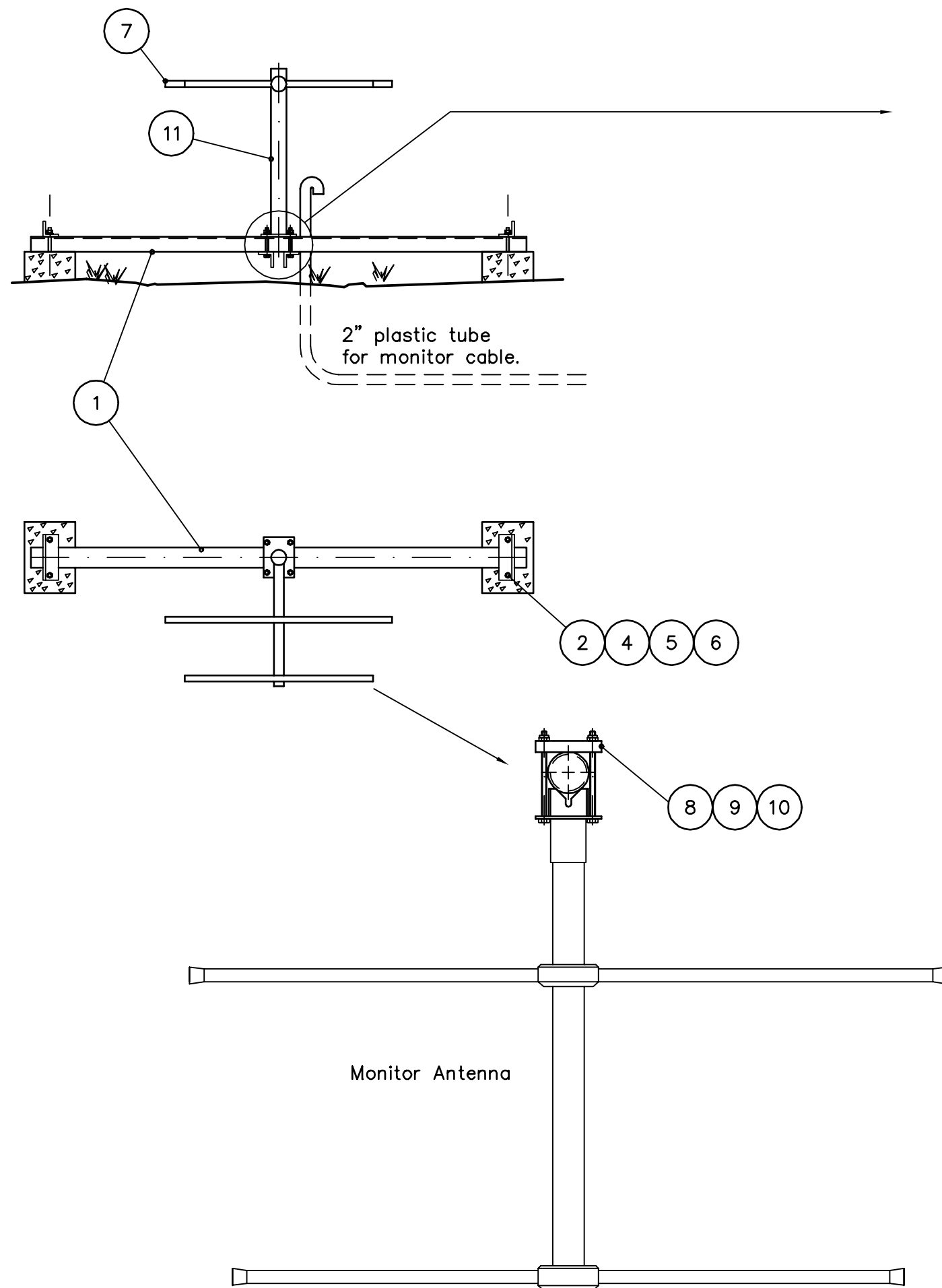
13	8	Nut	M6 DIN934 A4	OL 522
12	8	Springwasher	M6 DIN127B A4	OL 522
11	8	Washer	M6 DIN125 A4	OL 522
10	8	Bolt	M6x25 DIN933 A4	OL 522
9	8	Bolt	M8x25 DIN933 A4	OL 522
8	14	Nut	M8 DIN934 A4	OL 522
7	14	Springwasher	M8 DIN127B A4	OL 522
6	20	Washer	M8 DIN125 A4	OL 522
5	6	Bolt	M8x80 DIN933 A4	OL 522
4	4	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	

				Title:	OL 522	Scale:	Drawn	191095	ARJ	
				Subject:	Installation of Obstr.Light		—	Checked		
							Appr.	061294	JSA	
				NM3522-26		Sup.for: 11463A3-3		Sup.by:		
						Dwg.no.: F 11463A3		Issue 4		
2593	4	150296	ARJ							
Ref.no.	Issue	Date	Sign.							
						Projection method:				



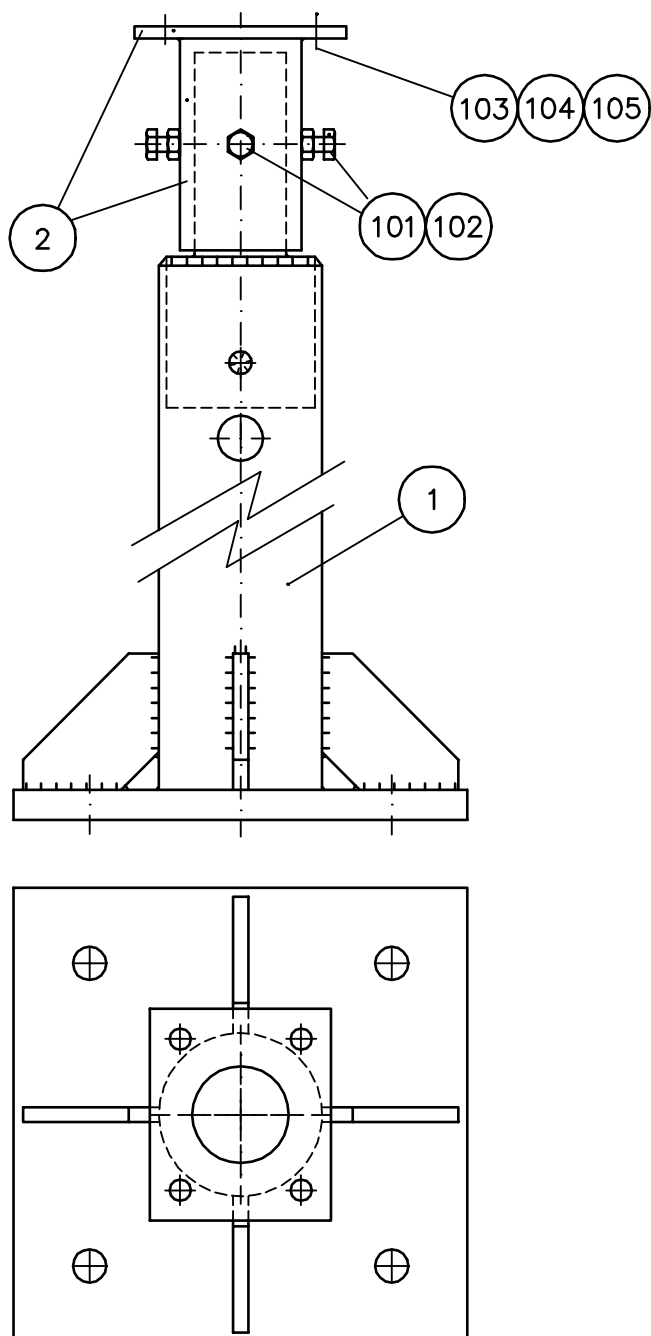
21	1	Work bench
20	1	Fire extinguiser
19	1	Chair
18	2	Fluorecent lamps
17	1	Battery charger main switch w/Fuses
16	1	Marker Beacon Transmitter
15	1	Battery cupboard
14	2	Ventilator inside batt. cupboard
13	1	Line Protection
12	1	Air condition unit/heater
11	1	Door
10	1	Switch for indoor lights
9	1	Ventilator (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
Item	Qty.	Description

				Title: MARKER BEACON EQUIPMENT SHELTER	Scale: ≈	Drawn	310190	A.J
						Subject: NM 3550/NM 7050	Checked	
						Appr.	060290	EH
					Sup.for:	Sup.by:		
				 Normarc	Dwg.no.:	13258A3	Issue	2
2593	2	090496	FrH					
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights reserved NAVIA AVATION AS, NORWAY	Projection method:	◎ ◻		



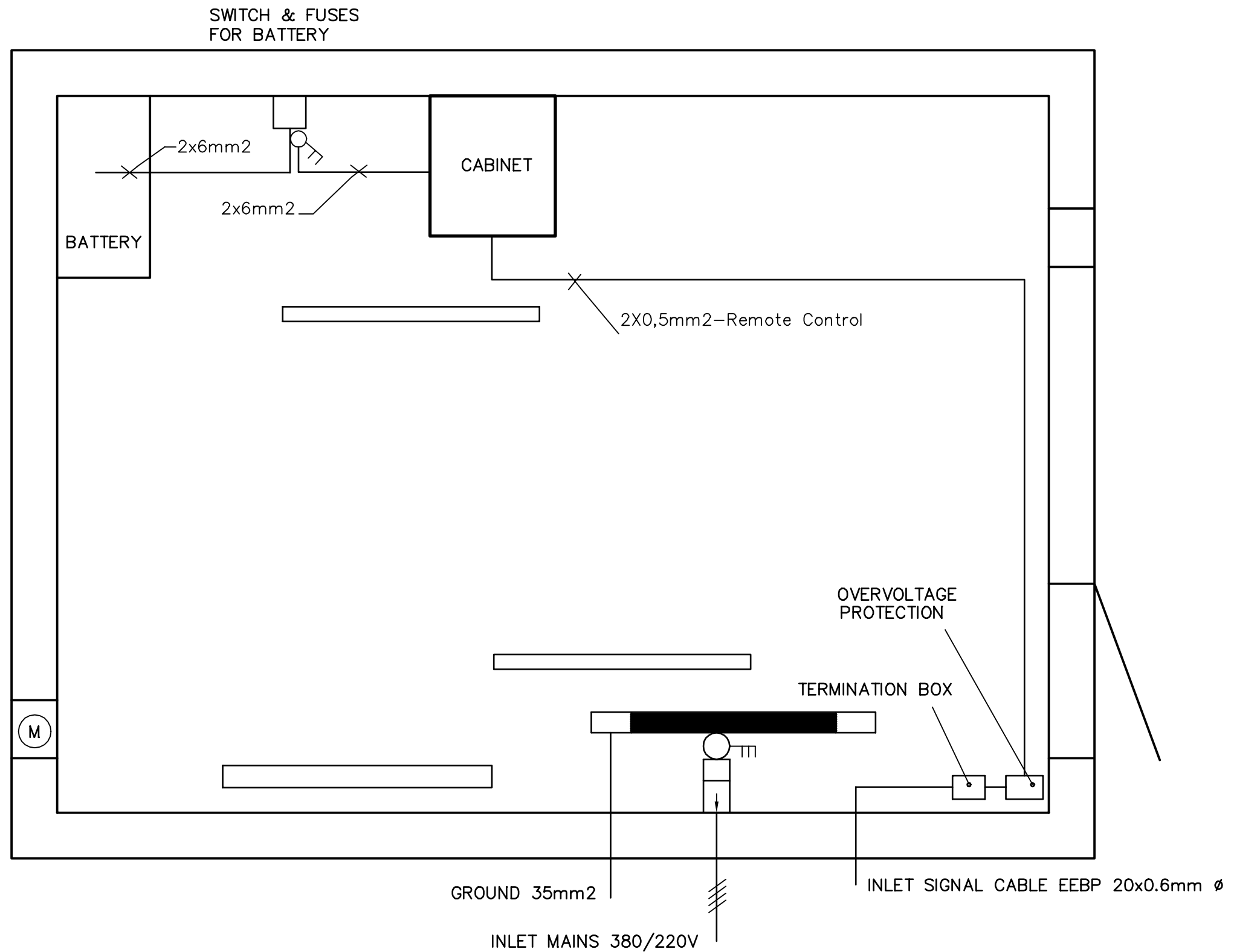
11	1	Mast	NF 696A
10	4	Nut M10 DIN934 Galv.	NF 696A
9	4	Bolt M10x160 DIN931 Galv.	NF 696A
8	2	Bar for AV42-110	NF 696A
7	2	Antenna AV-42-110	NF 696A
6	8	Nut M12 DIN934 A4	NF 696A/FK 809A
5	8	Spring washer M12 DIN127B A4	NF 696A/FK 809A
4	8	Washer M12 DIN125 A4	NF 696A/FK 809A
3	4	Bolt M12x100 DIN931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

				Title: LLZ MONITOR ANTENNA ASSEMBLY	Scale: —	Drawn	201191	BS
						Checked		
				Subject: NM 3522-26		Appr.	221191	EHO
2932	4	130297	FrH		Sup.for: 14256A3-2	Sup.by:		
2593	3	090496	FrH	 Normarc AS	Dwg.no.:	14256A3	Issue	4
2092	2	211294	IT		Projection method:  			
Ref.no.	Issue	Date	Sign.					

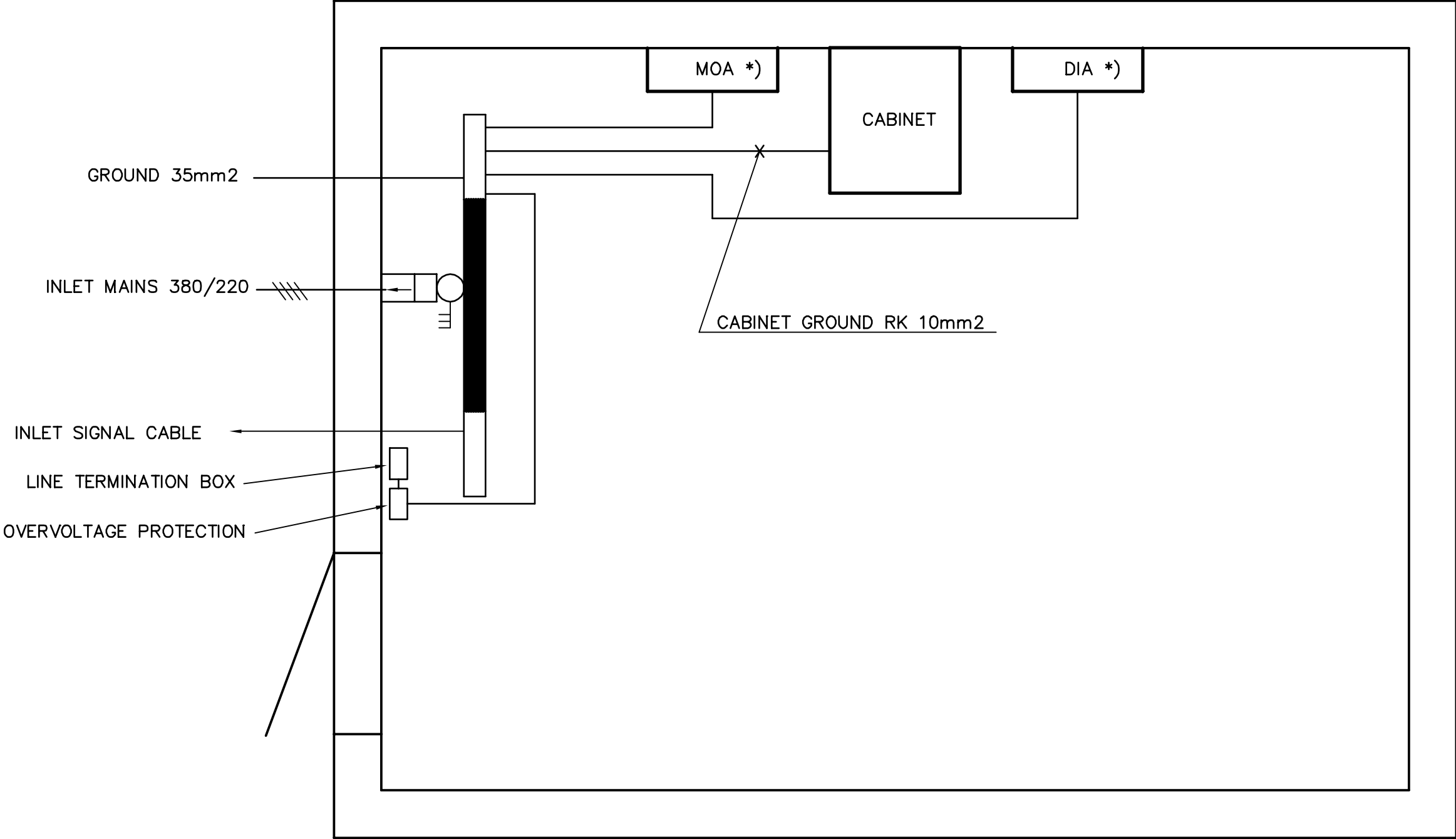


4	105	LOCKWASHER	DIN 127B M12 A4
4	104	HEX. NUT	DIN 934 M12 A4
4	103	SCREW	DIN 933 M12 x 40 A4
4	102	HEX. NUT	DIN 934 M10 A4
4	101	SCREW	DIN 933 M10 x 20 A4
1	2	BRACKET	
1	1	MAST	
Qty	Pos	Beskrivelse	Matr. Dim. Finish

				Title: MARKER BEACON KATHREIN ANTENNA	Scale: 1:5	Drawn	250992	FrH
						Checked		
				Subject: MS 798C ANTENNA MAST	Sup.for:	Appr.	280992	AGE
						Sup.by:		
3557	2	030899	TBj	 Normarc	Dwg.no.: 14460A4			Issue 2
Ref.no.	Issue	Date	Sign.		Projection method: ☉ □			

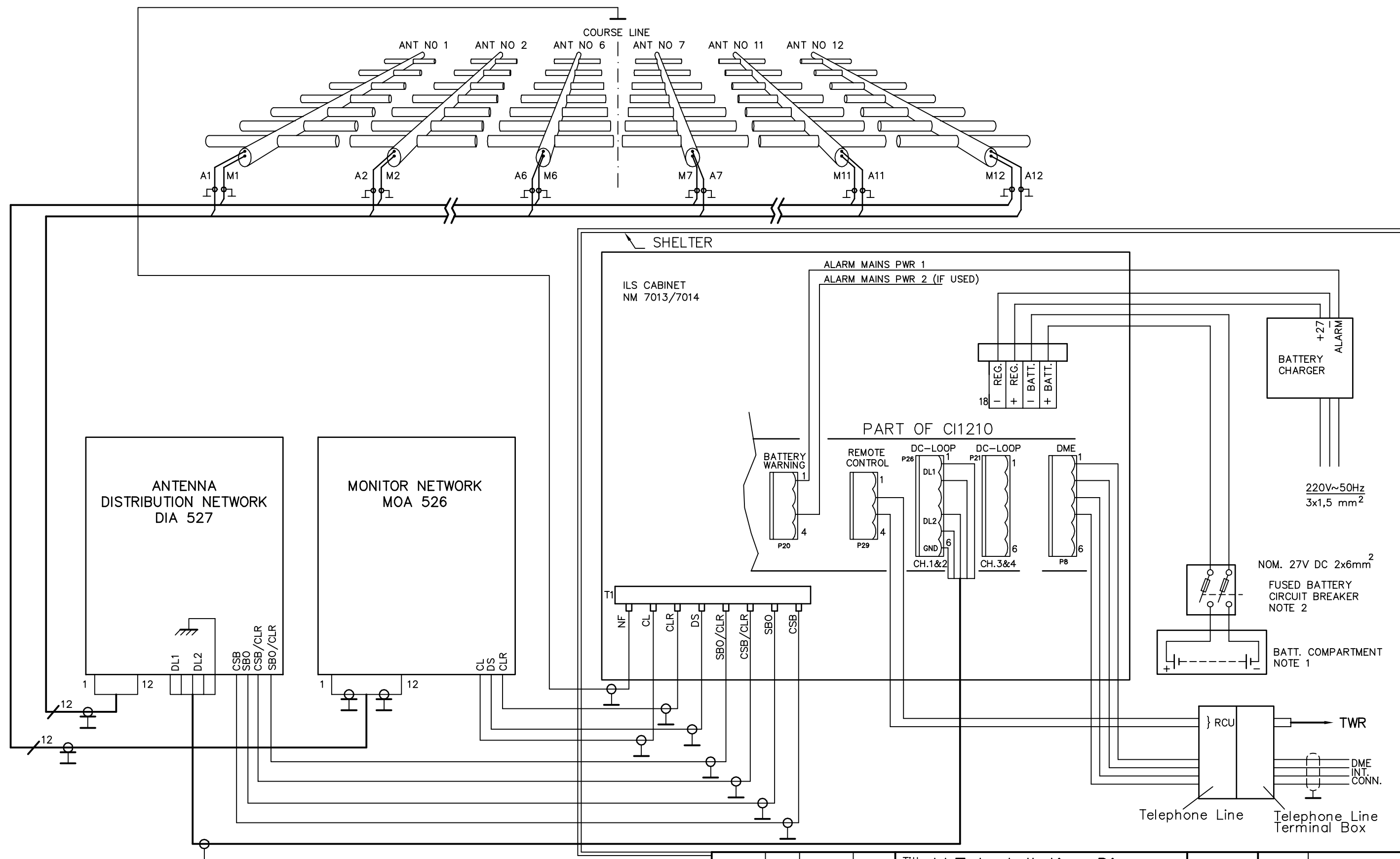


				Title: ILS SHELTER BATT. AND TELE INST.	Scale: —	Drawn	041294	ARJ	
						Checked			
				Subject: NM 7000		Appr.	061294	JSA	
						Sup.for:	Sup.by:		
					Dwg.no.: 15975A3		Issue 2		
2593	2	280396	FrH		Projection method:  				
Ref.no.	Issue	Date	Sign.						



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

				Title: ILS SHELTER GROUNDING	Scale: —	Drawn	041294	ARJ
						Checked		
				Subject: NM 7000	Appr.	061294	JSA	
					Sup.for:	Sup.by:		
3228	3	310398	ARJ	 Normarc	Dwg.no.:	15977A3	Issue 3	
2593	2	280396	FrH					
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights reserved NAVIA 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

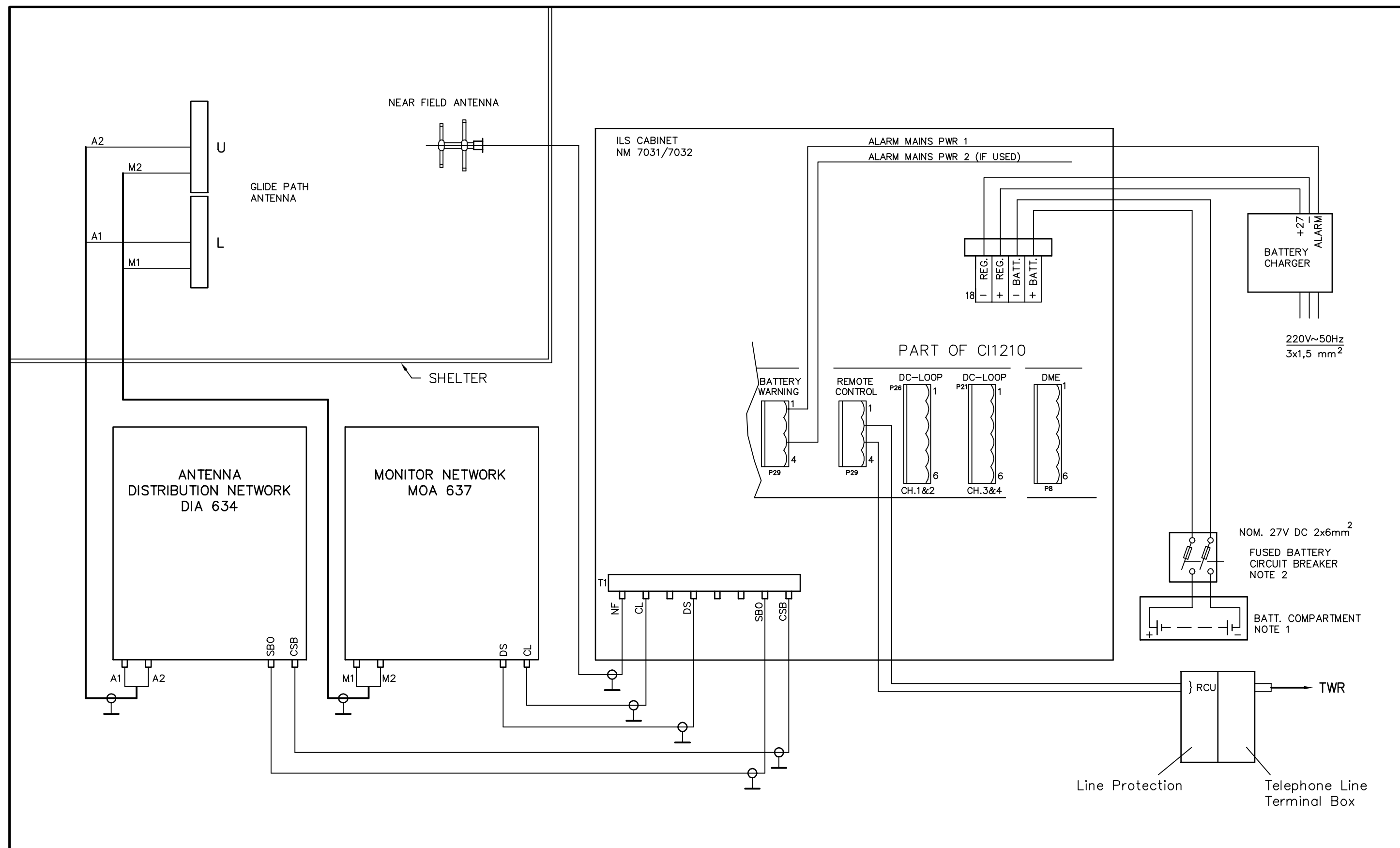
Normarc AS

Scale:	Drawn	051294	HS
1:1	Checked		
	Appr.	061294	JSA

Sup.for: Sup.by:

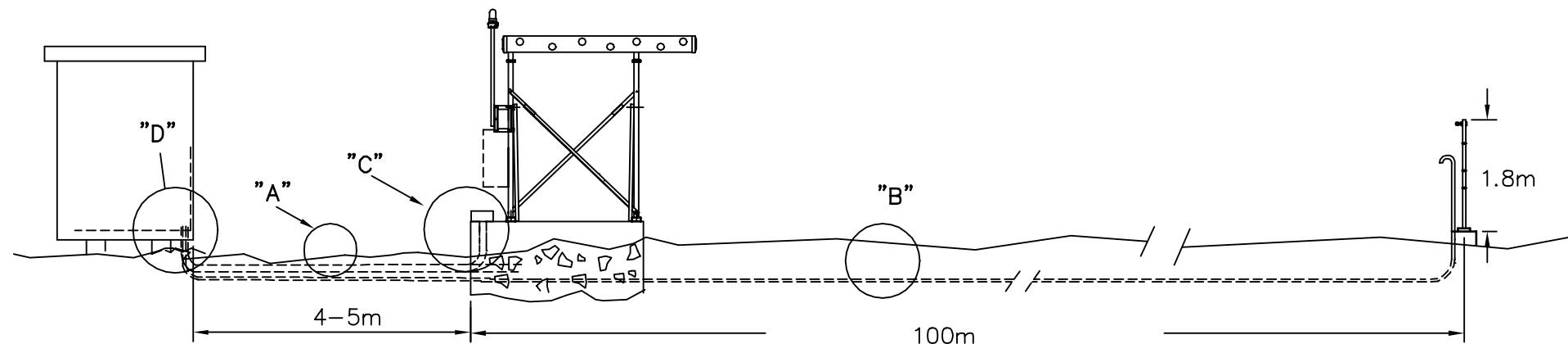
Dwg.no.: 15986A3 Issue 3

Projection method: ☉ ☐



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

				Title: GP Installation Diagram Sideband Reference	Scale: 1:1	Drawn	051294	HS
						Checked		
				Subject: NM 7000/NM 3544		Appr.	061294	JSA
					Sup.for:		Sup.by:	
3007	3	250697	FrH	 Normarc AS	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

LOCALIZER
COURSE LINE

NEAR FIELD MONITOR CABLE

NEARFIELD
MONITOR ANTENNA

Detail "C"
Scale 1:20

3 PCS. OF 4" PVC
TUBE ANGELS 30°

Detail "D"
Scale 1:20

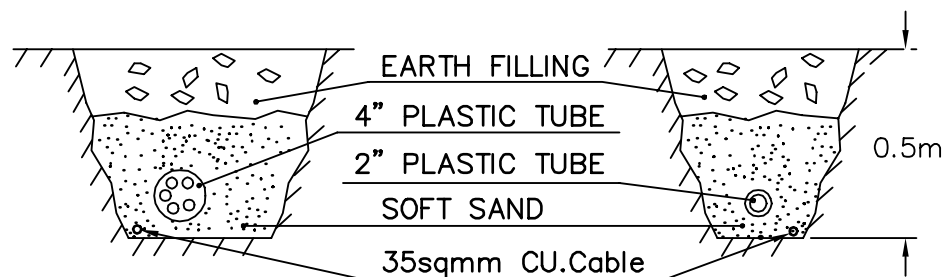
2" PVC TUBE

4" PVC TUBE

Scale 1:20

DETAIL "A"

DETAIL "B"



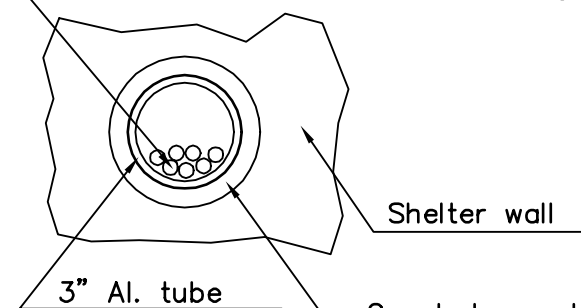
				Title:	TYPICAL LOCALIZER CONFIGURATION 1		Scale:	Drawn	061294	ARJ
				Subject:	NM 7000		1:100	Checked		
								Appr.	061294	JSA
							Sup.for:	Sup.by:		
3228	3	310398	ARJ			Dwg.no.: 15989A3		Issue 3		
2593	2	270396	FrH							
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights reserved NAVIA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

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

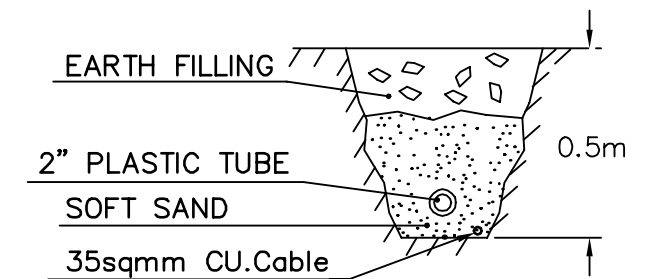
GLIDE PATH ANTENNA

CROSS-SECTION A-A

Antenna, monitor and obstruction light cable

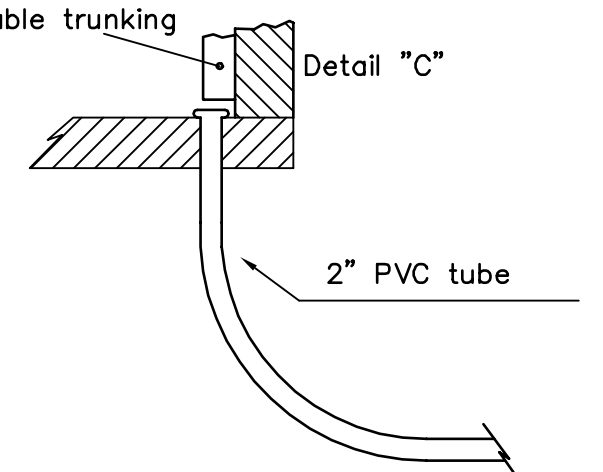


DETAIL "B"

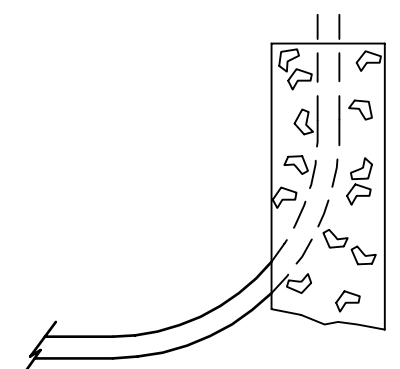


Cable trunking

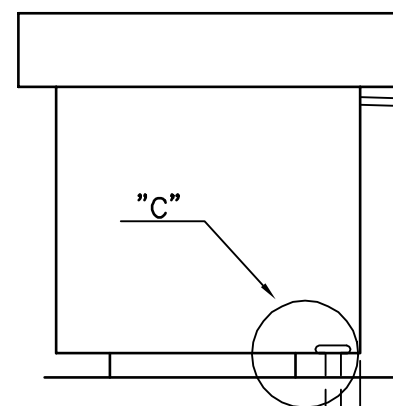
Detail "C"



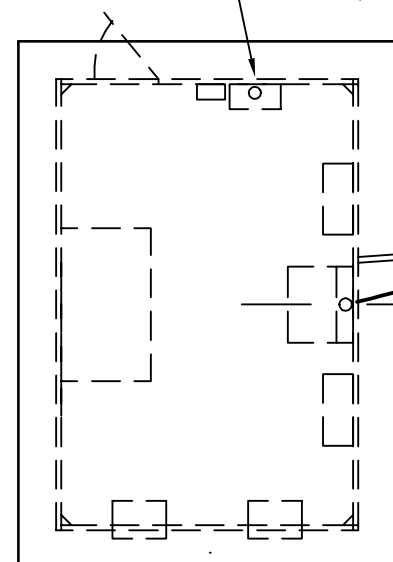
Detail "D"



EQUIPMENT SHELTER



Power and control cable inlet



3" TUBE

A

A

3,5m

"B"

TYPICAL DIST. 42 - 82m

Nearfield monitor

"D"

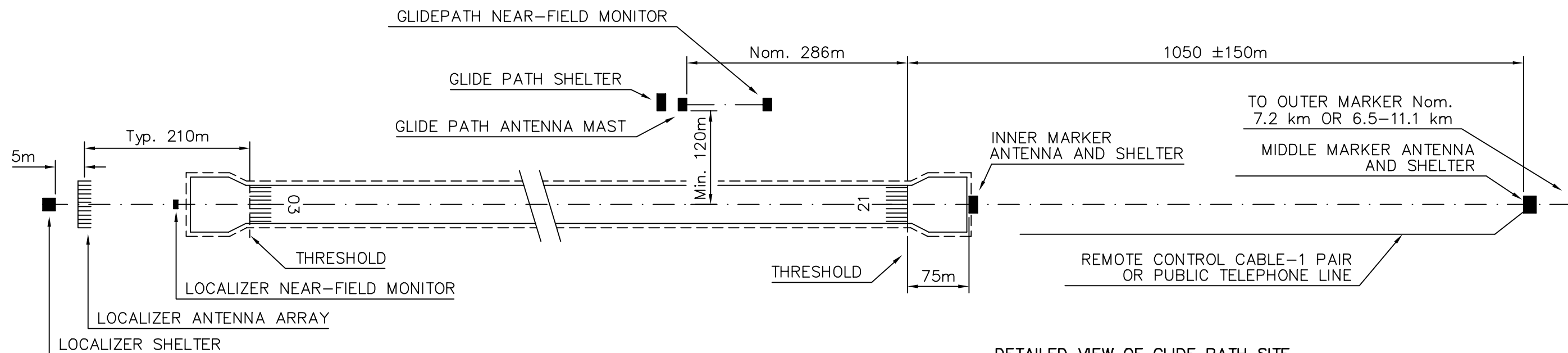
Antenna, monitor and obstruction light cables

Nearfield monitor cable tube

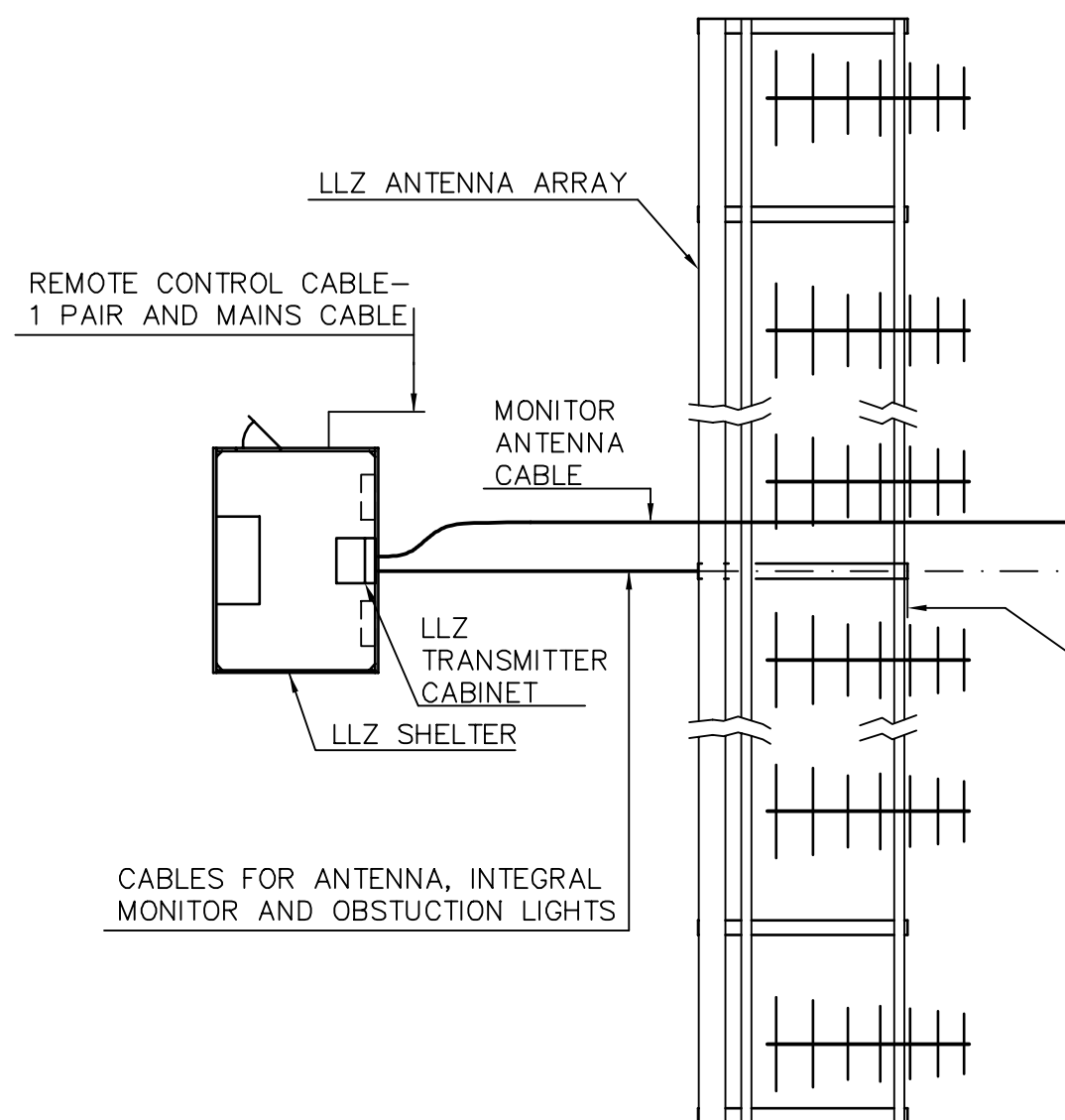
Typical distance 120m to RWY centre line

Paralell to RWY centre line

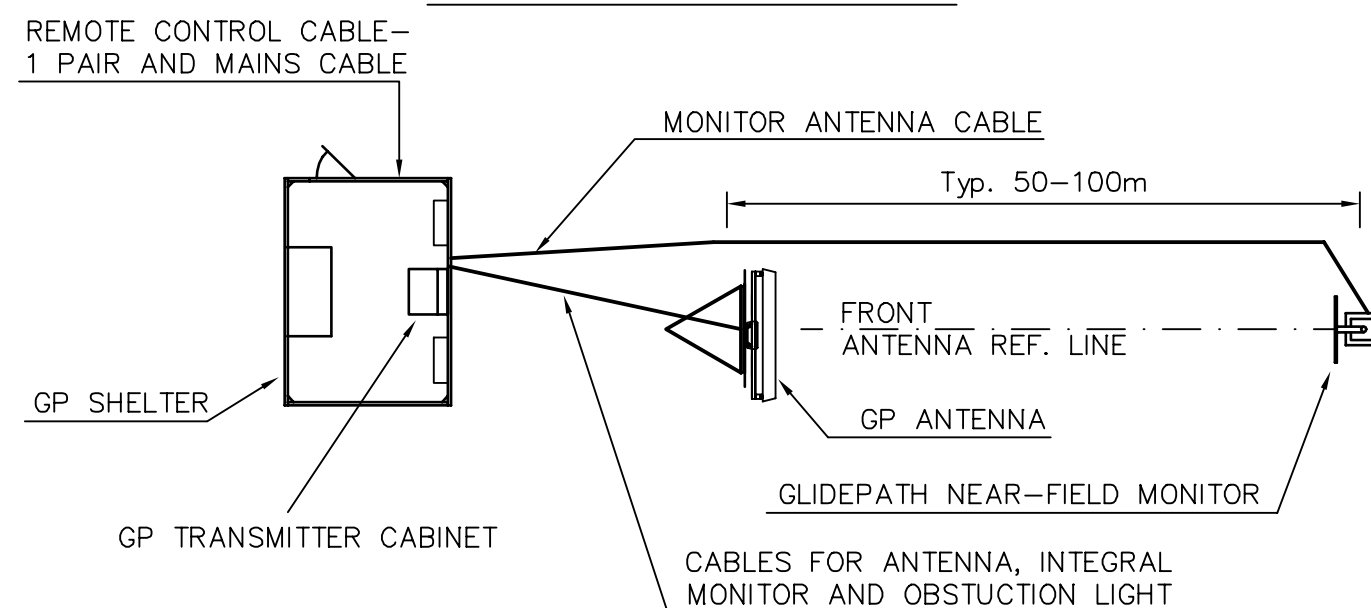
				Title: TYPICAL GLIDE PATH CONFIGURATION		Scale: ~	Drawn: 061294 ARJ
				Subject: NM 7000			Checked:
							Appr. 061294 JSA
						Sup.for:	Sup.by:
3228	3	310398	ARJ			Dwg.no.: 15990A3	
2593	2	270396	FrH			Issue 3	
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights reserved NAVIA AVATION AS, NORWAY		Projection method: ☉ ☐	



DETAILED VIEW OF LOCALIZER SITE

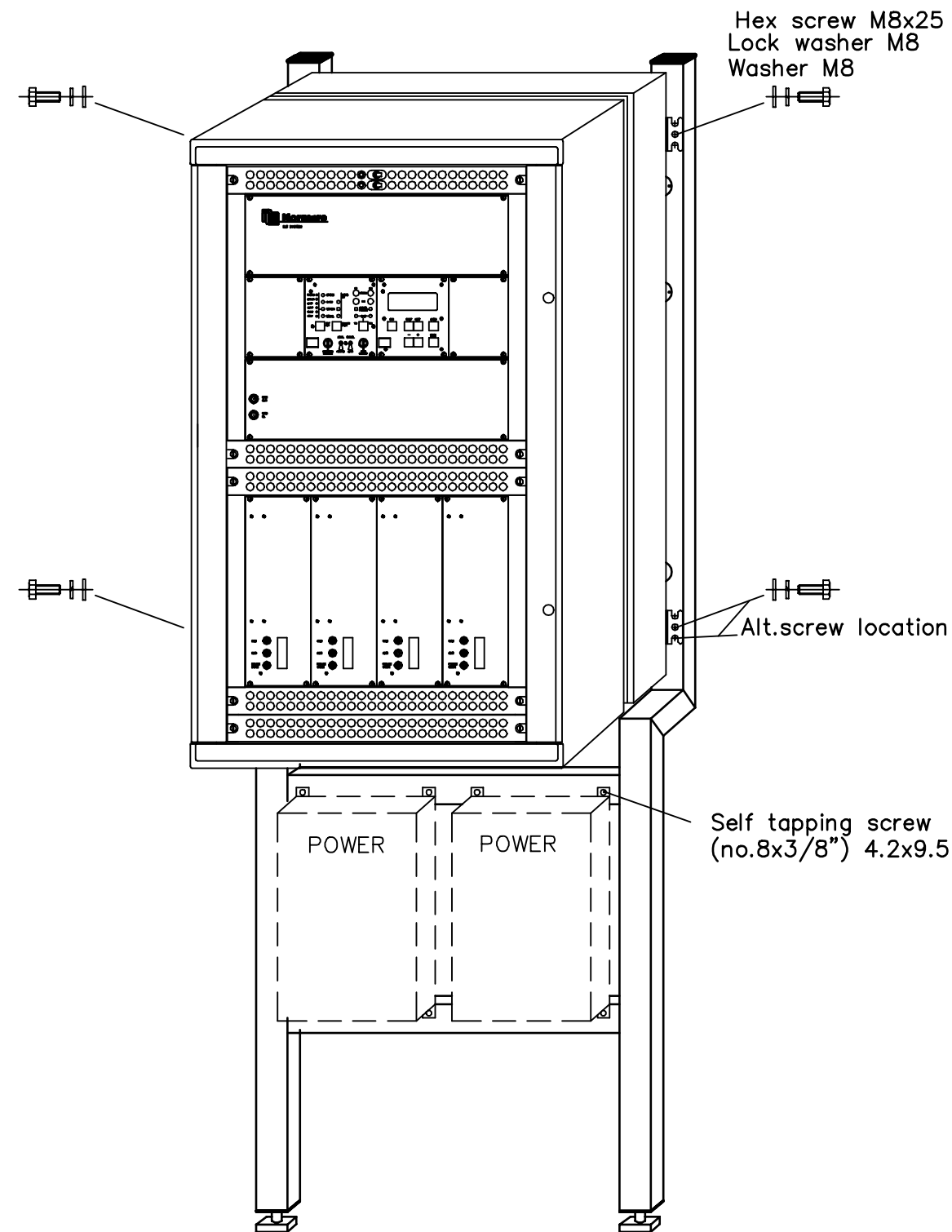
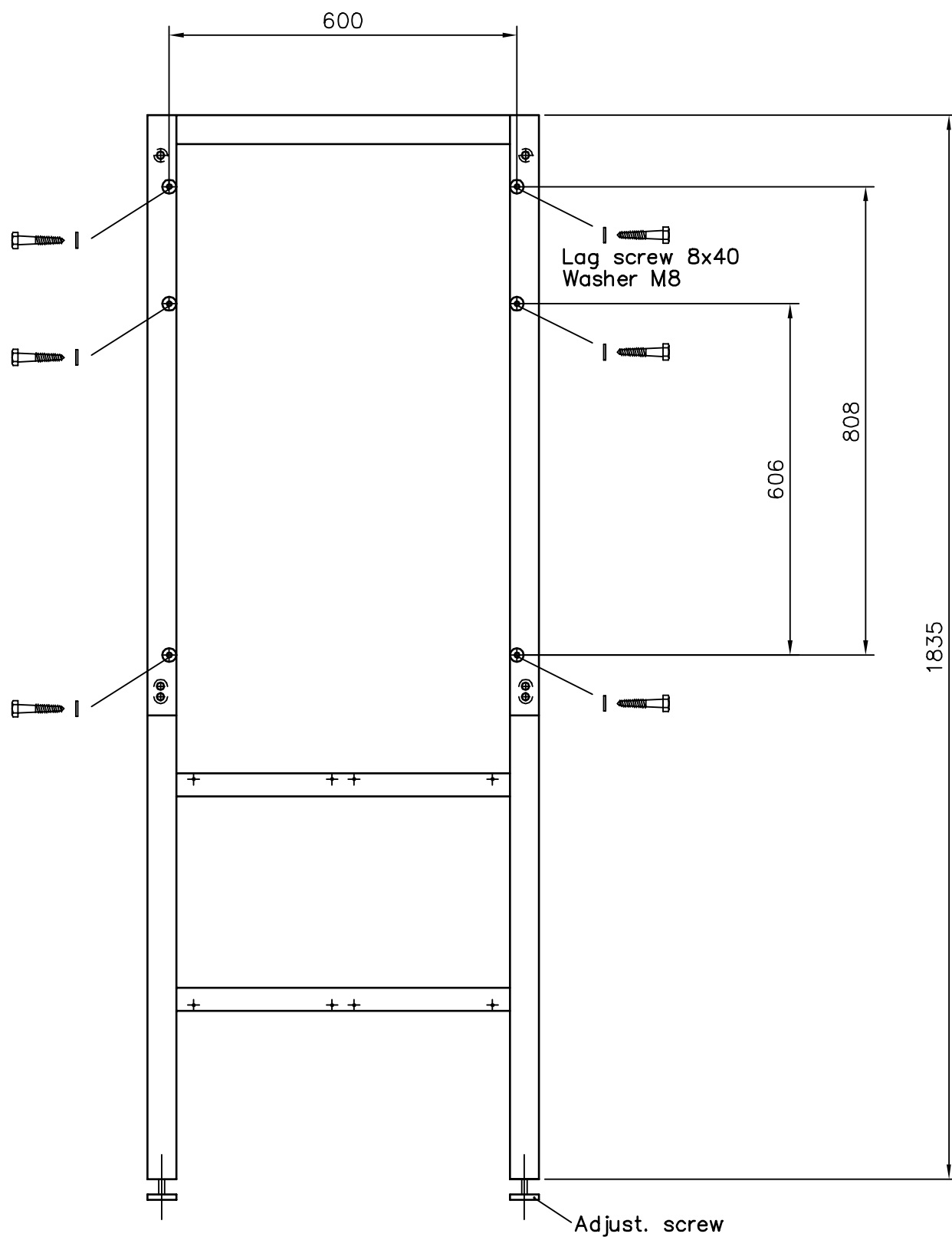


DETAILED VIEW OF GLIDE PATH SITE

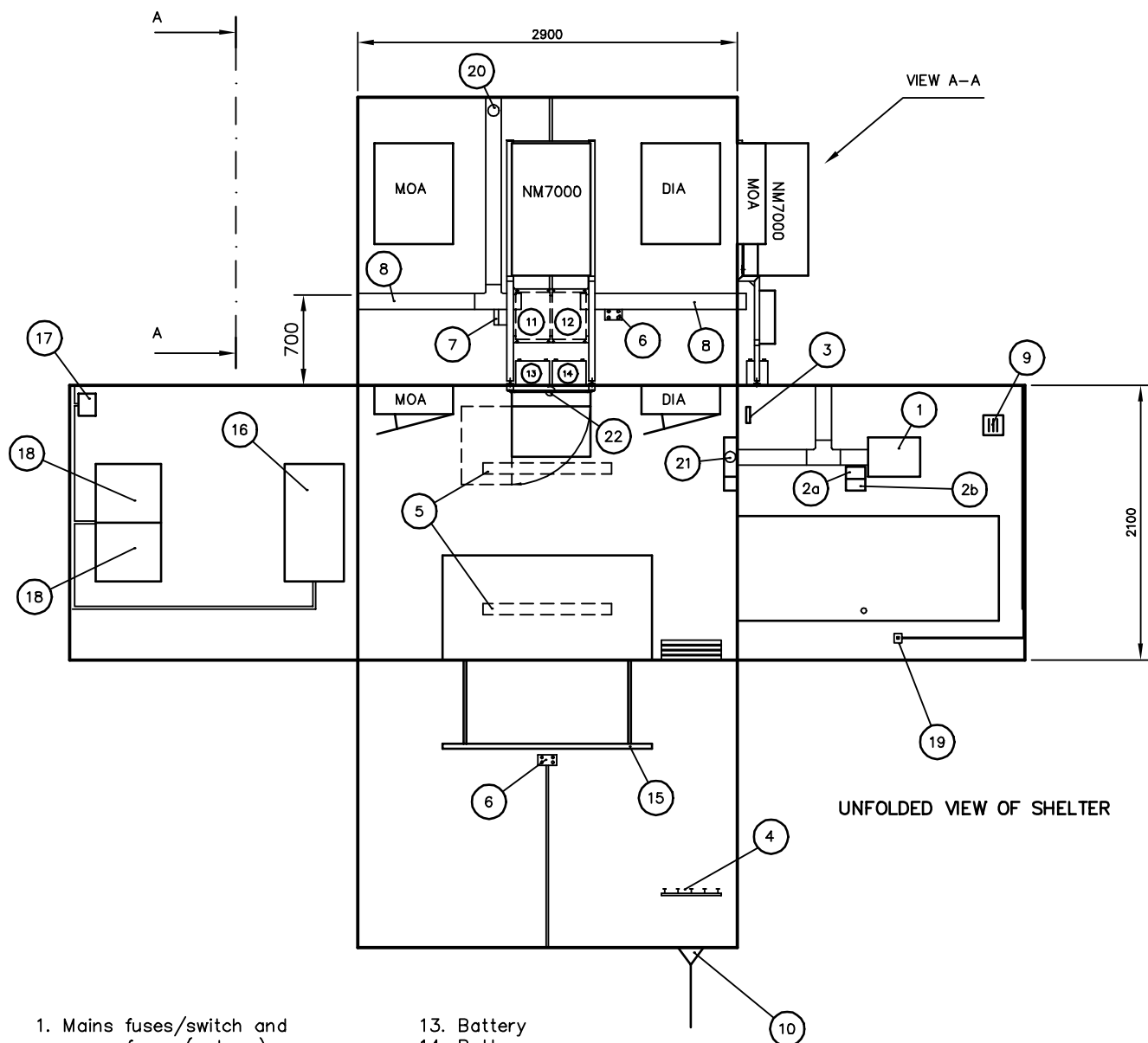


NOTE! This is only an exemple!

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

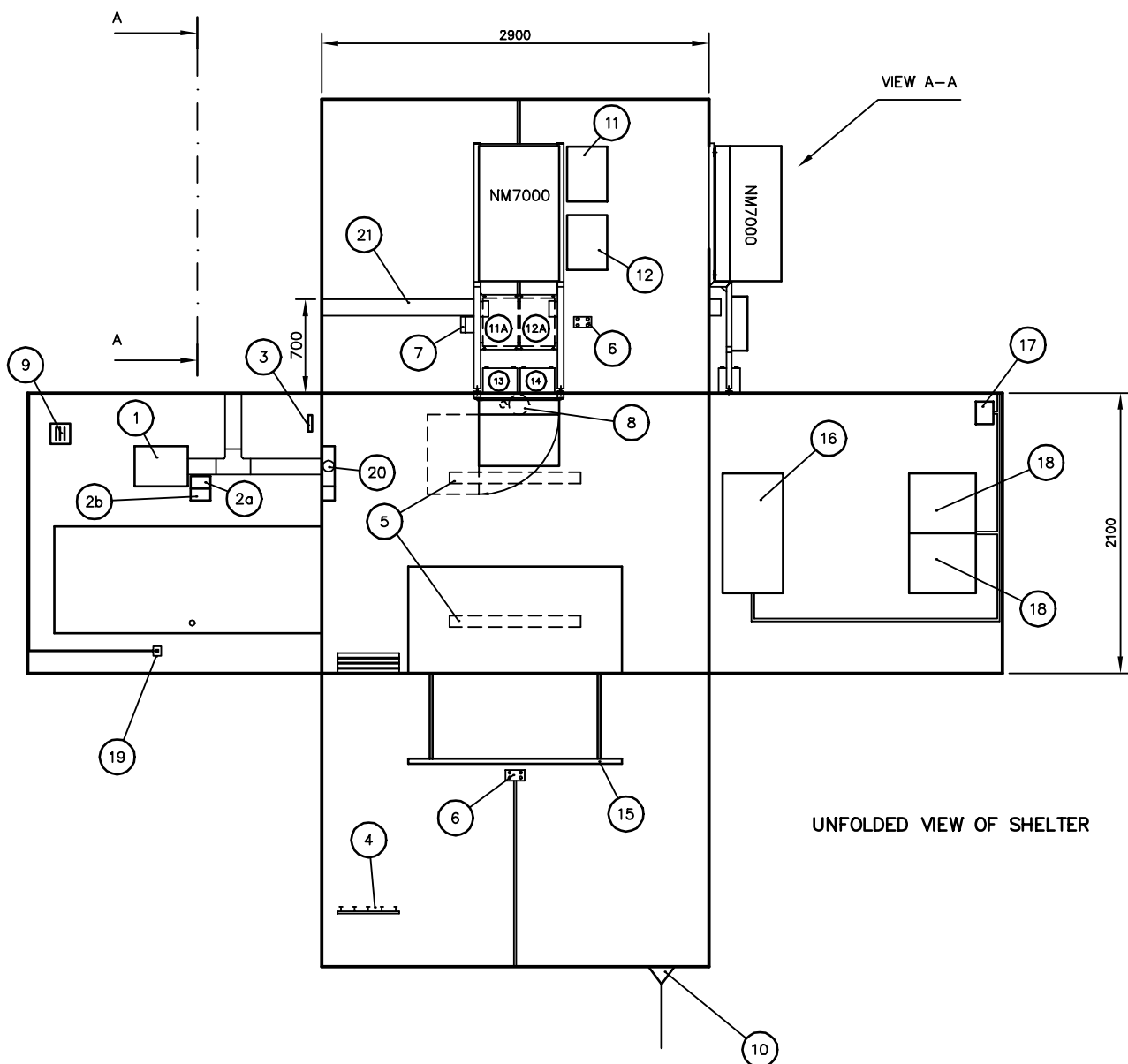


				Title: System Rack LLZ/GP Wallmounting	Scale: 1:10	Drawn	220395	ARJ	
						Subject: Eng. & commissioning handbook NM 7000 (MK 1343A)	Checked		
							Appr.	220395	SK
					Sup.for:		Sup.by:		
				 Normarc AS	Dwg.no.: F 16138A3		Issue 2		
2953	2	020497	ARJ						
Ref.no.	Issue	Date	Sign.		Projection method:  				



- | | |
|--|---|
| 1. Mains fuses/switch and group fuses (autom.) | 13. Battery |
| 2a. Telephone line terminal box | 14. Battery |
| 2b. Line protection for remote control | 15. Work bench |
| 3. Ground connection | 16. Heater (Not used when aircondition installed). |
| 4. Hat rack | 17. Thermostate controlled fan (when air cond. not used). |
| 5. Flourecent lamps | 18. Air condition units |
| 6. Outlet 4-pole | 19. Light switch |
| 7. Battery fuses (autom) | 20. Tube (ø65-ø75) inlet/outlet for coax cables |
| 8. Cable trunking (Tehalit 110x80) | 21. 4"Tube inlet for Power cables, Signal cables and Ground |
| 9. Ventilator outlet | 22. NF-Coax Cables (ø50) |
| 10. Communication antenna | |
| 11. Battery charger | |
| 12. Battery charger (optional) | |

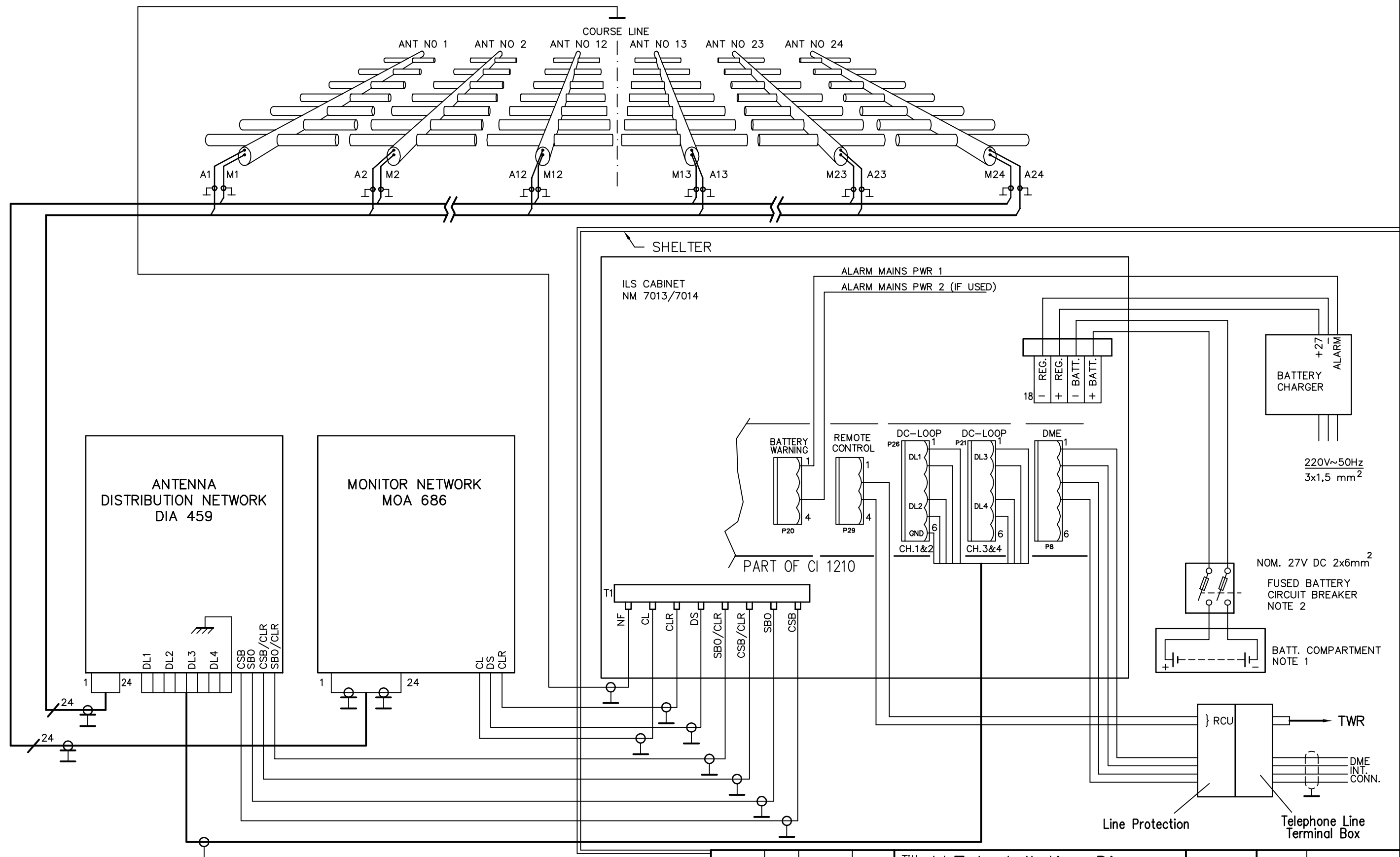
				Title: GLIDE PATH SHELTER INSTALLATION II	Scale: 1:50	Drawn	240495	ARJ	
						Checked			
						Appr.	290396	SK	
					Subject: NM 7000		Sup.for:		Sup.by:
					 Normarc	Dwg.no.: 16265A4			Issue 2
3279	2	040698	ARJ	Projection method:  					
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights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



UNFOLDED VIEW OF SHELTER

- | | |
|--|---|
| 1. Mains fuses/switch and group fuses (autom.) | 13. Battery |
| 2a. Telephone line terminal box | 14. Battery |
| 2b. Line protection for remote control | 15. Work bench |
| 3. Ground connection | 16. Heater (Not used when aircondition installed). |
| 4. Hat rack | 17. Thermostate controlled fan (when air cond. not used). |
| 5. Fluorescent lamps | 18. Air condition units |
| 6. Outlet 4-pole | 19. Light switch |
| 7. Battery fuses (autom.) | 20. 4"Tube inlet for Power cables, Signal cables and Ground |
| 8. 2" and 4" Tubes inlet/outlet for coax cables | 21. Cable trunking (110x80) |
| 9. Ventilator outlet | |
| 10. Communication antenna | |
| 11. Battery charger | |
| 12. Battery charger (optional) | |
| 11A,12A Alternative Position of Battery Chargers | |

				Title:	Scale:	Drawn	240495	ARJ
				SHELTER INSTALLATION LLZ		1:50	Checked	
				Subject:			Appr.	290396
				NM 7000	Sup.for:	Sup.by:		
				 Normarc	Dwg.no.: 16266A4			Issue
3228	2	310398	ARJ					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.

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

Title: LLZ Installation Diagram
24 element system

Subject:
NM 7000/NM 3525

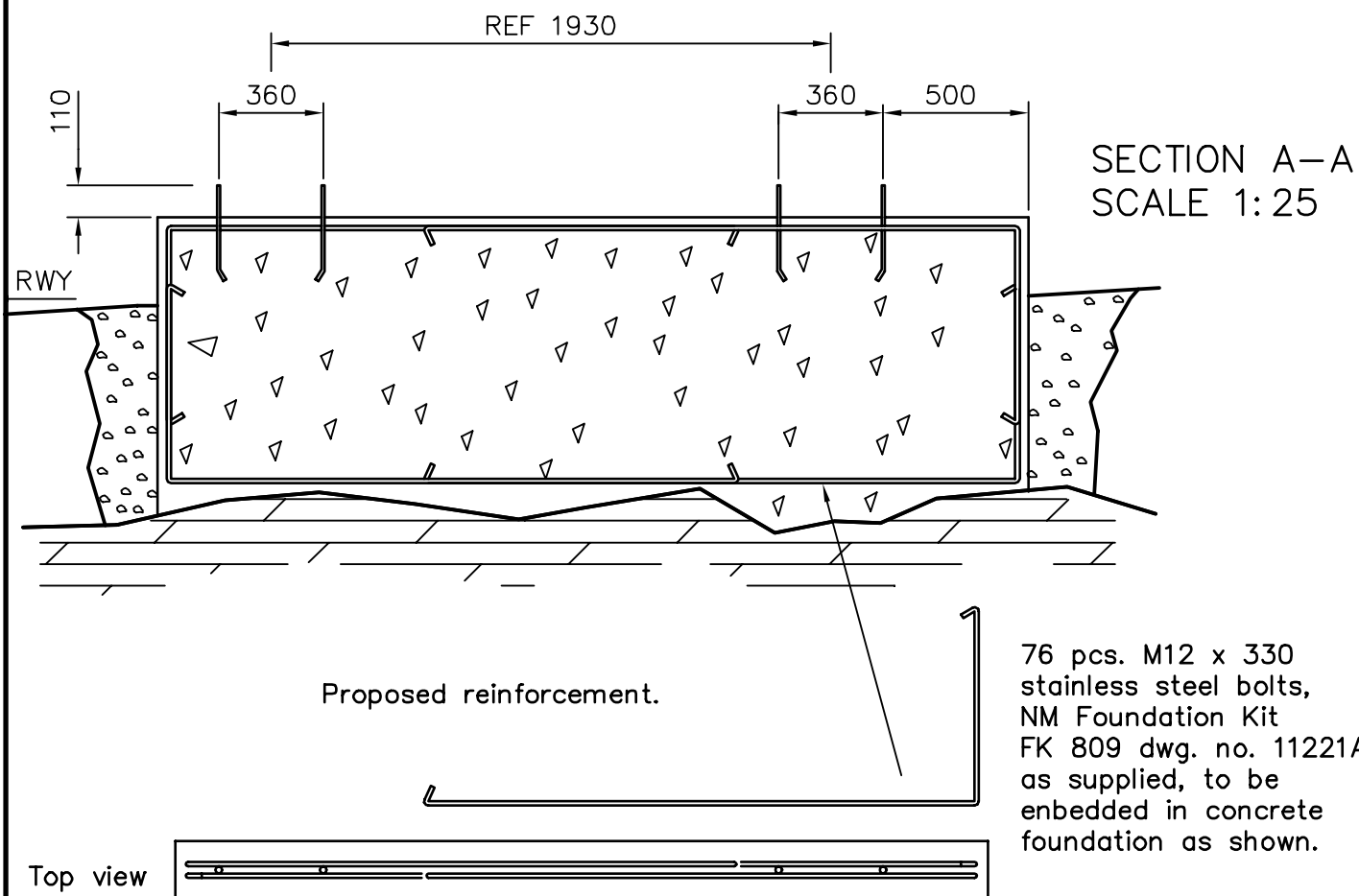
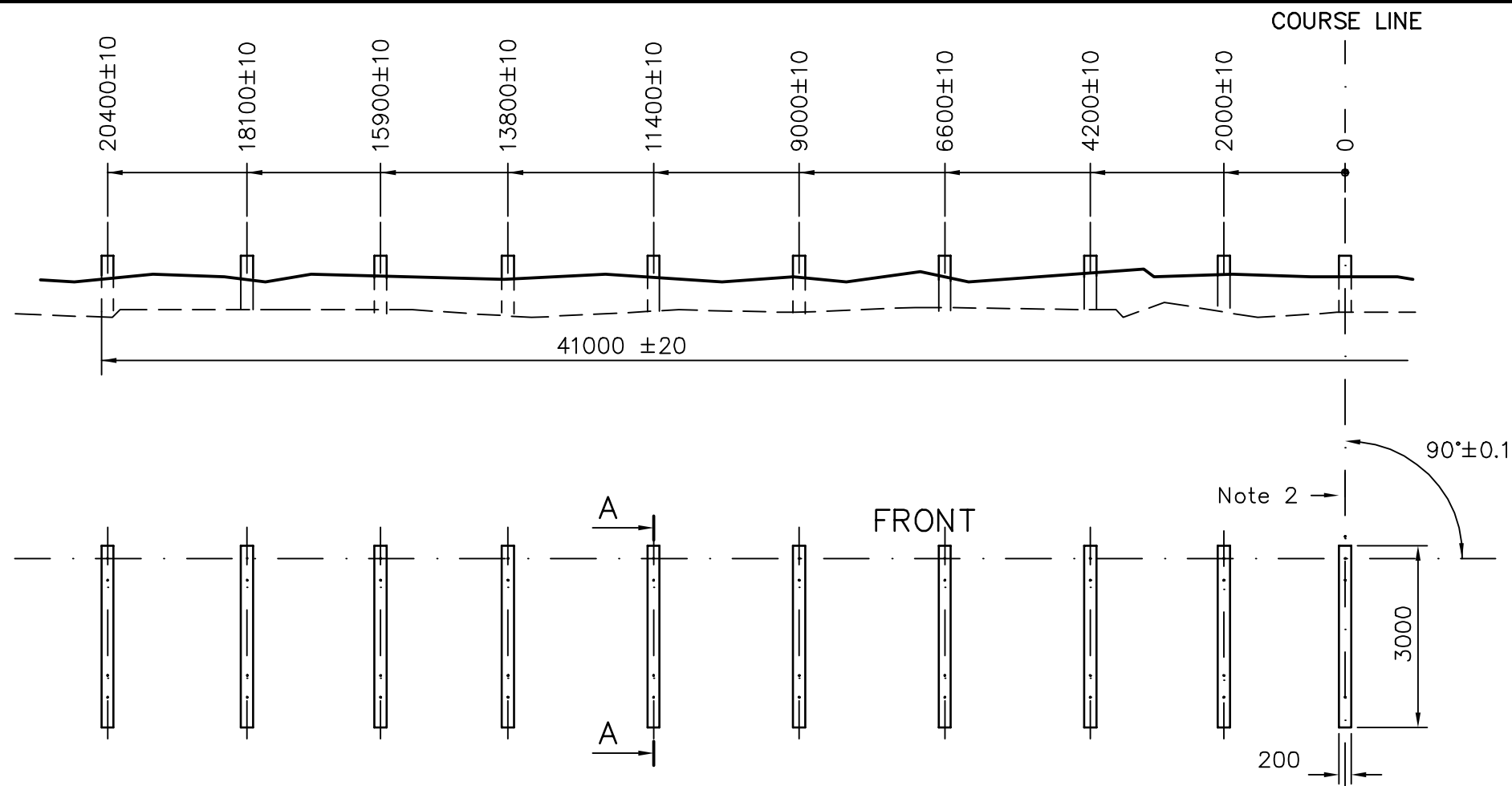
Normarc AS

Scale:	Drawn	060995	HS
1:1	Checked		
	Appr.	070995	JSA

Sup.for: Sup.by:

Dwg.no.: 16346A3 Issue 2

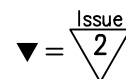
Projection method: ☉ ☐



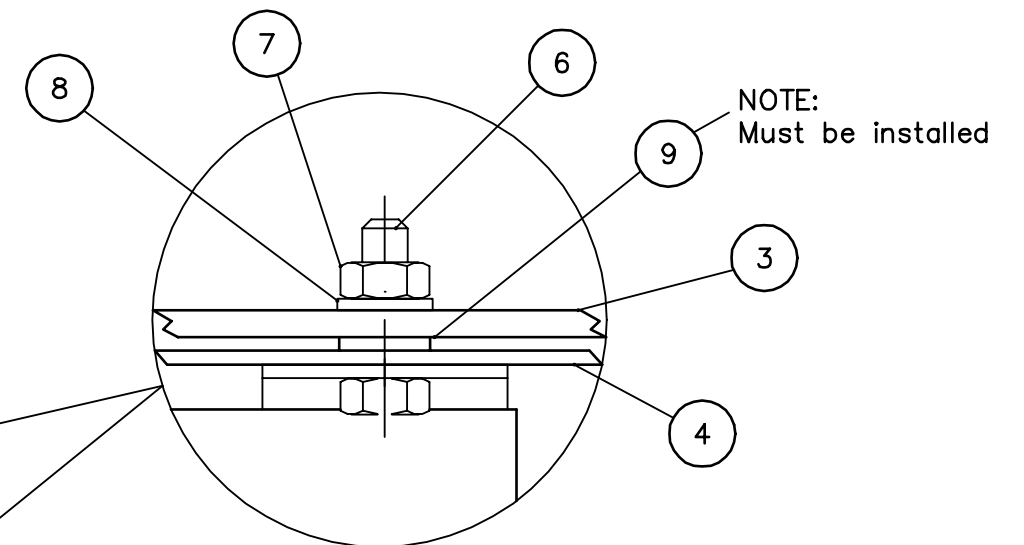
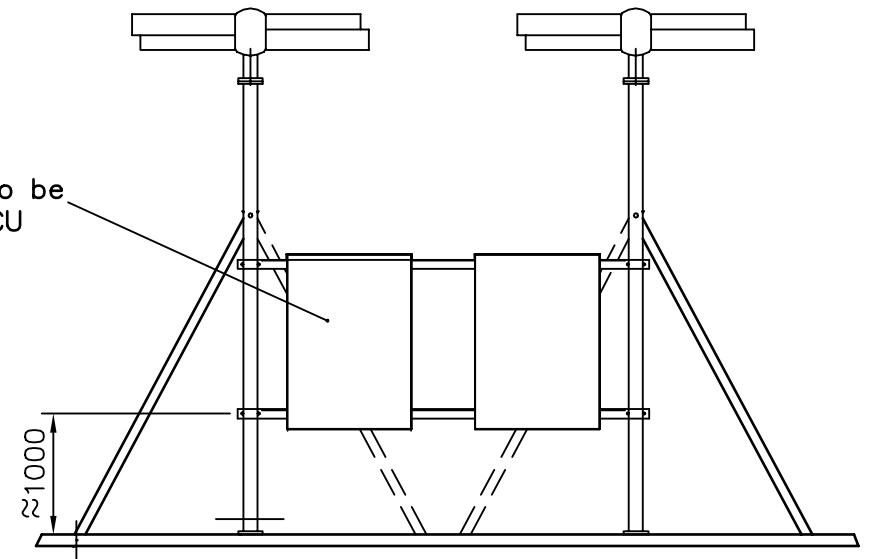
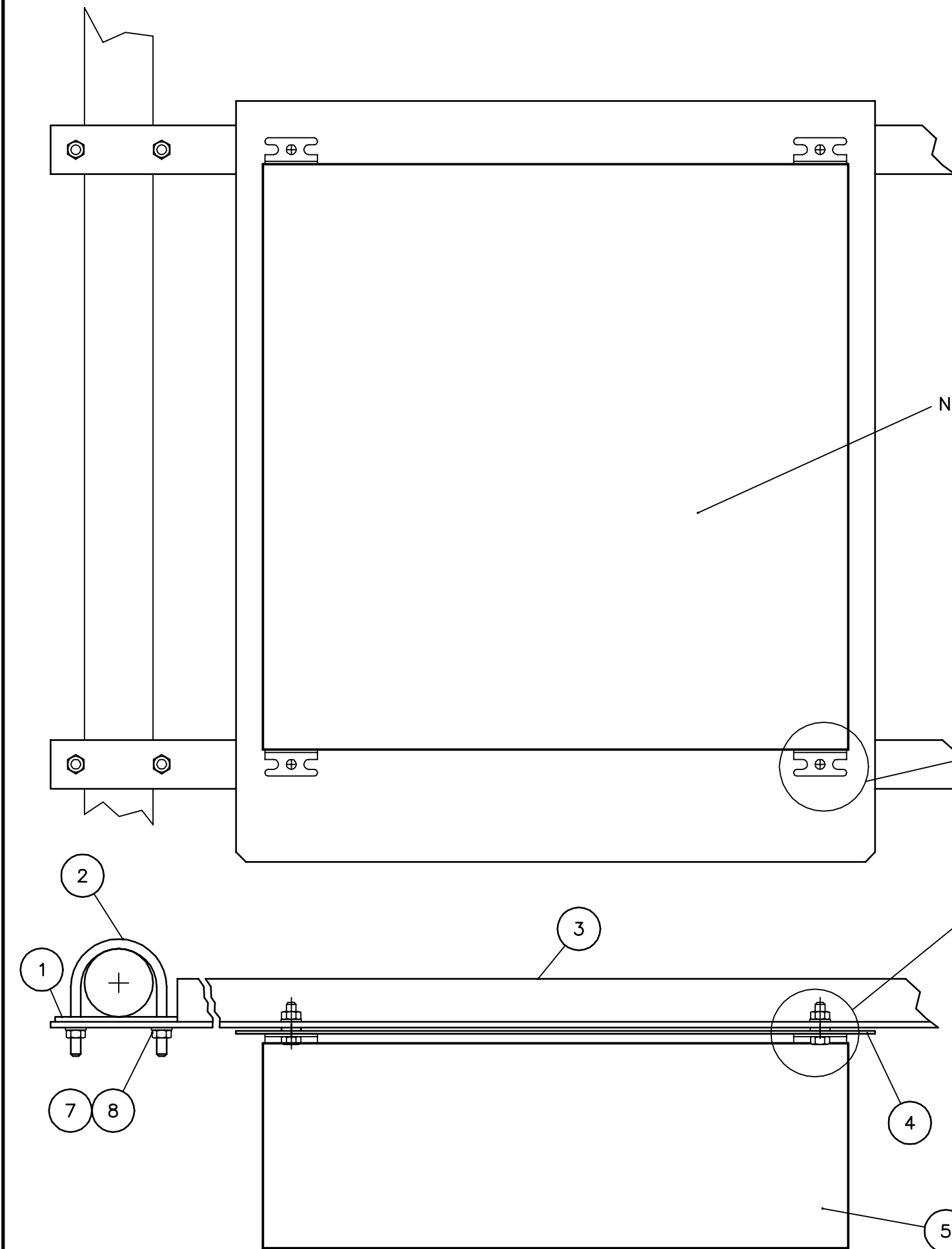
Drawing shows left half of foundation, right half is symmetric about selected course line.

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.



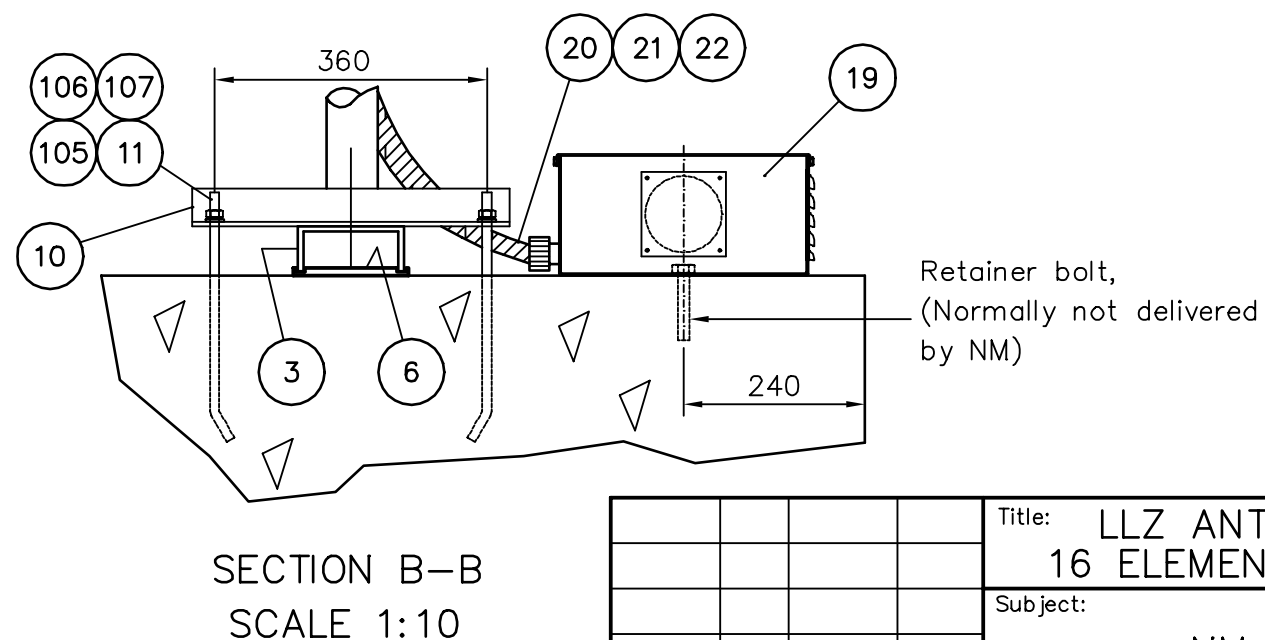
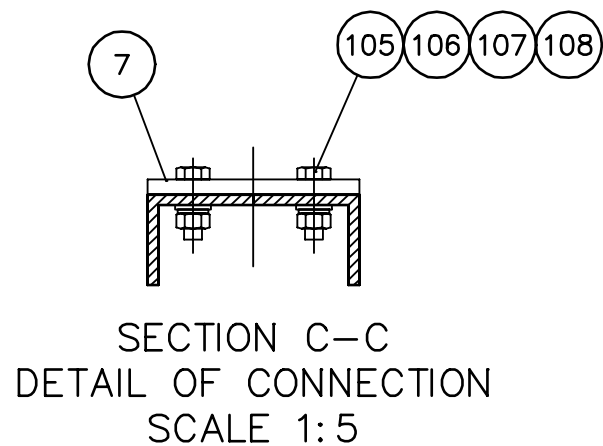
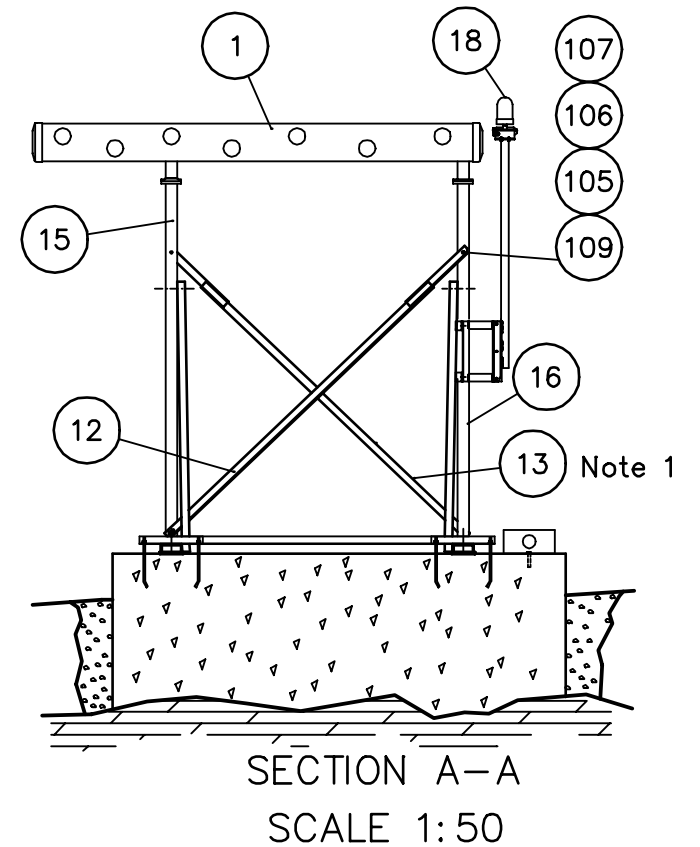
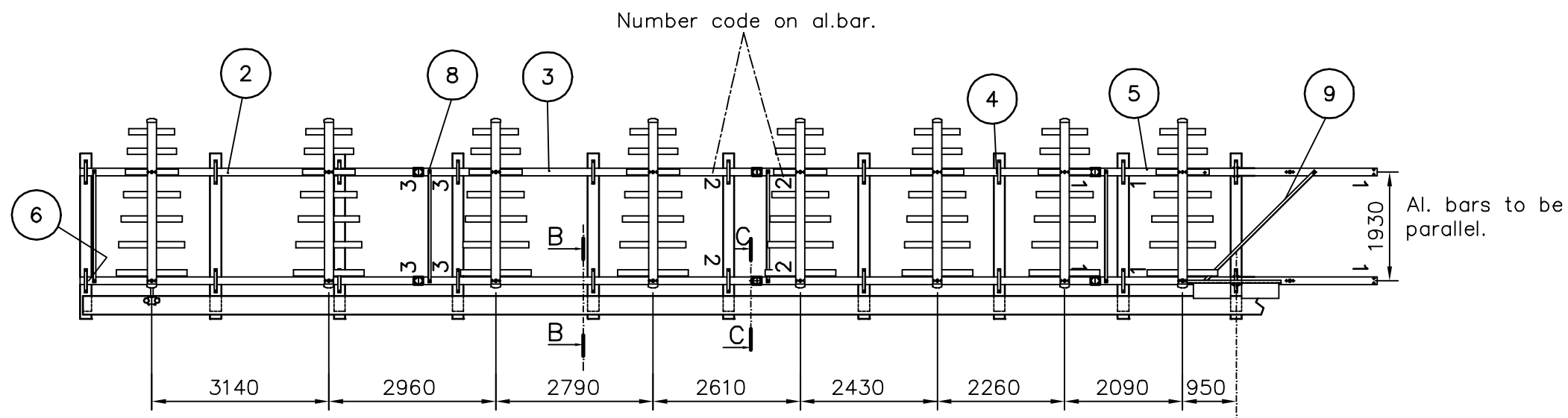
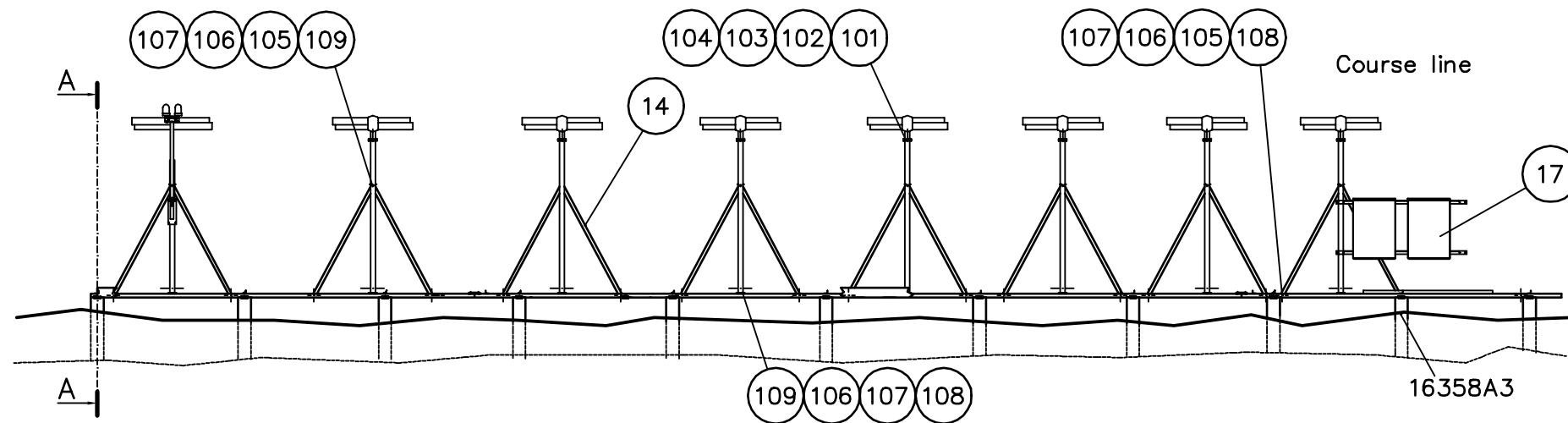
				Title: 16 ELEMENTS/2 FREQ. LLZ ANTENNA FOUNDATION		Scale: 1:100	Drawn: 280995 ARJ
				Subject: NM 3526			Checked: 28.03.96 S.K.
						Sup.for:	Sup.by:
3318	2	260898	TBJ			Dwg.no.: 16358A3	Issue 2
Ref.no.	Issue	Date	Sign.			Projection method: ☉	



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
Item	Qty.	Description	NM Type/remark

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:
3028 2 190897 ARJ				Dwg.no.: F 16361A3	Issue 2
Ref.no. Issue Date Sign.				Projection method: ☉	

Normarc AS

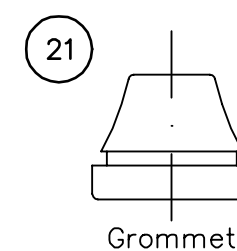
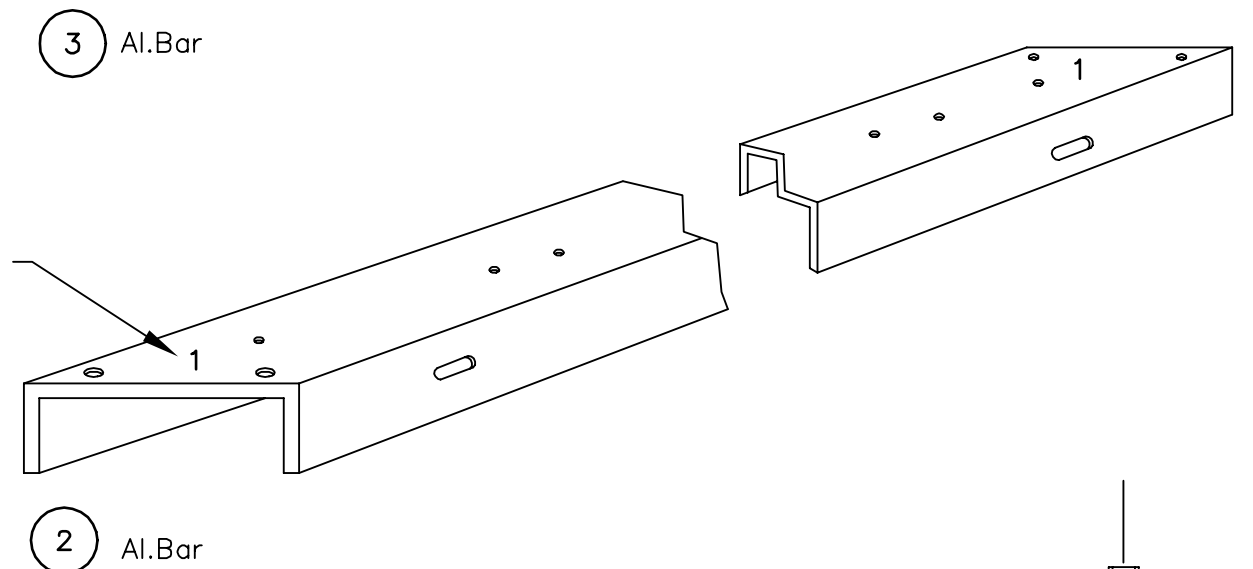
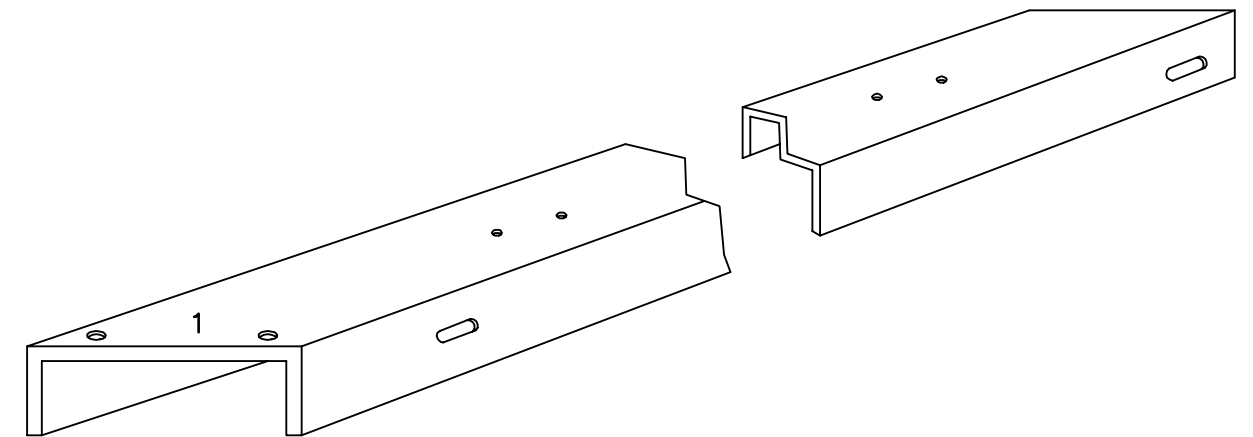
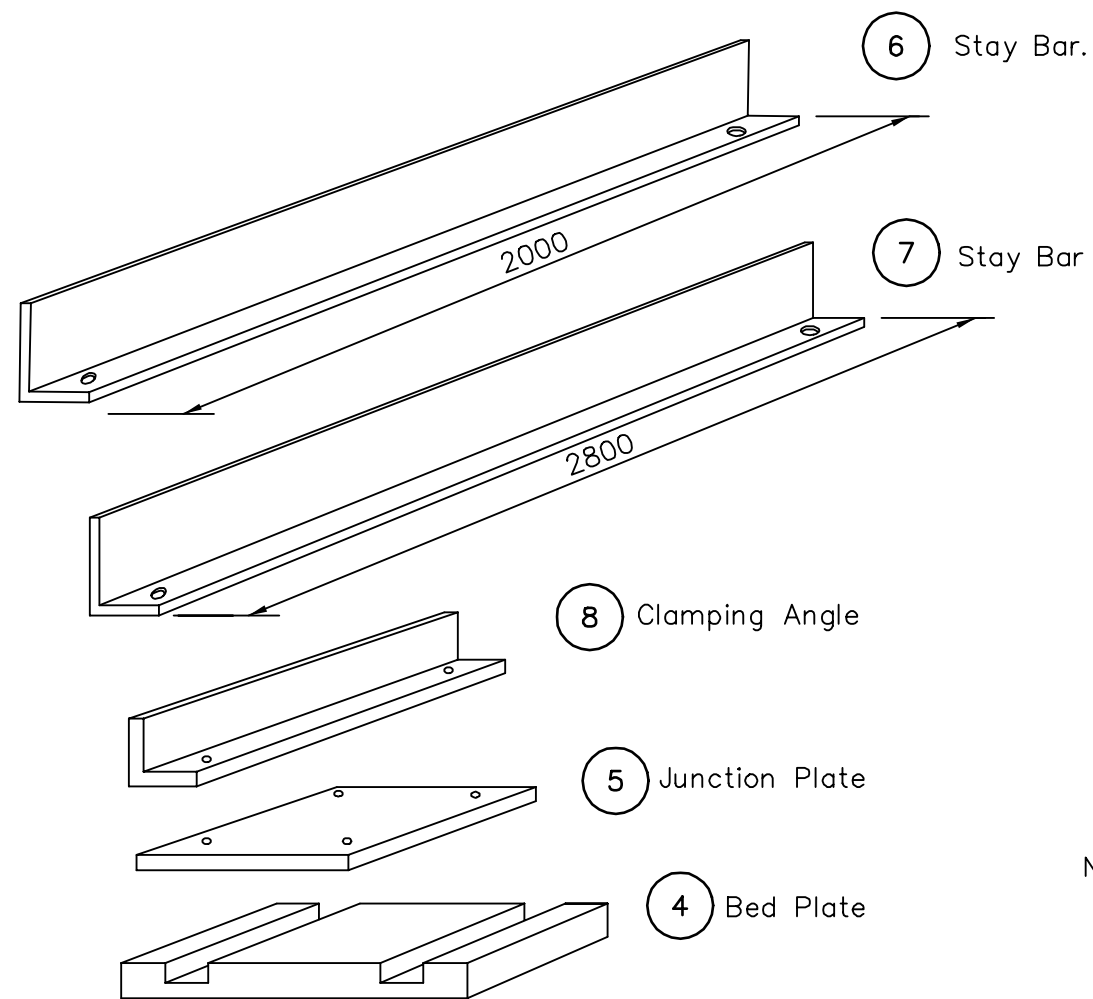


All dimensions are in mm.

Note 1:
Applicable to 3.2 – 5m mast only.

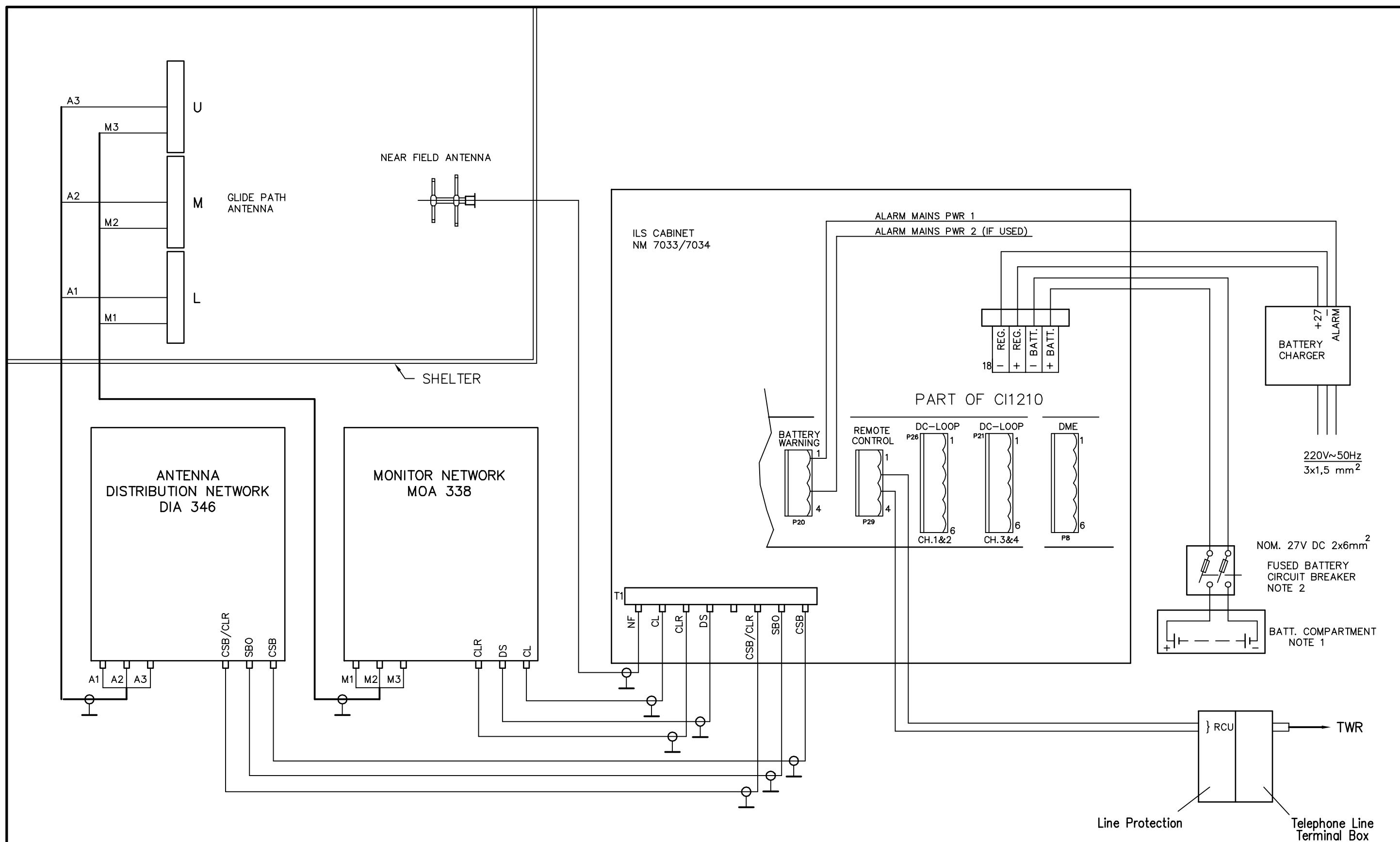
Item no. see parts list no.: 2670
drawings reference to in partslist.

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



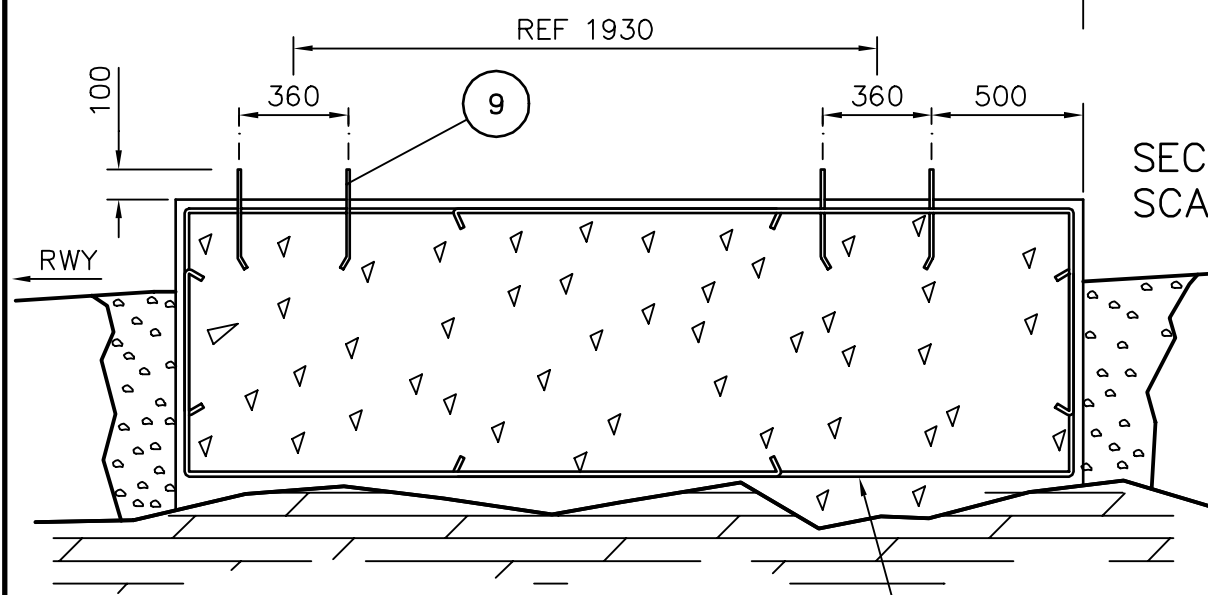
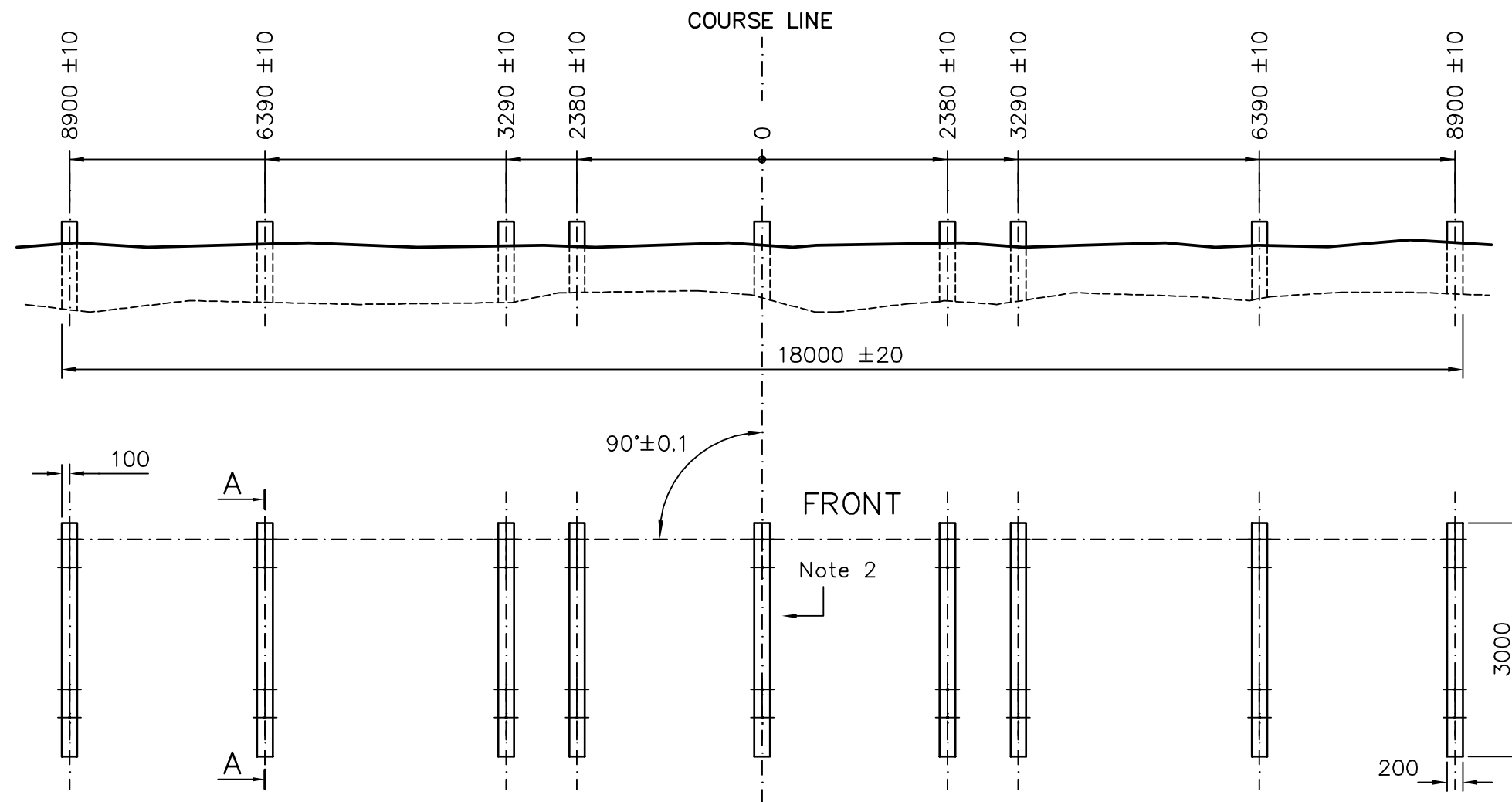
- 112  Washer M6 DIN125 A4
- 111  Screw M6x16 DIN933 A4
- 110  Screw M12x100 DIN933 A4
- 109  Screw M12x40 DIN933 A4
- 101  Screw M10x60 DIN933 A4
- 106  Nut M12 DIN934 A4
- 102  Nut M10 DIN934 A4
- 107  Washer M12 DIN125 A4
- 104  Washer M10 DIN125 A4
- 108  Springwasher M12 DIN127B A4
- 103  Springwasher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

				Title: Framework AF 1166A Mechanical details	Scale: —	Drawn	141095	ARJ
						Subject: NM 3522	Checked	
							Appr.	
					Sup.for:	Sup.by:		
				 Normarc AS	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: 1:1	Drawn	181095	ARJ
						Checked		
				Subject: NM 7000/NM 3545		Appr.	231095	JSA
						Sup.for: 15987A3	Sup.by:	
3007	3	250697	FrH	 Normarc AS	Dwg.no.:	16375A3		Issue
2593	2	270396	FrH					3
Ref.no.	Issue	Date	Sign.			Projection method:		

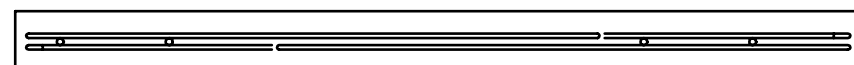


- Notes
- 1) All dimensions are in mm.
 - 2) The centerline of the middle concrete slab shall constitute the selected Course Line.
 - 3) The antenna foundation consists of 9 concrete slabs 200 x 3000mm. The depth of the slabs shall be to a level ensuring rigid foundation, undisturbed by any severe weather 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

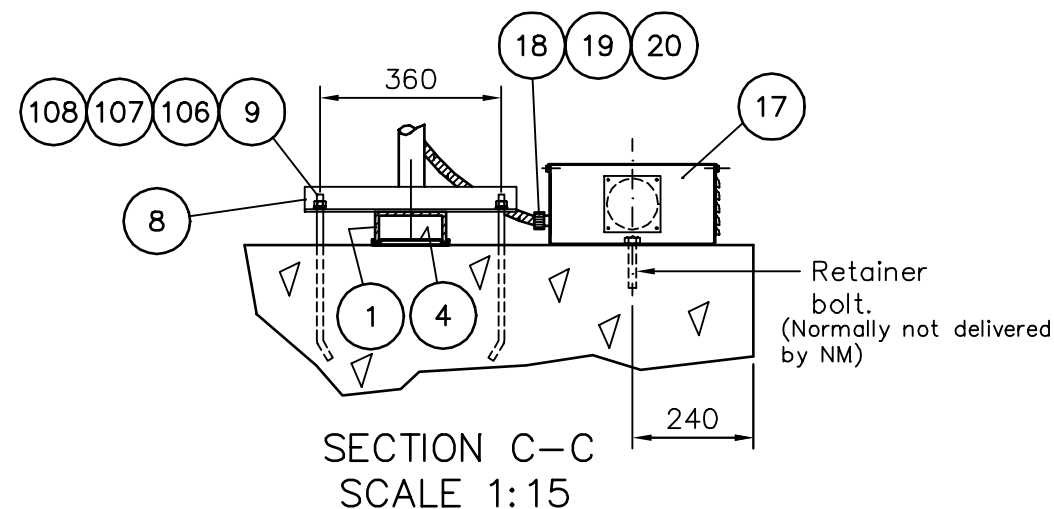
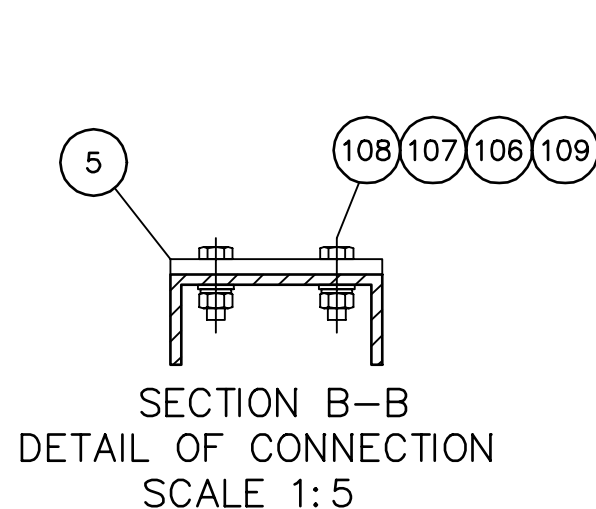
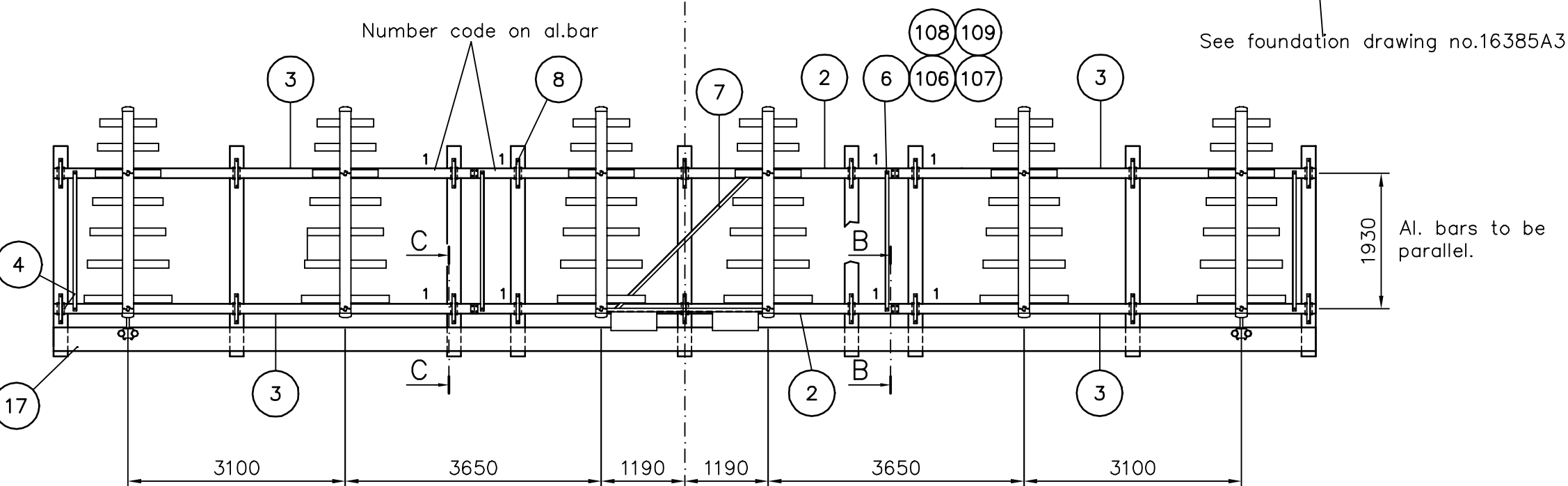
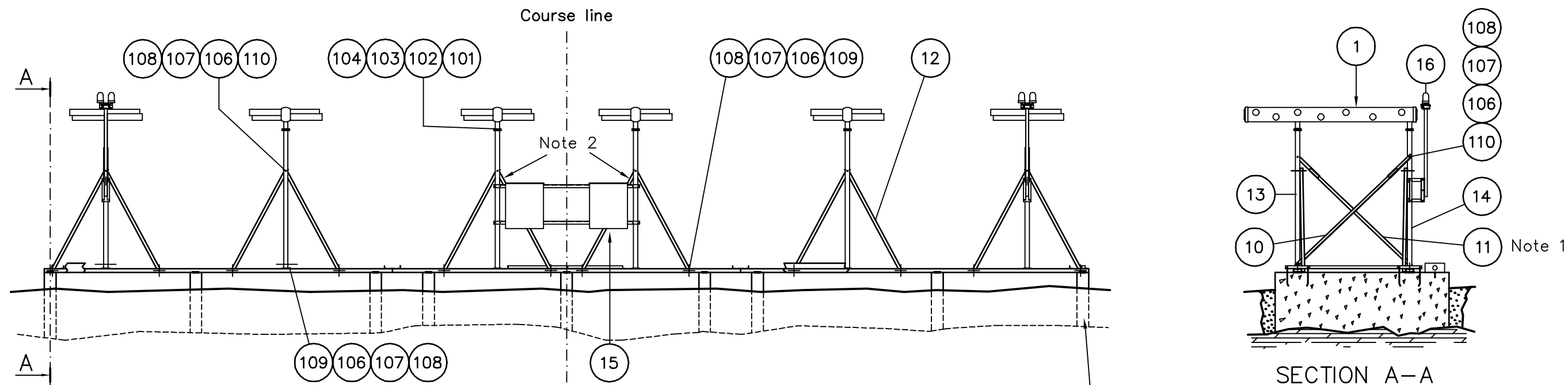


Issue 2

Item no. se Parts List no.2134

Title: LLZ ANT. FOUNDATION 6ELEMNTS/1 FREQ.				Scale: 1:75	Drawn: 231095 ARJ
Subject: NM 3522				Checked:	
				Appr.:	28.03.96 S.K.
				Sup.for: 6243A3-3	Sup.by:
3318 2 260898 TBj				Dwg.no.: 16385A3	Issue 2
Ref.no. Issue Date Sign.				Projection method: ☉ ☐	

Normarc AS



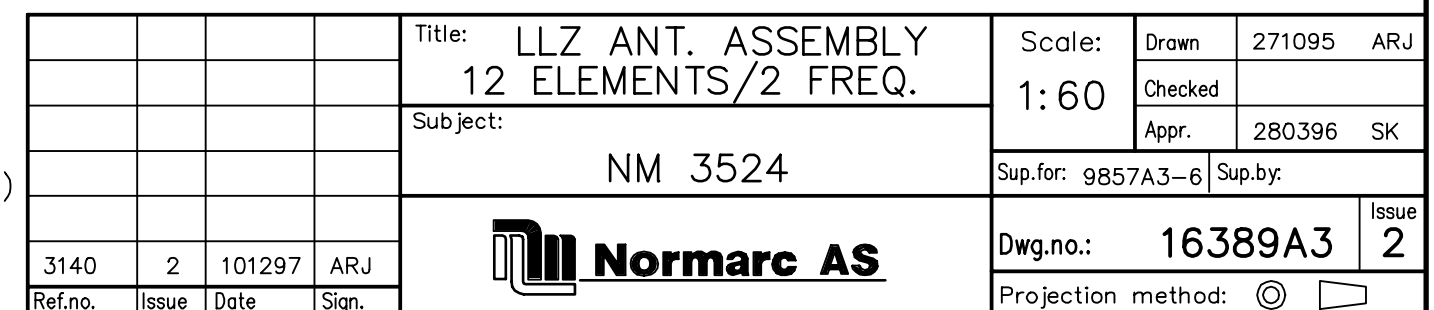
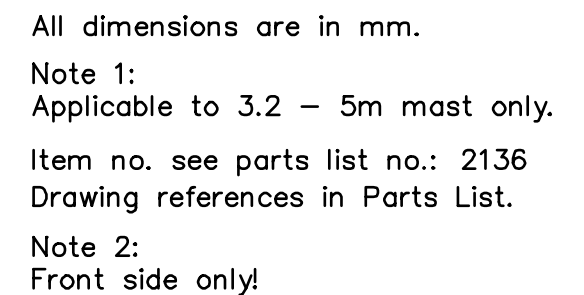
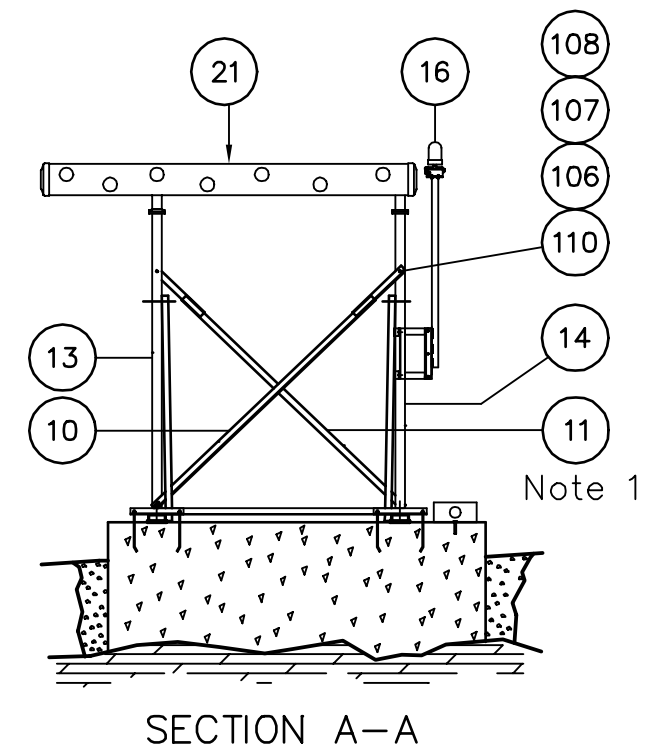
All dimensions are in mm.

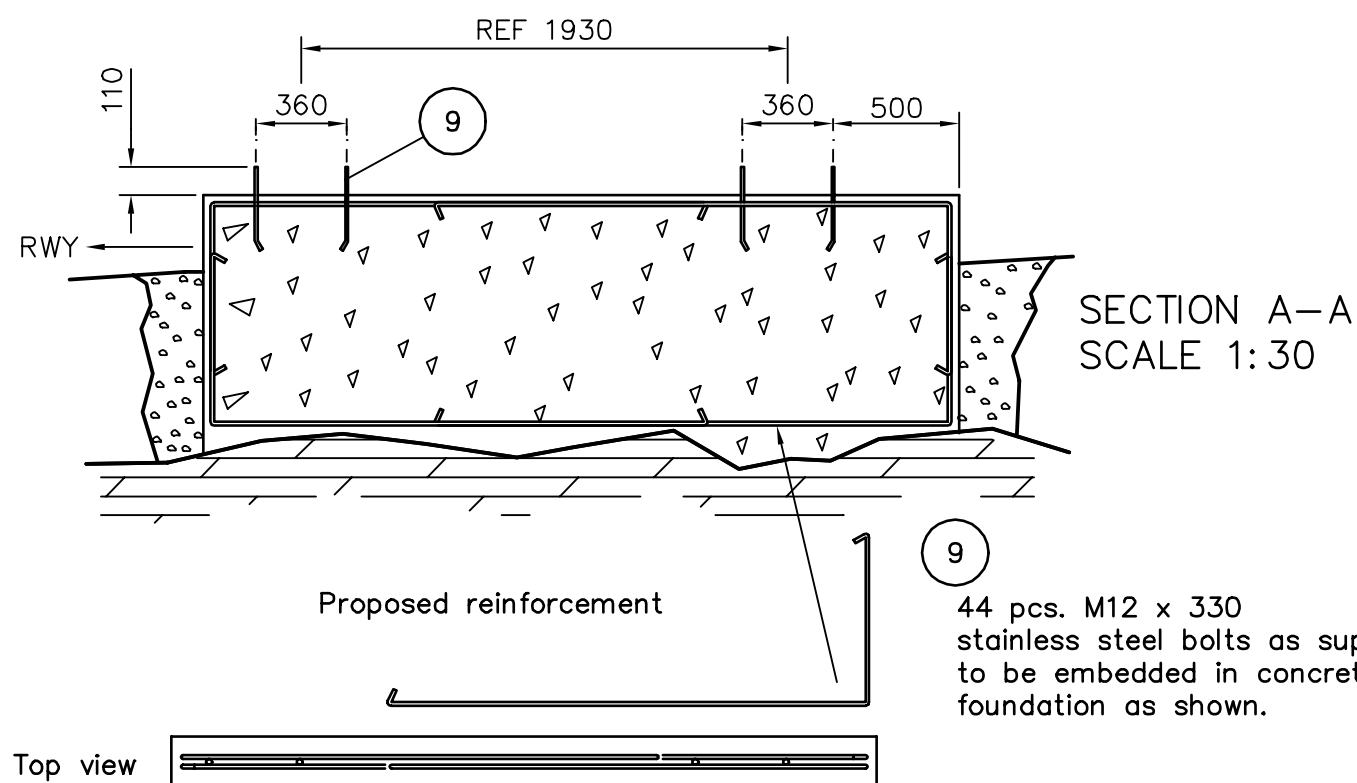
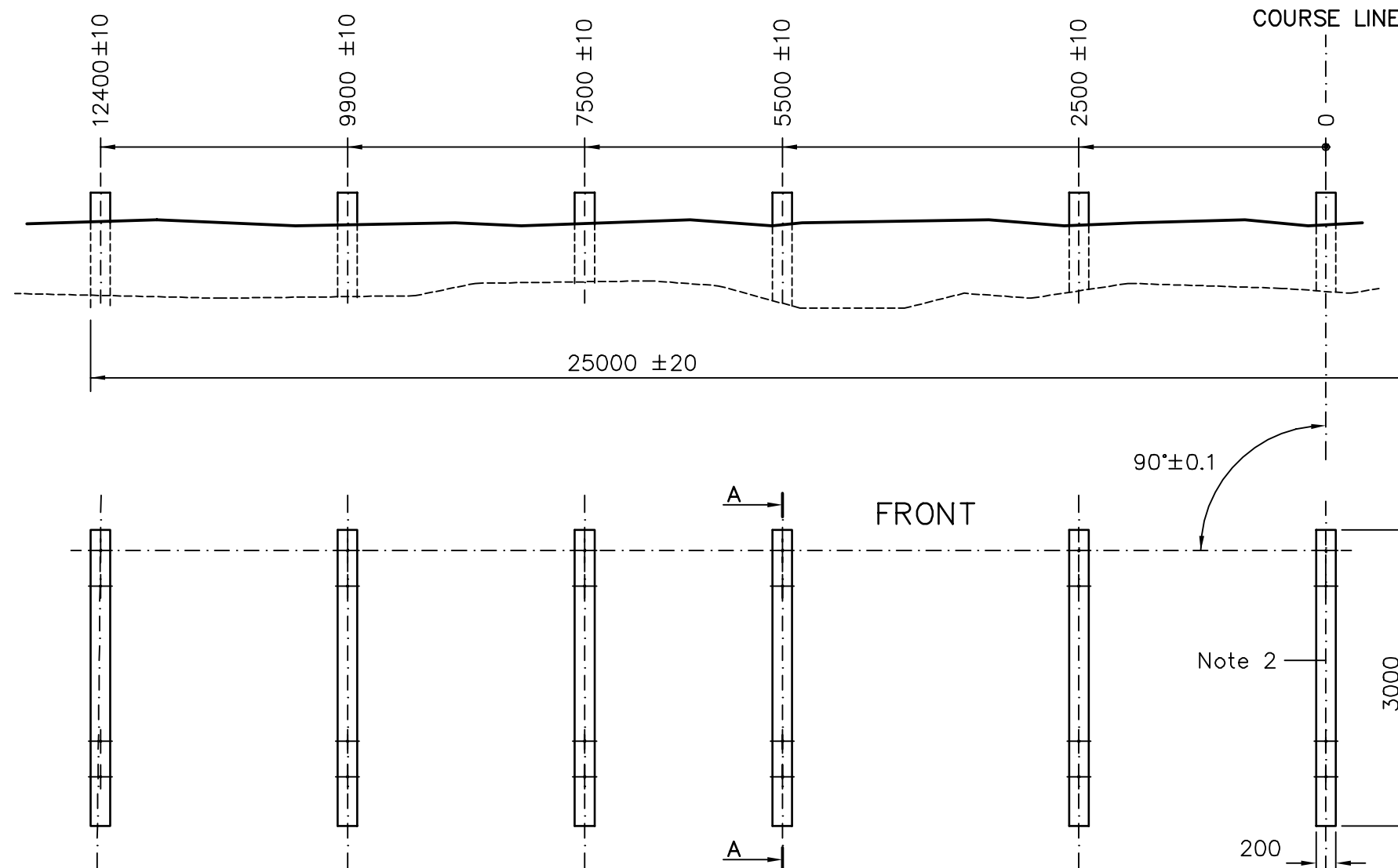
Note 1:
Applicable to 3.2 – 5m mast only.

Item no. see parts list no.: 2134
Drawing references in Parts List.

Note 2:
Front side only!

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





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

Notes

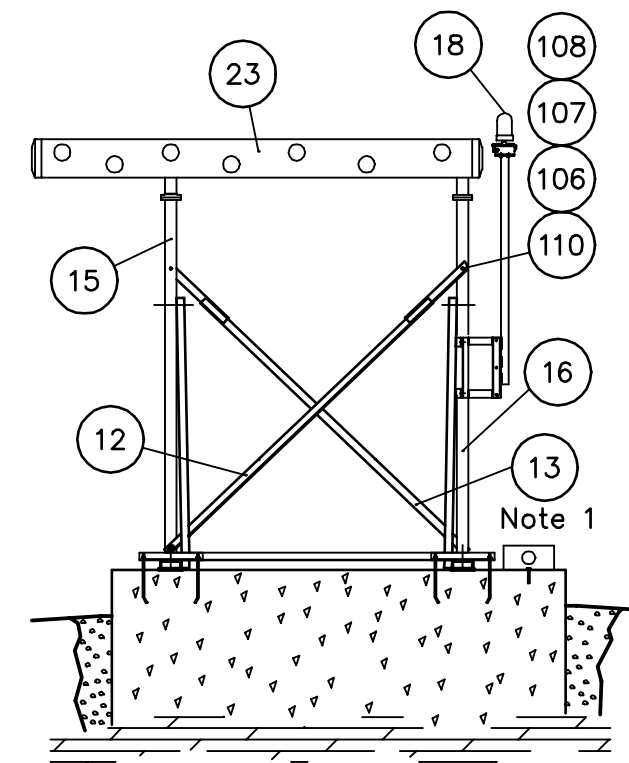
- 1) All dimensions are in mm.
 - 2) The centerline of the middle concrete slab shall constitute the selected Course Line.
 - 3) The antenna foundation consists of 11 concrete slabs 200 x 3000 mm. The depth of the slabs shall be to a level ensuring rigid foundation, undisturbed by any severe weather 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.

Issue 2

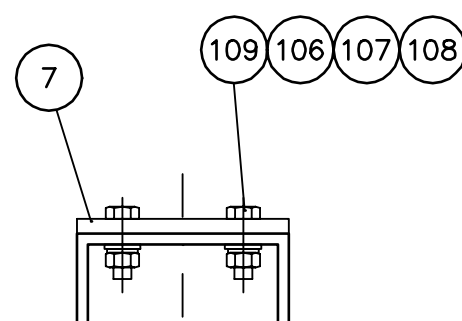
Item see Parts List no.2136

Title: LLZ ANT. FOUNDATION 12 ELEMENTS/2 FREQ.				Scale:	Drawn	291095	ARJ
Subject: NM 3524				1:60	Checked		
					Appr.	28.03.96	S.K.
				Sup.for: 9606A3-4		Sup.by:	
3318 2 260898 TBj				Dwg.no.: 16390A3			Issue 2
Ref.no. Issue Date Sign.				Projection method: ☉ ☐			

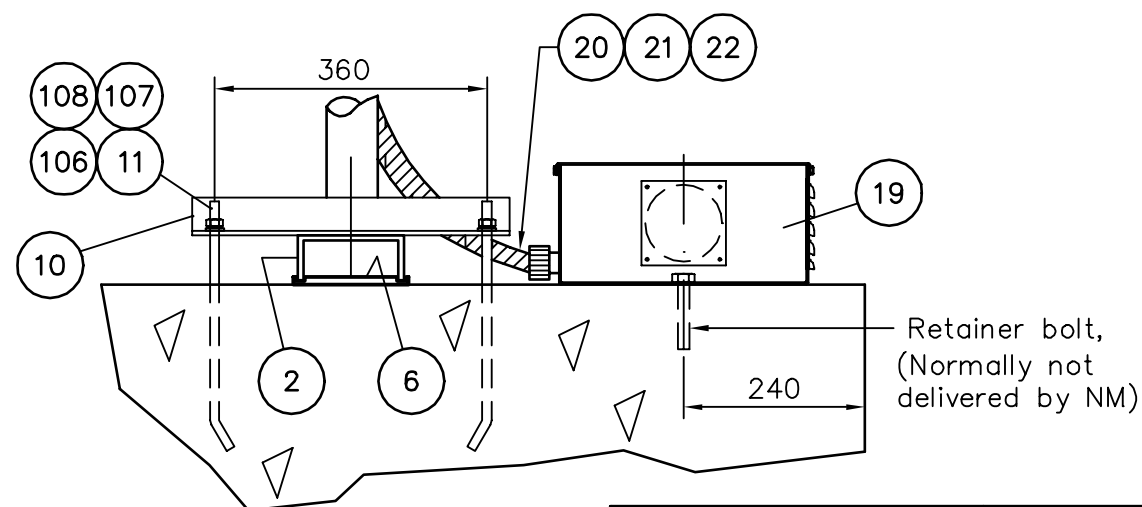
Normarc AS



SECTION A-A
SCALE 1:50



Detail C
OF CONNECTION
SCALE 1:5



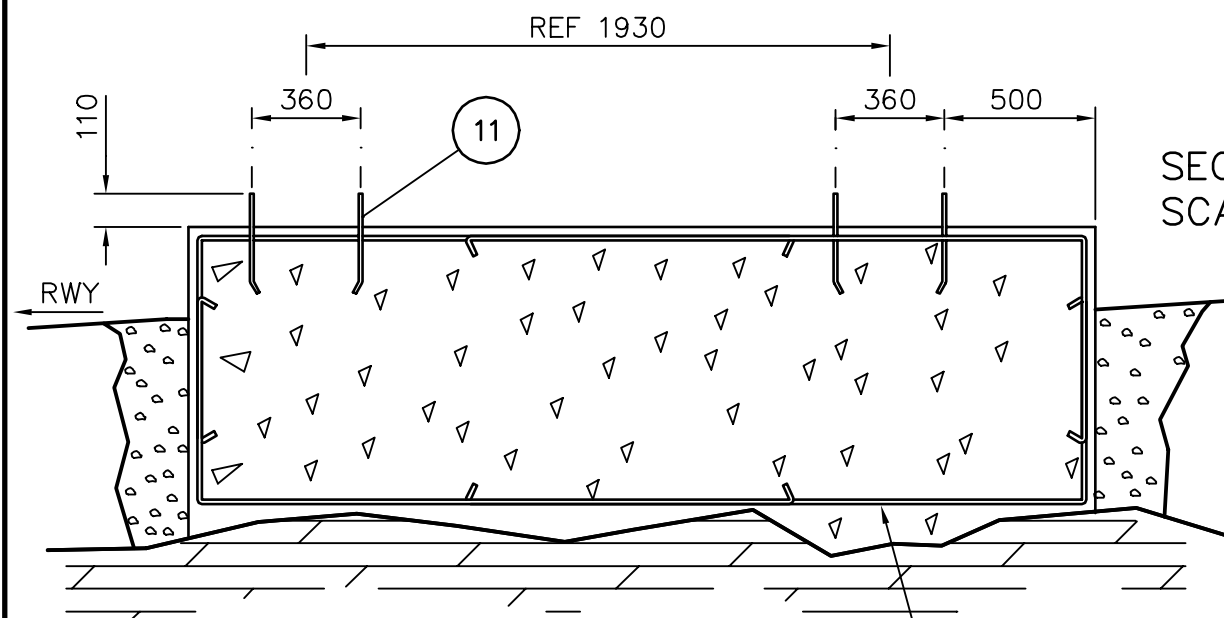
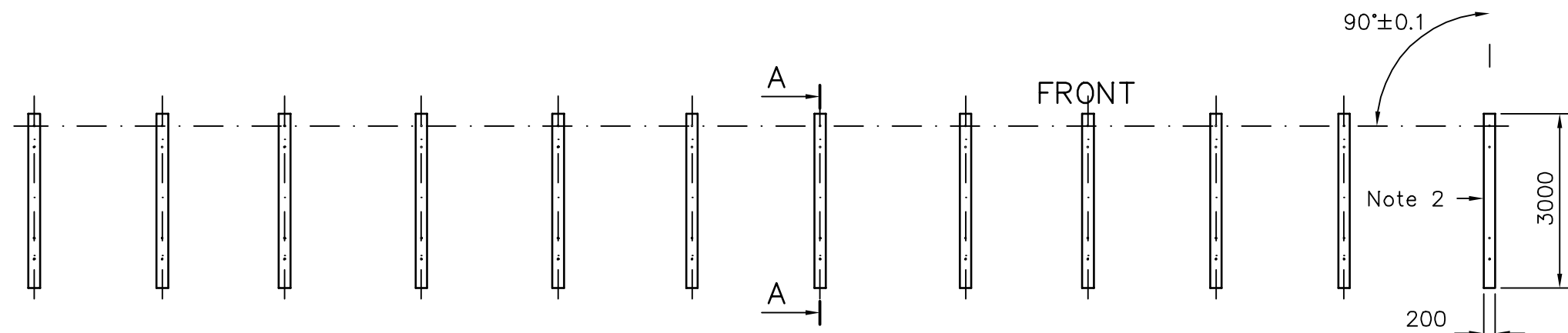
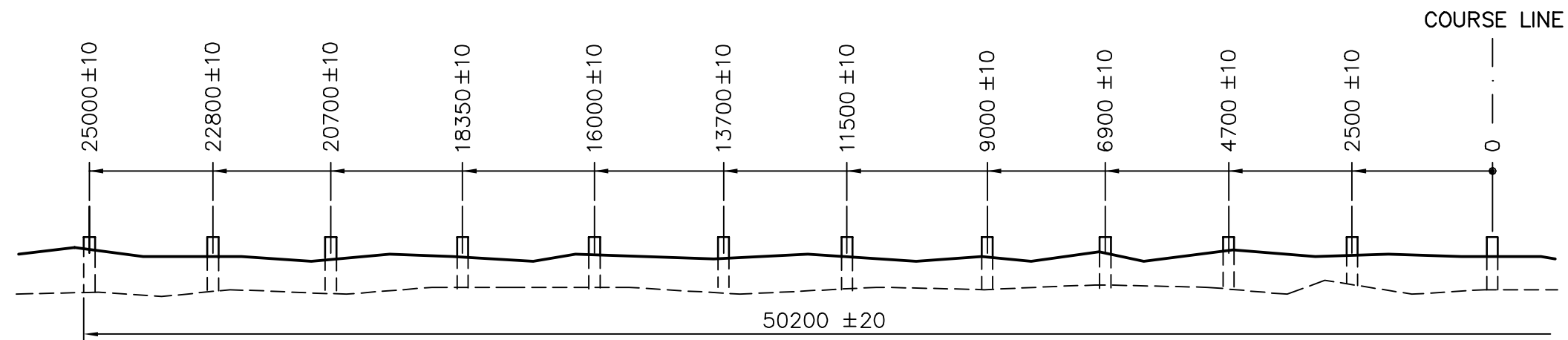
SECTION B-B
SCALE 1:10

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:	Checked	
				NM 3525	Sup.for: 9858A3—5	Appr.	280396	SKP
3140	4	101297	ARJ			Sup.by:		
2908	3	220197	ARJ	 Normarc AS	Dwg.no.: 16391A3	Issued by: 4		
2727	2	100596	ARJ					
Ref.no.	Issue	Date	Sign.					
				Projection method:  				



SECTION A-A
SCALE 1:25

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

Notes

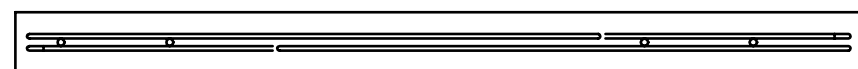
- 1) All dimensions are in mm.
 - 2) The centerline of the middle concrete slab shall constitute the selected Course Line.
 - 3) The antenna foundation consists of 23 concrete slabs 200 x 3000 mm. The depth of the slabs shall be to a level ensuring rigid foundation, undisturbed by any severe weather 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.

Issue 4

Item no. se Parts List no.2137

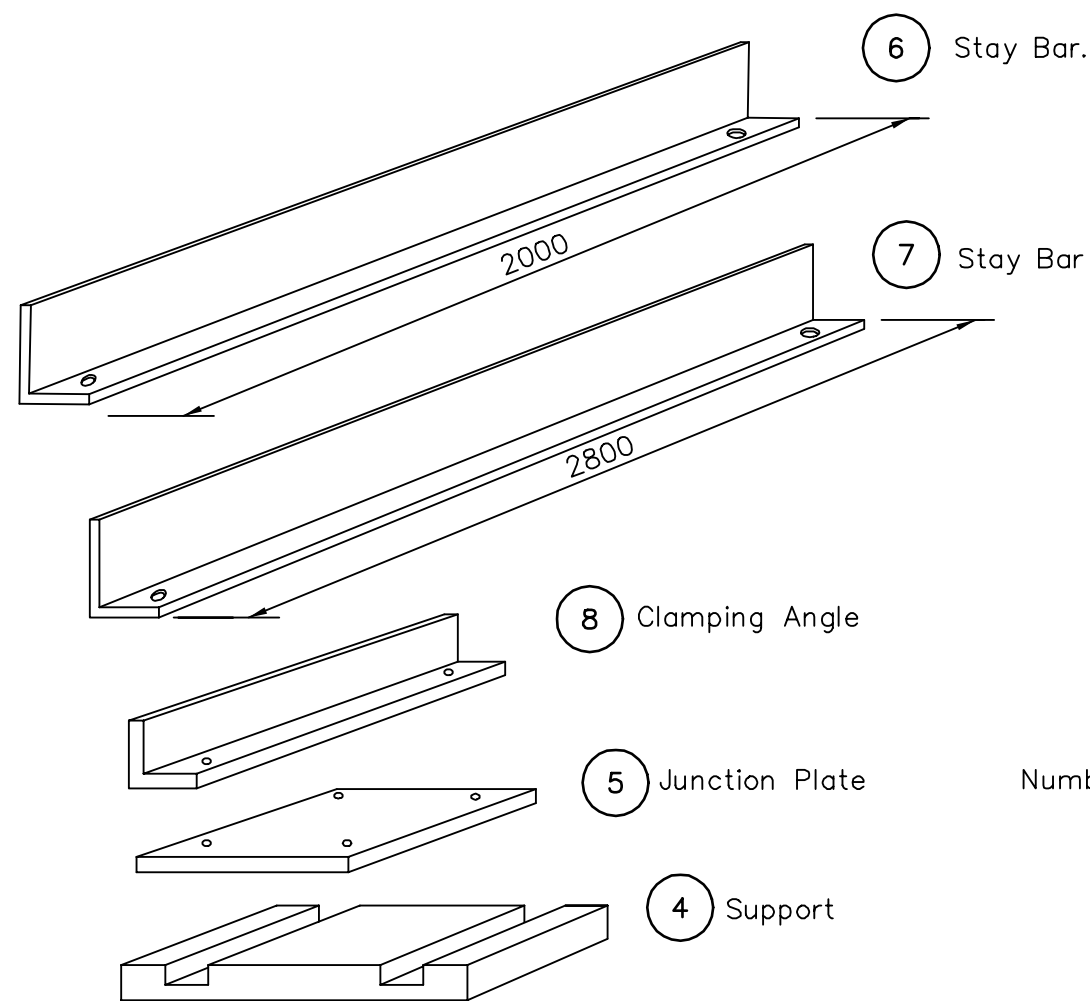
Proposed reinforcement.

Top view

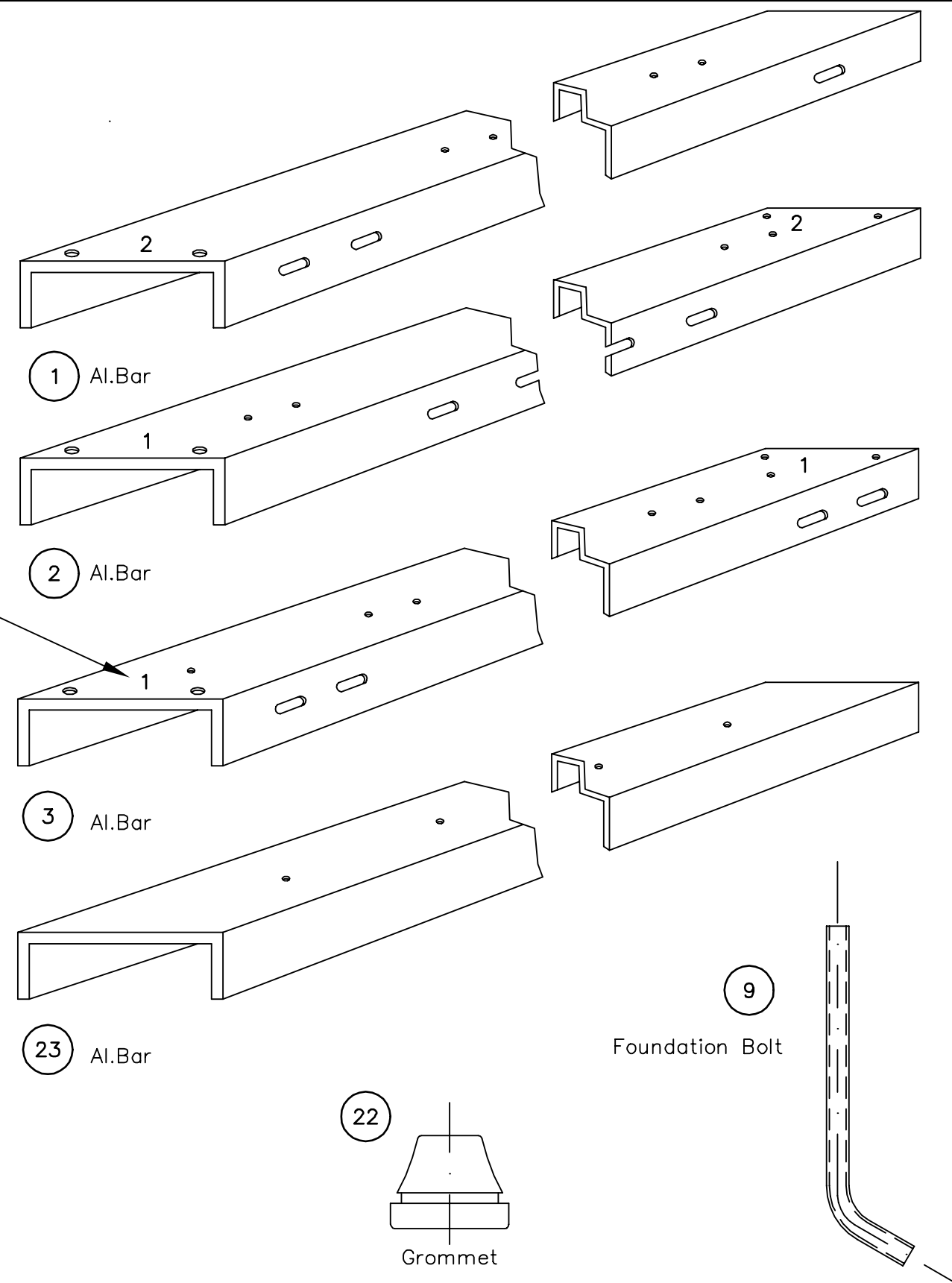


11 92 pcs. M12 x 330 stainless steel bolts as supplied to be embedded in concrete foundation as shown.

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



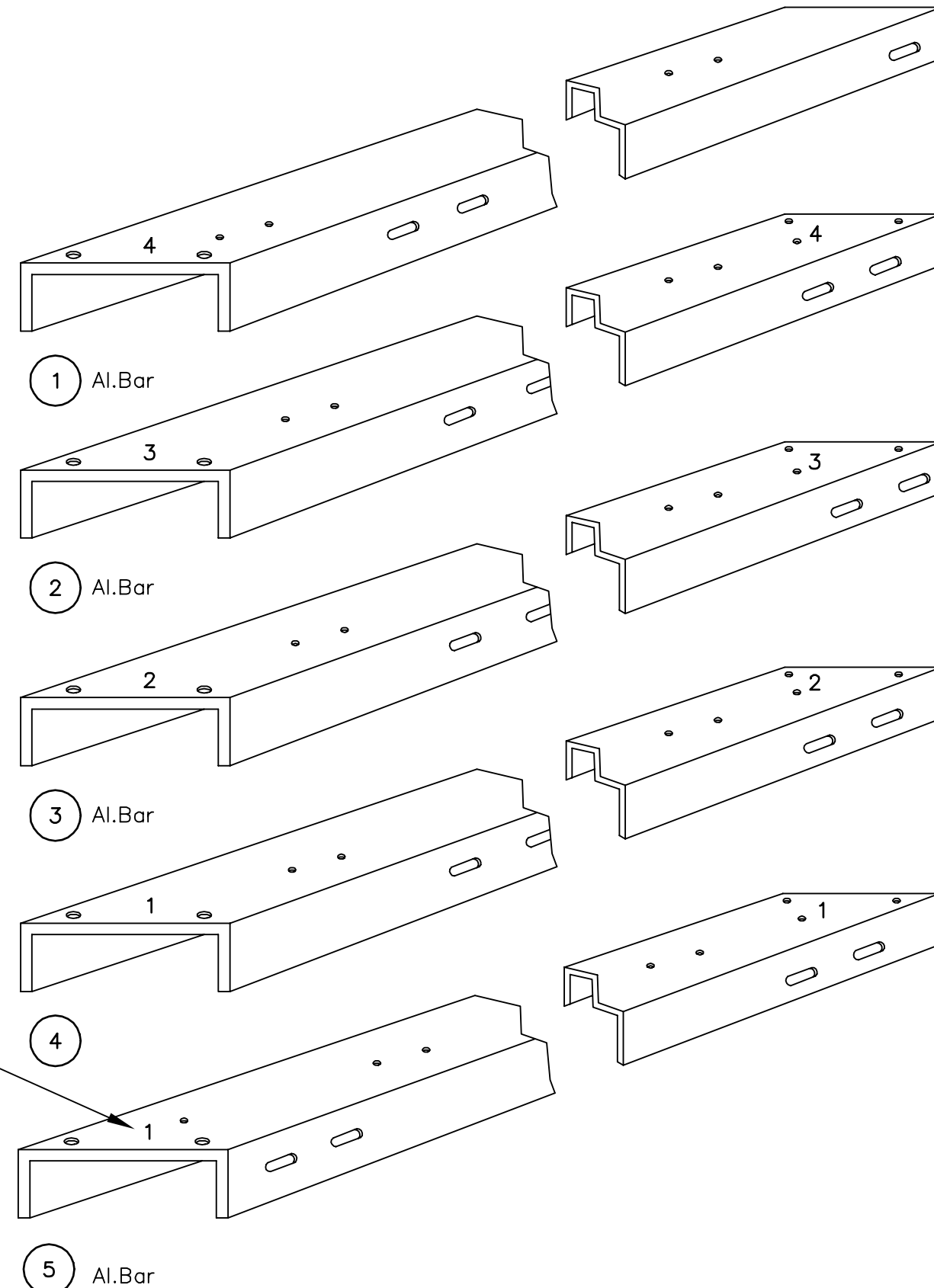
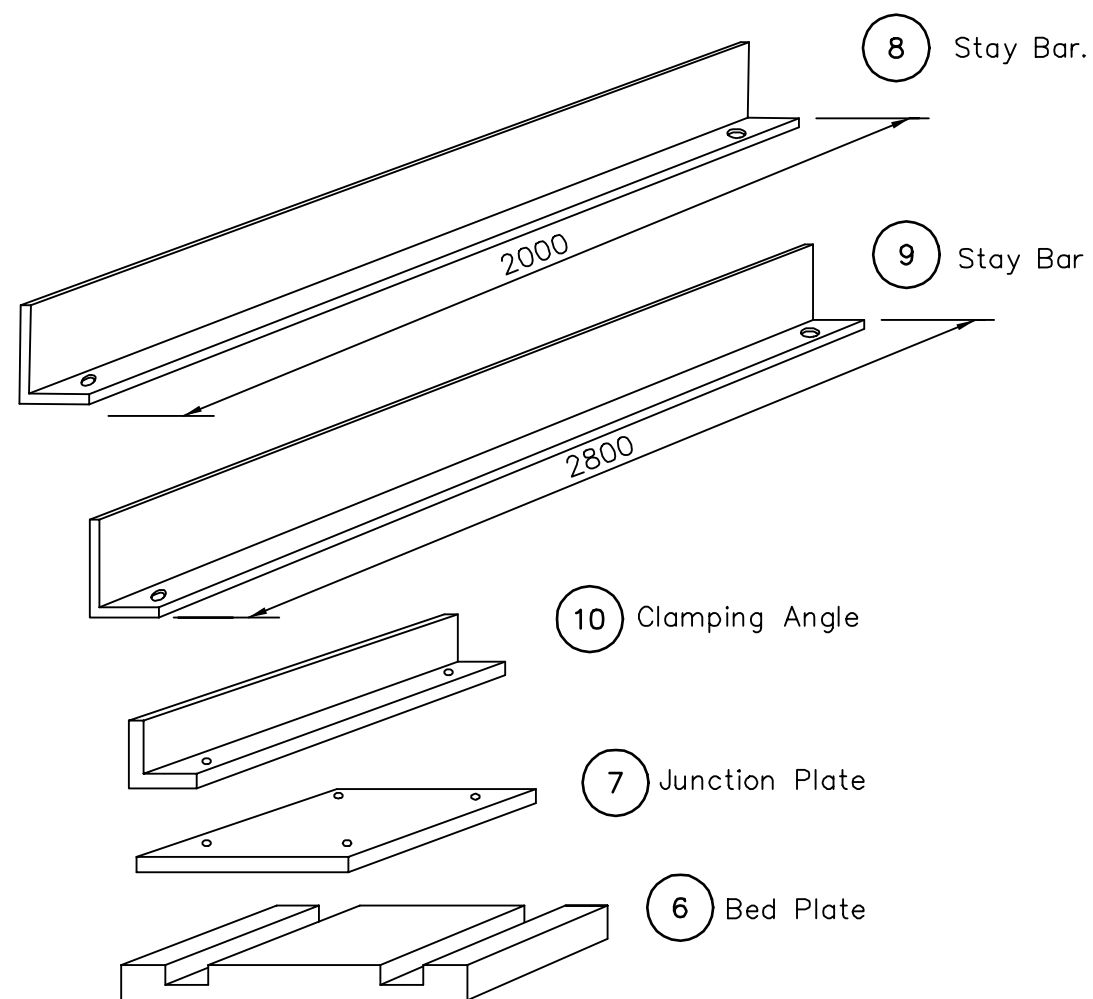
Number code



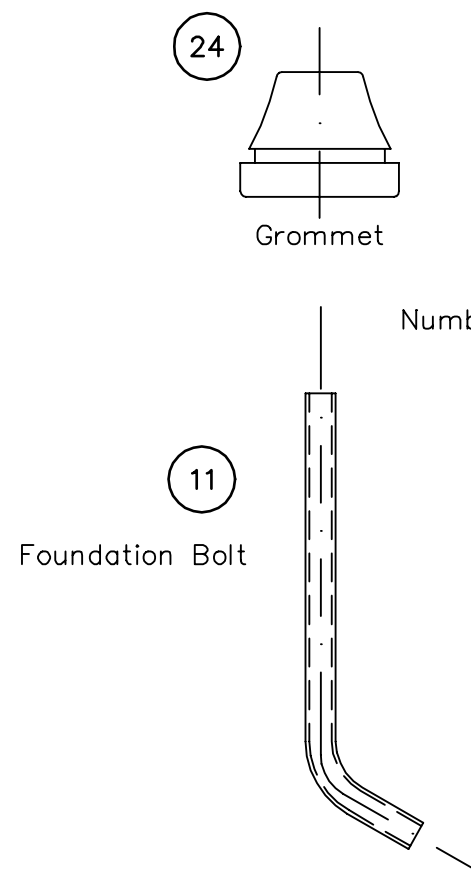
112		Washer M6 DIN125 A4
111		Screw M6x16 DIN933 A4
110		Screw M12x100 DIN933 A4
109		Screw M12x40 DIN933 A4
101		Screw M10x60 DIN933 A4
106		Nut M12 DIN934 A4
102		Nut M10 DIN934 A4
107		Washer M12 DIN125 A4
104		Washer M10 DIN125 A4
108		Springwasher M12 DIN127B A4
103		Springwasher M10 DIN127B A4

				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
						Projection method:	

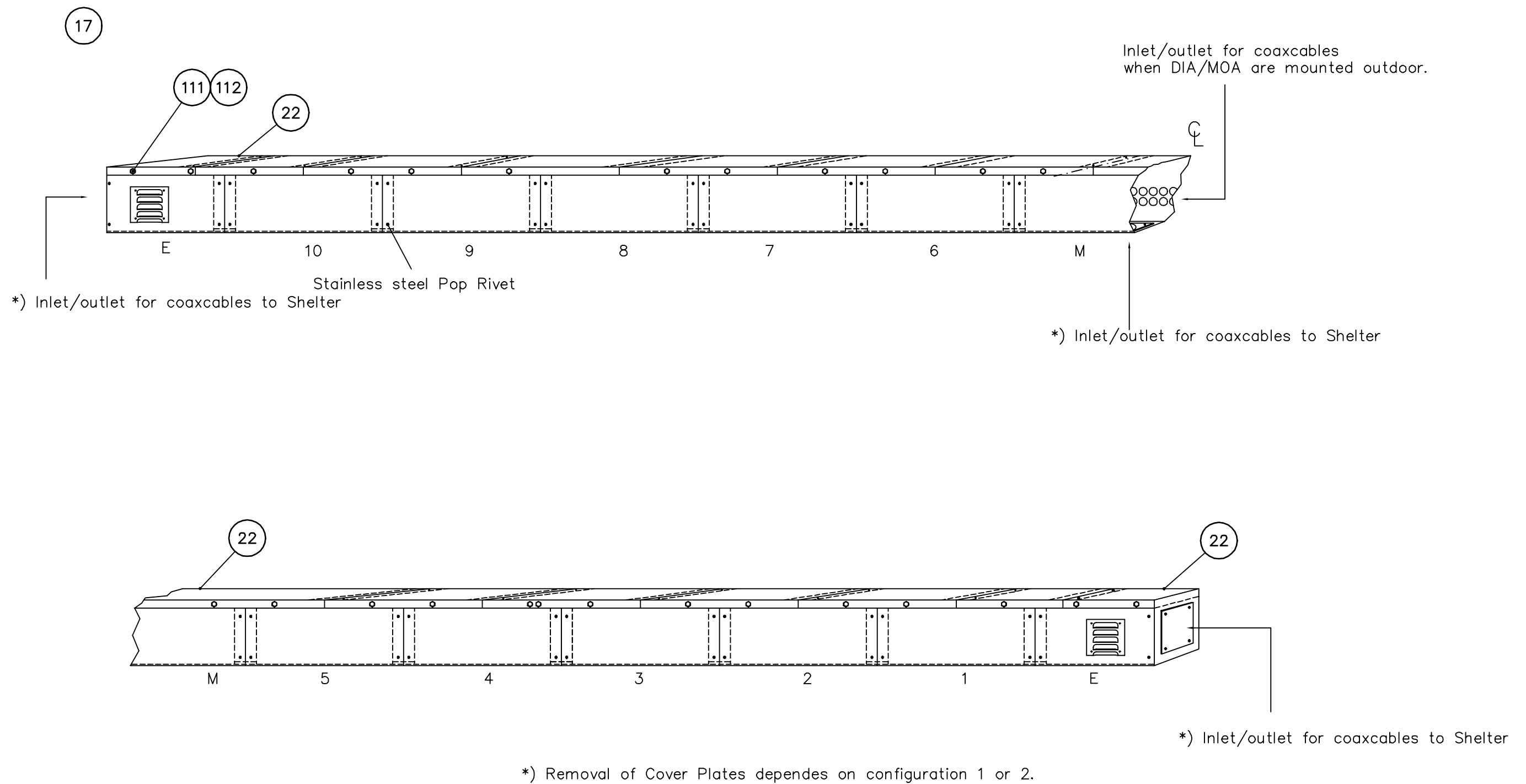
Normarc AS



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

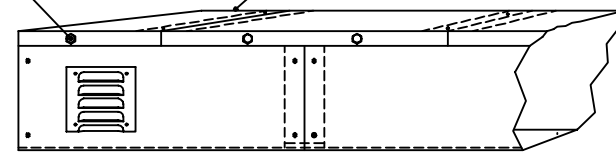


				Title: Cable Duct Assembly CDA 1044E/F	Scale: —	Drawn	291095	ARJ
						Subject: NM 3524	Checked	
					Appr.		290396	SK
					Sup.for:	Sup.by:		
				 Normarc	Dwg.no.:	16416A3	Issue 2	
3228	2	310398	ARJ					
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights reserved NAVIA AVATION AS, NORWAY	Projection method:	☉ ☐		

19

111 112

23

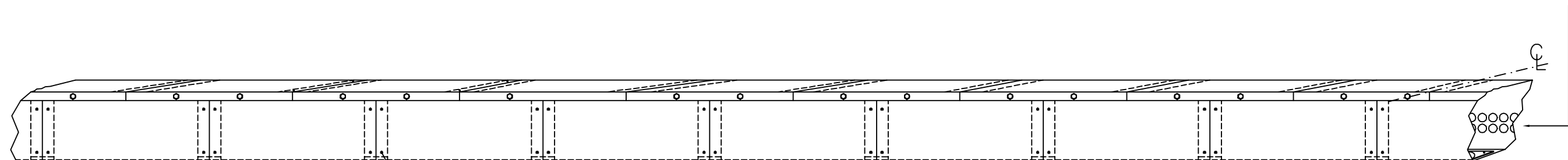


E

18

*) Inlet/outlet for coaxcables to Shelter

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



17

16

15

14

13

12

11

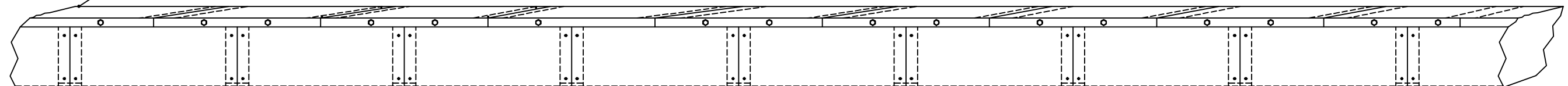
10

M

Stainless steel Pop Rivet

*) Inlet/outlet for coaxcables to Shelter

23



M

9

8

7

6

5

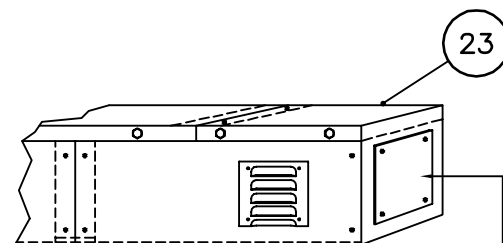
4

3

2

1

1



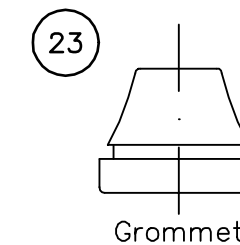
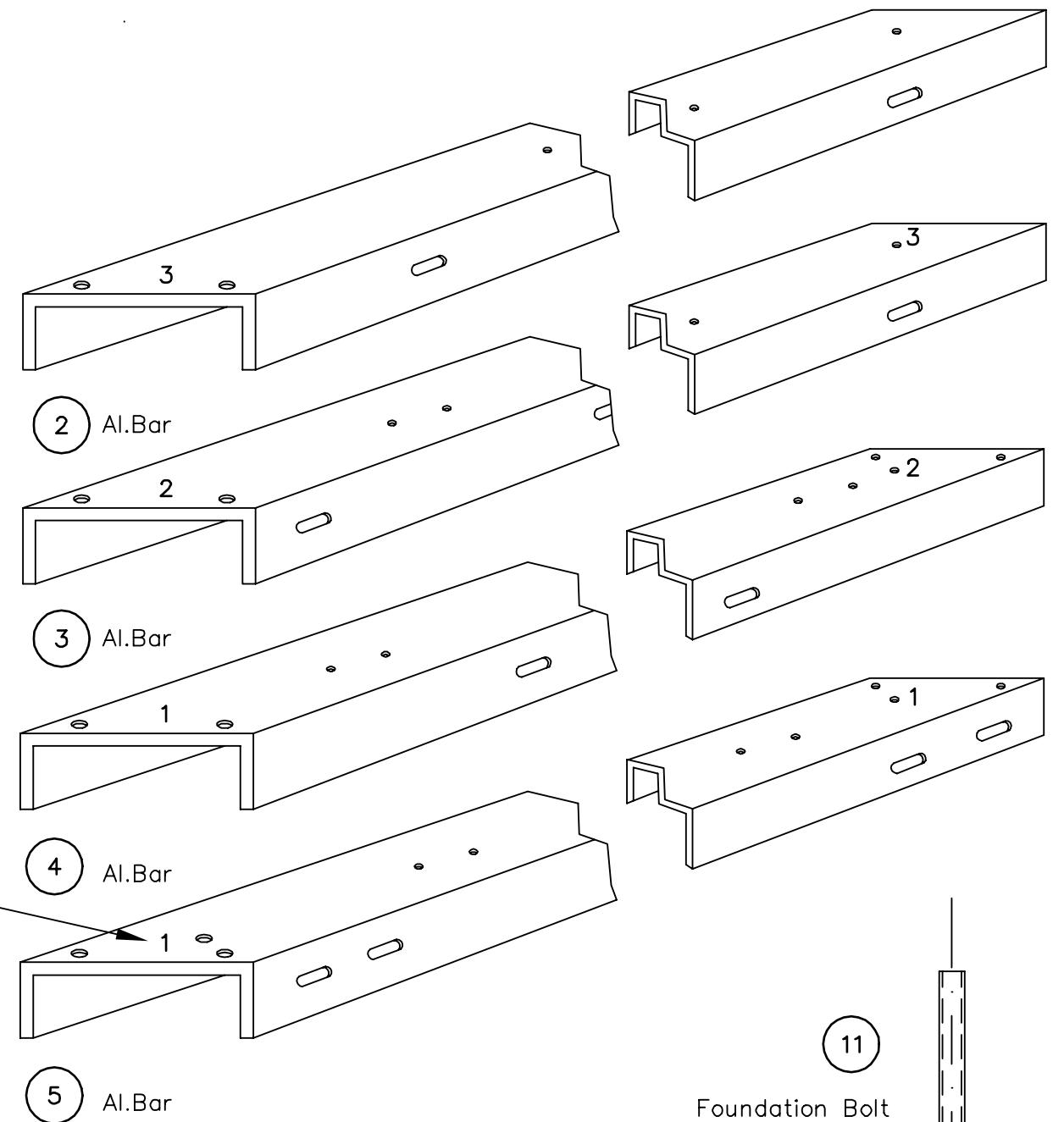
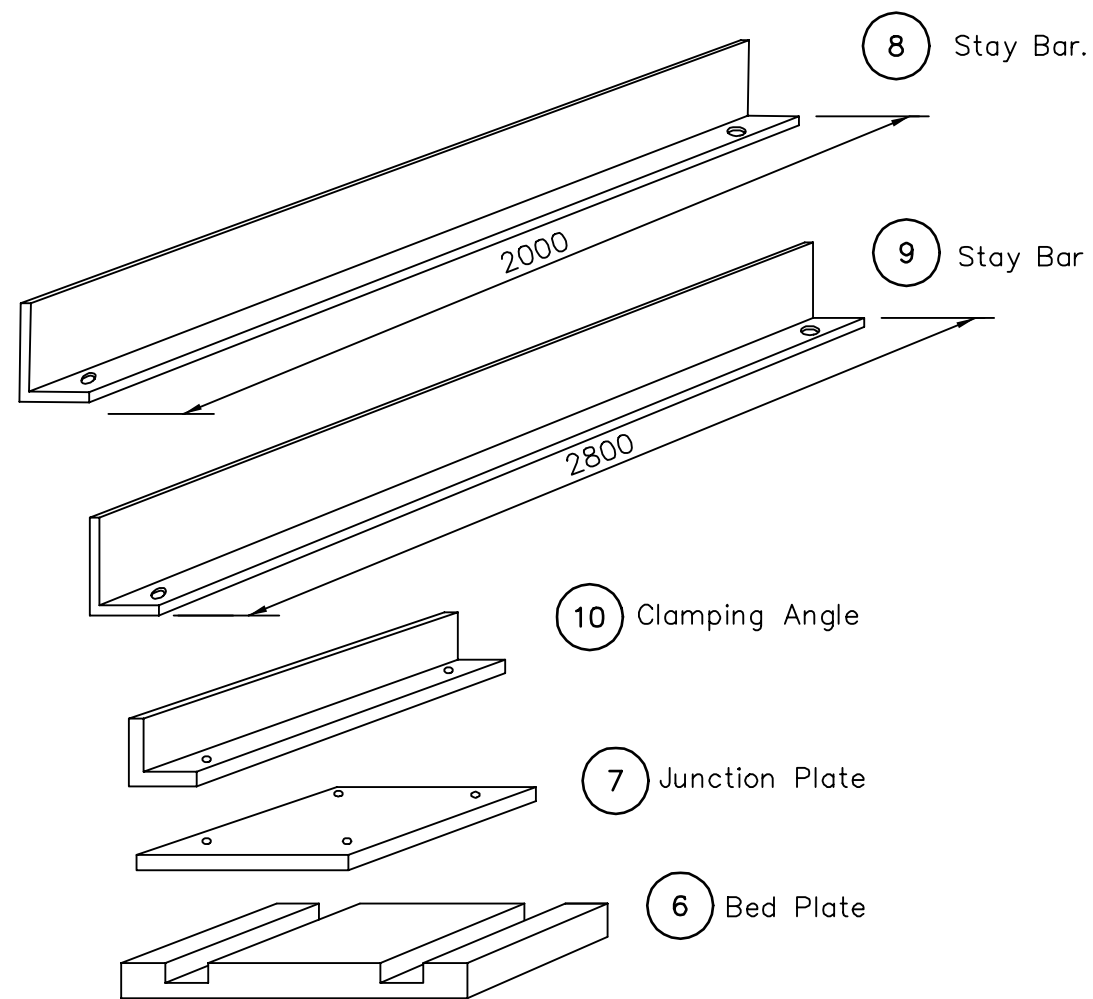
23

E

*) Inlet/outlet for coaxcables to Shelter

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

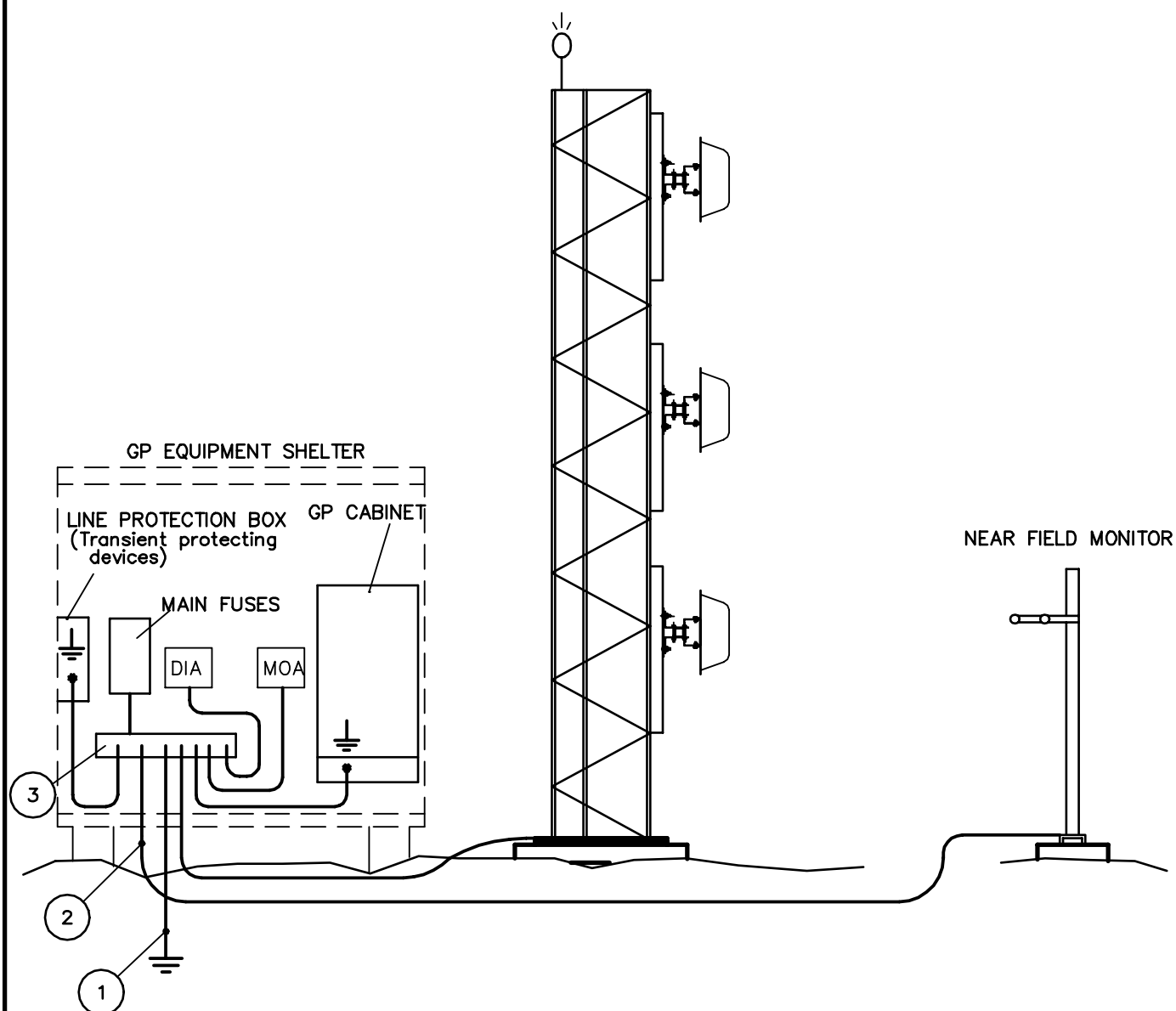
				Title: Cable Duct Assembly CDA 1044i/J	Scale: —	Drawn: 171195 ARJ
				Subject: NM 3526		Checked: —
						Appr.: 290396 SK
					Sup.for: —	Sup.by: —
						Issue: 2
3228	2	310398	ARJ	 Normarc	Dwg.no.: 16429A3	
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights reserved NAVIA AVATION AS, NORWAY	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

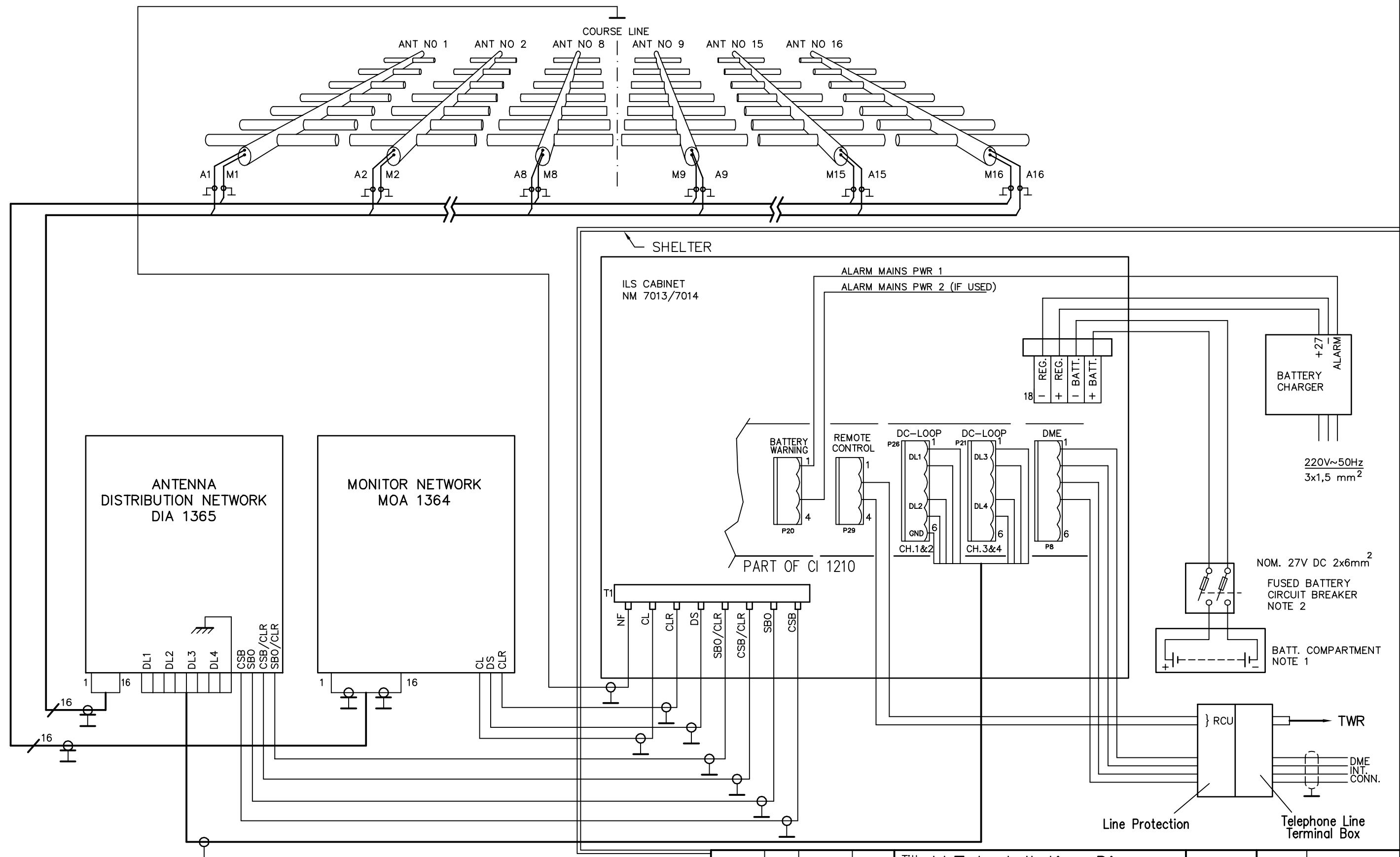
				Title: Framework AF 695B Mechanical details		Scale: —	Drawn	171195	ARJ
				Subject: NM 3526	Checked				
					Appr.				
						Sup.for:	Sup.by:		
				 Normarc AS		Dwg.no.: 16430A3		Issue	1
Ref.no.	Issue	Date	Sign.	Projection method: 					



3	1	GROUND TERMINAL – Delivered by Normarc
2	–	COPPER WIRE (35mm2)
1	1	COPPER ROD OR COPPER PLATE
Item	Qty	Description

				Title: M-ARRAY GLIDE PATH GROUNDING	Scale: —	Drawn	231195	ARJ
						Checked		
				Subject: NM 3545/46	Sup. for:	Appr.	090496	AWB
						Sup. by:		
				 Normarc	Dwg.no.: 16475A4		Issue 2	
3228	2	310398	ARJ		Projection method:  			
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights reserved NAVIA AVATION AS, NORWAY				

Copyright and all modification rights reserved NAVIA AVATION AS, NORWAY



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

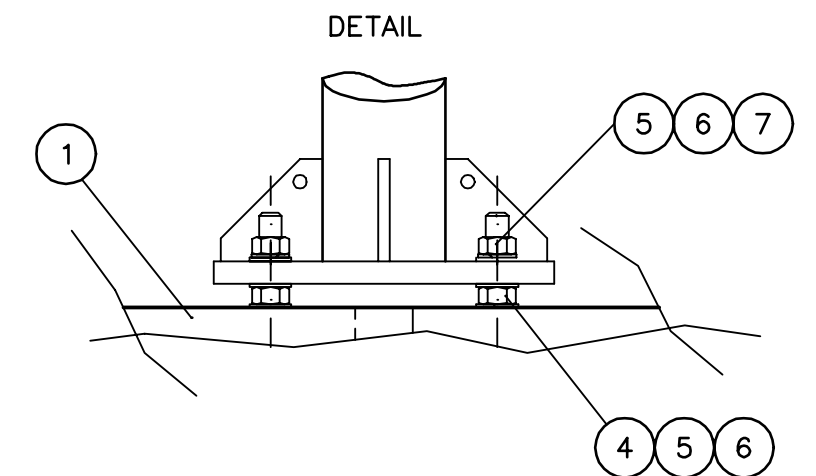
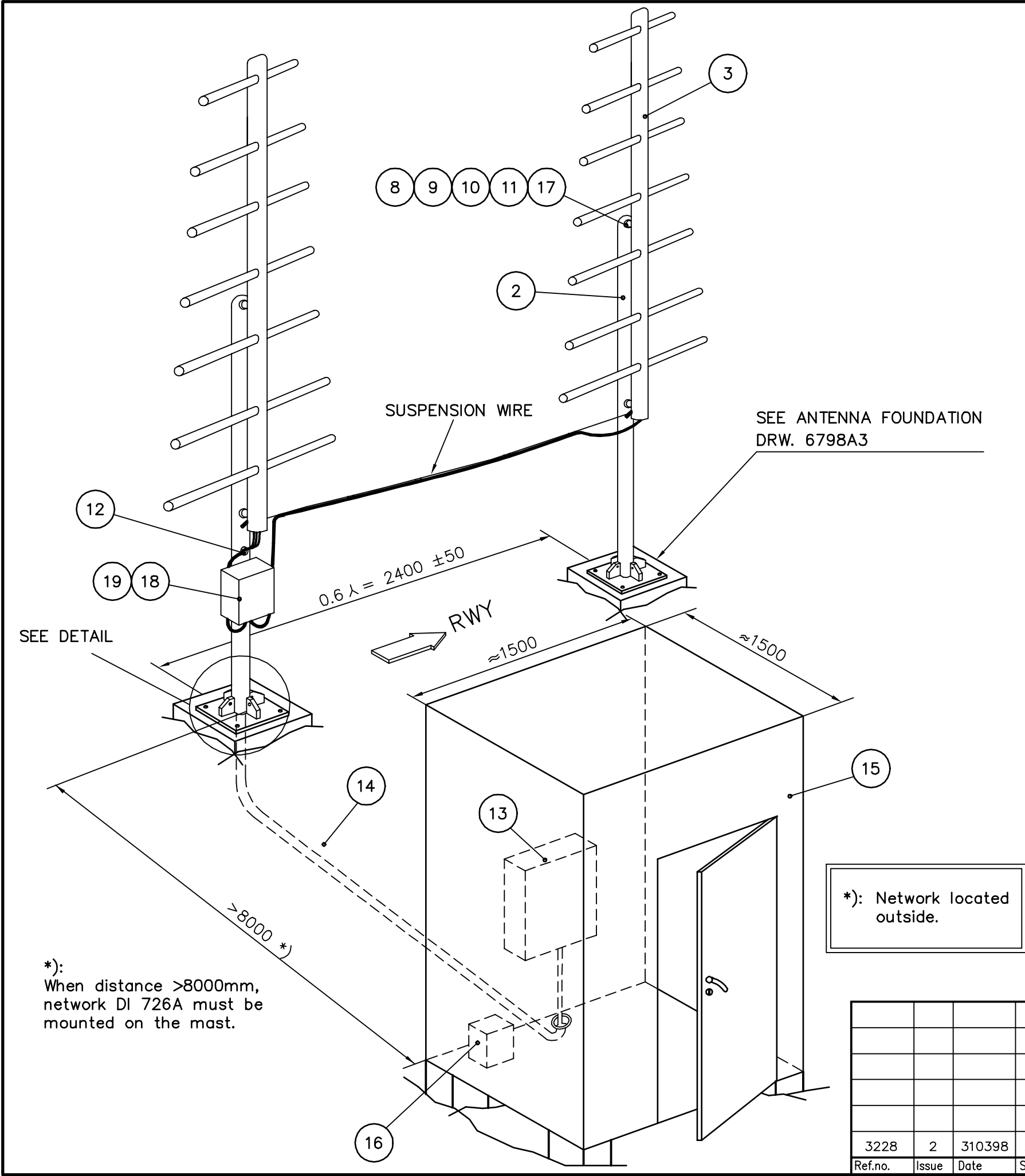
Normarc AS

Scale:	1:1	Drawn	210396	FrH
		Checked		
		Appr.		

Sup.for:	Sup.by:
----------	---------

Dwg.no.:	16577A3	Issue	1
----------	---------	-------	---

Projection method:



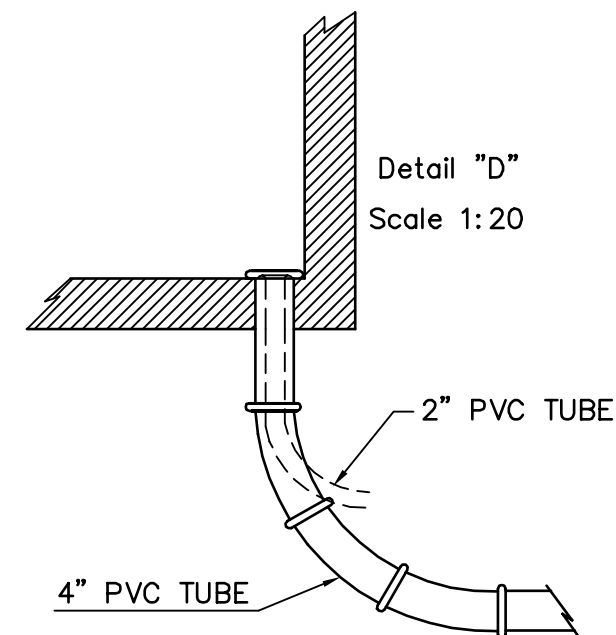
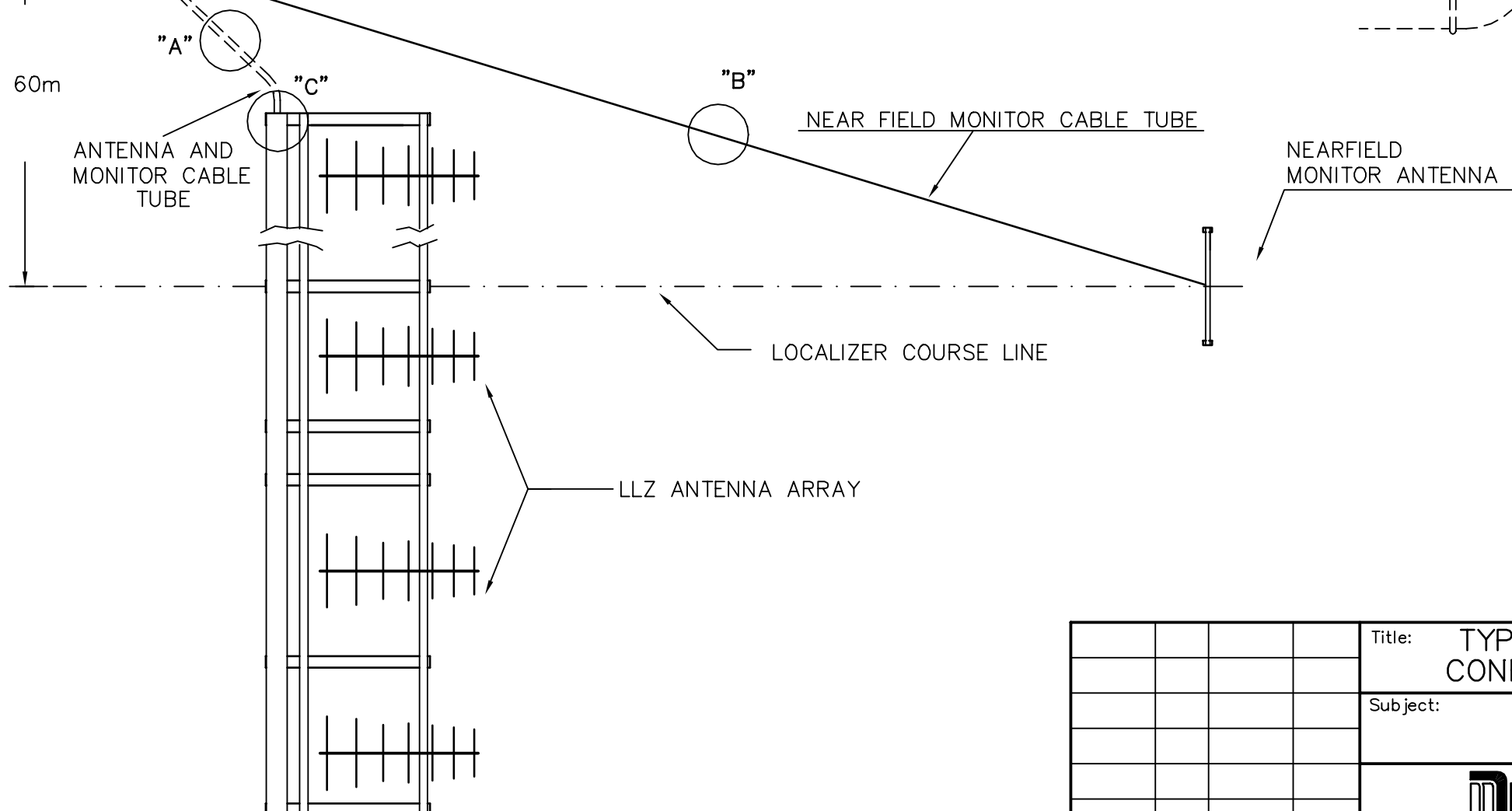
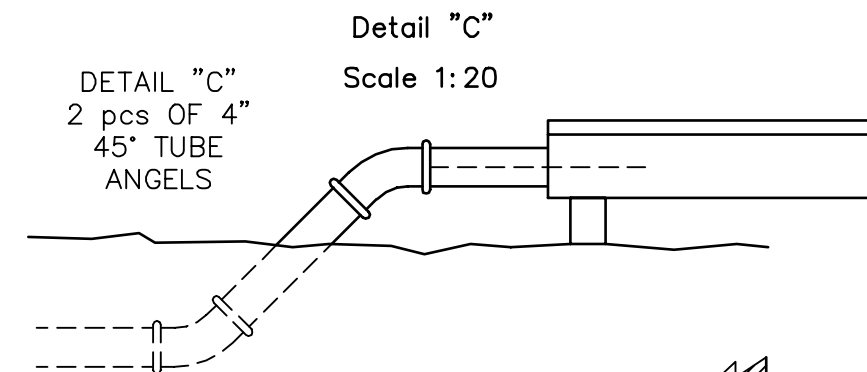
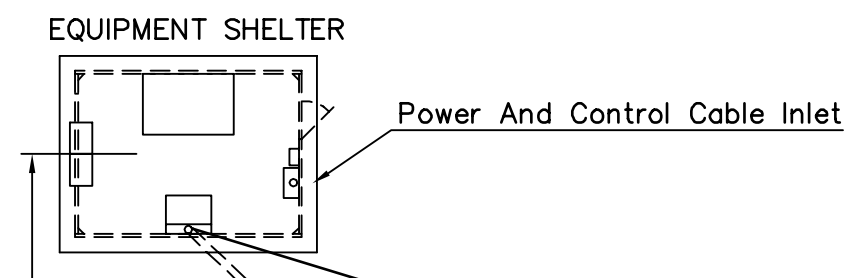
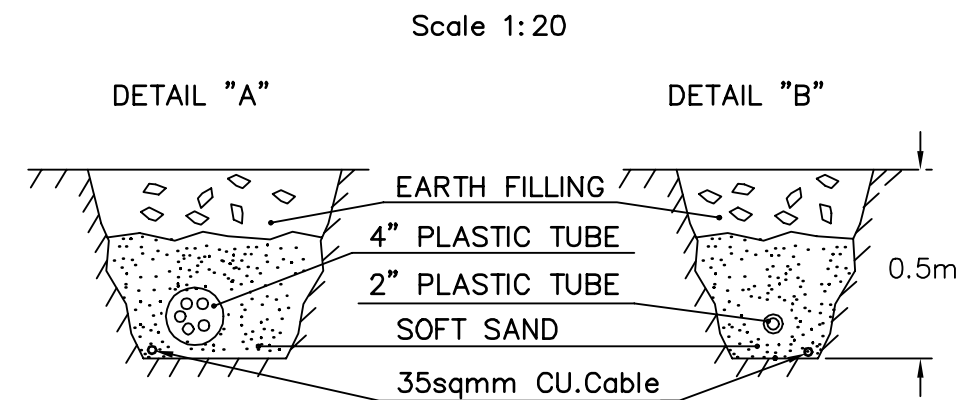
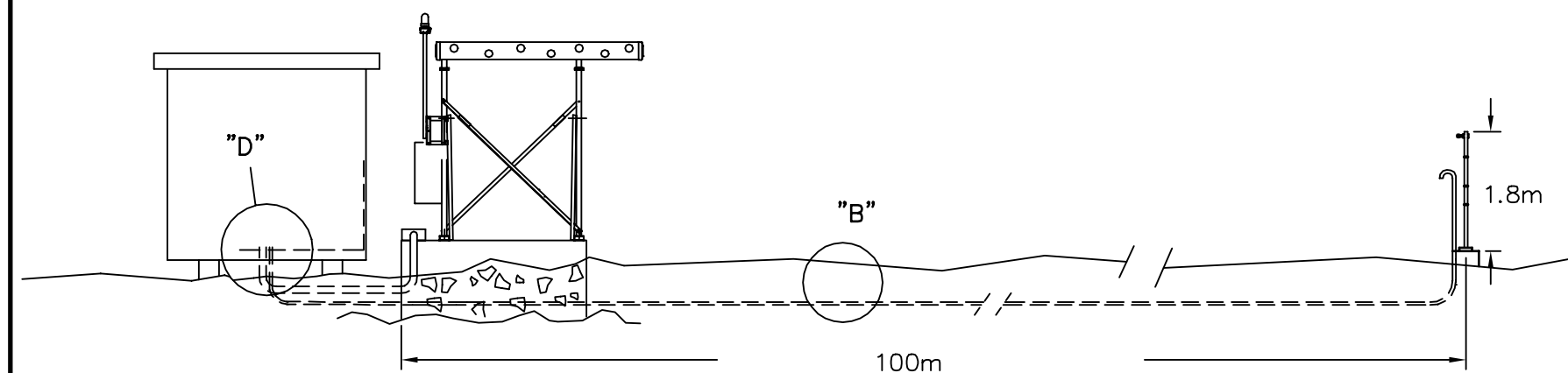
NOTE: The Marker Beacon shall be installed not more than ±75m from the extended RWY centerline, and with the Antenna dipoles parallel to the RWY.

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
Item	Qty.	Description	NM Type/remark

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

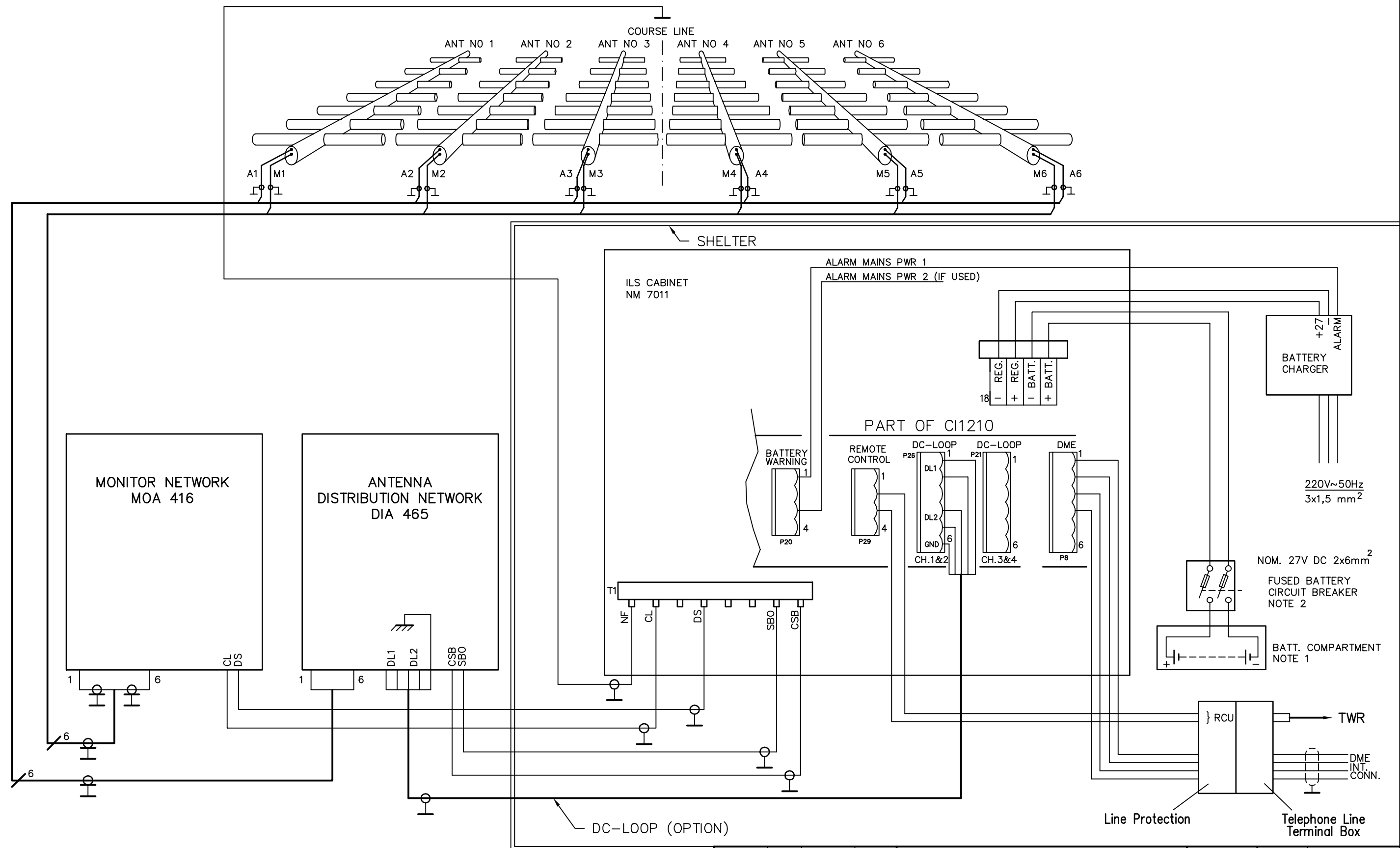
*): Network located
outside.

3228 Ref.no.	2 Issue	310398 Date	ARJ Sign.	Title: ANTENNA SYSTEM *) 2 ELEMENT MARKER BEACON		Scale: —	Drawn	280396	FrH
				Subject: NM 3562			Checked		
								Appr.	280396
								Sup.for:	
				Normarc		Dwg.no.: 16583A3	Issue		2
Copyright and all modification rights reserved NAVIA AVIATION AS, NORWAY						Projection method:			



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





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

Ref.no.	Issue	Date	Sign.

Title: LLZ Installation Diagram
6 element system

Subject:
NM 7000/NM 3522

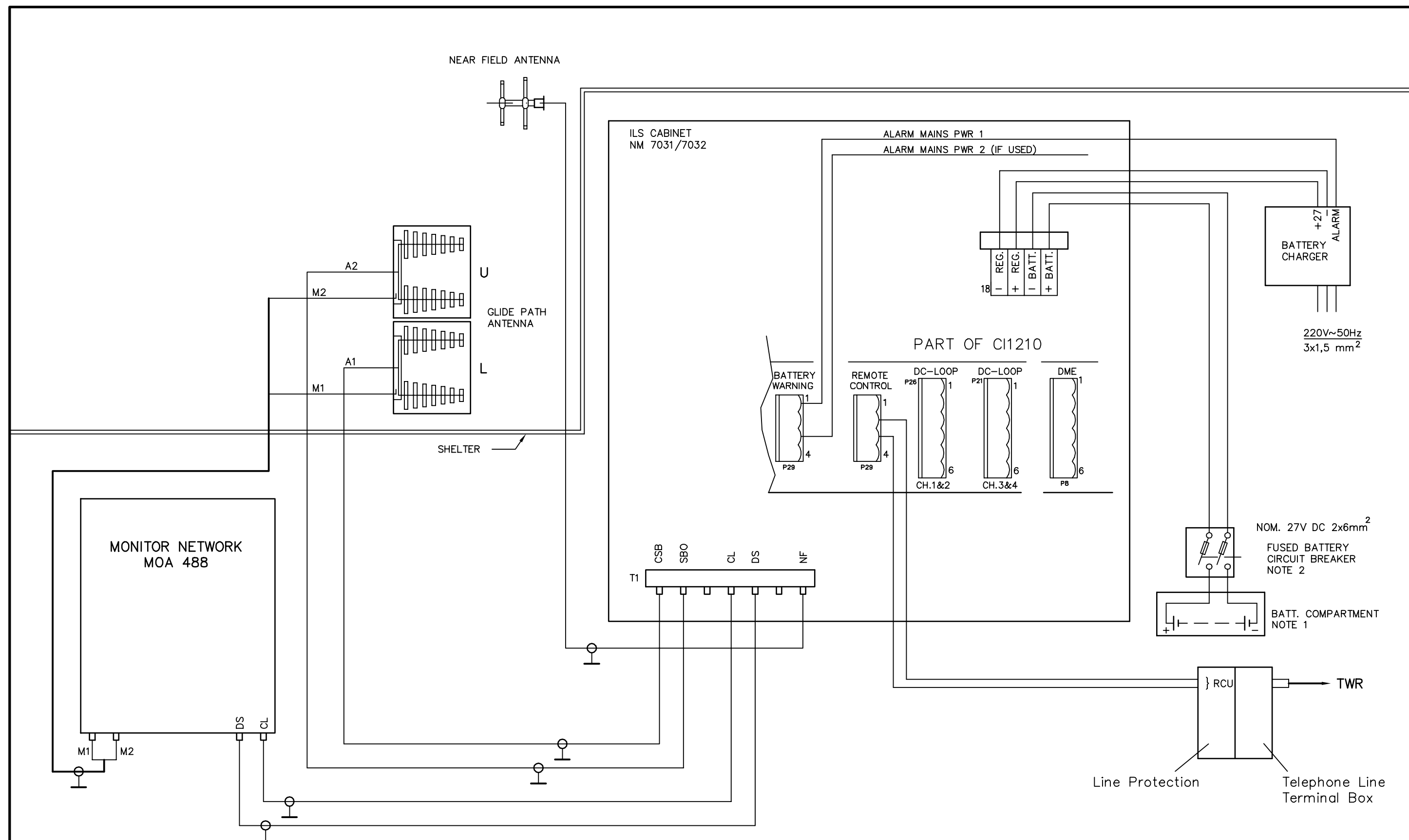
Normarc AS

Scale:	Drawn	250396	FrH
1:1	Checked		
	Appr.		

Sup.for:	Sup.by:
----------	---------

Dwg.no.:	16585A3	Issue	1
----------	---------	-------	---

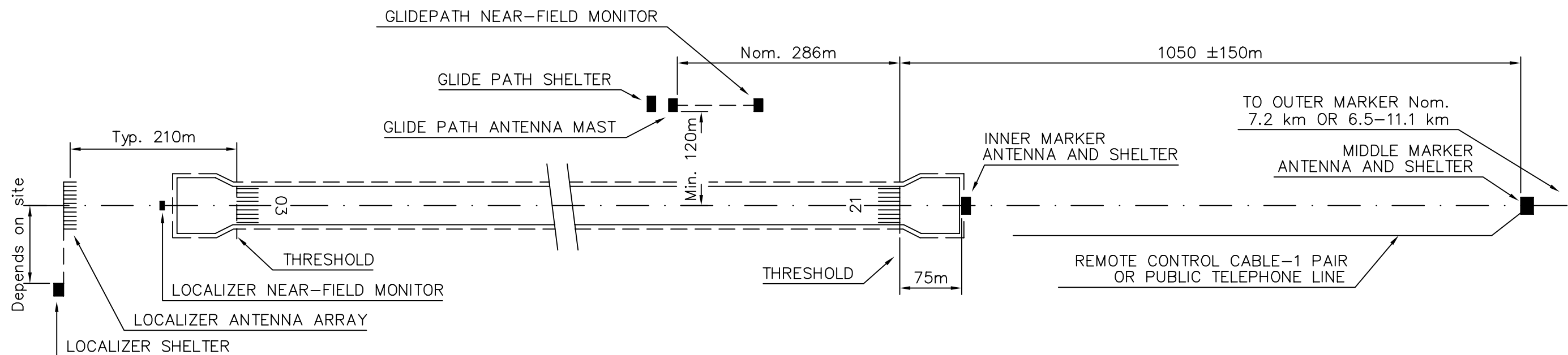
Projection method:



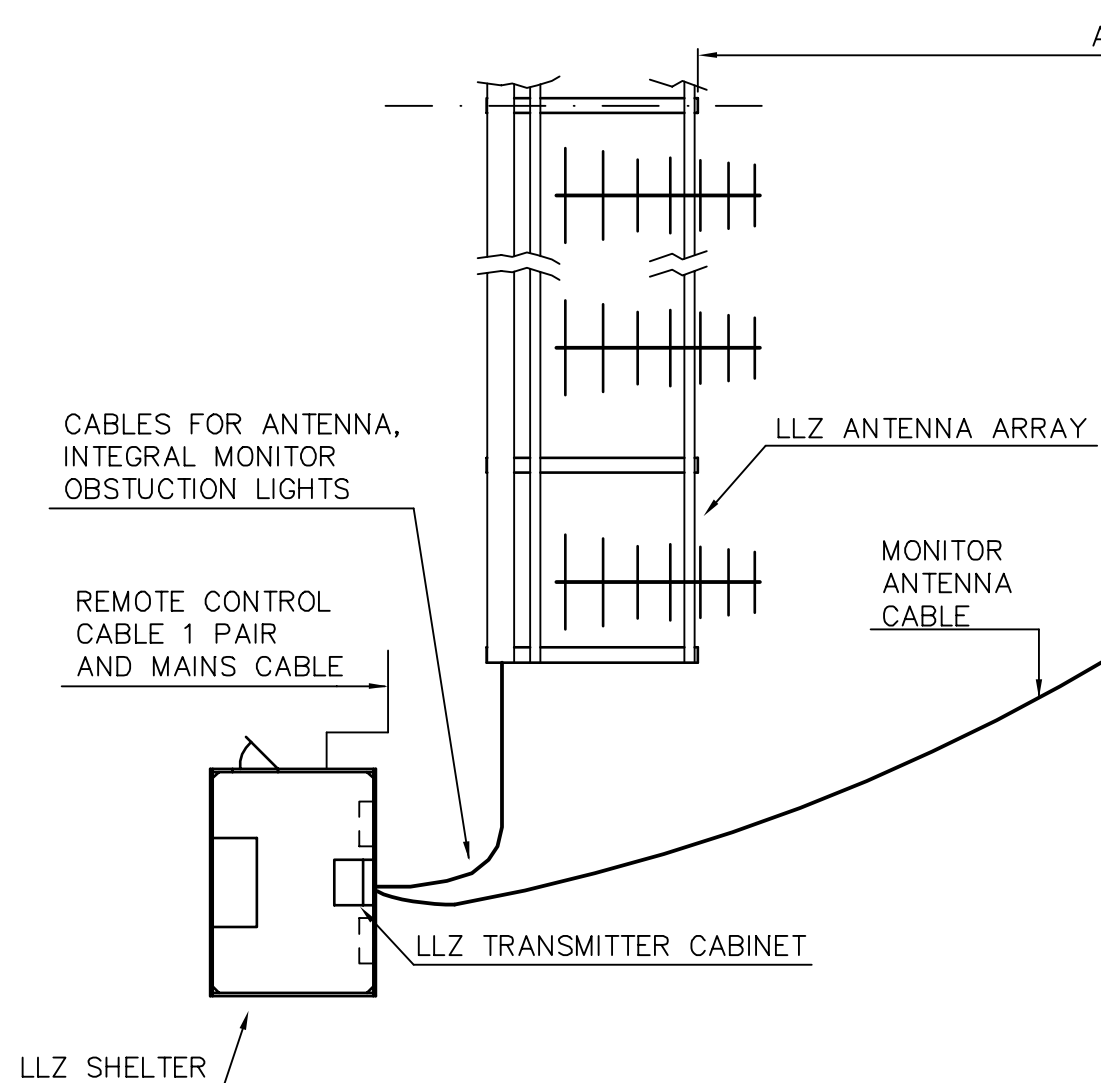
NOTE 1: Normally not supplied by Normarc.
NOTE 2: Normally supplied by Normarc.

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

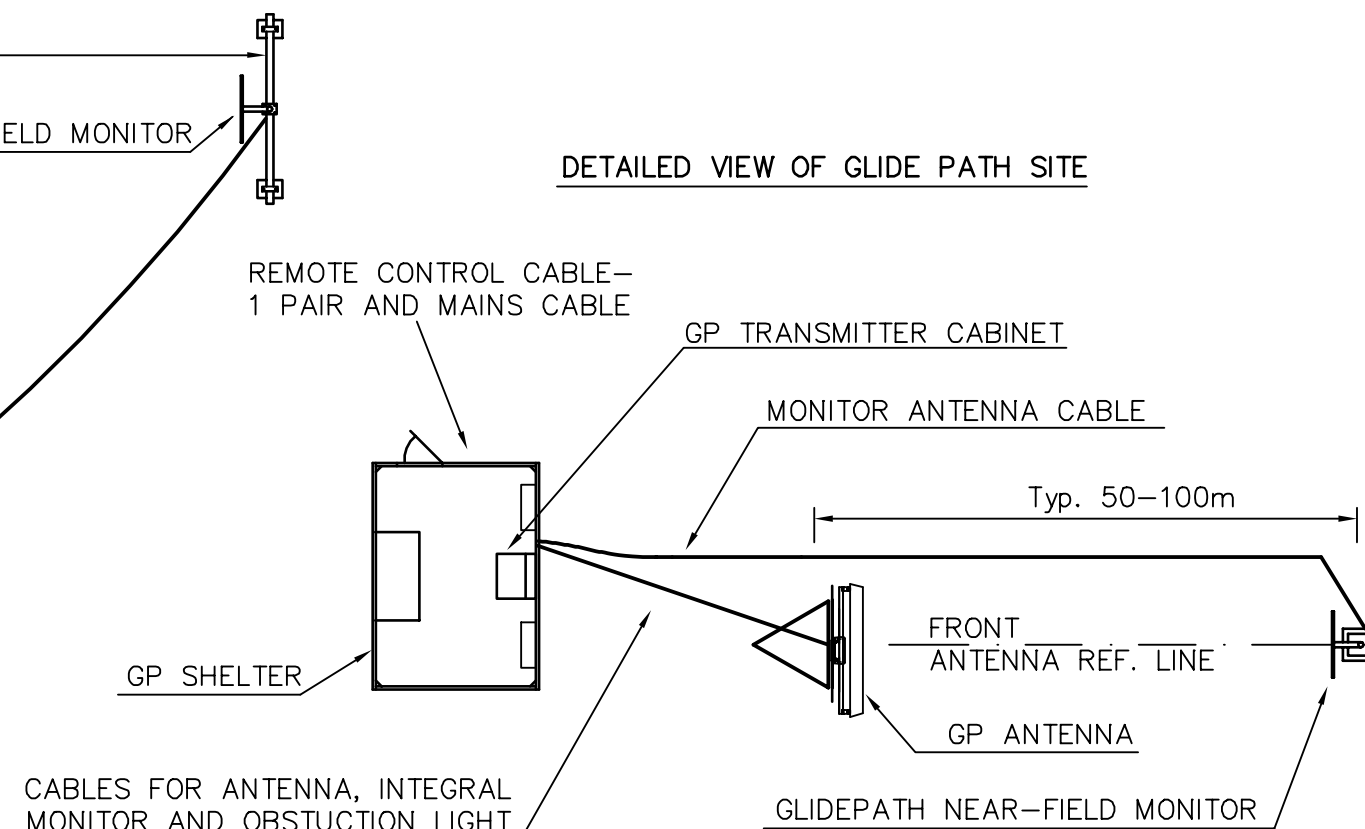
Normarc AS



DETAILED VIEW OF LOCALIZER SITE



DETAILED VIEW OF GLIDE PATH SITE

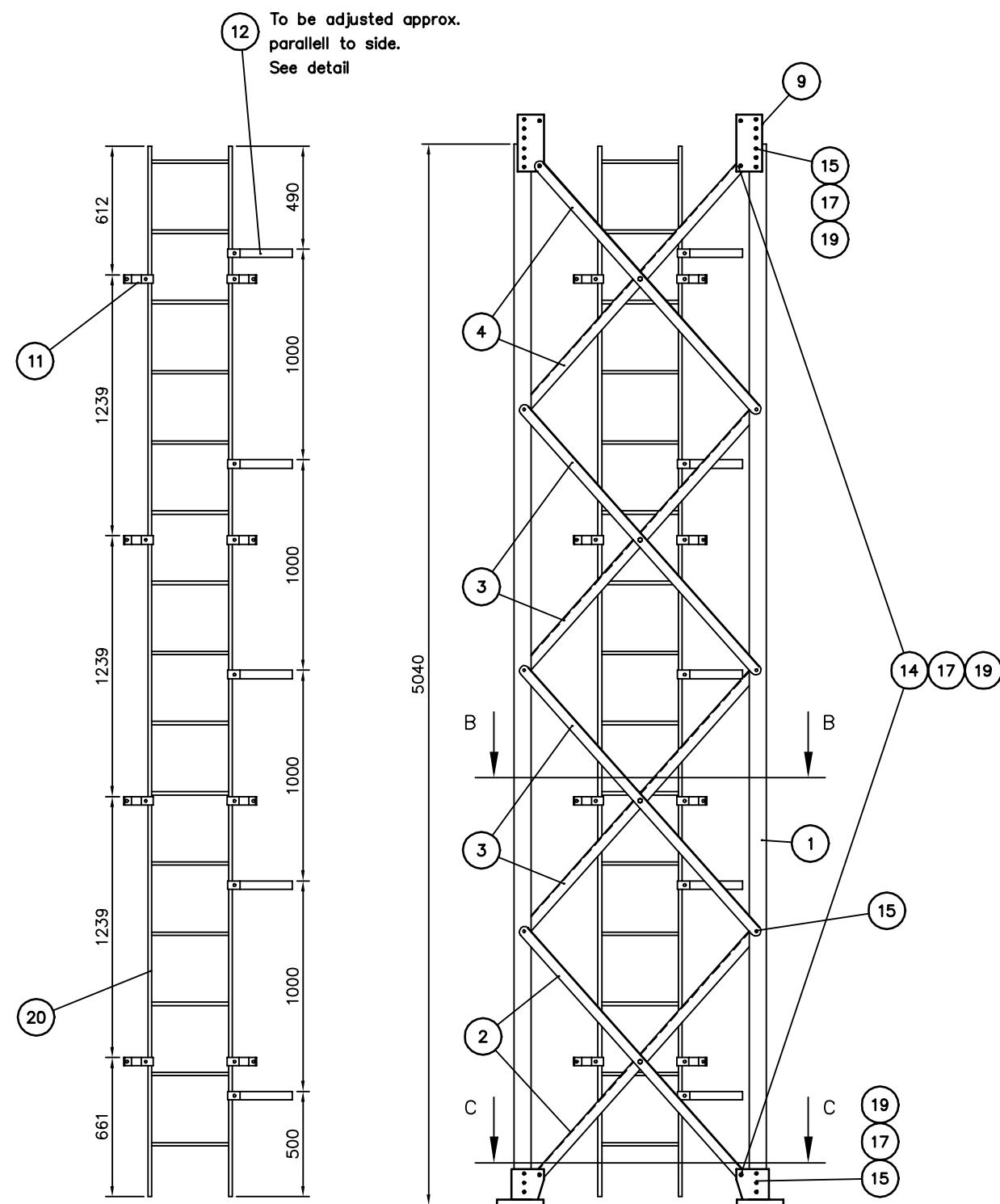


OBS! This is only an example!

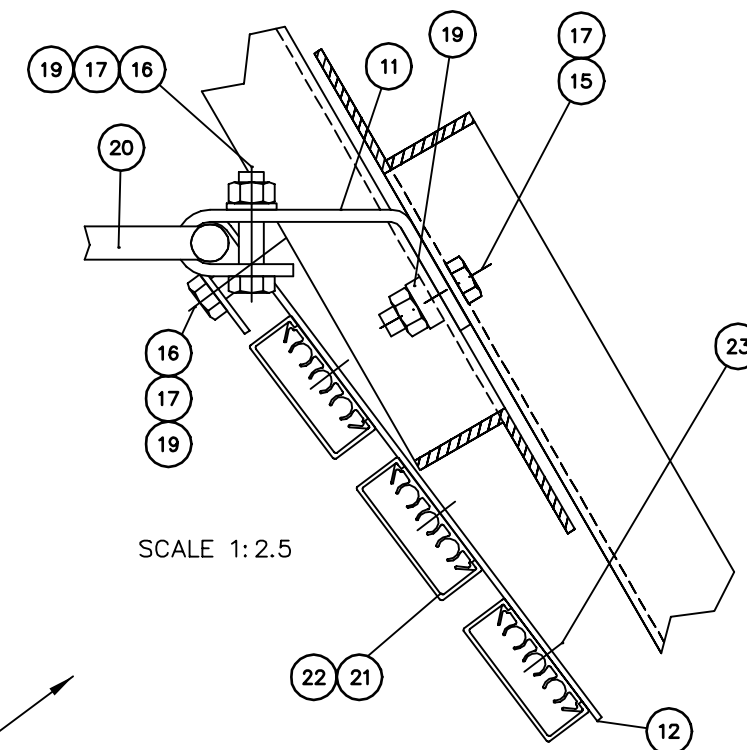
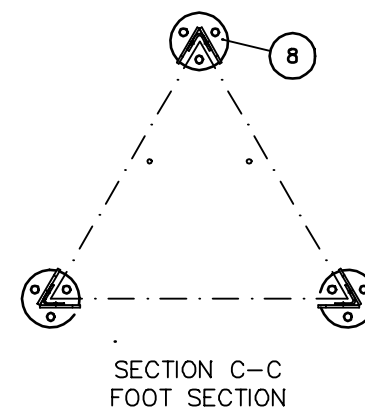
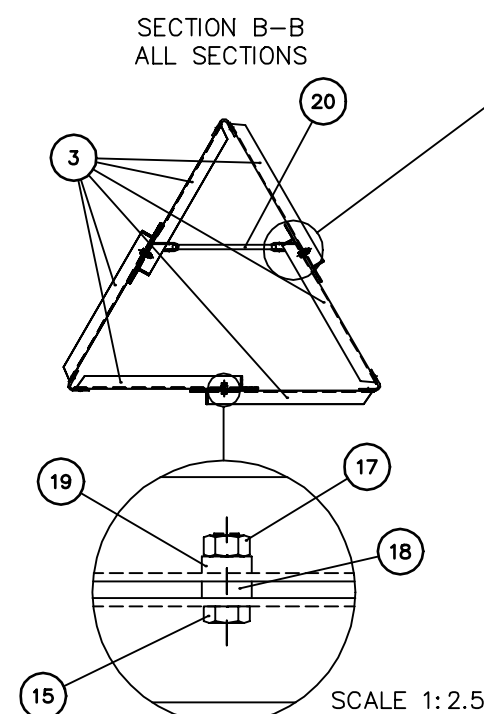
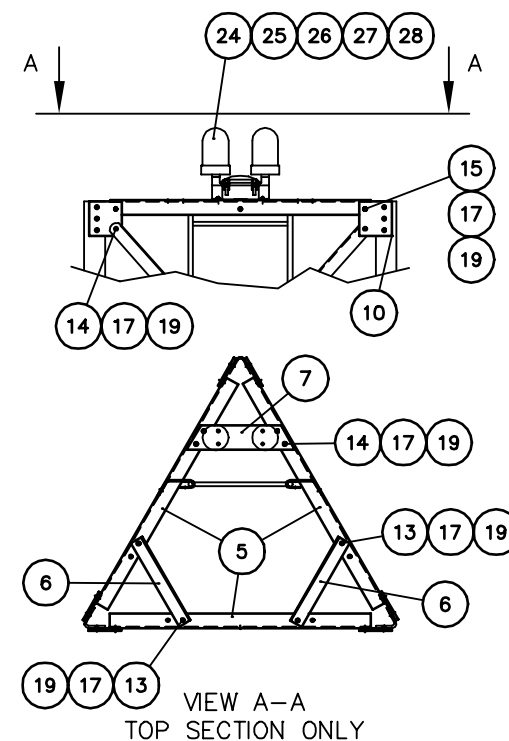
				Title:	ILS EQUIPMENT SITE IMPLEMENTATION 2		Scale: —	Drawn	290396	FrH	
				Subject:	NM 7000	Checked					
						Appr.		100496	JSA		
				 Normarc			Sup.for:	Sup.by:			
							Dwg.no.:	16588A3	Issue	2	
3228	2	310398	ARJ								
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights reserved NAVIA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



Copyright and all modification rights reserved NAVIA AVIATION AS, NORWAY



REAR L-BAR WITH CONNECTING
RODS NOT SHOWN



NB!: UPPER MASTSECTION ALWAYS ORANGE

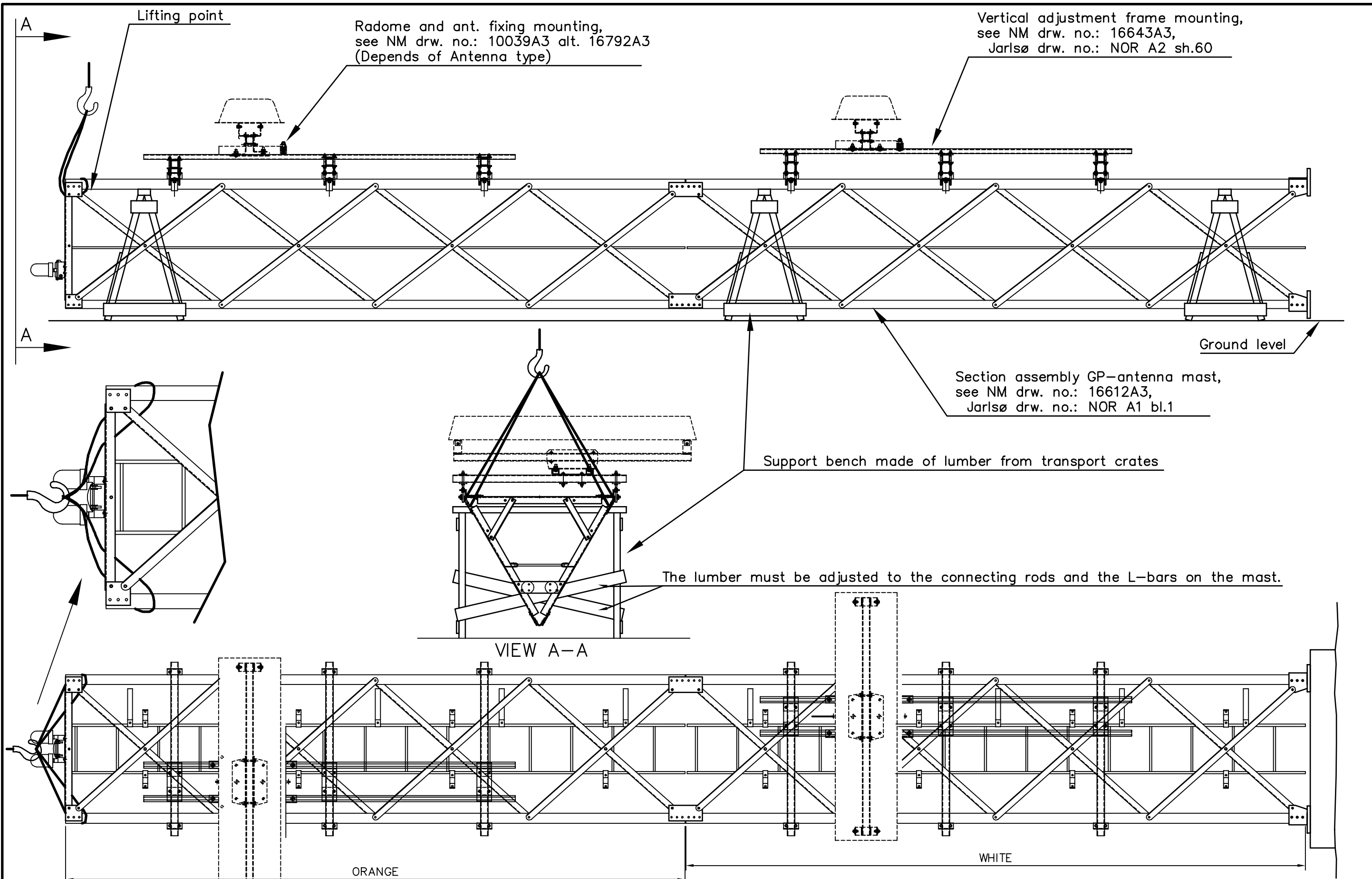
28	1	Hex.Nut, M6, DIN 934		13911
27	1	Split Lock Washer M6, DIN 127B		13888
26	1	Washer M6, DIN 125 A4		13883
25	4	Bolt, M6 x 30 DIN 933		
24	1	Obstruction Light		13106
23	15	Rivet, TAP/D-48-BS ø3,2-9,7		
22	3	Cabelduct, cover		15010
21	3	Cabelduct		15009
20	1	Ladder	S7 40	
19	117	Washer, 24/14x6 11492-2	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
Title: GP ANTENNA MAST SECTION ASSEMBLY				
Subject: NM 3543-46				
Scale: (1:20)				
A2 SIZE				
Sup.for: (NOR-A1) Sup.by:				
Dwg.no.: 16612A3 Issue 2				
Projection method: ☉				

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

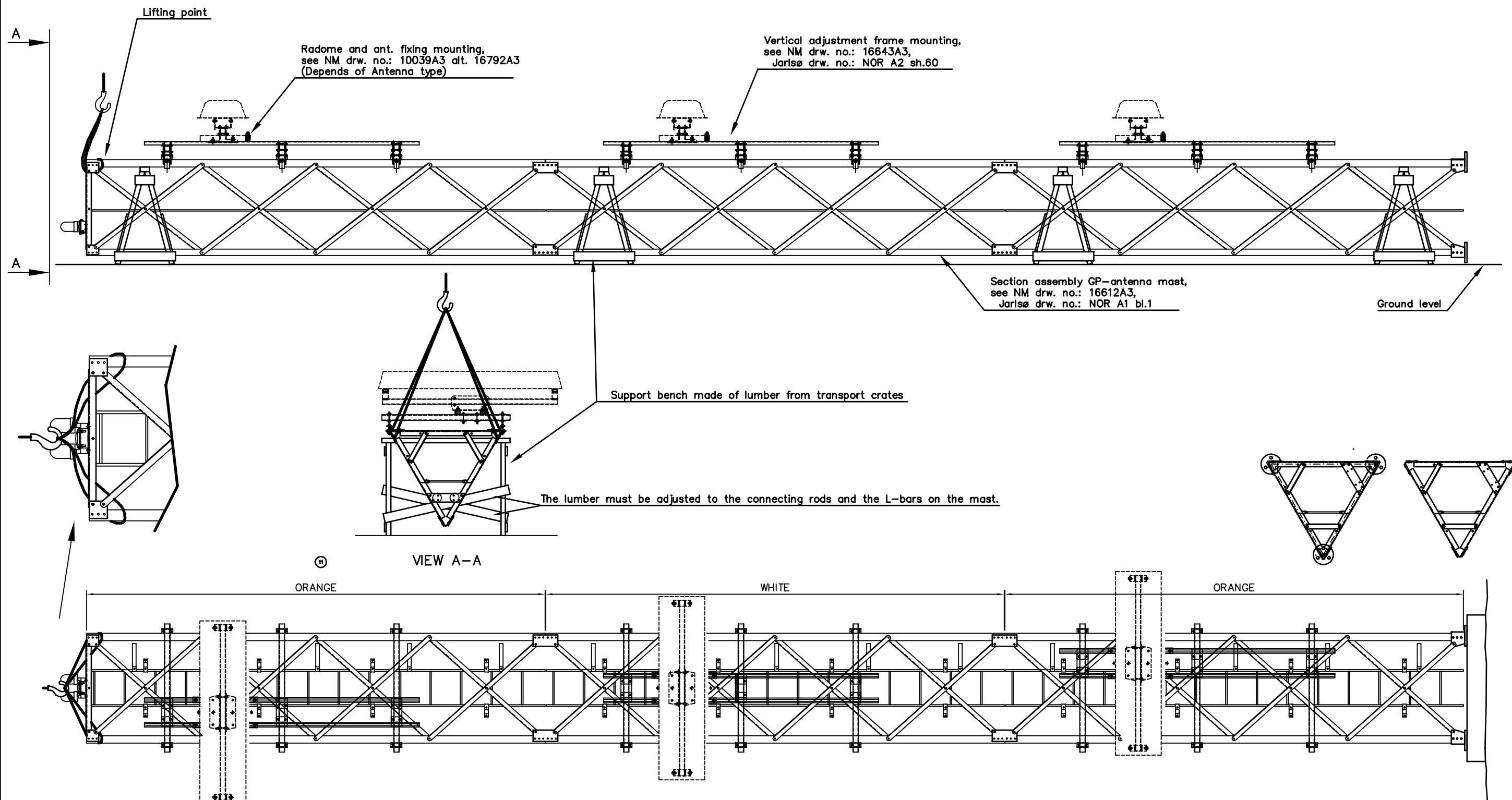
Normarc

Copyright and all modification rights reserved NAVA AVIATION AS, NORWAY



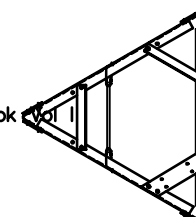
Offset of upper and lower antennas depends on calculations.
 Assembly: See Installation & Com. Handbook Vol I

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

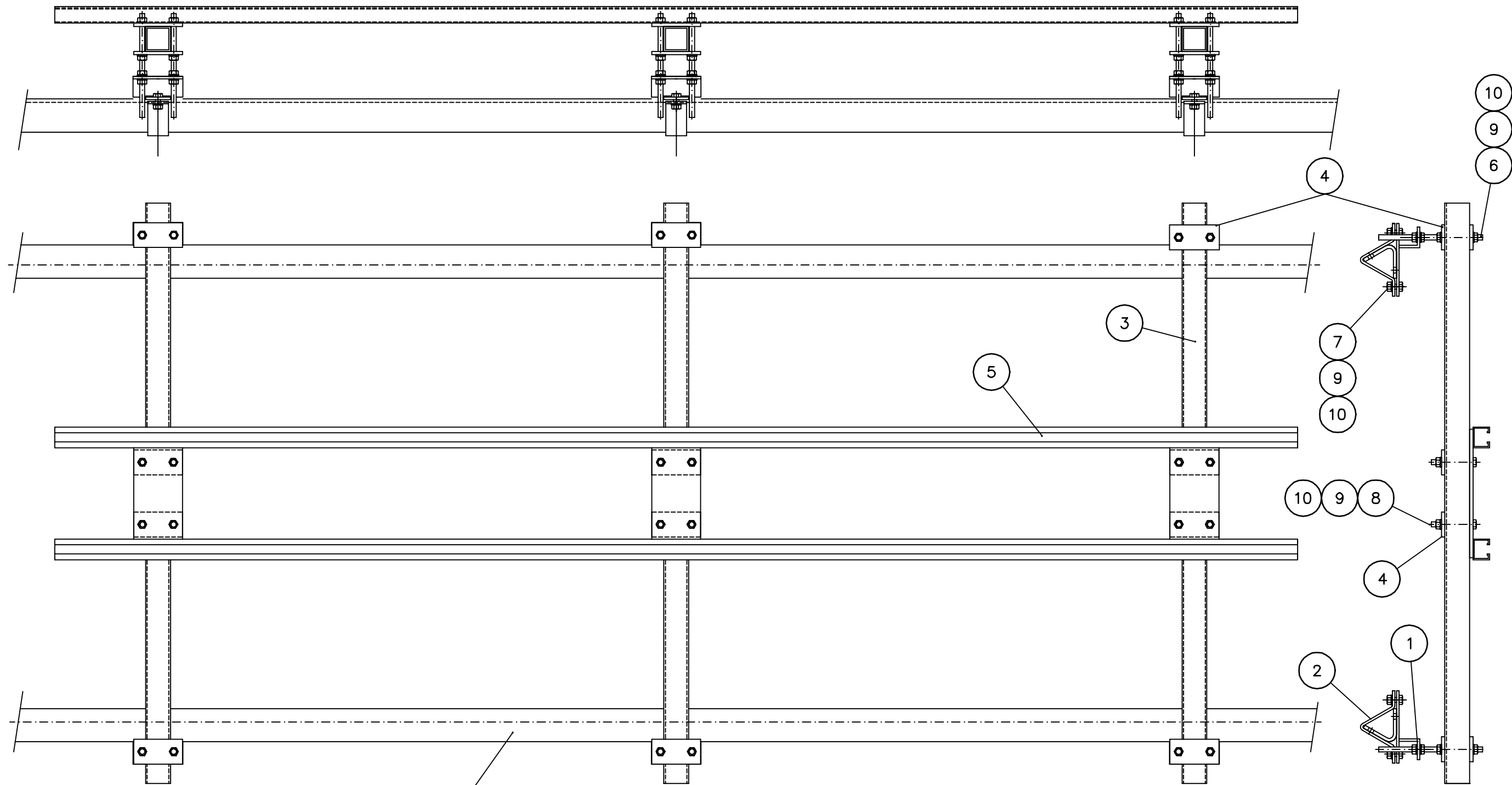


Offset of upper and lower antennas depends on calculations.

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					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

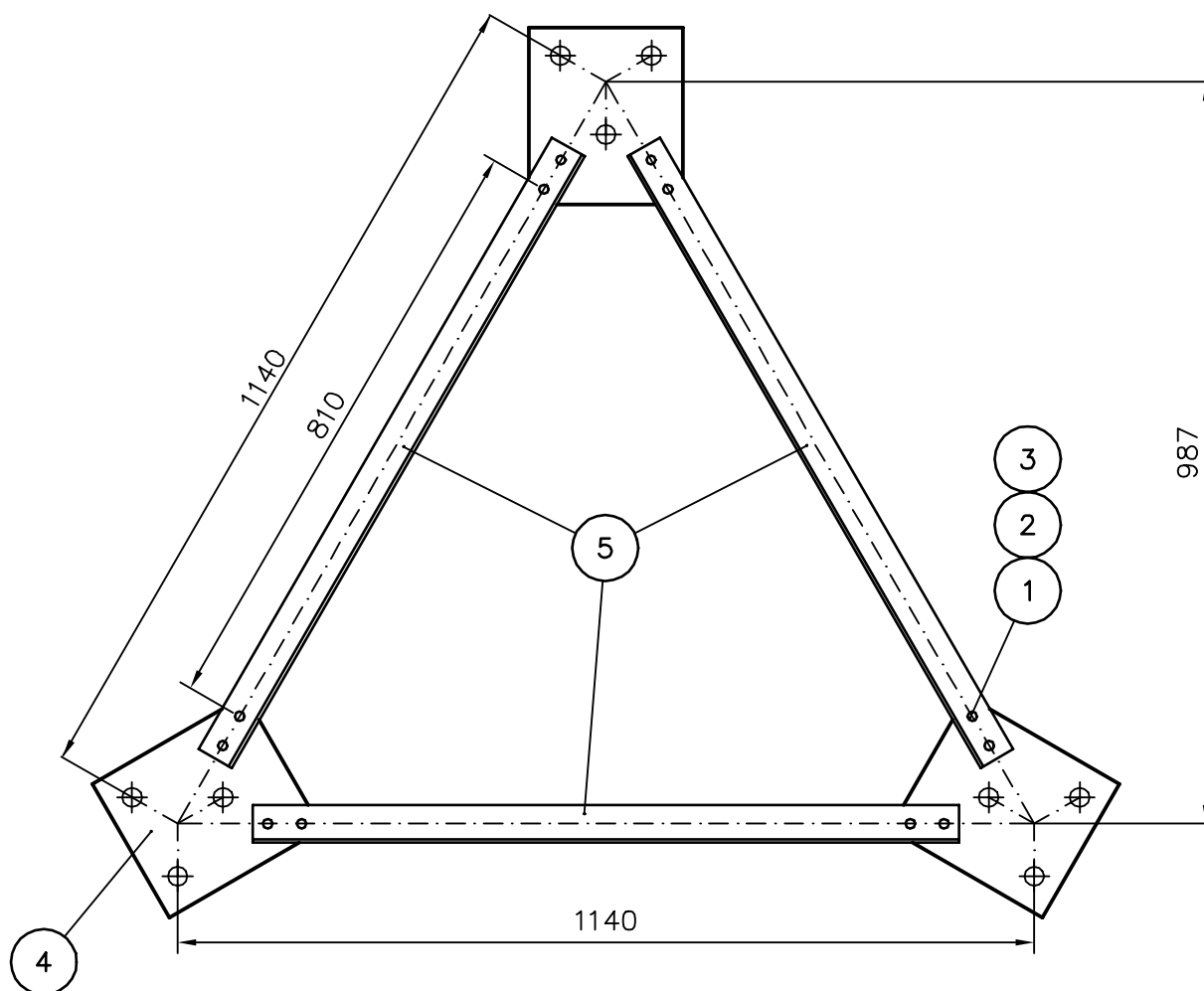
Ref. Jarlsø Drwg.: NOR-A2 Sh.60

	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				
Subject: NM 3543-46				
Scale: 1:10				
Drawn: 080596 FrH				
Checked: 300896 AWB				
Appr. Sup.for: NOR-A2, SH60 Sup.by:				
Dwg.no.: 16643A3 Issue 2				
Projection method: ☉				

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

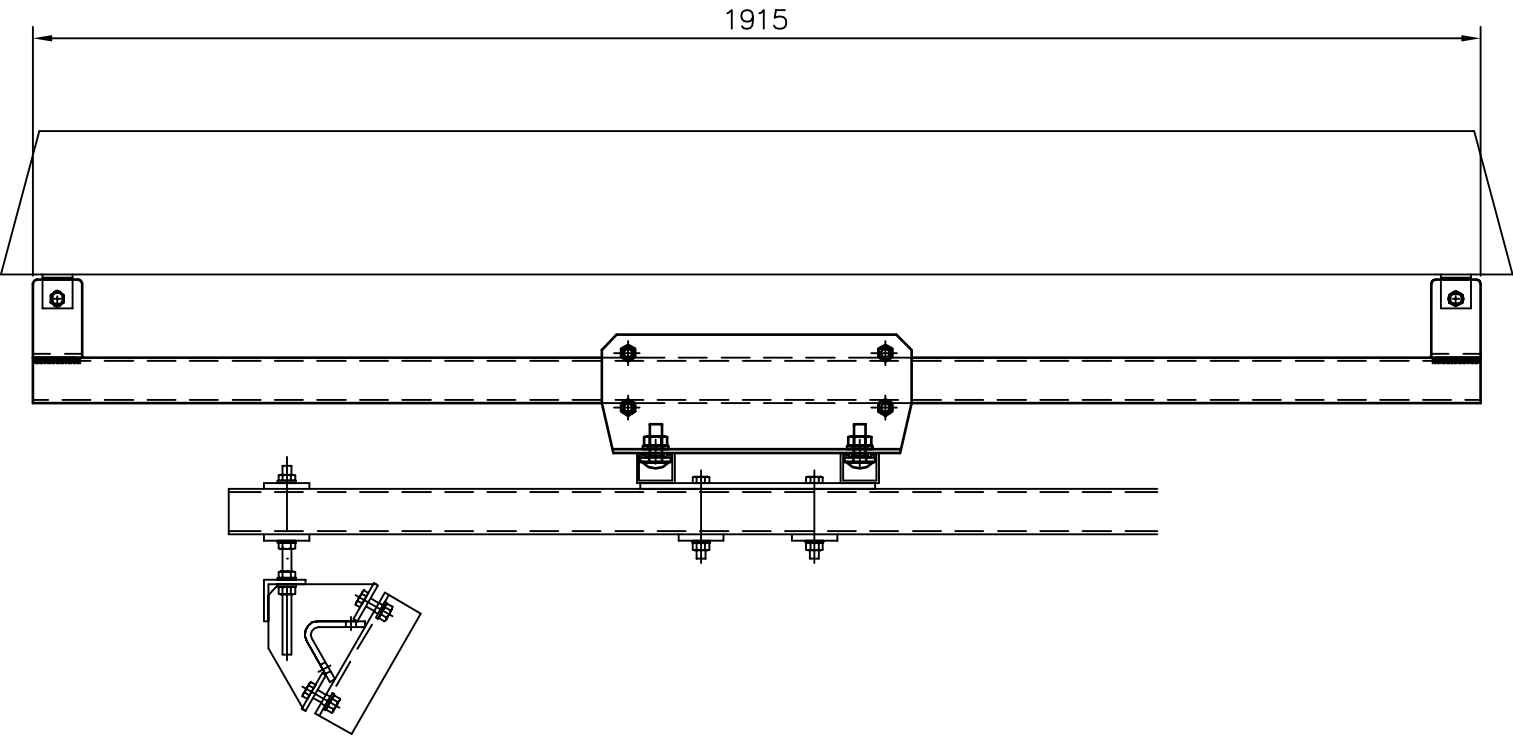
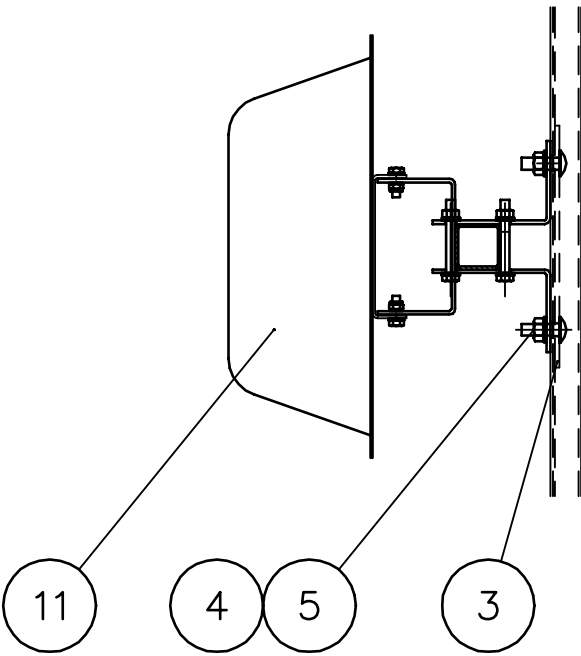
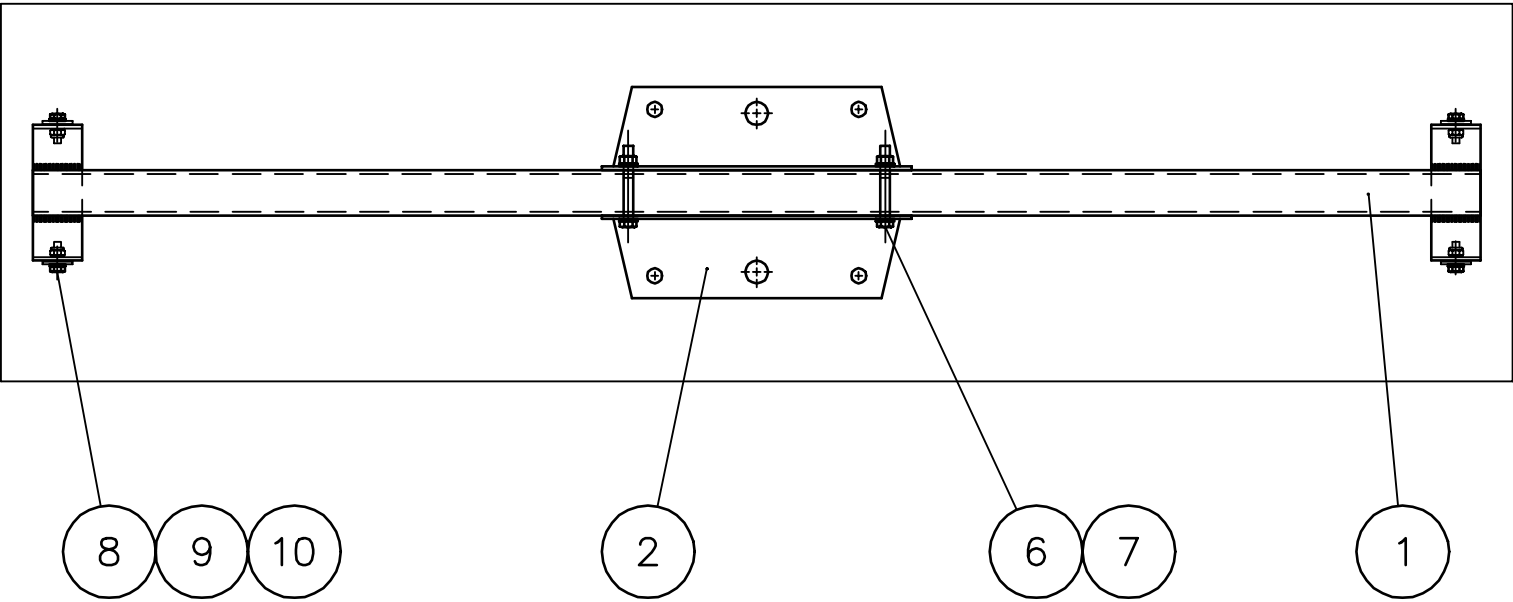
 **Normarc**
Copyright and all modification rights reserved NAMA AVIATION AS, NORWAY



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

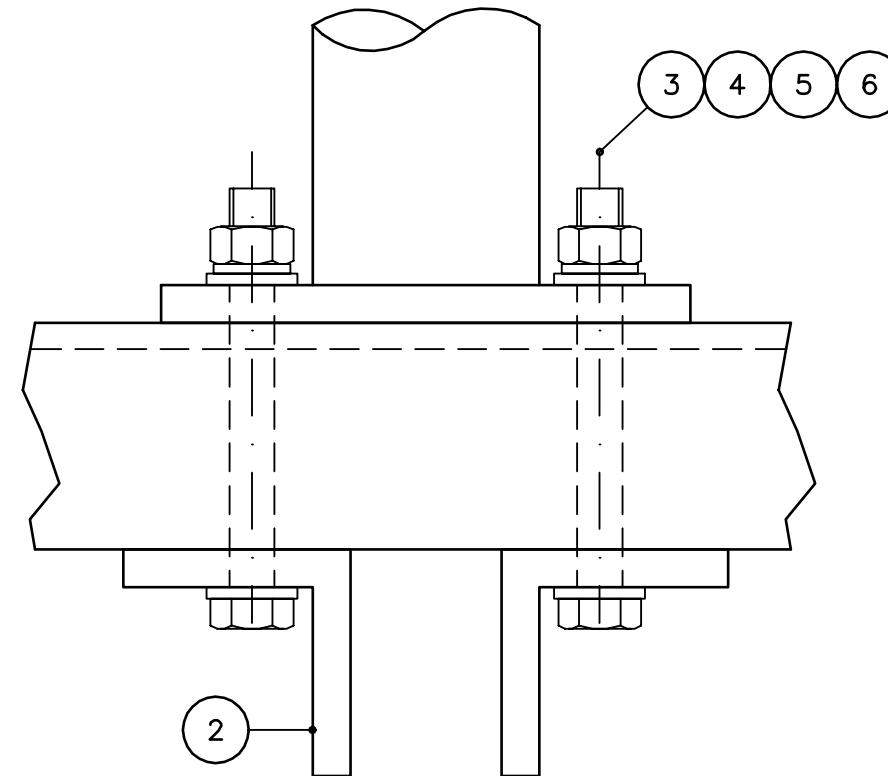
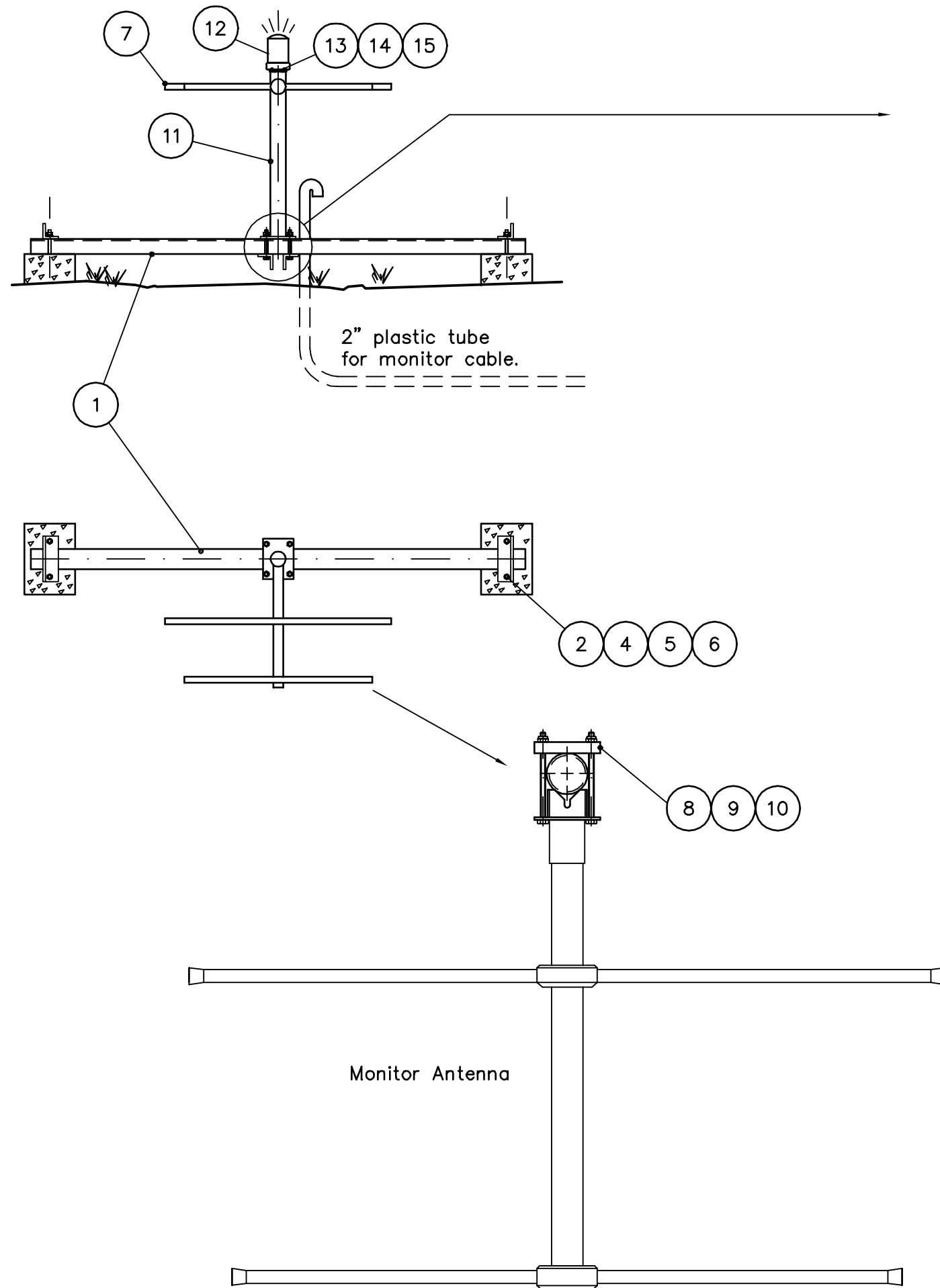
				Title: TEMPLATE GP ANTENNA FOUNDATION	Scale: 1:10	Drawn	080596	FrH
						Checked		
				Subject: NM 3543-46		Appr.		
					Sup.for:	Sup.by:		
					Dwg.no.:	16644A4	Issue 1	
					Projection method:  			
Ref.no.	Issue	Date	Sign.					



NM Part no. 20367

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
Item	Qty.	Description	NM Items	Jarlsø Items

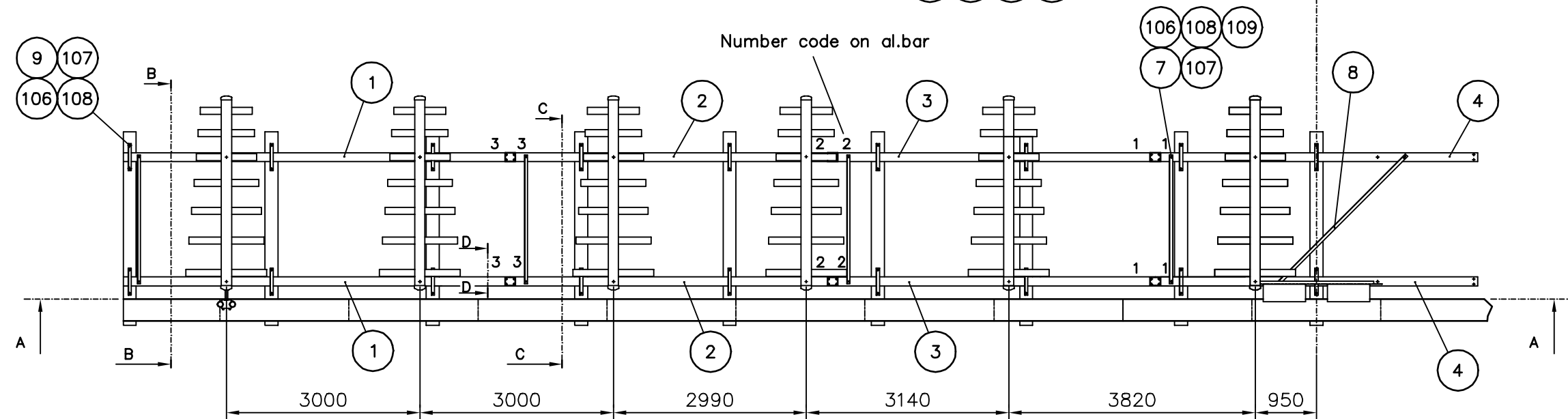
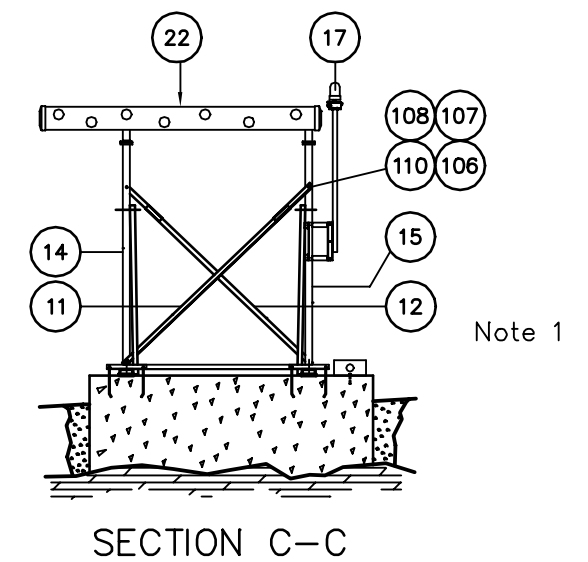
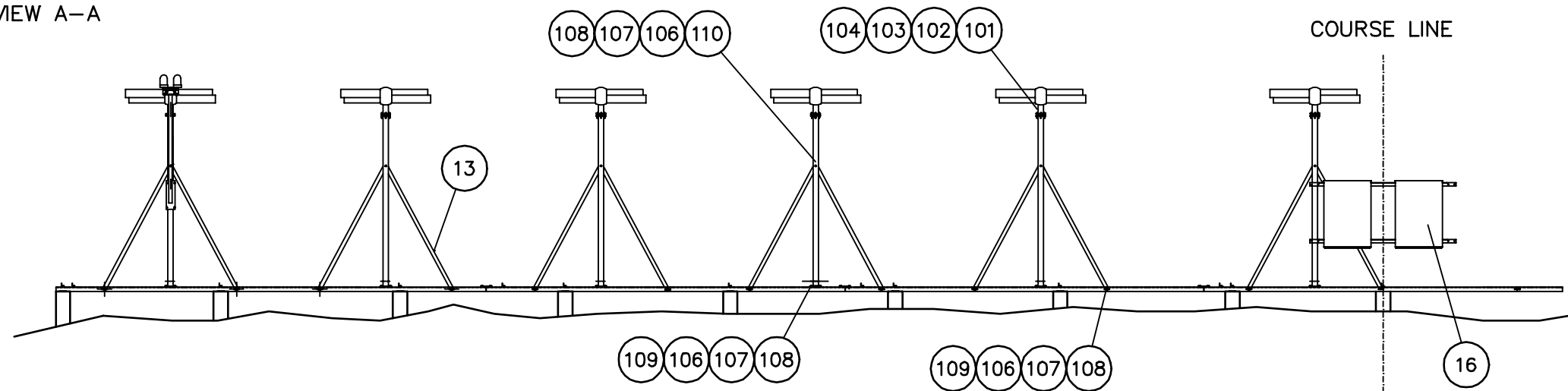
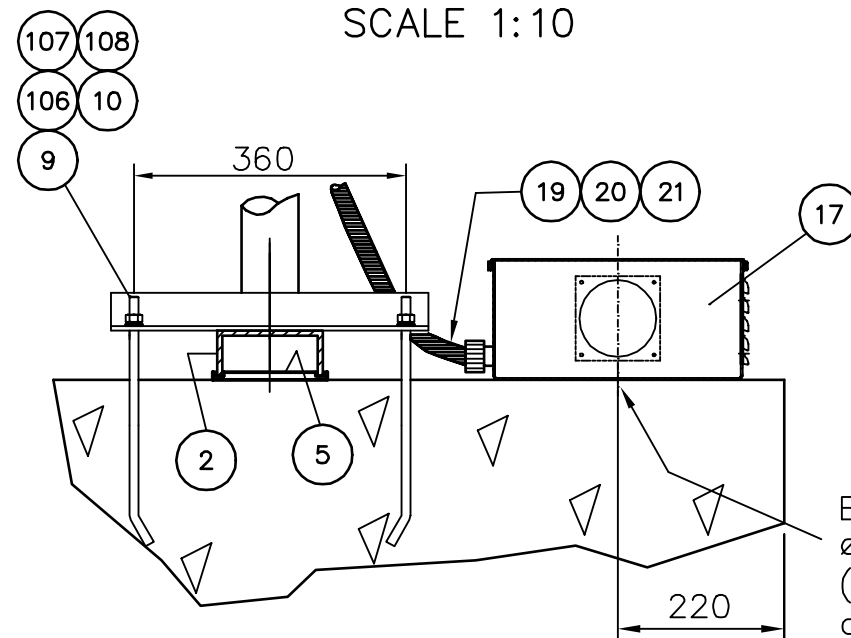
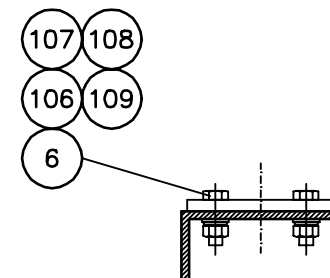
				Title: Assembly Adapter f. Kathrein Antenna	Scale: 1:10	Drawn: 131296 CBA
				Subject: NM 3543-46		Checked: 060297 HSA
						Appr. 060297 HSA
						Sup.for: Sup.by:
						Issue 2
3228	2	310398	ARJ	 Normarc	Dwg.no.: 16792A3	
Ref.no.	Issue	Date	Sign.	Copyright and all modification rights reserved NAVIA AVATION AS, NORWAY	Projection method: ☉ ☐	



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
Item	Qty	Description		NM Type/remark

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

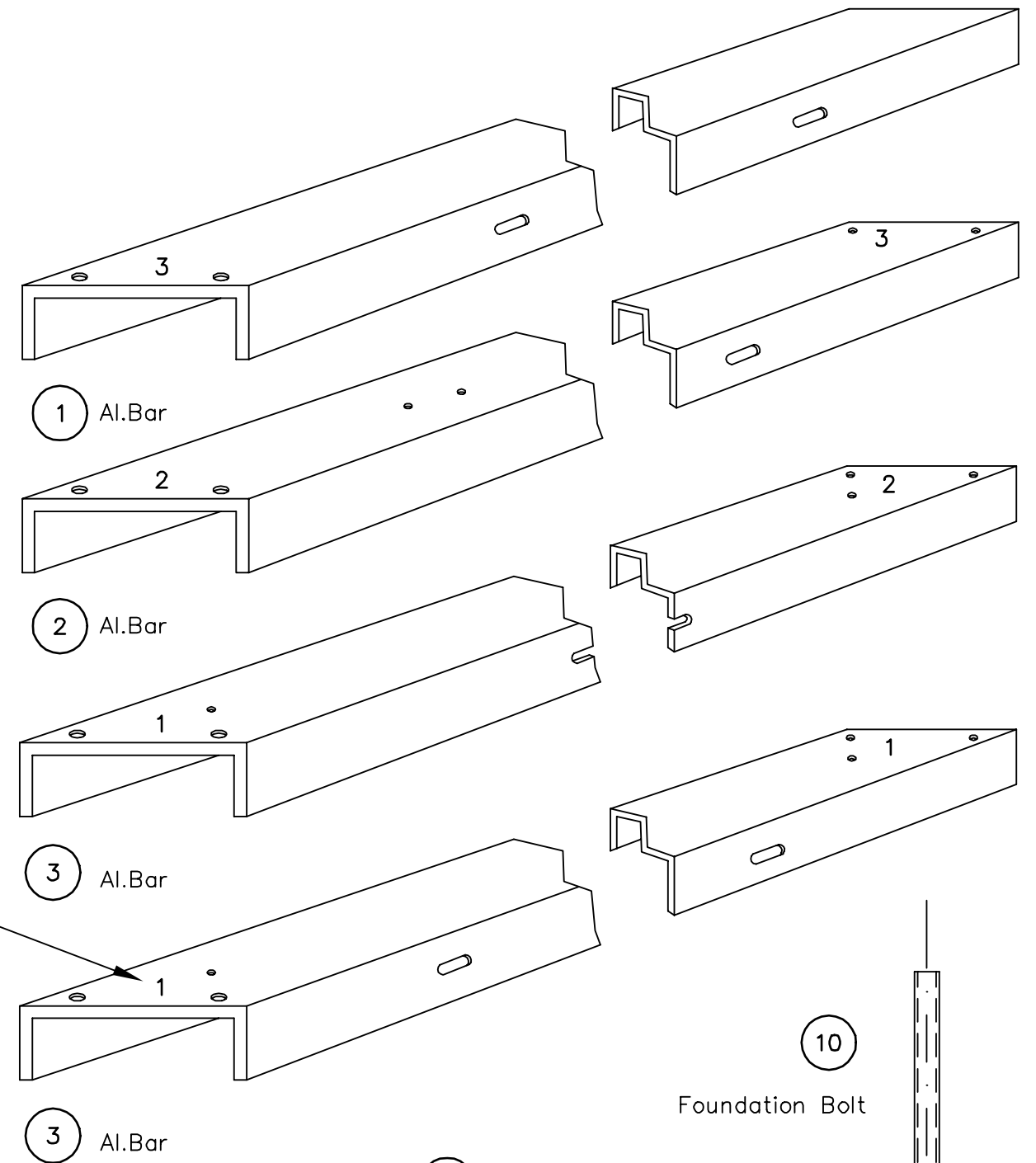
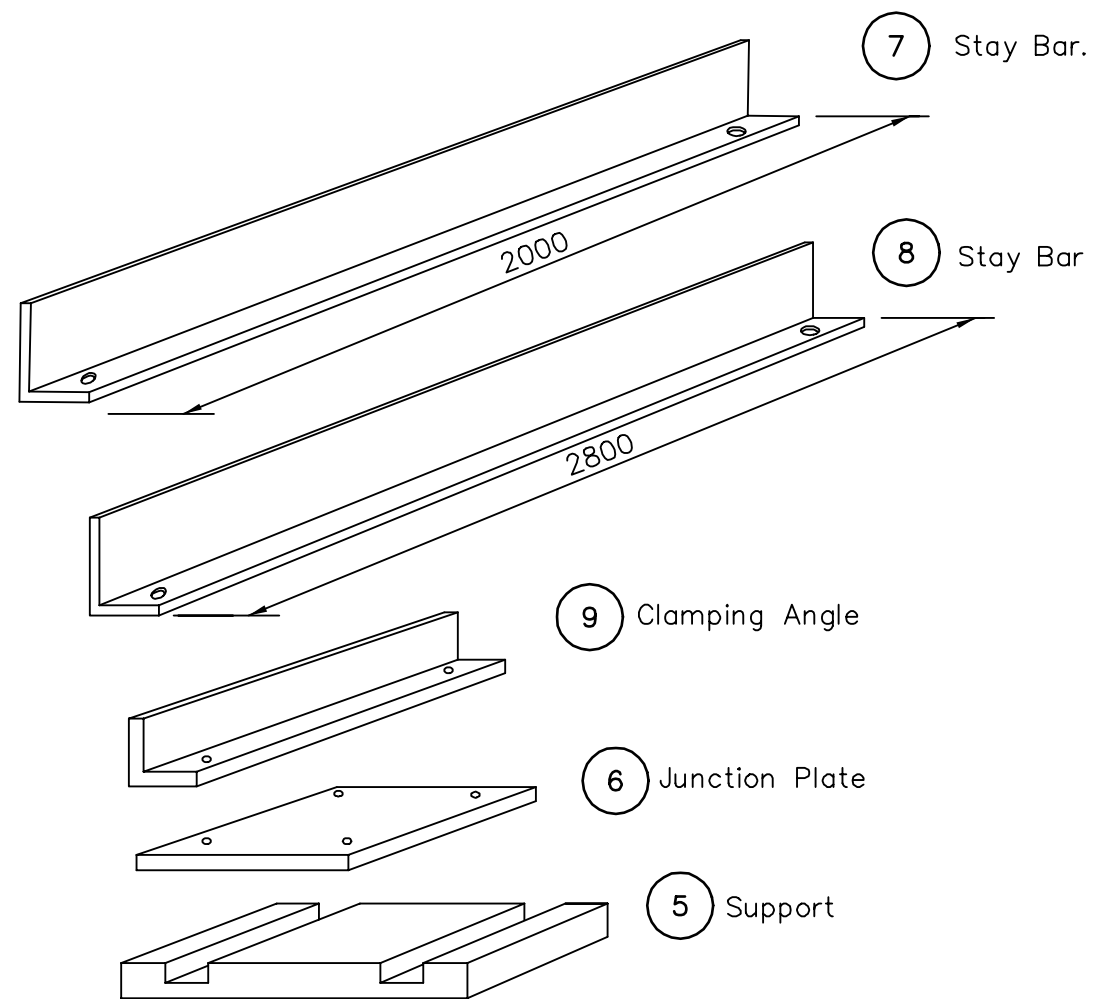
VIEW A-A

SECTION B-B
SCALE 1:10SECTION D-D
DETAIL OF CONNECTION
SCALE 1:12

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

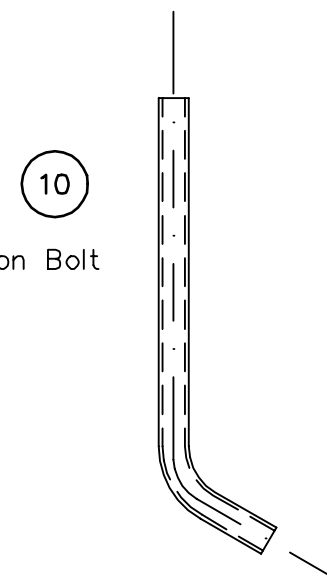
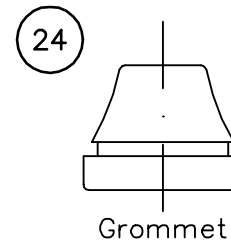
All dimensions are in mm.
Note 1:
Applicable to 3.2 – 5m mast only.
Item no. see parts list no.: 2748
Drawing references in Parts List.

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

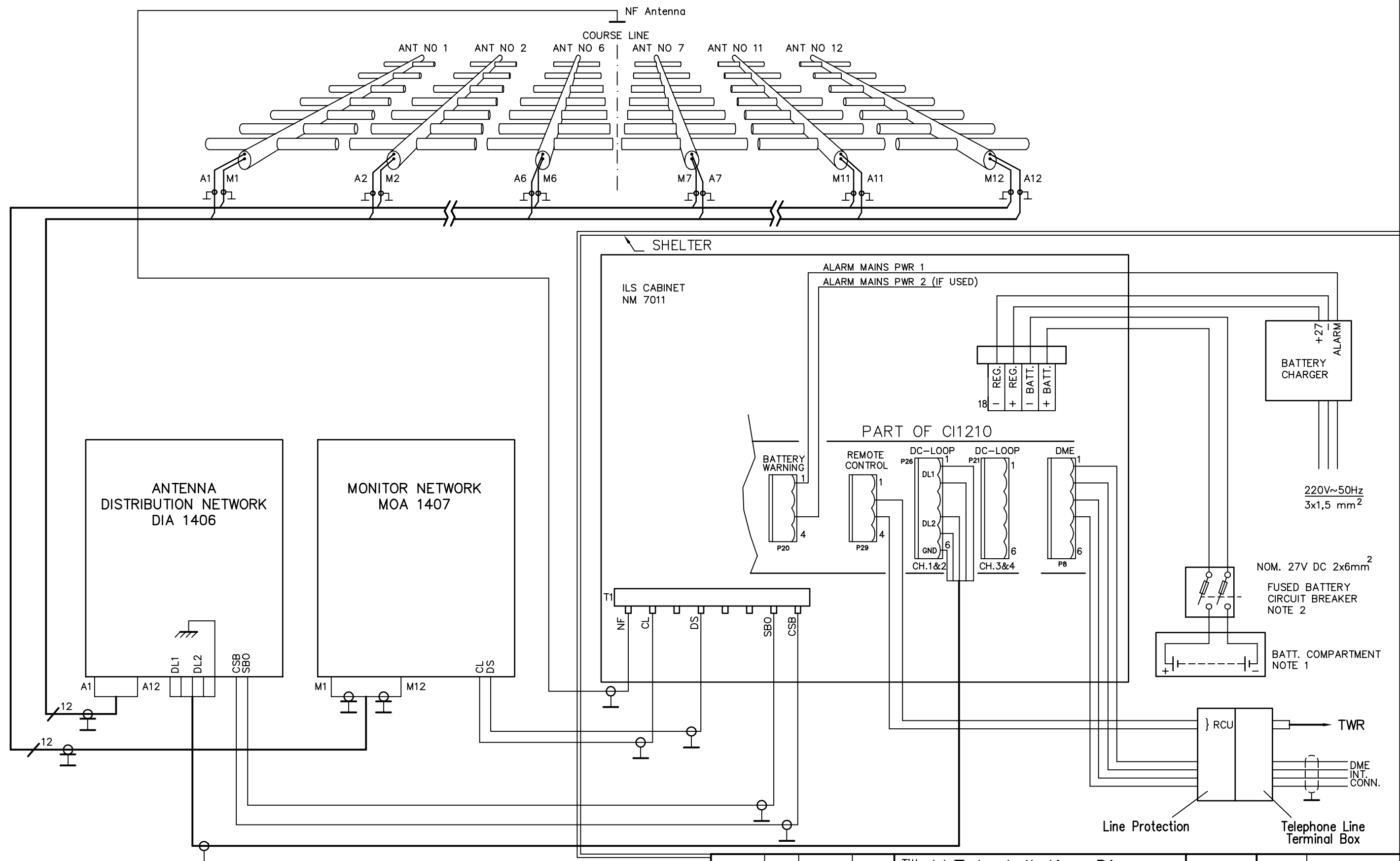


Number code

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



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

Ref.no.	Issue	Date	Sign.

Title: LLZ Installation Diagram
12 element system

Subject:
NM 7000/NM 3523B

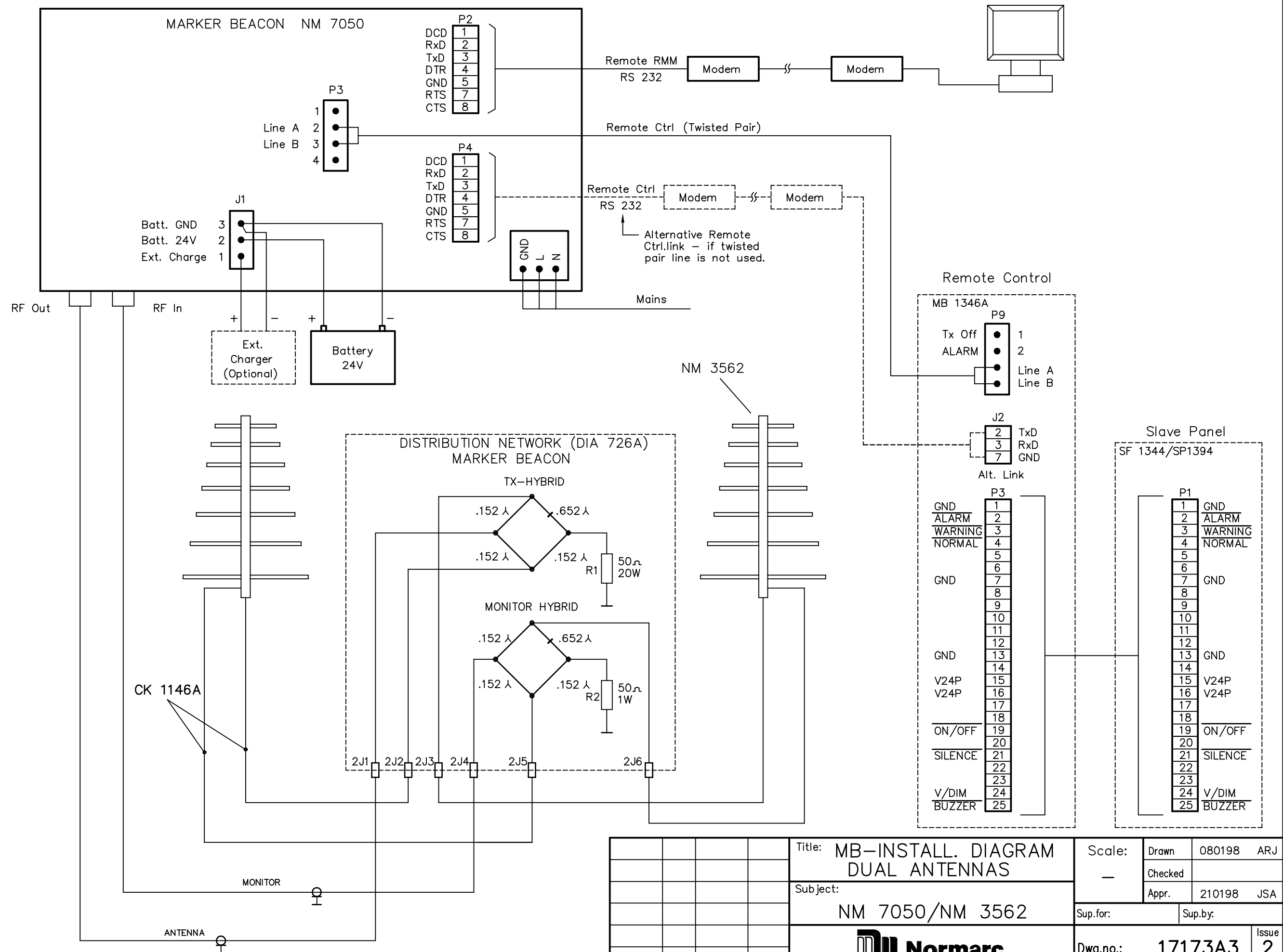
Normarc AS

Scale:	1:1	Drawn	210897	ARJ
		Checked		
		Appr.		

Sup.for:	Sup.by:
----------	---------

Dwg.no.:	16939A3	Issue	1
----------	---------	-------	---

Projection method:



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	
Ref.no. 3228				Projection method: ☉	
Issue: 2					
Date: 310398					
Sign. ARJ					



Copyright and all modification rights reserved NAVIA AVIATION AS, NORWAY

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	
102	48	Nut M10	DIN 934 A4	
103	48	Springwasher M10	DIN 127B A4	
104	48	Washer M10	DIN 125 A4	
106	134	Nut M12	DIN 934 A4	146 pcs. *3*
107	134	Washer M12	DIN 125 A4	146 pcs. *3*
108	134	Spring washer M12	DIN 127B A4	146 pcs. *3*
109	72	Bolt M12x40	DIN 933 A4	
110	24	Bolt M12x100	DIN 933 A4	36 pcs. *3*
111	40	Bolt M6x16	DIN 933 A4	
112	40	Washer M6	DIN 125 A4	
	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 nipple		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 m		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
107	466	Washer M12	DIN 125 A4	16414A3
108	466	Spring washer M12	DIN 127B A4	16414A3
109	278	Bolt M12x40	DIN 933 A4	16414A3
110	96	Bolt M12x100	DIN 933 A4	16414A3
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	328 psc. *3*
106	324	Washer M12	DIN 125 A4	16430A3	328 psc. *3*
107	324	Spring washer M12	DIN 127B A4	16430A3	328 psc. *3*
108	192	Bolt M12x40	DIN 933 A4	16430A3	
109	64	Bolt M12x100	DIN 933 A4	16430A3	96 psc. *3*
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)		