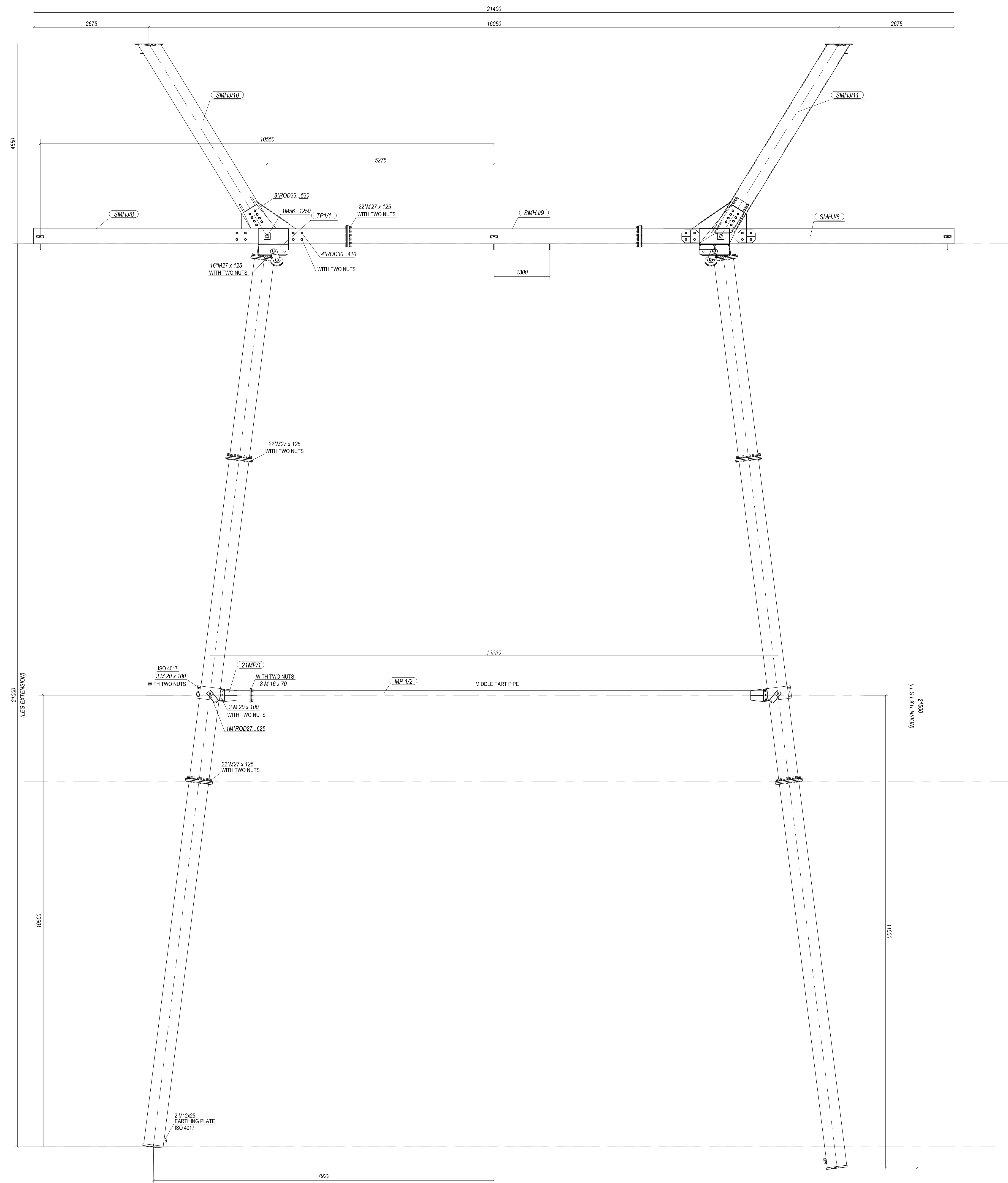




NOTES

Threaded rods and connection bolts shall have washer and two nuts.

All dimensions are given in mm and angles in grades [gr] (0-400gr for full circle) unless otherwise noted.

These drawings are production drawings

Use of alternative principal solutions in design are subjected to approval by client.

Towers shall include steel bearings, stay wheels, droppers for attachment of conductor.
Guy wires are not part of tower delivery.

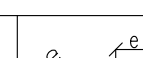
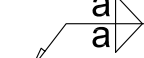
MATERIAL SPECIFICATION

HOLLOW SECTION STEEL PROFILES	S355J2H EN 10025* and Profiles are now cold formed acc. to EN 10219 not EN 10210
STEEL PLATES	S355J2 EN 10025
STEEL FLANGE CONNECTION PLATES	S355J2 EN 10025 WITH MIN Z25 ACC. TO EN 10164
STEEL PLATES FOR HOT BENDING	S355J2 EN 10025
STEEL BEARING AND STAY WHEELS	S355J2
THREADED STEEL RODS (CONNECTION BOLTS)	8.8 EN 20898
HEXAGON BOLTS EN ISO 4014	8.8 EN 20898
HEXAGON NUTS EN ISO 4032	8 EN 24034
WASHERS	DIN 7989
S355J2H EN 10025	All profiles have chemical composition C ≤ 0.18 %, P ≤ 0.020 % and S ≤ 0.012 % and fully aluminum killed steel

HOT DIP GALVANIZING ACC. TO
EN ISO 14713 AND EN ISO 1461

MATERIAL	THICKNESS	ZINC THICKNESS, micrometers	
		Minimum	Average
Hot rolled steel and cold formed	3 < t ≤ 6 mm	85	95
	t > 6 mm	100	115
Bolts, nuts and washers		45	55
Special parts: stay wheel steel bearings, dropper, etc.		115	115

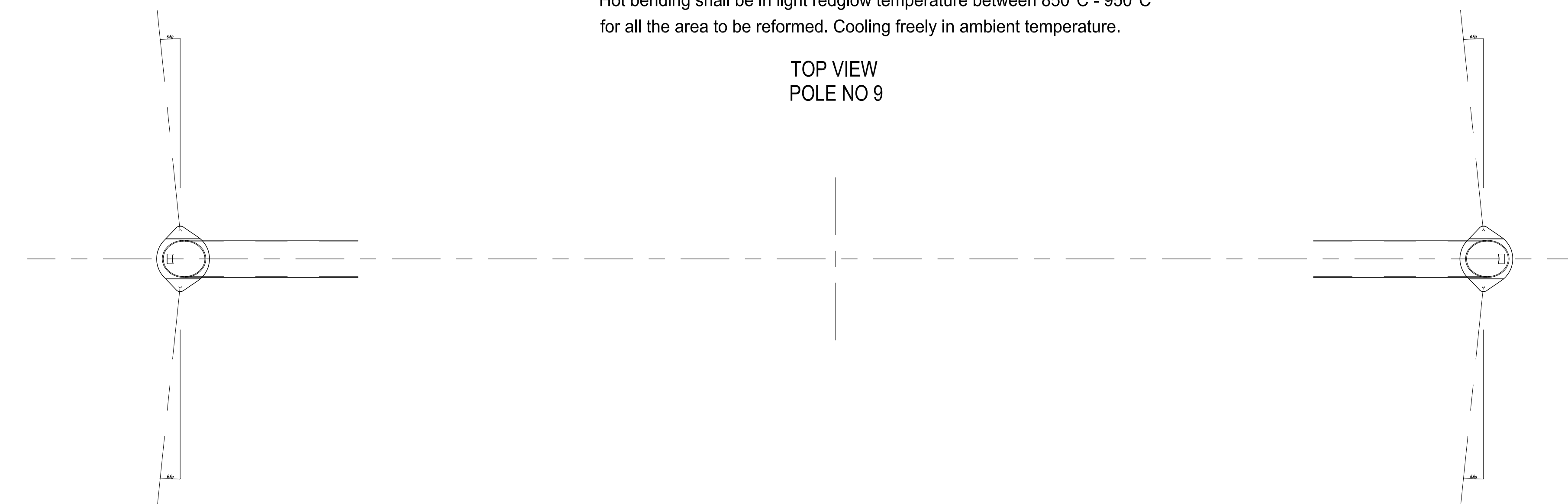
WELDINGS

Fillet weld		Full penetration weld	
			
Full penetration weld			
			

BOLT SYMBOL		
	SYMBOL	HOLE
BOLT M16		Ø 17.5
BOLT M20		Ø 21.5
BOLT M24		Ø 26
STEP BOLT (M20)		Ø 21.5
OTHER		

BENDING

Special parts include droppers, U-bolts or other parts defined by Engineer. Hot bending shall be in light redglow temperature between 850°C - 950°C for all the area to be reformed. Cooling freely in ambient temperature.



LEG HEIGHT (m) (L1)	PROFILE	MODULES (ASSEMBLY NAME)										
		4.5(m)	7(m)	7.5(m)	8.5(m)	9.0(m)	9.5(m)	10.5(m)	11.5(m)	TOP PART / EARTH WIRE PEAK	MIDDL. PIPE -1	MIDDL. PIPE -2
21	CHS 457.0 x 10	21M3		21M1	21M2					LEFT-SMH/10-RIGHTSMH/11	21MP/1	MP1/2
21.5	CHS 457.0 x 10	21.5M3		21.5M1		21.5M2				LEFT-SMH/10-RIGHTSMH/11	21MP/1	MP1/2

SMHJ CROSSARMS (PROFILE 350 x 250 x 10)		
MODULES (ASSEMBLY NAME)		
SMHJ/8	SMHJ/9	SMHJ/8

						 ŞA-RA ENERGY 	LANDSNET 	DATE: 27.03.2023	DRAWING TYPE: ASSEMBLY_DRAWING	ASSEMBLY_DRAWING SMHJ GUYED_MEDIUM_ANGLE_TENSION_TOWER WITH_EARTHWIRE_PEAK	SHEET: 1	
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								PROJECT NUMBER: KH1/KLA-04	CHECKED: SY			
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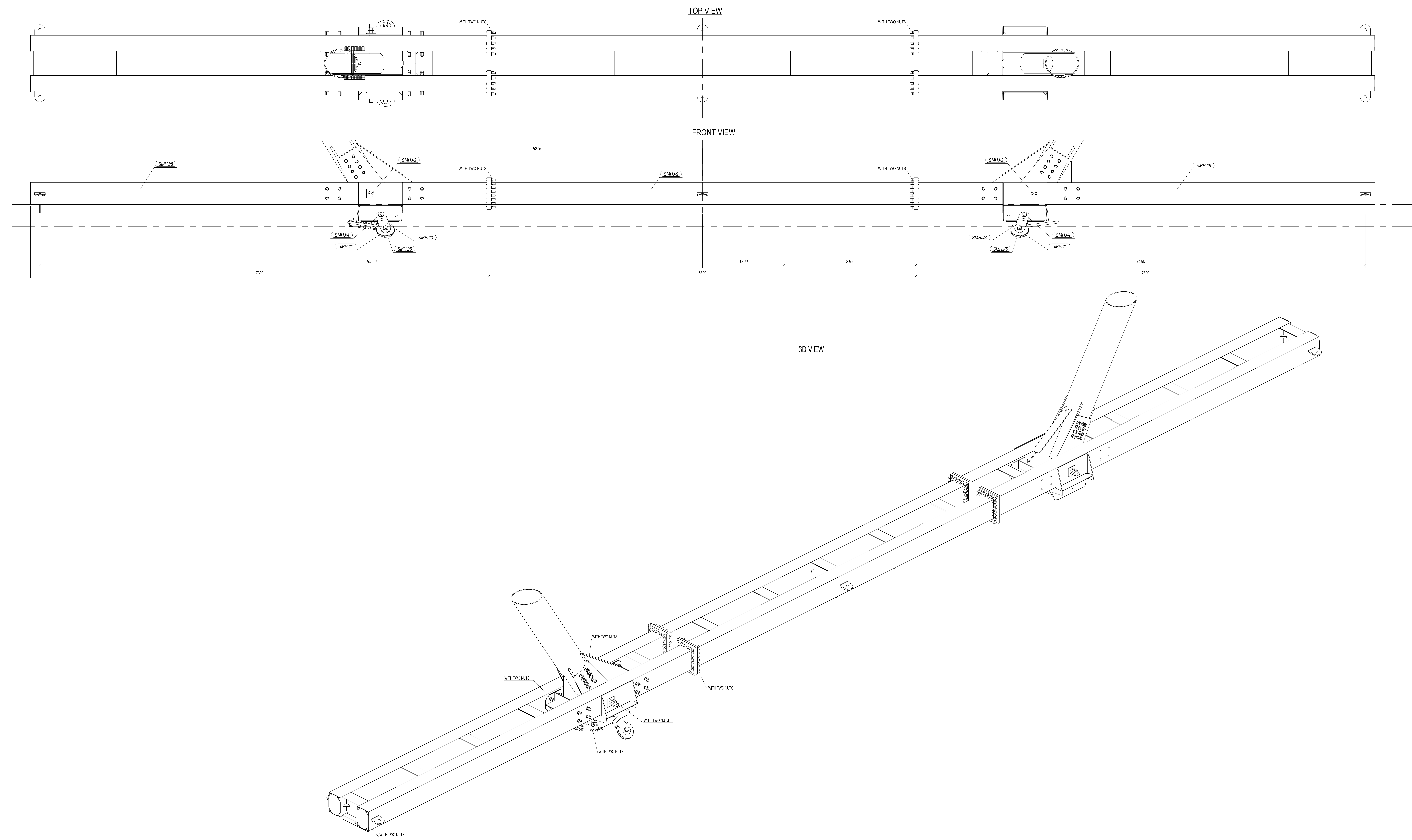
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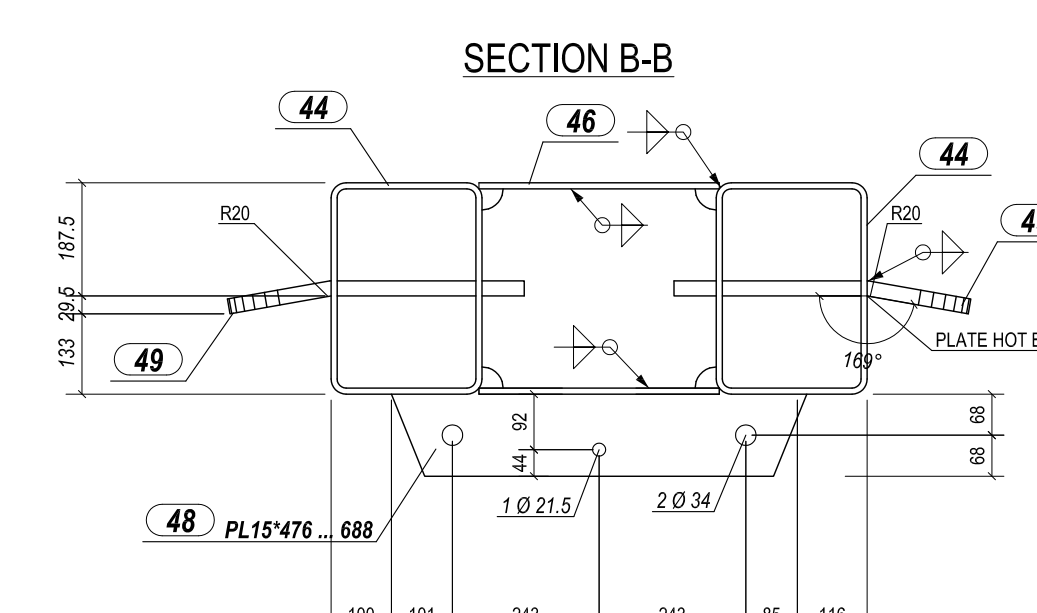
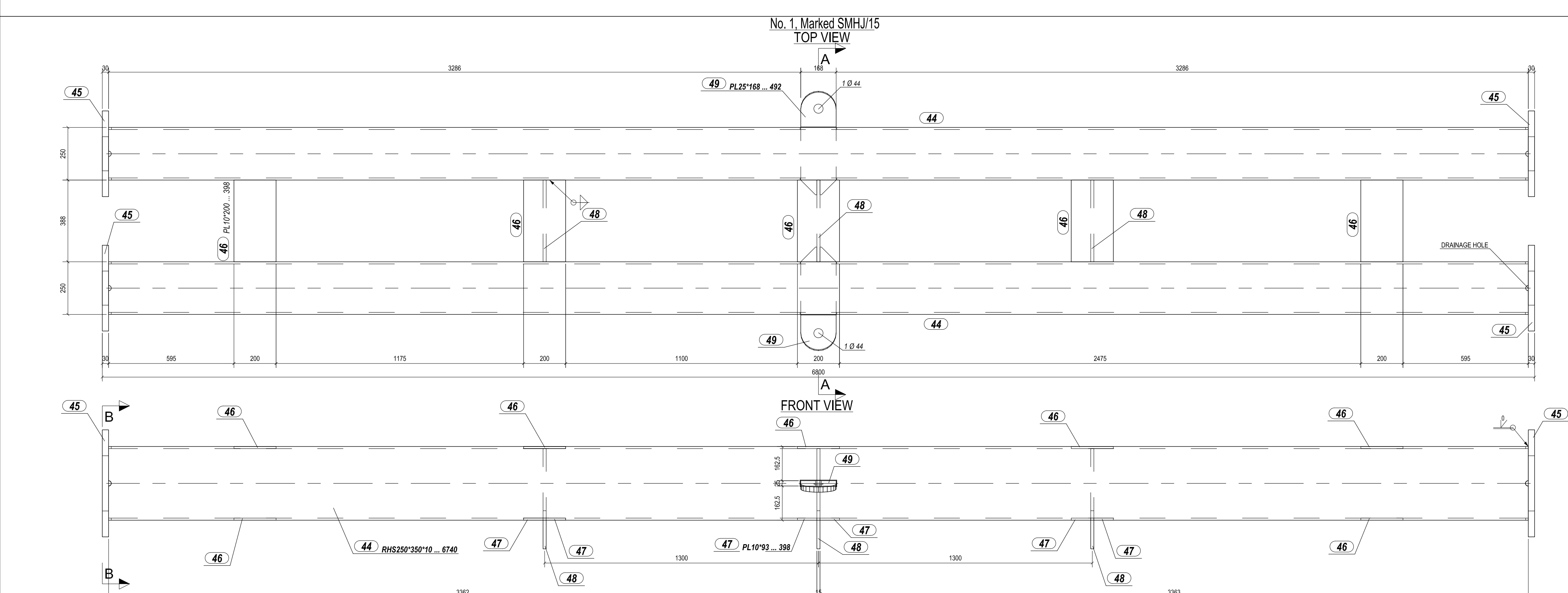
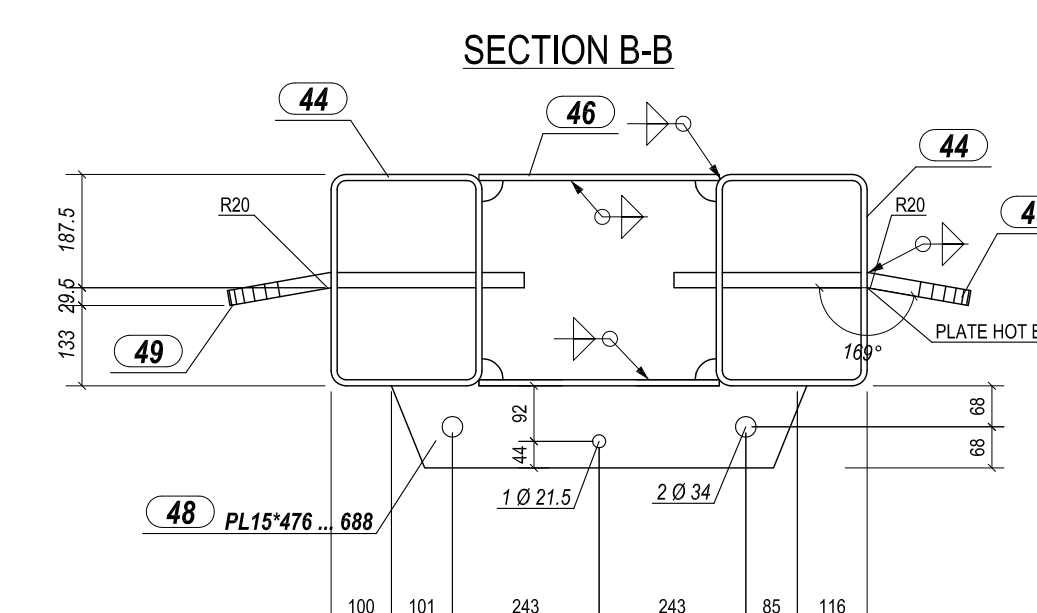
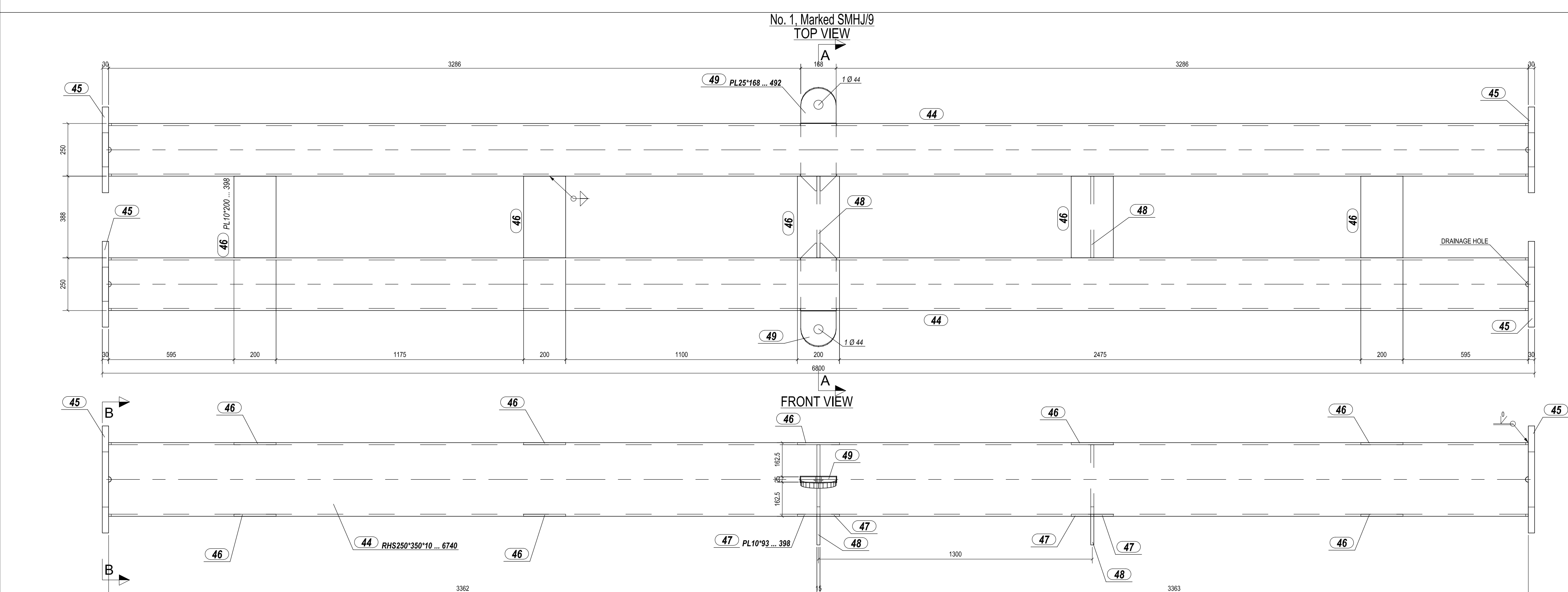
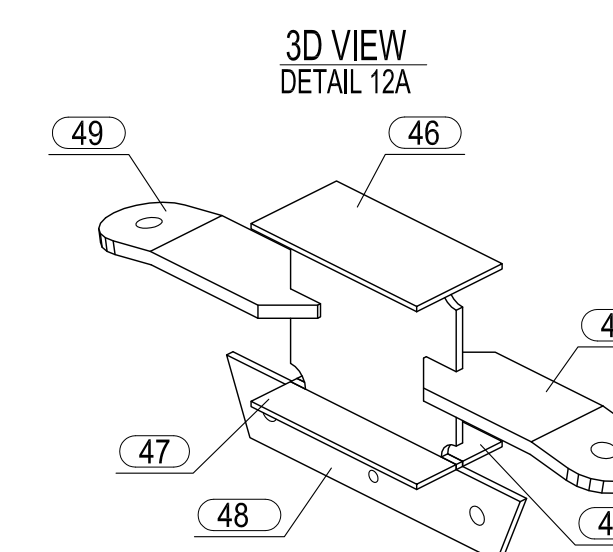
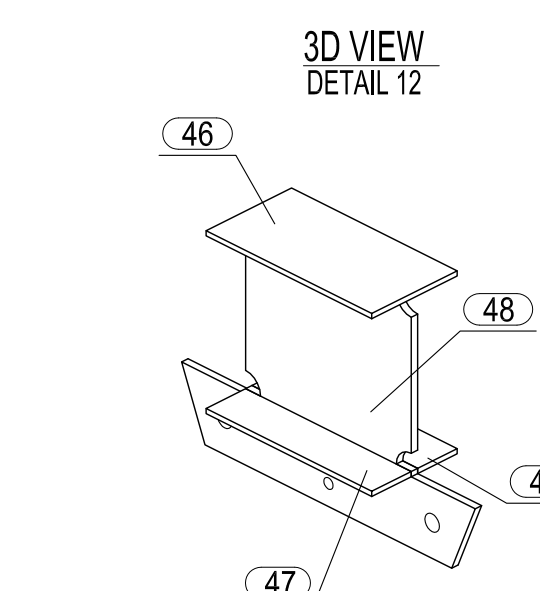
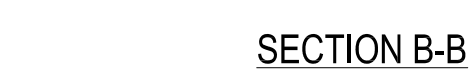
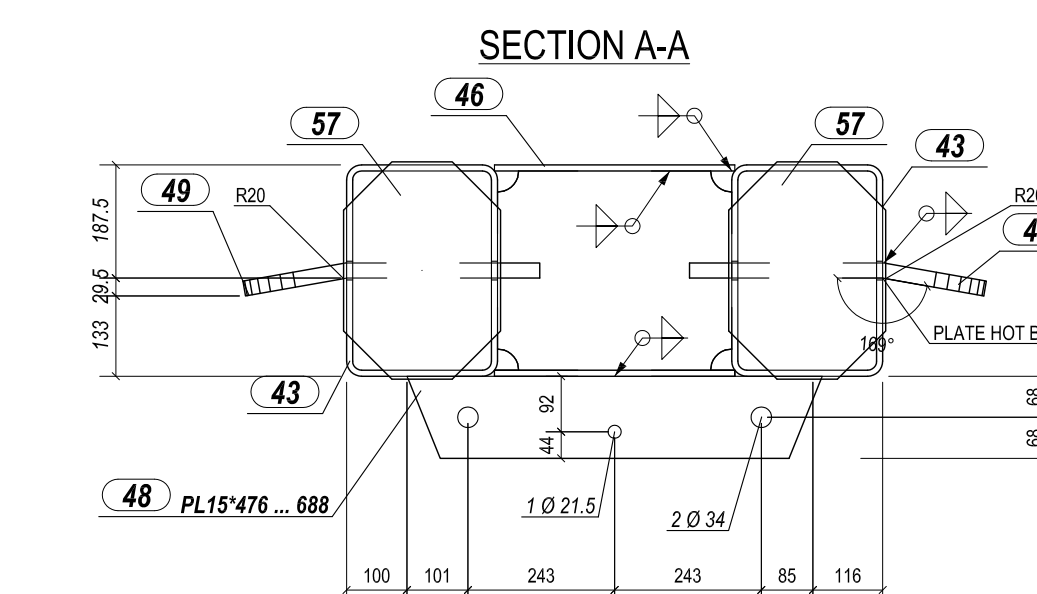
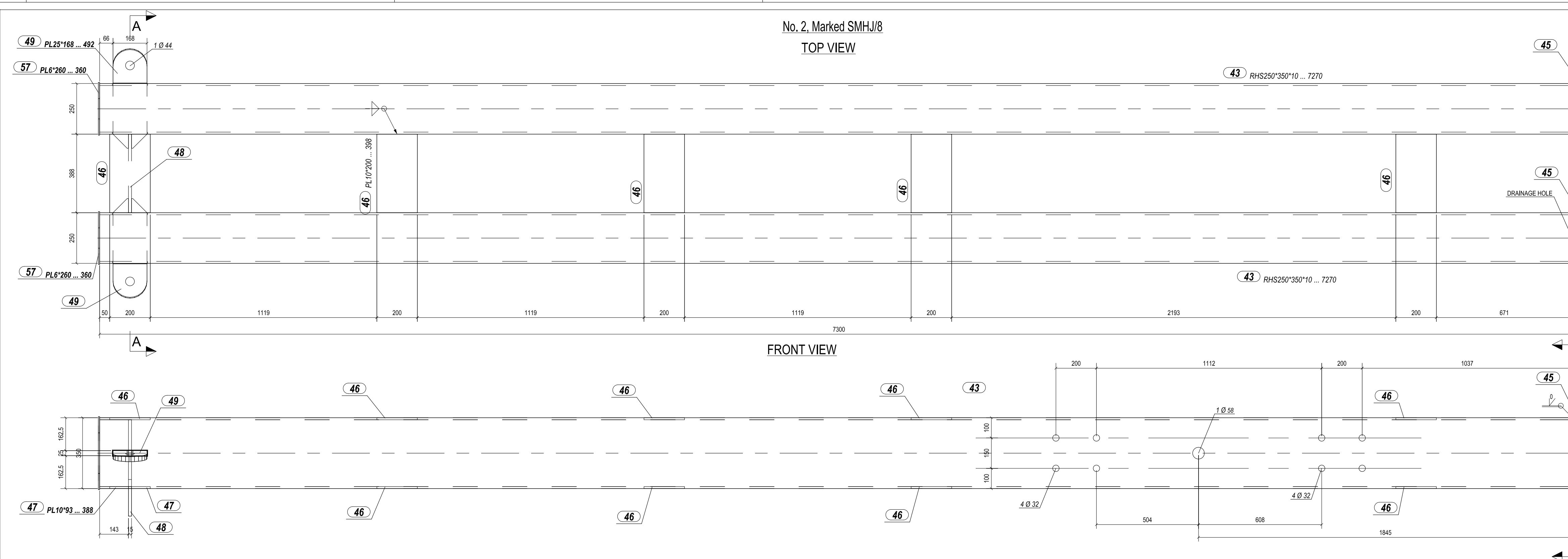
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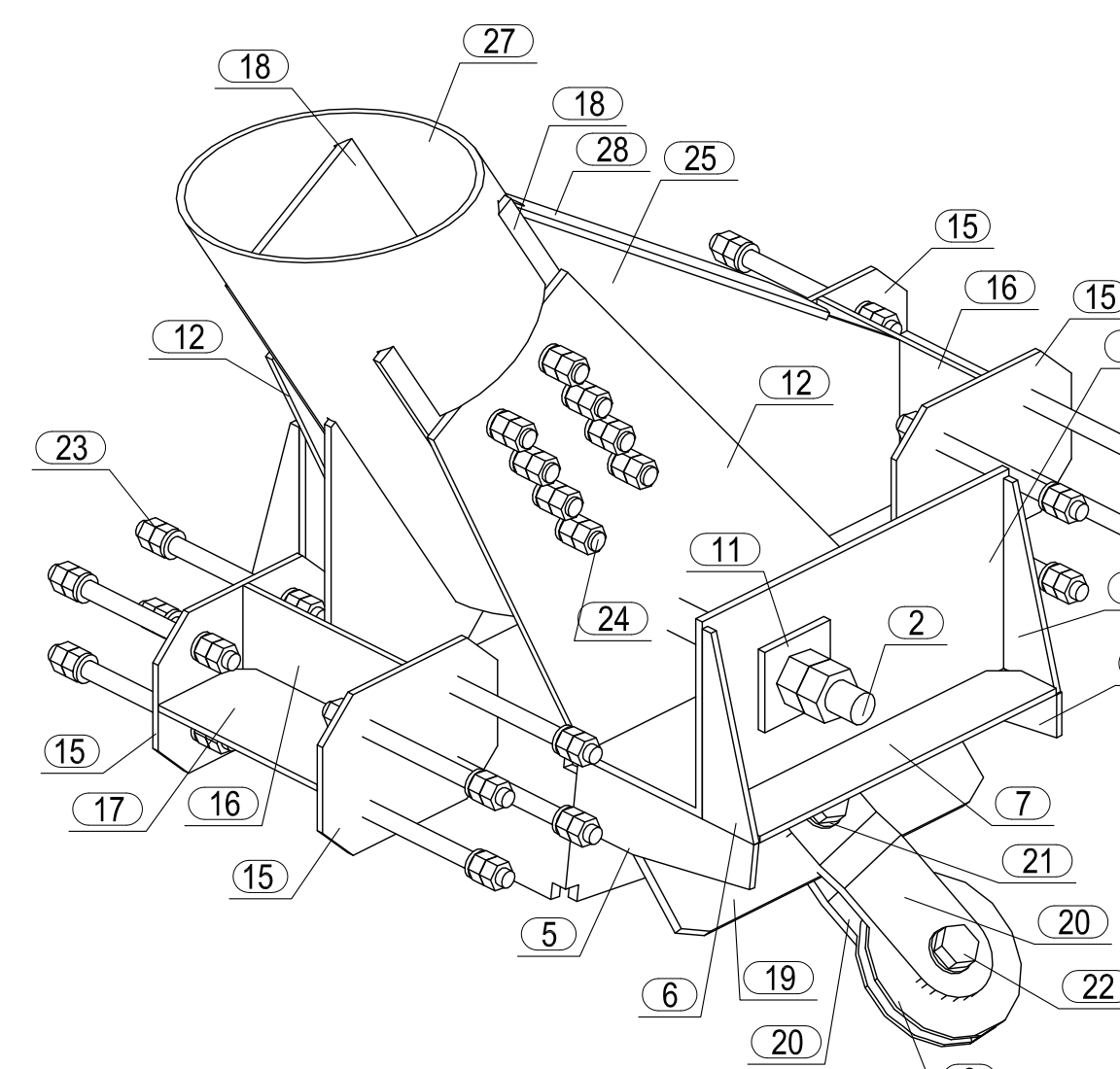
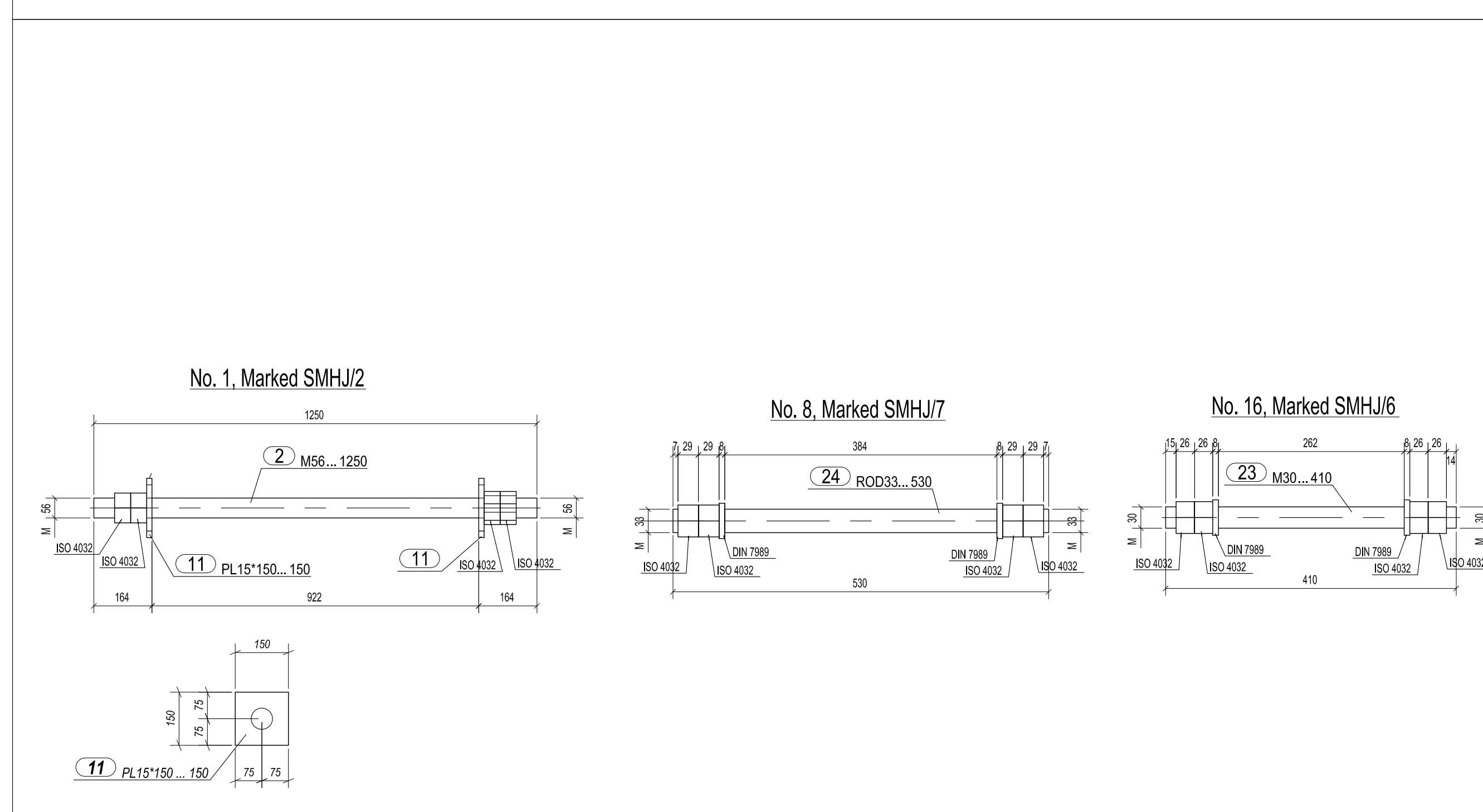
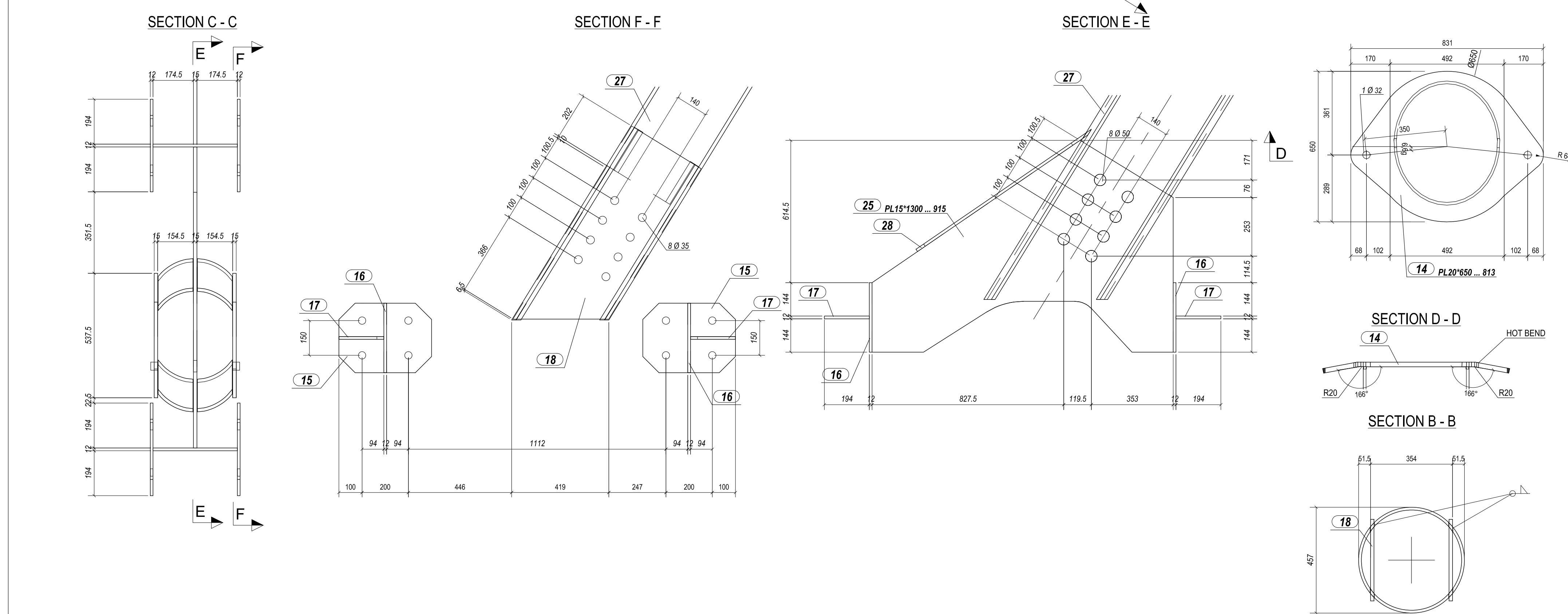
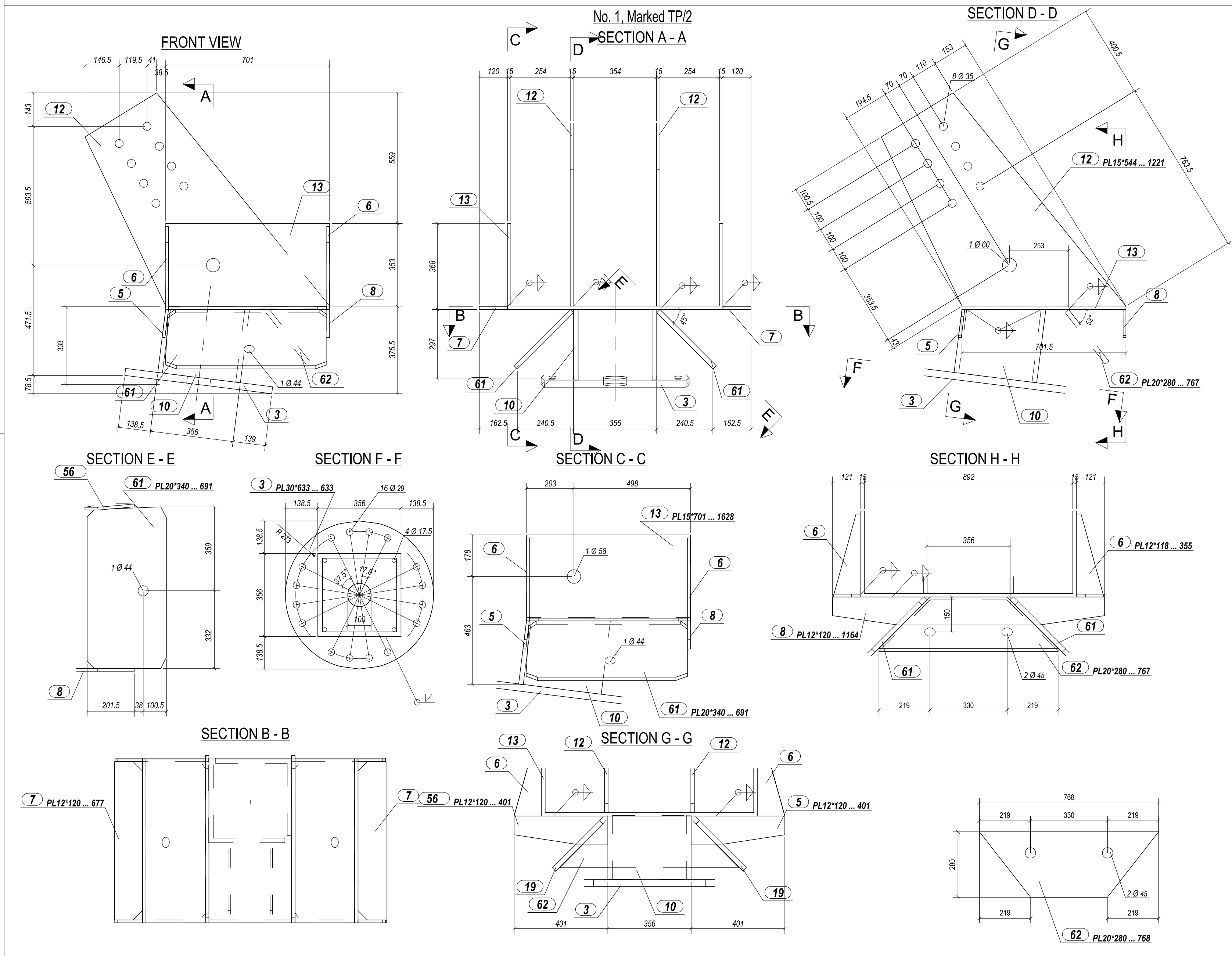
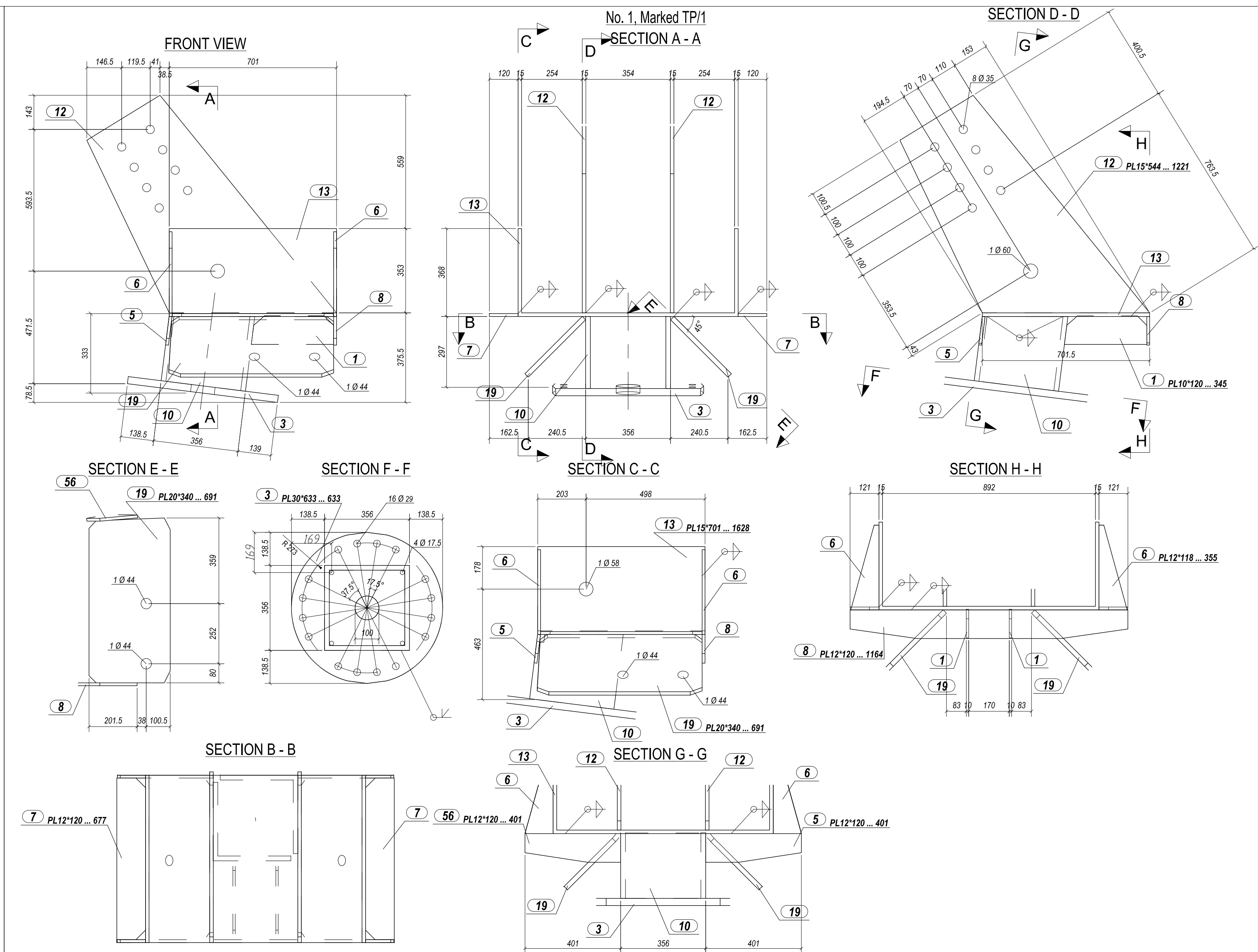
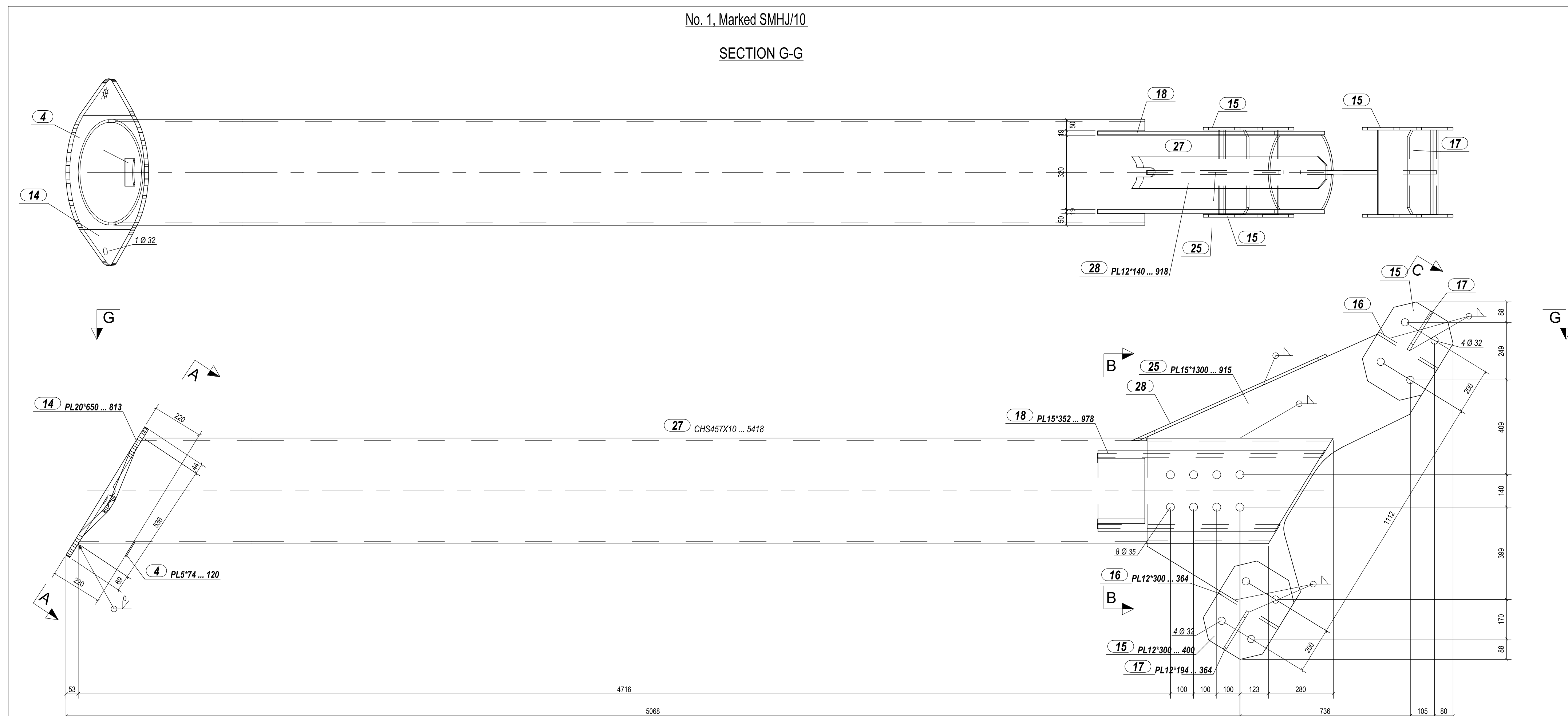


								DATE: 27.03.2023	DRAWING TYPE: ERECTION_DRAWING	ERECTION_DRAWING SMHJ GUYED_MEDIUM_ANGLE_TENSION_TOWER WITH_EARTHWIRE_PEAK	SHEET: 2
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								SCALE: 1:20	DRAWN: H.C.	CROSSARM_ERECTION	REVISION: 0
								PROJECT NUMBER: KH1/KLA-04	CHECKED: SY		
REV.:	DESCRIPTION:							DRAWING NUMBER: 687-02-IM-02	APPROVED: LANDSNET		

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						 ŞA-RA ENERGY		DATE: 27.03.2023	DRAWING TYPE: ASSEMBLY_DRAWING	ASSEMBLY_DRAWING SMHJ_SMHJ2 GUYED_MEDIUM_ANGLE_TENSION_TOWER WITH_EARTHWIRE_PEAK	SHEET: 3
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								SCALE: 1:5-1:10	DRAWN: HC		
								PROJECT NUMBER: KH1/KLA-04	CHECKED: SY		
								DRAWING NUMBER: 687-02-IM-03	APPROVED: LANDSNET	CROSSARM_ASSEMBLY	REVISION: 0
REV.:		DESCRIPTION:	DATE.:	DESIGNED:	CHECKED:			APPROVED:			

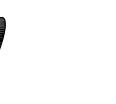


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PROJECT NUMBER:	KH1/KLA-04
DRAWING NUMBER:	687-02-IM-04

DRAWING TYPE:	ASSEMBLY_DRAWING
DESIGNED:	GMH
DRAWN:	HC
CHECKED:	SY
APPROVED:	LANDSNET

ASSEMBLY_DRAWING SMHJ&SMHJ2 GUYED_MEDIUM_ANGLE_TENSION_TOWER WITH_EARTHWIRE_PEAK
EARTH WIRE PEAK

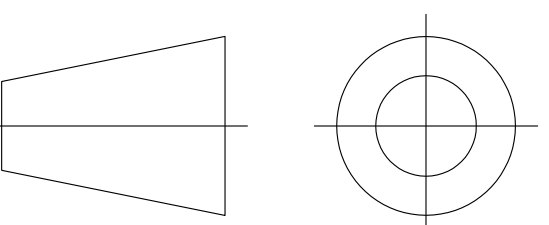
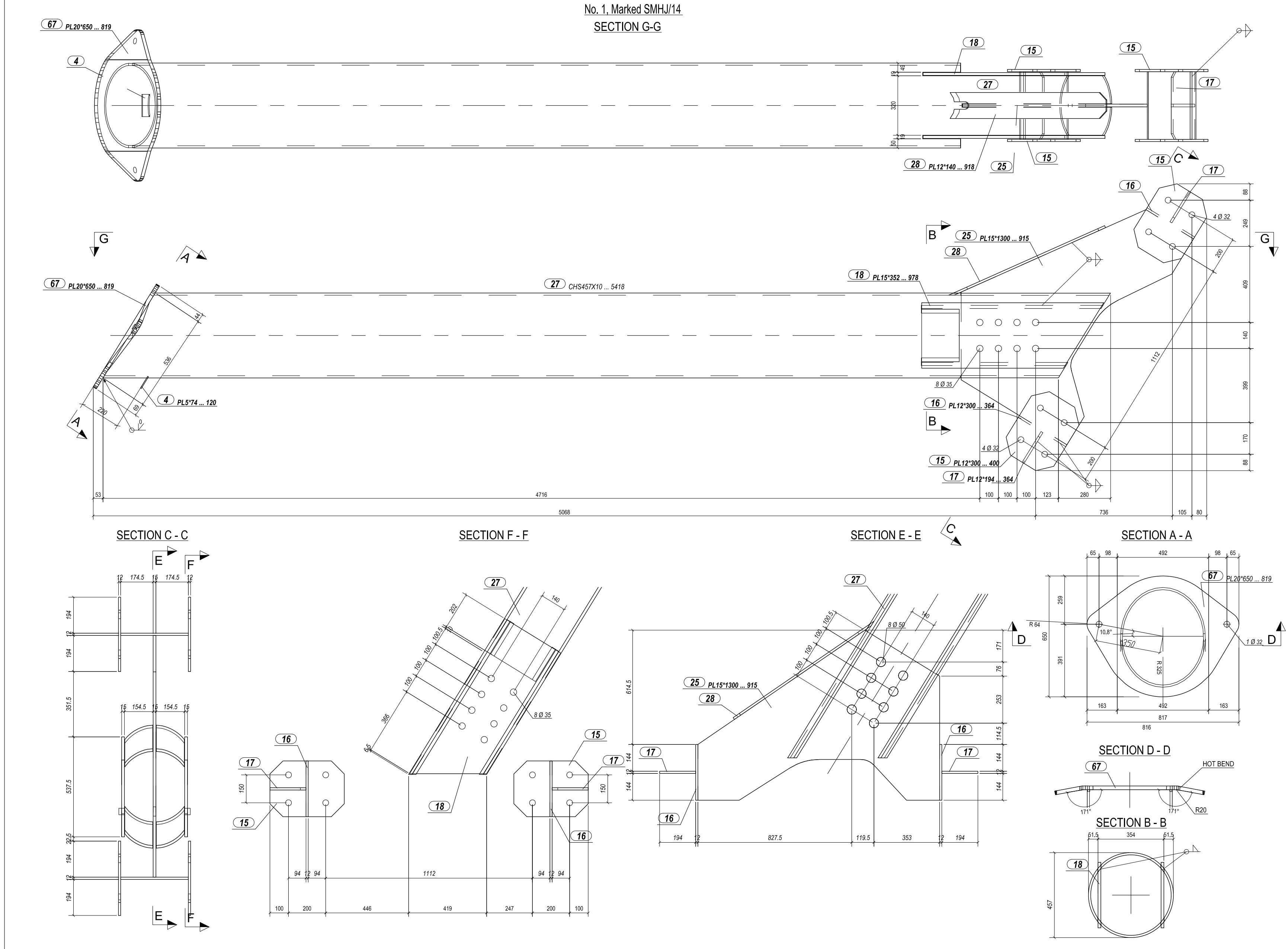
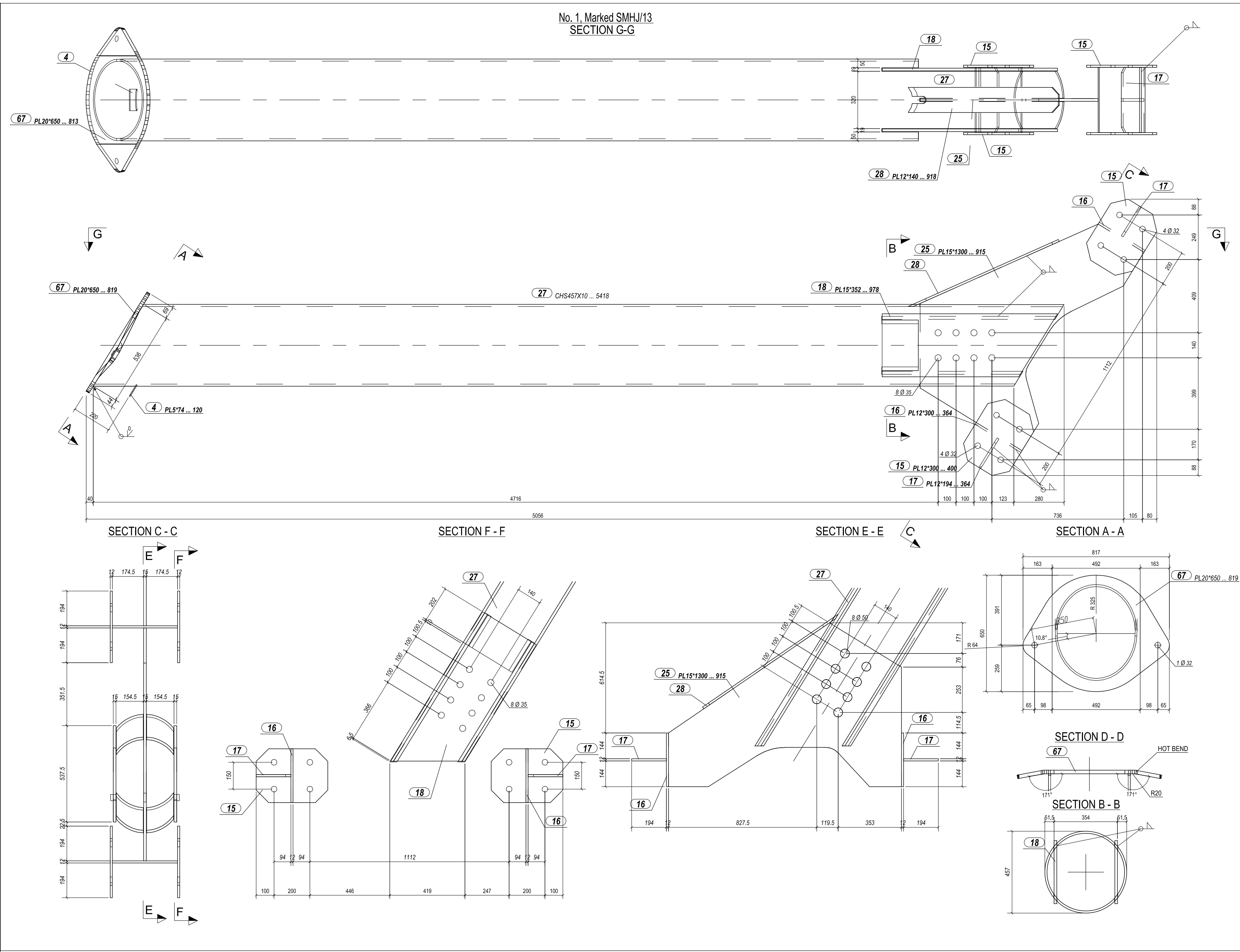
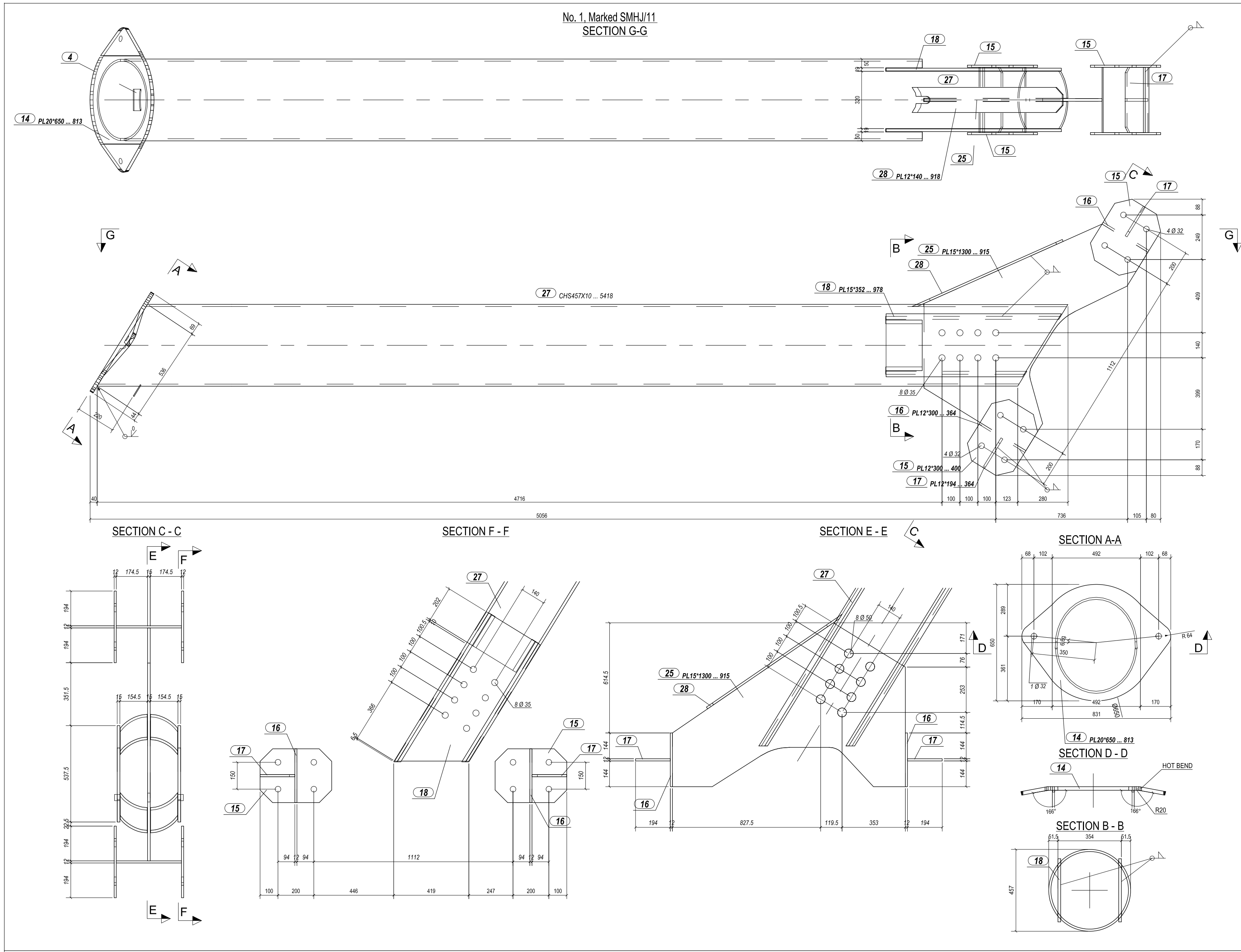
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REVISION:	0



LANDSNET

EFLA

REV.:	DESCRIPTION:	DATE.:	DESIGNED:	CHECKED:	APPROVED:
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LANDSNET



DATE:
27.03.2023

PAPER SIZE:
A0

SCALE:
1:5-1:10

PROJECT NUMBER:
KH1/KLA-04

DRAWING NUMBER:
687-02-IM-05

DRAWING TYPE:
ASSEMBLY_DRAWING

DESIGNED:
GMH

DRAWN:
HC

CHECKED:
SY

APPROVED:
LANDSNET

ASSEMBLY_DRAWING
SMHJ&SMHJ2
GUYED_MEDIUM_ANGLE_TENSION_TOWER
WITH_EARTHWIRE_PEAK

EARTH_WIRE_PEAK_II

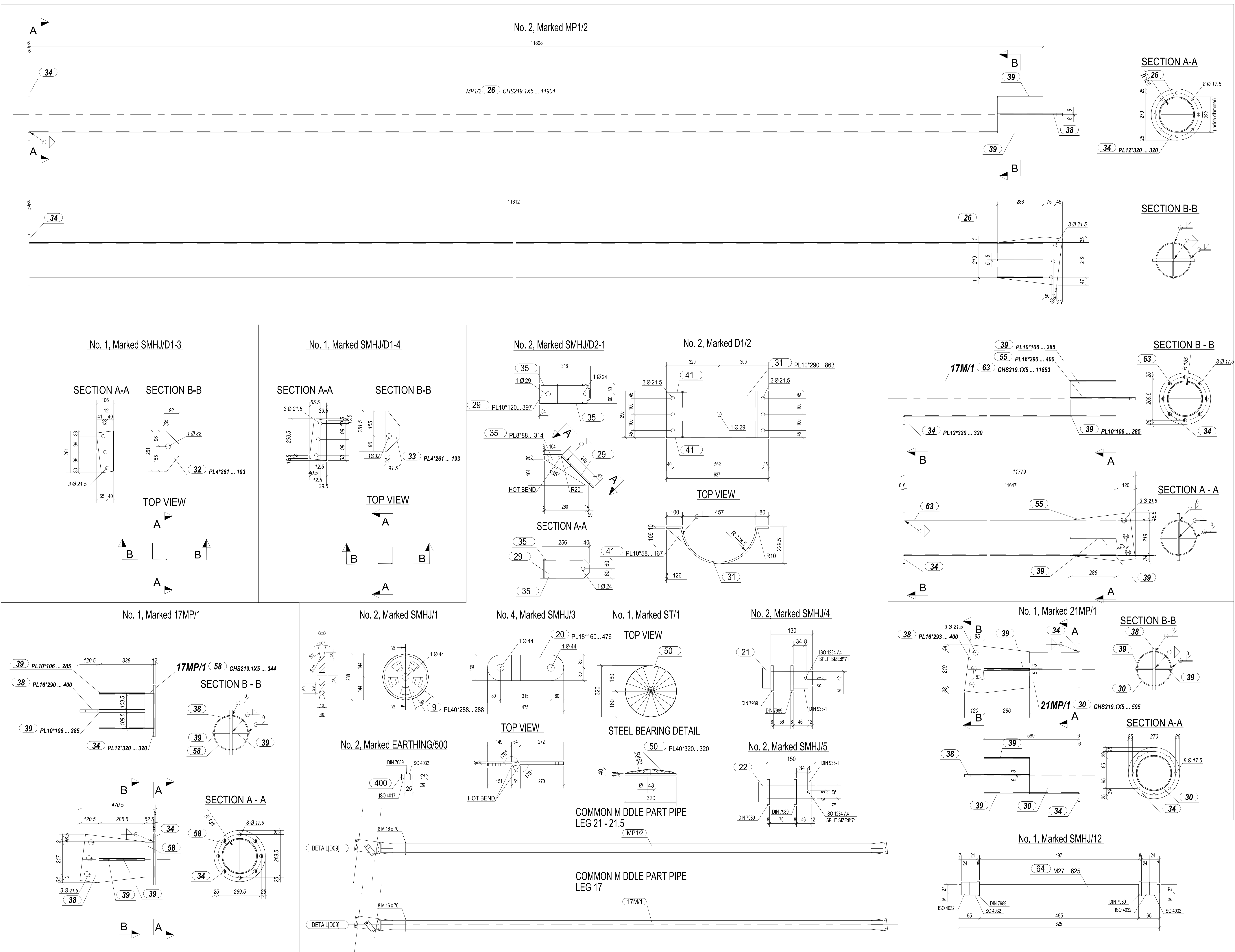
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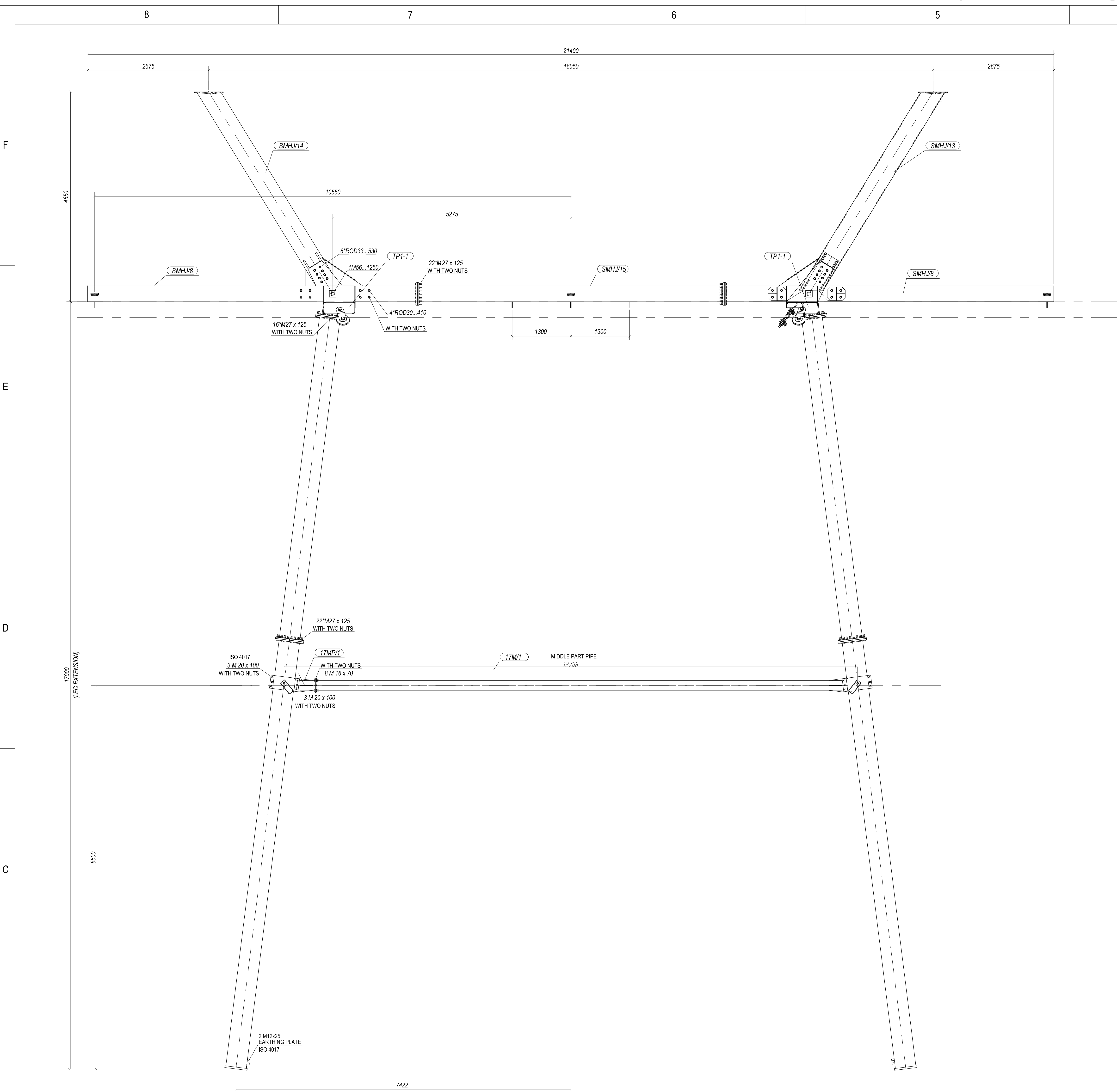
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								DATE: 27.03.2023	DRAWING TYPE: ASSEMBLY_DRAWING	ASSEMBLY_DRAWING SMHJ&SMHJ2 GUYED_MEDIUM_ANGLE_TENSION_TOWER WITH_EARTHWIRE_PEAK SECTION_AND_DETAIL	SHEET: 6
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REV.:	DESCRIPTION:	DATE.:	DESIGNED:	CHECKED:	APPROVED:			DRAWING NUMBER: 687-02-IM-06	APPROVED: LANDSNET		



NOTES

Threaded rods and connection bolts shall have washer and two nuts.

All dimensions are given in mm and angles in grades [gr] (0-400gr for full circle) unless otherwise noted.

These drawings are production drawings

Use of alternative principal solutions in design are subjected to approval by client.

Towers shall include steel bearings, stay wheels, droppers for attachment of conductor.
Guy wires are not part of tower delivery.

DRAWING LIST

687-02-IM-01 GENERAL LAYOUT & LEG ERECTION

687-02-IM-02 CROSSARM ERECTION

687-02-IM-03 CROSSARM ASSEMBLY

687-02-IM-04 EARTH WIRE PEAK

687-02-IM-05 EARTH WIRE PEAK II

687-02-IM-06 SECTION AND DETAIL

687-02-IM-07 GENERAL LAYOUT & LEG ERECTION 17M

687-02-IM-08 G+17m 21m 21.5m LEG EXT PART

MATERIAL SPECIFICATION

HOLLOW SECTION STEEL PROFILES	S355J2H EN 10025* and Profiles are now cold formed acc. to EN 10219 not EN 10210
STEEL PLATES	S355J2 EN 10025
STEEL FLANGE CONNECTION PLATES	S355J2 EN 10025 WITH MIN Z25 ACC. TO EN 10164
STEEL PLATES FOR HOT BENDING	S355J2 EN 10025
STEEL BEARING AND STAY WHEELS	S355J2
THREADED STEEL RODS (CONNECTION BOLTS)	8.8 EN 20898
HEXAGON BOLTS EN ISO 4014	8.8 EN 20898
HEXAGON NUTS EN ISO 4032	8 EN 24034
WASHERS	DIN 7989
S355J2H EN 10025	All profiles have chemical composition C ≤ 0.18 %, P ≤ 0.020 % and S ≤ 0.012 % and fully aluminum killed steel

HOT DIP GALVANIZING ACC. TO
EN ISO 14713 AND EN ISO 1461

MATERIAL	THICKNESS	ZINC THICKNESS, micrometers	
		Minimum	Average
Hot rolled steel and cold formed	3 < t ≤ 6 mm	85	95
	t > 6 mm	100	115
Bolts, nuts and washers		45	55
Special parts: stay wheel steel bearings, dropper , etc.		115	115

WELDINGS

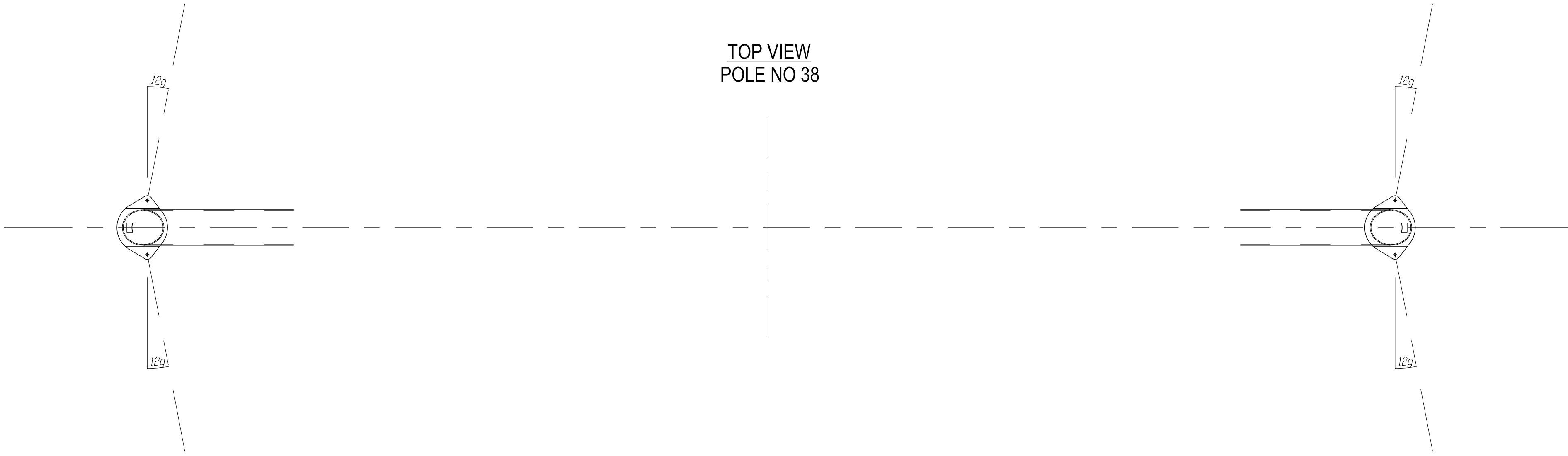
Fillet weld	Full penetration weld	
Full penetration weld		

BOLT SYMBOL		
	SYMBOL	HOLE
BOLT M16		Ø 17.5
BOLT M20		Ø 21.5
BOLT M24		Ø 28
STEP BOLT (M20)		Ø 21.5
OTHER		

BOLT DIAMETER (mm)	BOLT HOLE (mm)	Class 8.8	
		TORQUE (Nm)	
12	13.5	70 ± 10	
16	17,5	170 ± 10	
20	21,5	330 ± 20	
24	26	550 ± 20	
27	29	800 ± 20	
30	32	1100 ± 30	
33	35	1400 ± 30	
36	38	1800 ± 30	
39	42	2300 ± 30	

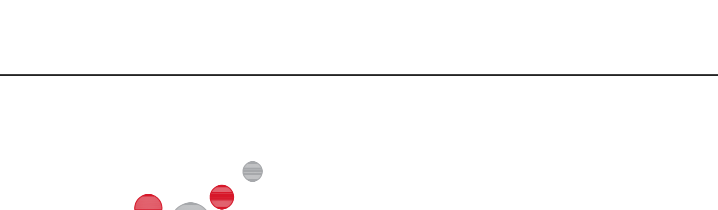
BENDING

Special parts include droppers, U-bolts or other parts defined by Engineer.
Hot bending shall be in light redglow temperature between 850°C - 950°C for all the area to be reformed. Cooling freely in ambient temperature.



LEG HEIGHT (m) (L1)	PROFILE	MODULES (ASSEMBLY NAME)								TOP PART / EARTH WIRE PEAK LEFT-SMHJ/14-RIGHTSMHJ/13	MIDDL PIPE -1 17MP/1	MIDDL PIPE -2 17M/1
		4.5(m)	7(m)	7.5(m)	8.5(m)	9.5(m)	10.5(m)	11.5(m)				
17	CHS 457.0 x 10			17M3		17M2						

SMHJ2 CROSSARMS (PROFILE 350 x 250 x 10)		
MODULES (ASSEMBLY NAME)		
SMHJ/8	SMHJ/9	SMHJ/8

								DATE: 27.03.2023	DRAWING TYPE: ASSEMBLY_DRAWING	ASSEMBLY_DRAWING SMHJ2 GUYED_MEDIUM_ANGLE_TENSION_TOWER WITH_EARTHWIRE_PEAK	SHEET: 7
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						SCALE: 1:40	DRAWN: H.C.				
						PROJECT NUMBER: KH1/KLA-04	CHECKED: SY				
						DRAWING NUMBER: 687-02-IM-07	APPROVED: LANDSNET				
REV.:	DESCRIPTION:		DATE.:	DESIGNED:	CHECKED:	APPROVED:					

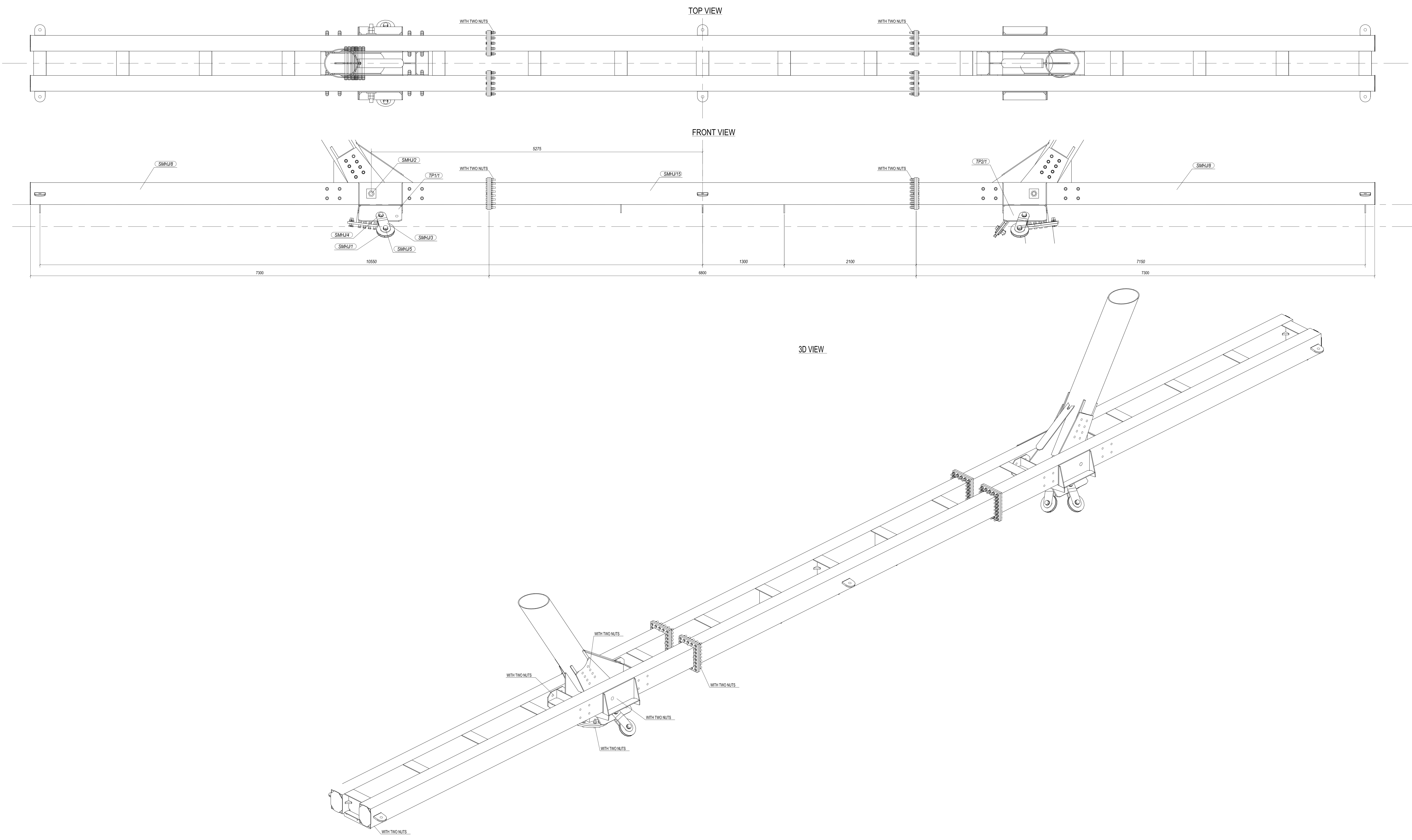
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3D VIEW

								DATE: 27.03.2023	DRAWING TYPE: ERECTION_DRAWING	ERECTION_DRAWING SMHJ2 GUYED_MEDIUM_ANGLE_TENSION_TOWER WITH_EARTHWIRE_PEAK CROSSARM_ERECTION_II	SHEET: 9
								PAPER SIZE: A0	DESIGNED: GMH		
								SCALE: 1:20	DRAWN: H.C.		
								PROJECT NUMBER: KH1/KLA-04	CHECKED: SY	0	REVISION:
REV.:		DESCRIPTION:	DATE.:	DESIGNED:	CHECKED:	APPROVED:		DRAWING NUMBER: 687-02-IM-09	APPROVED: LANDSNET		

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