

REF.	QTY.	SIZE	FLANGE TYPE	SIZE	NECK	STAND OUT	WELD DETAIL	WELD - VESSEL	WELD SIZE	SERVICE	REF.
N1	1	4"	RFSO FLANGE, CLASS 150LB	4"	SCH. 40 PIPE	200	F	J	6	SPARE + BLIND	N1
N2	1	6"	RFSO FLANGE, CLASS 150LB	6"	SCH. 40 PIPE	200	F	J	6	INLET	N2
N3	1	2"	RFSO FLANGE, CLASS 150LB	2"	SCH. 40 PIPE	200	F	J	6	SPARE + BLIND	N3
N4	1	4"	RFSO FLANGE, CLASS 150LB	4"	SCH. 40 PIPE	200	F	J	6	TANK LEVEL	N4
N5	1	18"	RFSO FLANGE, CLASS 150LB	18"	SCH. 40 PIPE	200	F	J	6	RELIEF MANWAY	N5
N6	1	6"	RFSO FLANGE, CLASS 150LB	6"	SCH. 40 PIPE	200	F	J	6	VENT	N6
N7	1	6"	RFSO FLANGE, CLASS 150LB	6"	SCH. 40 PIPE	200	F	J	6	VACUUM RELIEF VALVE	N7
N8	1	6"	RFSO FLANGE, CLASS 150LB	6"	SCH. 40 PIPE	150	F	SEE DETAIL	SEE DETAIL	OUTLET PUMPS	N8
N9	1	24"	745 OD x 618 ID x 18 THICK	24"	ROLLED PLATE, 8mm THICK	200	P	J	6	SIDE MANWAY	N9
N10	1	2"	RFSO FLANGE, CLASS 150LB	2"	SCH. 40 PIPE	150	F	J	6	LEVEL SWITCH	N10
N11	1	4"	RFSO FLANGE, CLASS 150LB	4"	SCH. 40 PIPE	150	F	J	6	OUTLET TO EXPORT MANIFOLD	N11
N12	1	24"	745 OD x 618 ID x 10 THICK	24"	ROLLED PLATE, 6mm THICK	200	P	J	6	TOP MANWAY	N12

GENERAL NOTES

VERTICAL SEAM IN STRAKE 1, 3, 5 VERTICAL SEAM IN STRAKE 2, 4

- ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS OTHERWISE STATED.
- SEE MATERIAL SCHEDULE FOR SPECIFICATIONS ON INDIVIDUAL ITEMS.
- FLANGE BOLT HOLES TO BE SET OFF VESSEL CENTRE-LINES.
- ALL FLANGES ARE TO BS.1759-1/A.S.A. B16.5 UNLESS OTHERWISE STATED.
- ALL PADS TO HAVE VENT HOLES, DRILLED Ø5.0mm.

REINFORCEMENT PADS THAT COVER WELDS MUST HAVE TEST HOLES, TEST HOLES TO BE DRILLED AT TAPPED 1/4" BSP, ON MEAN DIAMETER OF PAD. HOLE TO SET ON VESSEL CENTRE-LINES.

- ALL OPENINGS TO BE FITTED WITH TRANSPORT BLANKS, ONE OFF FITTING TO BE VENTED, BLANKS TO BE DISCARDED AT SITE.
- SEE QUALITY ASSURANCE DOCUMENTATION FOR APPROPRIATE WELDING CONSUMABLES.
- TOLERANCES & LEVELS OF ACCEPTANCE FOR MANUALS/SPECIALS.
- SEE COOKSON AND ZINN Q.A. DOCUMENTATION, AVAILABLE ON REQUEST.
- ALL REFERENCES TO WELD PROCEDURES, REFER TO C.Z. STANDARD DRG. S160-001 (AMENDED WITH C.Z. JOB NUMBER).

Located at: <http://secure.czttd.com/Engineering/datasheets.htm>

DO NOT SCALE - IF IN DOUBT ASK !

REFERENCE DRAWINGS

SHEET	DESCRIPTION	DRAWING/DOCUMENT No.
1	Site Assembly	A1/10905-0.0
2	Tank Assembly	A0/10905-1.0
3	Bottom Assembly	A2/10905/7-2.0
4	Name Plate	A3/10905/7-3.0
5	Bottom Ladder Assy	A1/10905/7-4.0
6	Top Ladder Assy	A1/10905/7-5.0
7	Rest Platform Assy	S290-061
8	Top Perimeter Handrail Assy	S260-071
9	Shell Manway Assembly	S100-006-12.0
10	Roof Manway Assembly	S100-006-11.0

REV. DESCRIPTION OF CHANGE DRAWN BY CHECKED BY APPROVED BY

O FOR APPROVAL T.Wolski 04.03.2019

A VARIOUS CHANGES T.Wolski 07.05.2019

B MINOR CORRECTION T.Wolski 10.05.2019

C MINOR CORRECTION, PAINT COLOUR ADDED T.Wolski 23.05.2019

DESIGN DATA

DESIGN CODE	Good Engineering Practice	
DESIGN PRESSURE	INTERNAL -8.5 / +185 mBar	EXTERNAL
DESIGN TEMPERATURE	INTERNAL 105 °C	EXTERNAL
OPERATING PRESSURE	INTERNAL -2.5 / +100 mBar	EXTERNAL
OPERATING TEMP.	INTERNAL 40 °C	EXTERNAL
TEST PRESSURE	Hydrostatic	
CONTENTS	Waste Oil	
SPECIFIC GRAVITY	DESIGN 1.0	ACTUAL 0.9
CORROSION ALLOWANCE	Nil mm	VOLUME 120 m ³
WIND SPEED	23 m/s	5s 1 5s 1 5s 1 5s 1
INSPECTION BY:	COOKSON AND ZINN (PTL) Ltd. /	

COL/JACKET DESIGN DATA

DESIGN PRESSURE	-
DESIGN TEMPERATURE	- °C
OPERATING PRESSURE	-
OPERATING TEMPERATURE	- °C
CORROSION ALLOWANCE	- mm
TEST PRESSURE	-

SURFACE FINISH & INSULATION

INTERNAL FINISH	Dry, clean and self colour
EXTERNAL FINISH	Welded Steel : Welds acid pickled 40% phosphoric acid Carbon Steel (Tank Bottom, Lifting Lugs) : Blast Clean to SA2.5 One Coat of Intercure 99 colour : Grey
INSULATION	-

GENERAL MATERIAL SPECIFICATION (SEE NOTE 2.)

SHELL/DISHED HEADS	BS EN 10028 1.4307
REINFORCING PLATES	BS EN 10028 1.4307
NOZZLE NECK PIPES	BS EN 10216-5 1.4307
FORGED FLANGES / COVERS	BS EN 1759-1 1.4307
MANWAY FLANGE / COVER / NECK PLATES	BS EN 10028 1.4307
WELDED FITTINGS	A312TP304L
LIFT / TAIL LUGS / H.D.B. / BASE RING	BS EN10025 S275
ATTACHMENTS INTERNAL / EXTERNAL	BS EN 10028 1.4307
NAMEPLATE	BS EN 10028 1.4307
LADDERS / HANDRAILING	S275
BOLTING	INTERNAL EXTERNAL
COIL/JACKET	BS 3692 A2
GASKETS	CSF

NON-DESTRUCTIVE TESTING

RADIOGRAPHY	-
DYPEN	Lifting & tailing Lugs
ULTRASONIC	-
M.P.I.	-

WEIGHT

EMPTY	12,600 kg	OPERATIONAL	132,600 kg	TEST	132,600 kg
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HEAT TREATMENT

STRESS RELIEVED / P.W.H.T	none
OTHER HEAT TREATMENTS	-

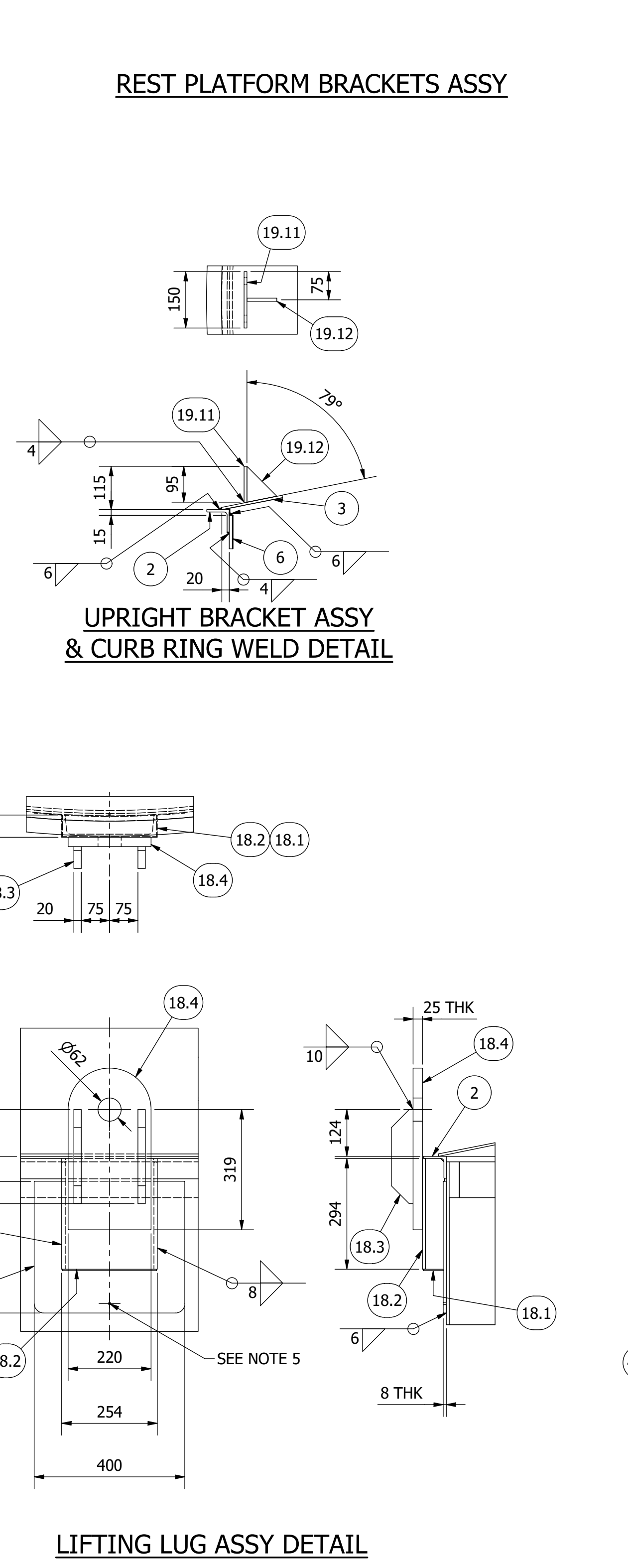
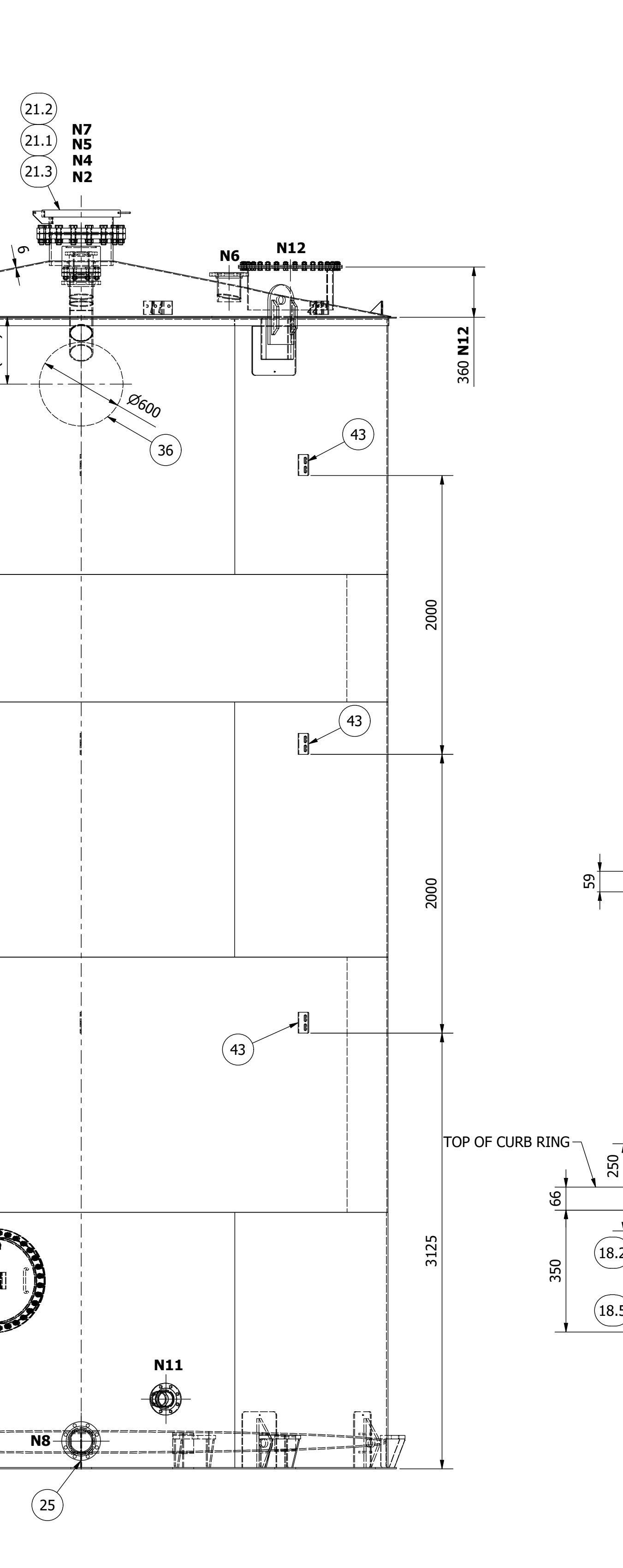
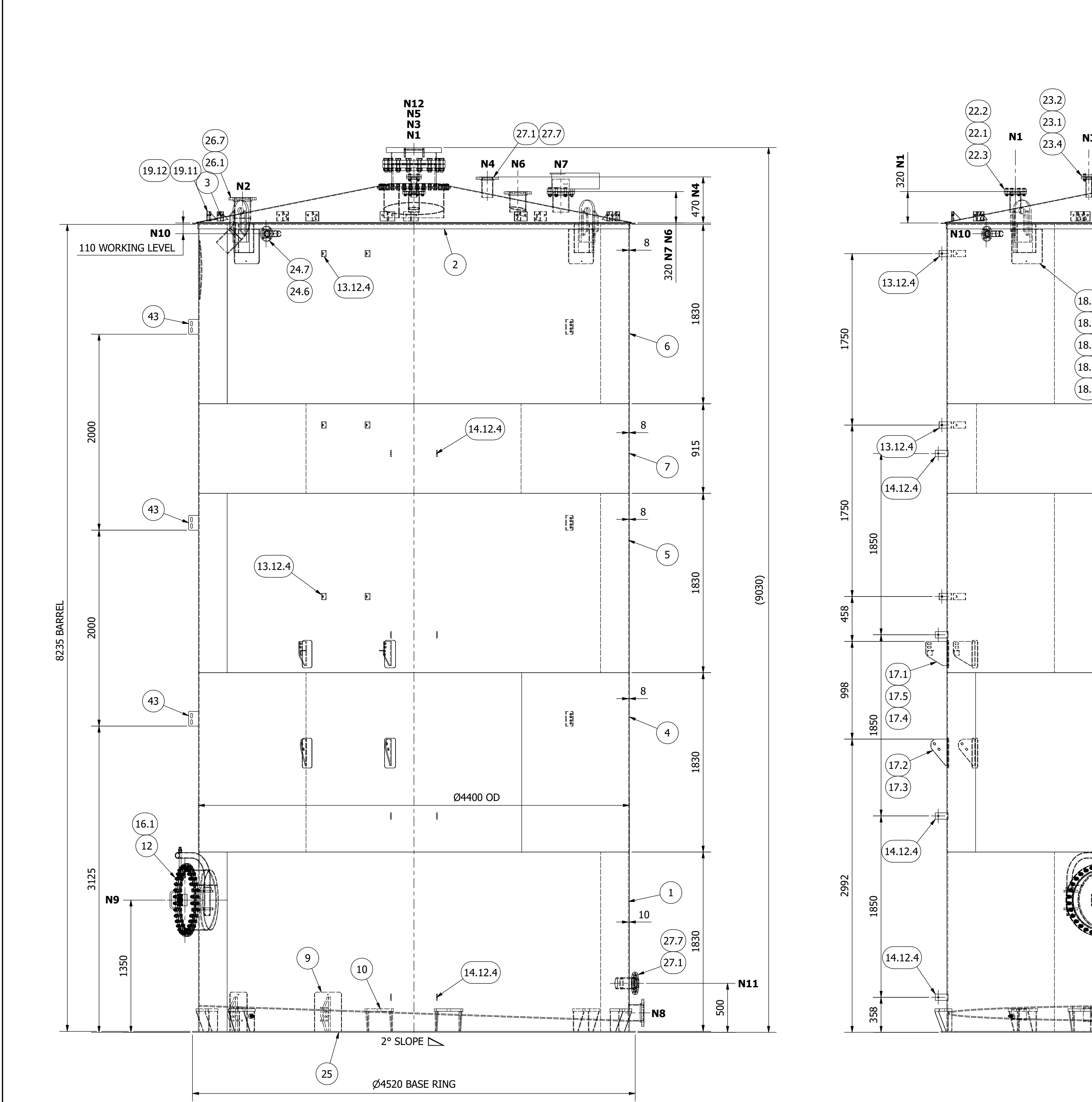
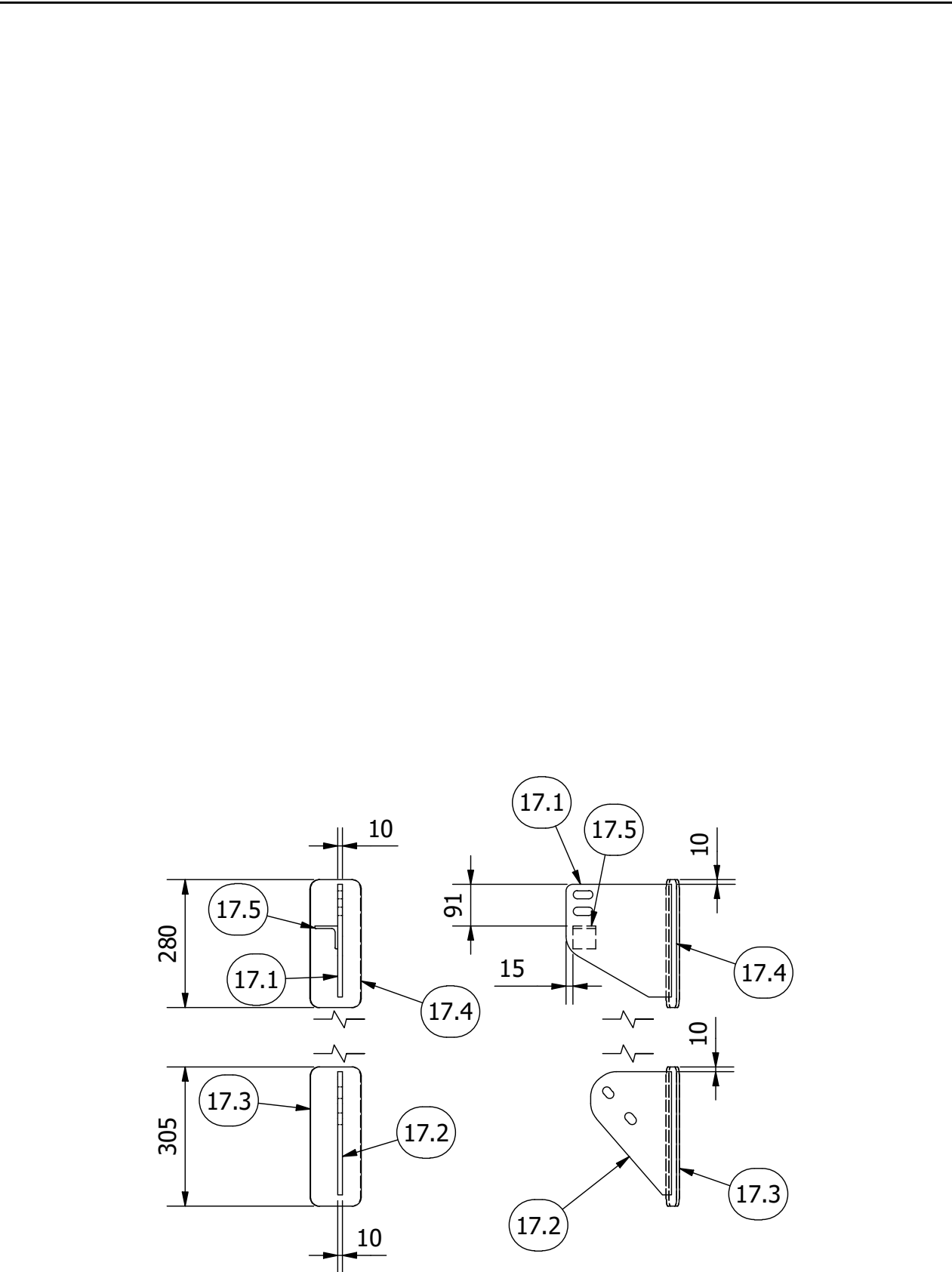
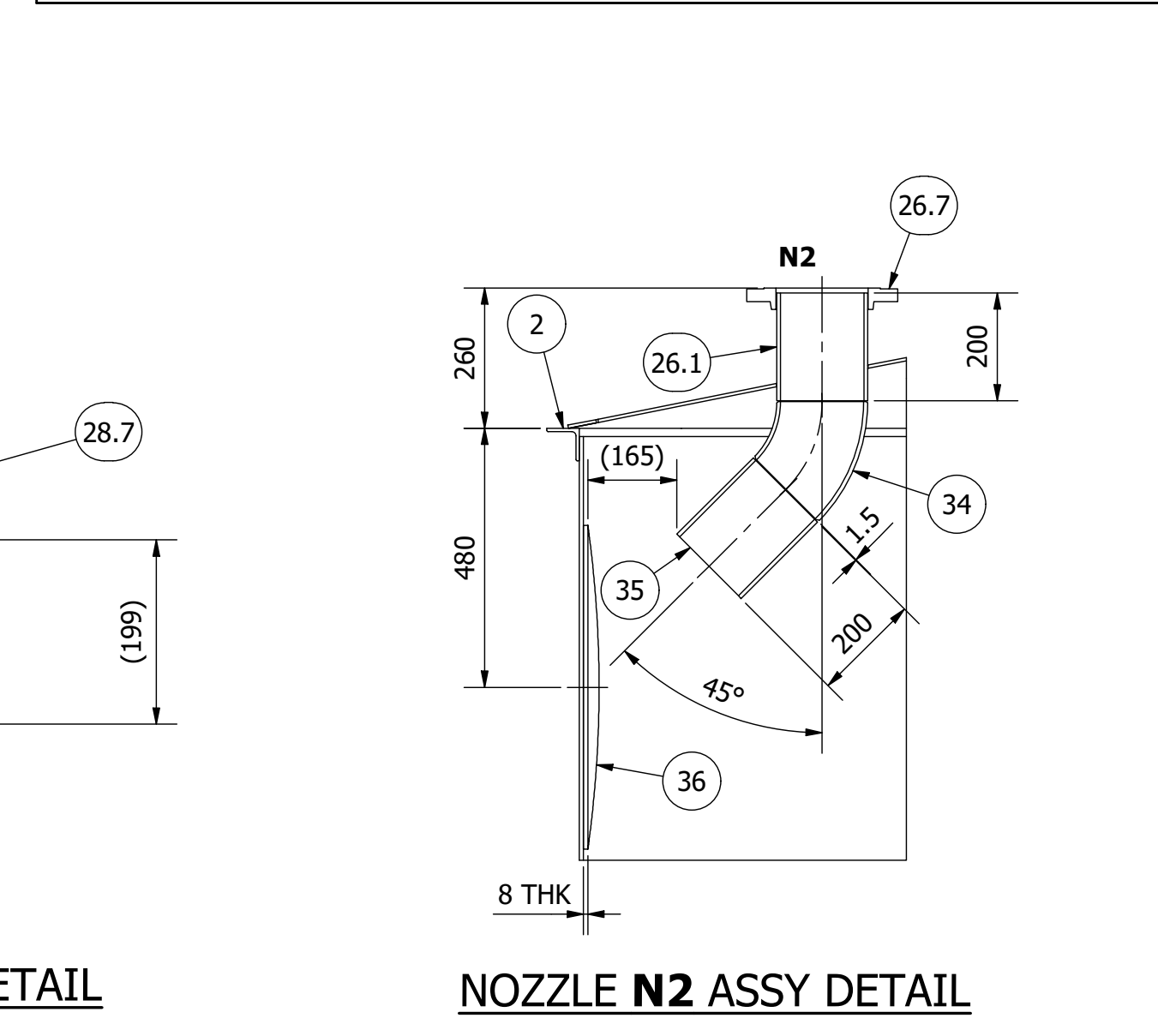
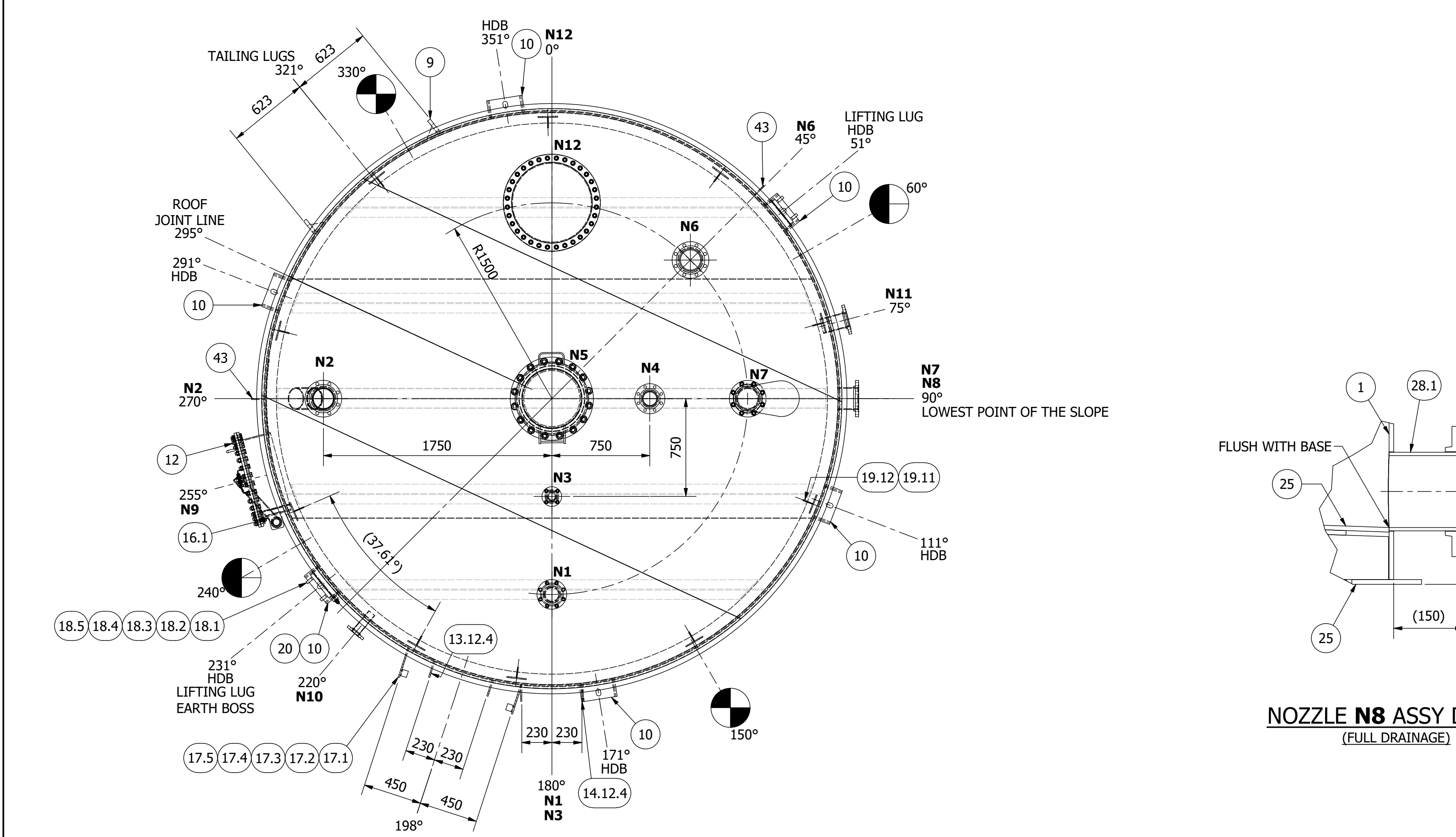
NORMALISING

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Parts List

ITEM	DESCRIPTION	QTY	OPERA CODE	DRG./PART NUMBER	MATERIAL
1	Strake 1 : 2@ Plate 1830 x 6896 x 10 THK	1			1.4307
2	Curb Angle : RSA 60 x 60 x 6 THK, 14012 LG	1			1.4307
3	Roof Cone : Plate 6 thk	1			1.4307
4	Strake 2 : 2@ Plate 1830 x 6899 x 8 THK	1			1.4307
5	Strake 3 : 2@ Plate 1830 x 6899 x 8 THK	1			1.4307
6	Strake 5 : 2@ Plate 1830 x 6899 x 8 THK	1			1.4307
7	Strake 4 : 2@ Plate 915 x 6899 x 8 THK	1			1.4307
9	Tailing Lug Assembly	1		HAL-257-ASY	
10	Hold Down Brackets, Assembly	6		HAL-252-ASY	
12	24" Manway Assembly	1		S100-006-12.0	
13.12.4	Flat 65 x 10 thk, 130 lg	6		S300-026.11 (304L)	304 S/S
14.12.4	Flat 65 x 10 thk, 130 lg	8		S300-026.11 (304L)	304 S/S
16.1	2" Davit Arm Assembly	1		S210-032	Welded Steel Mild
16.2	M20 x 290 LG, Eyebolt, Forged (Drilled)	1	76195	S210-026	BS4882 MB7
16.3	M20 Plain Washer, BZP	2	76090		BS.4320
16.4	M20 Hex Nut, BZP (16 thk)	3	76084		BS4190 8.8
16.5	M20 x 90 LG Hex. Hd Bolt, BZP	1			BS4190 8.8
16.6	5mm Dia. Split Pin, 40 LG	2			316 S/S
16.7	Neck Bracket : Plate 100 x 120 x 20 THK (304L)	2		S330-058.A (304L)	1.4307
16.8	Eyebolt, Davit Arm (304L)	2		S330-357	1.4307
17.1	Platform Bracket, Type 1 (S300-058)	2		S300-058	1.4307
17.2	Platform Bracket, Type 2 (S300-063)	2		S300-063	1.4307
17.3	Plate 100 x 305 x 6 THK	2			1.4307
17.4	Plate 100 x 280 x 6 THK	2			1.4307
17.5	RSA 50 x 50 x 6 THK, 50 LG	2	04005		304 S/S
18.1	Cap : Plate 60 x 250 x 4 THK	2	03004		S275R
18.2	RSC 254 x 76, 294 LG	2	07012		S275
18.3	Gusset : Plate 58 x 250 x 20 Thk	4	03012	S330-188.250	S275
18.4	Lifting Lug, 25 THK	2		S330-131.2	S275
18.5	Lifting Lug : Backing Plate 350 x 400 x 8 THK	2			1.4307
19.11	Handrail Bracket : Flat 150 x 8 Thk x 95 Lg	10		S260-021 (304L)	1.4307
19.12	Support Gusset : Plate 95 x 95 x 8 THK	10		S260-051.79	1.4307
20	M16, Earth Boss Assembly	1			
21.1	18" 150lb RF SO Flange	1			1.4307
21.2	18" Sch 40 Pipe, 220 LG	1			A312TP304L
21.3	18" CNC 121 Emergency Relief Manhole Cover	1		CNC 121	304 S/S
21.4	18" IBC Gasket, Class 150lb, 1.5 THK	1		CSF	
21.5	M30 Plain Washer	16			304L S/S
21.6	M30 Hex Nut (24 thk)	16		M30-SS-A2	
21.7	M30 x 120 LG Hex Bolt	16			BS3692 A2
22.1	4" RFSO Flange, Class 150lb	1			A182F304L
22.2	4" Sch 40 Pipe, 200 LG	1	87025		A312TP304L
22.3	4" RF Blind Flange, Class 150lb	1			A182F304L
22.4	4" IBC Gasket, Class 150lb, 1.5 THK	1	75026		CSF
22.5	M16 Plain Washer, 304 s/s	8			BS.4320
22.6	M16 Hex Nut (13 thk)	8			BS3692 A2
22.7	M16 Hex Hd Bolt x 70 lg	8			BS3692 A2
23.1	2" RFSO Flange, Class 150lb	1			A182F304L
23.2	2" Sch 40 Pipe, 200 LG	1	87022		A312TP304L
23.3	2" IBC Gasket, Class 150lb, 1.5 THK	1	75023		CSF
23.4	2" RF Blind Flange, Class 150lb	1			A182F304L
23.5	M16 x 65 LG Hex Bolt, Stainless Steel	4			BS3692 A2
23.6	M16 Plain Washer, 316L S/S	4			BS.4320
23.7	M16 Hex Nut (13 thk)	4			BS3692 A2
24.6	2" Sch 40 Pipe, 200 LG	1	87022		A312TP304L
24.7	2" RFSO Flange, Class 150lb	1			A182F304L
25	Tank Bottom Assembly	1		A2/10905/7-2.0	
26.1	6" Sch 40 Pipe, 200 mm LG	3	87026		A312TP304L
26.2	6" RFSO Flange, Class 150lb	3			A182F304L
26.7	6" RFSO Flange, Class 150lb	3			A182F304L
27.1	4" RFSO Flange, Class 150lb	2			A182F304L
27.2	4" Sch 40 Pipe, 200 LG	2	87025		A312TP304L
27.7	4" Sch 40 Pipe, 200 mm LG	1	87026		A312TP304L
28.1	6" RFSO Flange, Class 150lb	1			A182F304L
28.7	6" RFSO Flange, Class 150lb	1			A182F304L
34	6" Sch 40, 45 Deg, LR Elbow	1			A403WP304L
35	6" Sch 40 Pipe, 200 LG	1	87026		A312TP304L
36	Disc 600 dia, 8 thk	1			1.4307
37	24" Manway Assembly	1		S100-006.11	
38	6" IBC Gasket, Class 150lb, 1.5 THK	1	75027		CSF
39	6" CNC 382 Vacuum Relief Valve	1		CNC 382 (6")	Alum.
40	M20 Plain Washer, 304L	8			BS.4320
41	M20 Hex Nut (16 thk)	8			BS3692 A2
42	M20 x 80 LG Hex Hd Bolt	6			BS3692 A2
43	Vertical Pipe, Support Plate	6		S330-379	S275
44.1.1	Nameplate : Non CE Marked, 120 x 150	1		A3/10905/7-3.0	316L S/S
44.1.2	3mm Dia. Pop Rivet, 10mm LG	4	76200		316L S/S
44.2	Nameplate Bracket : Plate 120 x 300 x 4 THK	1		S240-027	1.4307

CLIENT

Enva England Specialist Waste Ltd

CLIENT PURCHASE ORDER No. PO26305 ITEM No. F8

COOKSON AND ZINN, JOB No. 10905

DESCRIPTION
4,400 OD x 120,000 L vertical storage tank sloping base & conical roof

PLOT SCALE DRAWING No. A0/10905-1.0 REVISION C

COOKSON AND ZINN (PTL) LIMITED
STATION ROAD WORKS, POND-HALL ROAD,
HADLEIGH, IPSWICH, SUFFOLK, IP7 5PN
TEL: (01473) 825200 FAX: (01473) 824164
Web: www.czttd.com Email: info@czttd.com

REF.	QTY.	SIZE	FLANGE TYPE	SIZE	NECK	STAND OUT	WELD DETAIL	WELD - VESSEL	WELD SIZE	SERVICE	REF.
N1	1	4"	RFSO FLANGE, CLASS 150LB	4"	SCH. 40 PIPE	SEE DETAIL	F	J	6	SPARE + BLIND	N1
N2	1	6"	RFSO FLANGE, CLASS 150LB	6"	SCH. 40 PIPE	SEE DETAIL	F	J	6	INLET	N2
N3	1	2"	RFSO FLANGE, CLASS 150LB	2"	SCH. 40 PIPE	SEE DETAIL	F	J	6	SPARE + BLIND	N3
N4	1	4"	RFSO FLANGE, CLASS 150LB	4"	SCH. 40 PIPE	SEE DETAIL	F	J	6	TANK LEVEL	N4
N5	1	18"	RFSO FLANGE, CLASS 150LB	18"	SCH. 40 PIPE	200	F	J	6	RELIEF MANWAY	N5
N6	1	6"	RFSO FLANGE, CLASS 150LB	6"	SCH. 40 PIPE	SEE DETAIL	F	J	6	VENT	N6
N7	1	6"	RFSO FLANGE, CLASS 150LB	6"	SCH. 40 PIPE	SEE DETAIL	F	J	6	VACUUM RELIEF VALVE	N7
N8	1	6"	RFSO FLANGE, CLASS 150LB	6"	SCH. 40 PIPE	150	F	SEE DETAIL	SEE DETAIL	OUTLET PUMPS	N8
N9	1	24"	745 OD x 618 ID x 18 THICK	24"	ROLLED PLATE, 8mm THICK	200	P	J	6	SIDE MANWAY	N9
N10	1	2"	RFSO FLANGE, CLASS 150LB	2"	SCH. 40 PIPE	150	F	J	6	LEVEL SWITCH	N10
N11	1	4"	RFSO FLANGE, CLASS 150LB	4"	SCH. 40 PIPE	150	F	J	6	OUTLET TO EXPORT MANIFOLD	N11
N12	1	24"	745 OD x 618 ID x 10 THICK	24"	ROLLED PLATE, 6mm THICK	SEE DETAIL	P	J	6	TOP MANWAY	N12

GENERAL NOTES

VERTICAL SEAM IN STRAKE 1, 3, 5 VERTICAL SEAM IN STRAKE 2, 4

- ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS OTHERWISE STATED.
- SEE MATERIAL SCHEDULE FOR SPECIFICATIONS ON INDIVIDUAL ITEMS.
- FLANGE BOLT HOLES TO BE SET OFF VESSEL CENTRE-LINES.
- ALL FLANGES ARE TO BS.1759-1/A.S.A. B16.5 UNLESS OTHERWISE STATED.
- ALL PADS TO HAVE VENT HOLES, DRILLED Ø5.0mm.

REINFORCEMENT PADS THAT COVER WELDS MUST HAVE TEST HOLES.
TEST HOLES TO BE DRILLED & TAPPED 1/4" BSP, ON MEAN DIAMETER OF PAD.
HOLE TO SET ON VESSEL CENTRE-LINES.

- ALL OPENINGS TO BE FITTED WITH TRANSPORT BLANKS, ONE OFF FITTING TO BE VENTED, BLANKS TO BE DISCARDED AT SITE.
- SEE QUALITY ASSURANCE DOCUMENTATION FOR APPROPRIATE WELDING CONSUMABLES.
- TOLERANCES & LEVELS OF ACCEPTANCE FOR MANUALS/SPECIALS.
- SEE COOKSON AND ZINN Q.A. DOCUMENTATION, AVAILABLE ON REQUEST.
- ALL REFERENCES TO WELD PROCEDURES, REFER TO CZ. STANDARD DRG. S160-001 (AMENDED WITH CZ. JOB NUMBER).

Located at: <http://secure.czttd.com/Engineering/datasheets.htm>

DO NOT SCALE - IF IN DOUBT ASK !

REFERENCE DRAWINGS

SHEET	DESCRIPTION	DRAWING/DOCUMENT No.
1	Site Assembly	A1/10906-0.0
2	Tank Assembly	A0/10906-1.0
3	Bottom Assembly	A2/10905/7-2.0
4	Name Plate	A3/10905/7-3.0
5	Bottom Ladder Assy	A1/10905/7-4.0
6	Top Ladder Assy	A1/10905/7-5.0
7	Rest Platform Assy	S290-061
8	Top Perimeter Handrail Assy	S260-071
9	Shell Manway Assembly	S100-006-12.0
10	Roof Manway Assembly	S100-006-11

REV. DESCRIPTION OF CHANGE DRAWN BY CHECKED BY APPROVED BY

O FOR APPROVAL T.Wolski 04.03.2019

A VARIOUS CHANGES T.Wolski 07.05.2019

B MINOR CORRECTION T.Wolski 10.05.2019

C MINOR CORRECTION, PAINT COLOUR ADDED T.Wolski 23.05.2019

DESIGN DATA

DESIGN CODE	Good Engineering Practice
DESIGN PRESSURE	-8.5 / +185 mBar
DESIGN TEMPERATURE	INTERNAL 105 °C EXTERNAL °C
OPERATING PRESSURE	INTERNAL -2.5 / +100 mBar EXTERNAL °C
OPERATING TEMP.	INTERNAL 40 °C EXTERNAL °C
TEST PRESSURE	Hydrostatic
CONTENTS	Waste Oil
SPECIFIC GRAVITY	DESIGN 1.0 ACTUAL 0.9
CORROSION ALLOWANCE	Nil mm VOLUME 120 m ³
WIND SPEED	23 m/s 5s 1s 5s 1s 5s 1s
INSPECTION BY	COOKSON AND ZINN (PTL) Ltd.

COIL/JACKET DESIGN DATA

DESIGN PRESSURE	-
DESIGN TEMPERATURE	- °C
OPERATING PRESSURE	-
OPERATING TEMPERATURE	- °C
CORROSION ALLOWANCE	- mm TEST PRESSURE -

SURFACE FINISH & INSULATION

INTERNAL FINISH	Dry, clean and self colour
EXTERNAL FINISH	Welded Steel : Welds acid pickled 40% phosphoric acid Carbon Steel (Tank Bottom, Lifting Lugs) : Blast Clean to SA2.5 One Coat of Intercure 99 colour : Grey
INSULATION	-

GENERAL MATERIAL SPECIFICATION (SEE NOTE 2.)

SHELL/DISHED HEADS	BS EN 10028 1.4307
REINFORCING PLATES	BS EN 10028 1.4307
NOZZLE NECK PIPES	BS EN 10216-5 1.4307
FORGED FLANGES / COVERS	BS EN 1759-1 1.4307
MANWAY FLANGE / COVER / NECK PLATES	BS EN 10028 1.4307
WELDED FITTINGS	A312TP304L
SKIRT / CRADLES / LEGS	BS EN10025 S275
LIFT / TAIL LUGS / H.D.B. / BASE RING	BS EN10025 S275
ATTACHMENTS INTERNAL / EXTERNAL	BS EN 10028 1.4307
NAMEPLATE	BS EN 10028 1.4307
LADDERS / HANDRAILING	S275
BOLTING	INTERNAL EXTERNAL BS 3692 A2
COIL/JACKET	-
GASKETS	CSF

NON-DESTRUCTIVE TESTING

RADIOGRAPHY	-
DYPEN	Lifting & tailing Lugs
ULTRASONIC	-
M.P.I.	-

WEIGHT

EMPTY	12,600 kg	OPERATIONAL	132,600 kg	TEST	132,600 kg
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HEAT TREATMENT

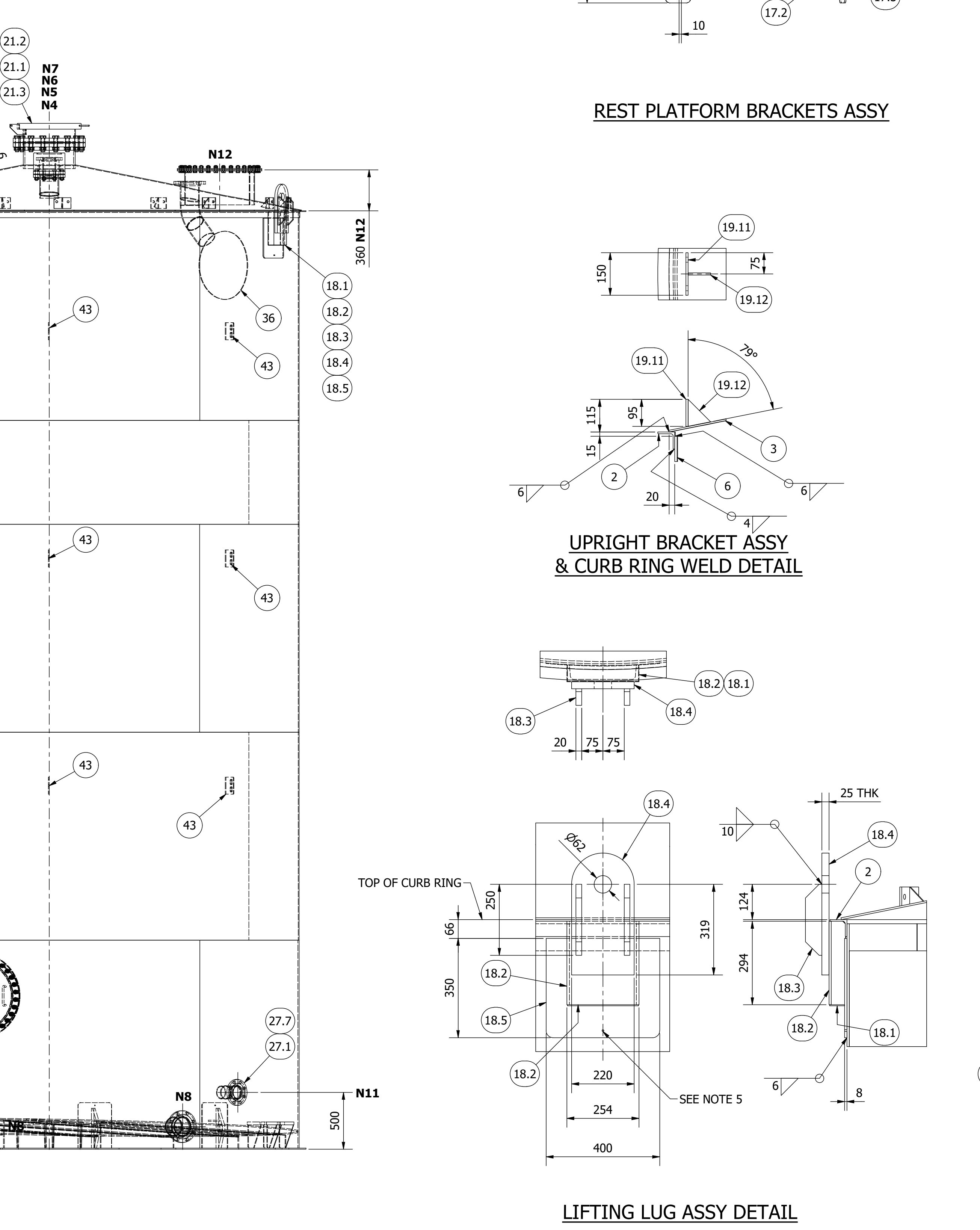
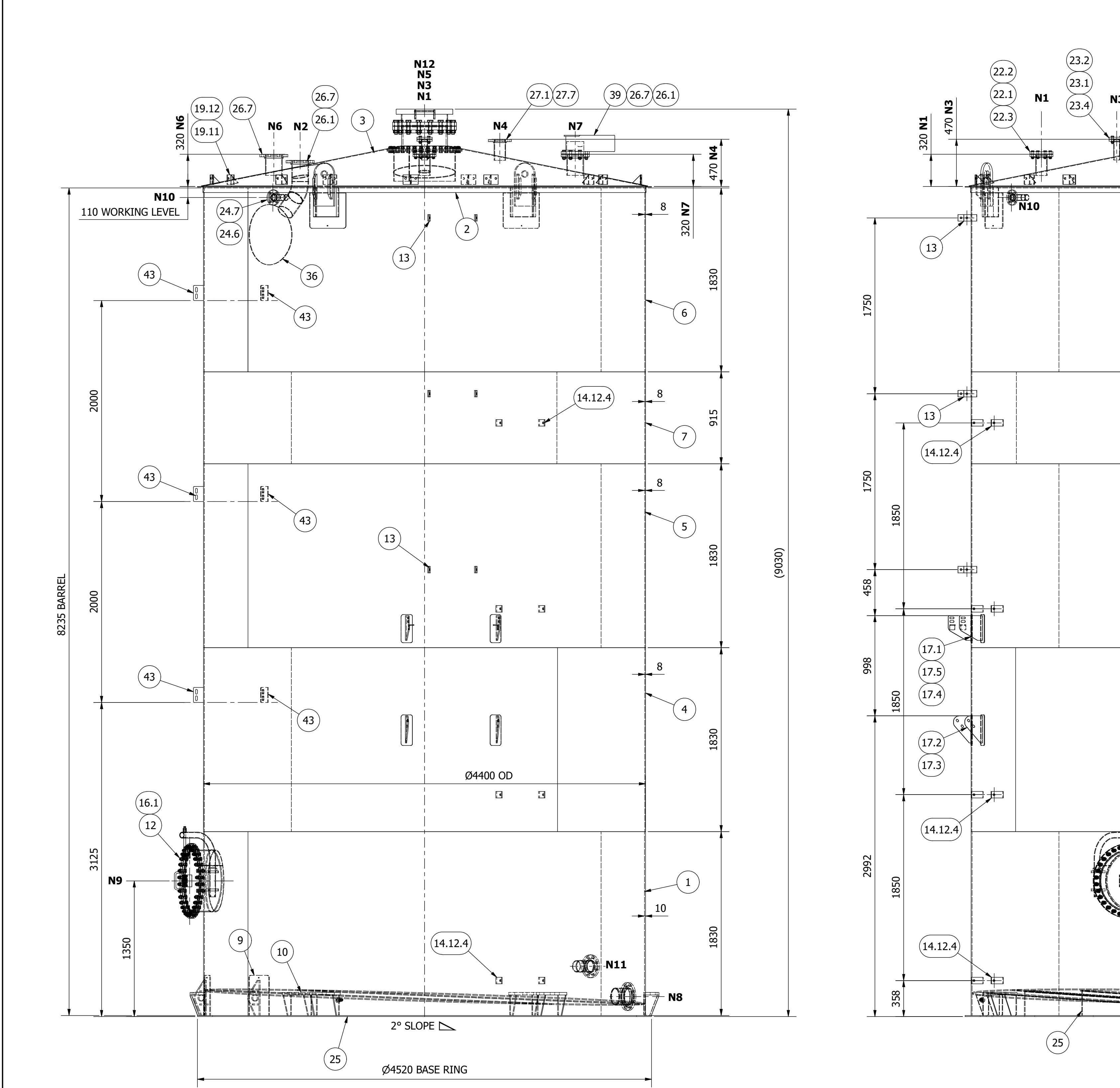
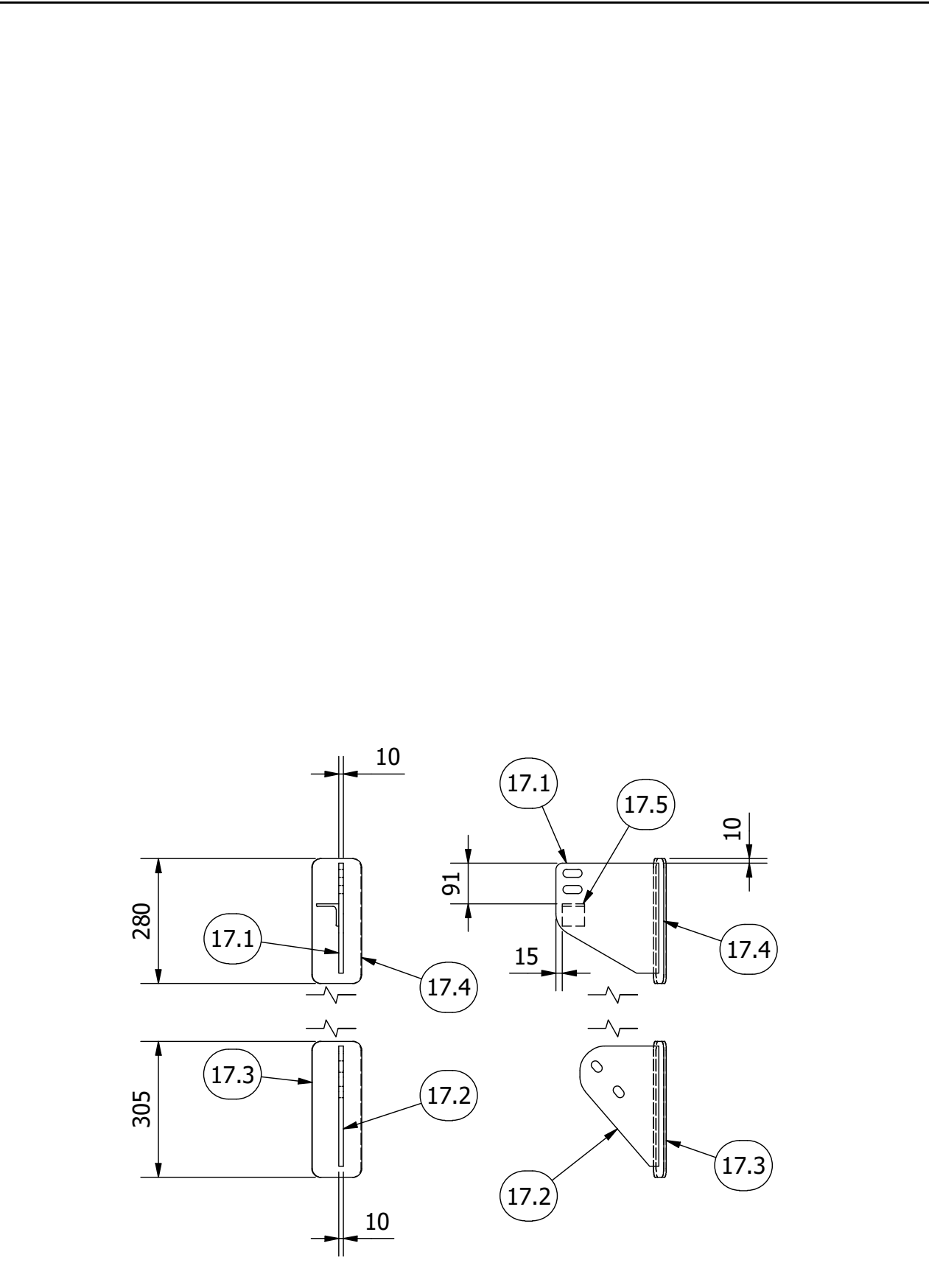
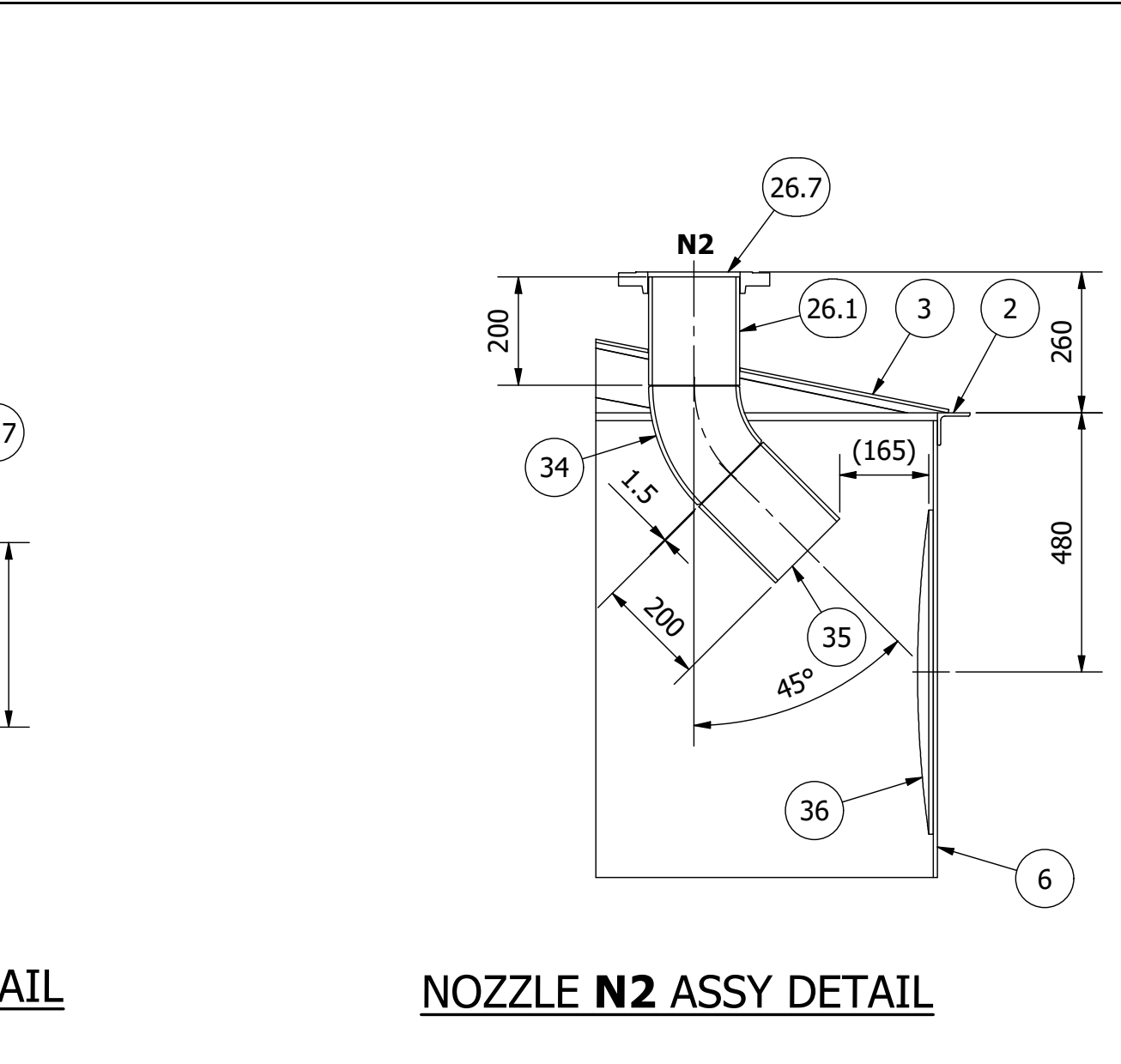
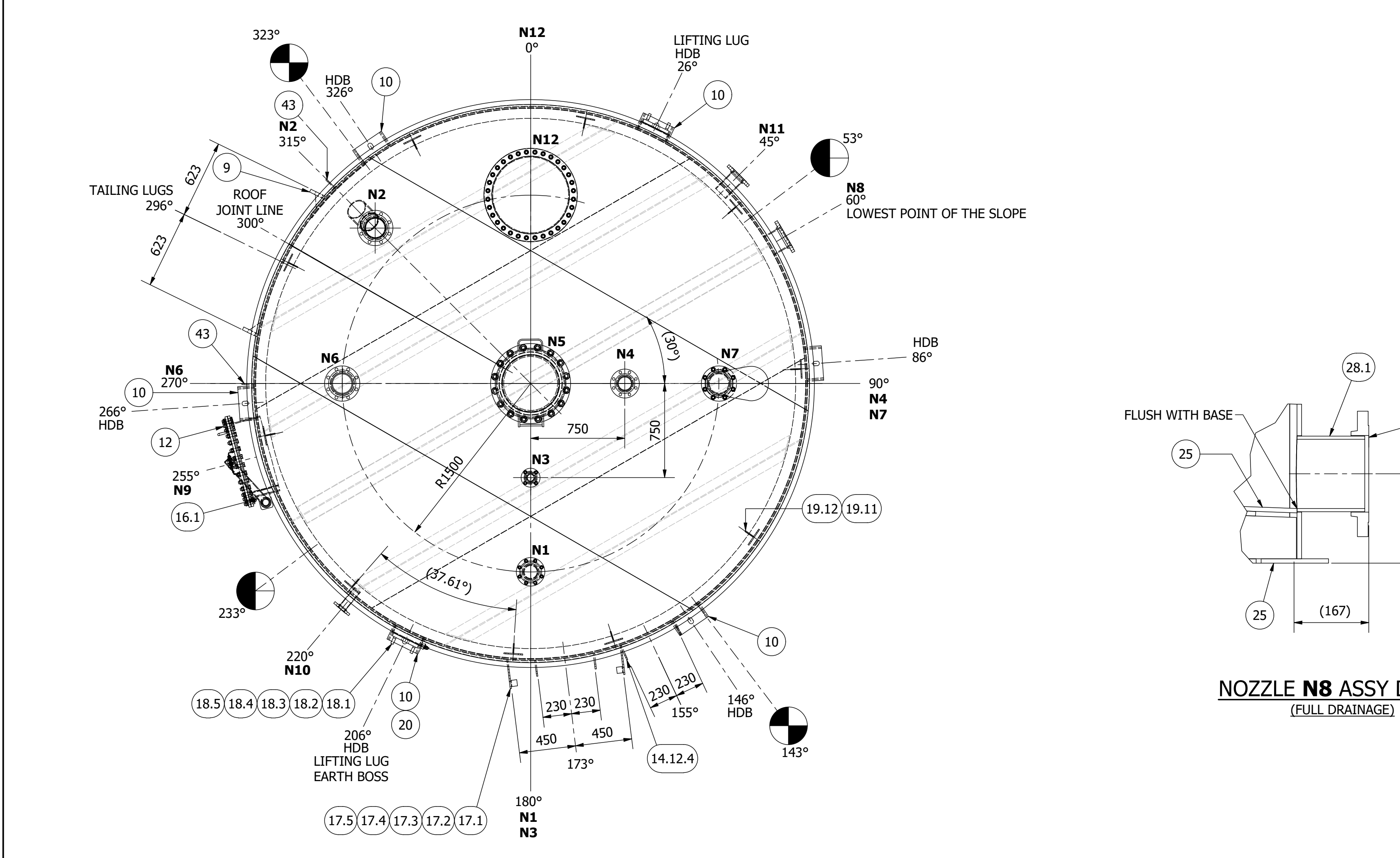
STRESS RELIEVED / P.W.H.T	none
OTHER HEAT TREATMENTS	-

NORMALISING

-	-
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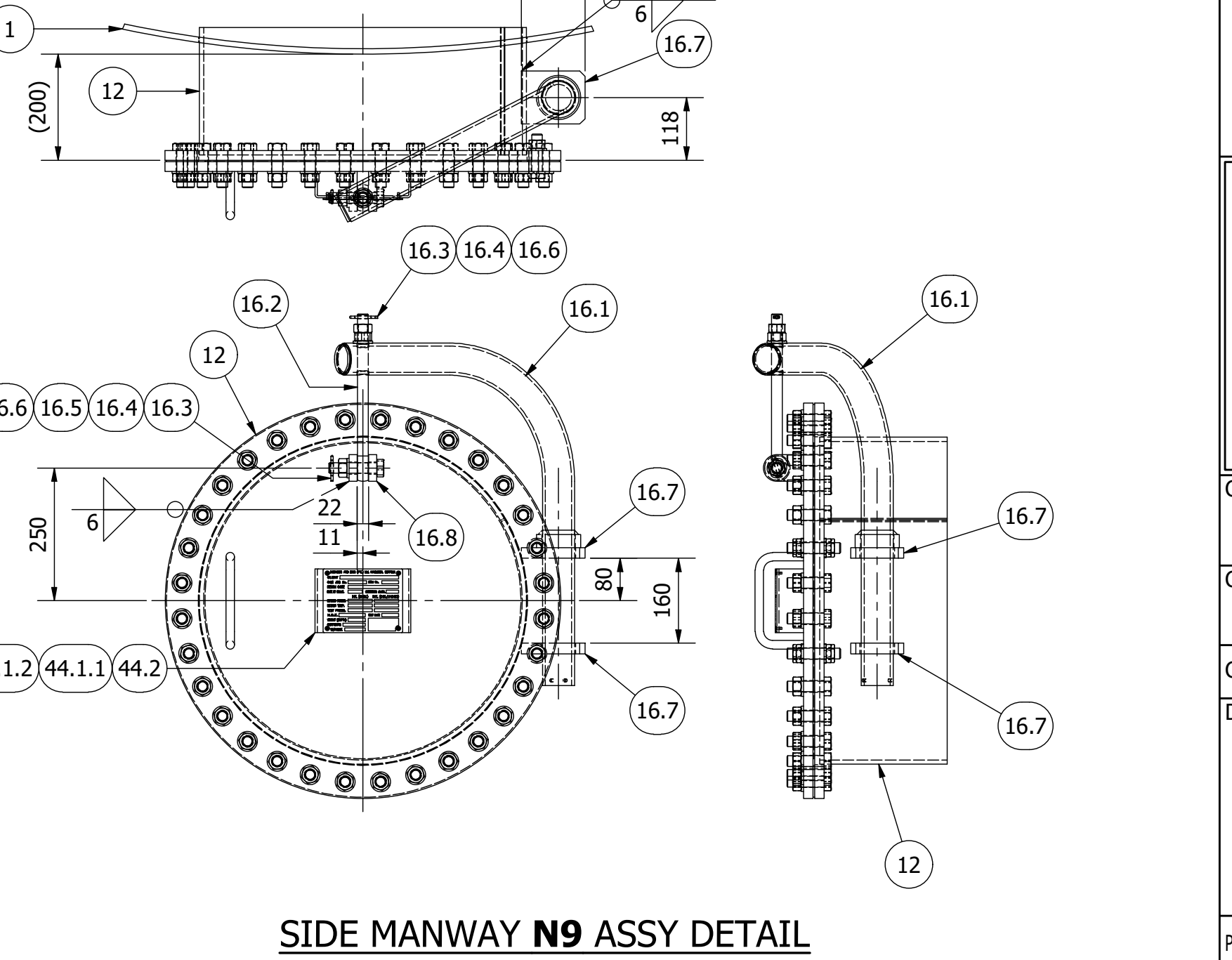
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Parts List

ITEM	DESCRIPTION	QTY	OPERA CODE	DRG./PART NUMBER	MATERIAL
1	Strake 1 : 2@ Plate 1830 x 6896 x 10 THK	1			1.4307
2	Curb Angle : RSA 60 x 60 x 6 THK, 14012 LG	1			1.4307
3	Roof Cone : Plate 6 thk	1			1.4307
4	Strake 2 : 2@ Plate 1830 x 6899 x 8 THK	1			1.4307
5	Strake 3 : 2@ Plate 1830 x 6899 x 8 THK	1			1.4307
6	Strake 4 : 2@ Plate 1830 x 6899 x 8 THK	1			1.4307
7	Strake 5 : 2@ Plate 1830 x 6899 x 8 THK	1			1.4307
8	Strake 6 : 2@ Plate 1830 x 6899 x 8 THK	1			1.4307
9	Tailing Lug Assembly	1		HAL-257-ASY	
10	Hold Down Brackets, Assembly	6		HAL-252-ASY	
12	24" Manway Assembly	1		S100-006-12.0	
13.12.4	Flat 65 x 10 thk, 130 lg	2		S300-026.11 (304L)	304 S/S
14.12.4	Flat 65 x 10 thk, 130 lg	8		S300-026.11 (304L)	304 S/S
16.1	2" Davit Arm Assembly	1		S210-032	Welded Steel Mild
16.2	M20 x 290 LG, Eyebolt, Forged (Drilled)	1		76195	BS4882 MB7
16.3	M20 Plain Washer, BZP	2		76090	BS-4320
16.4	M20 Hex Nut, BZP (16 thk)	3		76084	BS4190 8.8
16.5	M20 x 90 LG Hex. Hd Bolt, BZP	1			BS4190 8.8
16.6	5mm Dia. Split Pin, 40 LG	2			316 S/S
16.7	Neck Bracket : Plate 100 x 120 x 20 THK (304L)	2		S330-058.A (304L)	1.4307
16.8	Eyebolt, Davit Arm (304L)	2		S330-357	1.4307
17.1	Platform Bracket, Type 1 (S300-058)	2		S300-058	1.4307
17.2	Platform Bracket, Type 2 (S300-063)	2		S300-063	1.4307
17.3	Plate 100 x 305 x 6 Thk	2			1.4307
17.4	Plate 100 x 280 x 6 Thk	2			1.4307
17.5	RSA 50 x 50 x 6 THK, 50 LG	2		04005	304 S/S
18.1	Cap : Plate 60 x 250 x 4 THK	2		03004	S275JR
18.2	RSC 254 x 76, 294 LG	2		07012	S275
18.3	Gusset : Plate 58 x 250 x 20 Thk	4		03012	S330-188.250
18.4	Lifting Lug, 25 THK	2		S330-131.Z	S275
18.5	Lifting Lug : Backing Plate 350 x 400 x 8 THK	2			1.4307
19.11	Handrail Bracket : Flat 150 x 8 Thk x 95 Lg	10		S260-021 (304L)	1.4307
19.12	Support Gusset : Plate 95 x 95 x 8 THK	10		S260-051.79	1.4307
20	M16, Earth Boss Assembly	1			1.4307
21.1	18" 150lb RF SO Flange	1			1.4307
21.2	18" Sch 40 Pipe, 220 LG	1			A312TP304L
21.3	18" CNC 121 Emergency Relief Manhole Cover	1		CNC 121	304 S/S
21.4	18" IBC Gasket, Class 150lb, 1.5 THK	1			CSF
21.5	M30 Plain Washer	16			304L S/S
21.6	M30 Hex Nut (24 thk)	16		M30-SS-A2	BS3692 A2
21.7	M30 x 120 LG Hex Bolt	16			BS3692 A2
22.1	4" RFSO Flange, Class 150lb	1		A182F304L	A182F304L
22.2	4" Sch 40 Pipe, 200 LG	1		87025	A312TP304L
22.3	4" RF Blind Flange, Class 150lb	1			A182F304L
22.4	4" IBC Gasket, Class 150lb, 1.5 THK	1		75026	CSF
22.5	M16 Plain Washer, 304 s/s	8			BS-4320
22.6	M16 Hex Nut (13 thk)	8			BS3692 A2
22.7	M16 Hex Hd Bolt x 70 lg	8			BS3692 A2
23.1	2" RFSO Flange, Class 150lb	1		A182F304L	A182F304L
23.2	2" Sch 40 Pipe, 200 LG	1		87022	A312TP304L
23.3	2" IBC Gasket, Class 150lb, 1.5 THK	1		75023	CSF
23.4	2" RF Blind Flange, Class 150lb	1			A182F304L
23.5	M16 x 65 LG Hex Bolt, Stainless Steel	4			BS-4320
23.6	M16 Plain Washer, 316L S/S	4			BS-4320
23.7	M16 Hex Nut (13 thk)	4			BS3692 A2
24.6	2" Sch 40 Pipe, 200 LG	1		87022	A312TP304L
24.7	2" RFSO Flange, Class 150lb	1			A182F304L
25	Tank Bottom Assembly	1		A2/10905/7-2.0	
26.1	6" Sch 40 Pipe, 200 mm LG	3		87026	A312TP304L
26.2	6" RFSO Flange, Class 150lb	3			A182F304L
27.1	4" RFSO Flange, Class 150lb	2			A182F304L
27.2	4" Sch 40 Pipe, 200 LG	2		87025	A312TP304L
28.1	6" Sch 40 Pipe, 200 mm LG	1		87026	A312TP304L
28.2	6" RFSO Flange, Class 150lb	1			A182F304L
34	6" Sch 40, 45 Deg, LR Elbow	1			A403WP304L
35	6" Sch 40 Pipe, 200 LG	1		87026	A312TP304L
36	Disc 600 dia, 8 thk	1			1.4307
37	24" Manway Assembly	1		S100-006.11	
38	6" IBC Gasket, Class 150lb, 1.5 THK	1		75027	CSF
39	6" CNC 382 Vacuum Relief Valve	1		CNC 382 (6")	Alum.
40	M20 Plain Washer, 304L	8			BS-4320
41	M20 Hex Nut (16 thk)	8			BS3692 A2
42	M20 x 80 LG Hex Hd Bolt	6			BS3692 A2
43	Vertical Pipe, Support Plate	6		S330-379	S275
44.1.1	Nameplate : Non CE Marked, 120 x 150	1		A3/14305/7-3.0	316L S/S
44.1.2	3mm Dia. Pop Rivet, 10mm LG	4		76200	316L S/S
44.2	Nameplate Bracket : Plate 120 x 300 x 4 THK	1		S240-027	1.4307



CLIENT Enva England Specialist Waste Ltd

CLIENT PURCHASE ORDER No. PO26305 ITEM No. F9

COOKSON AND ZINN, JOB No. 10906

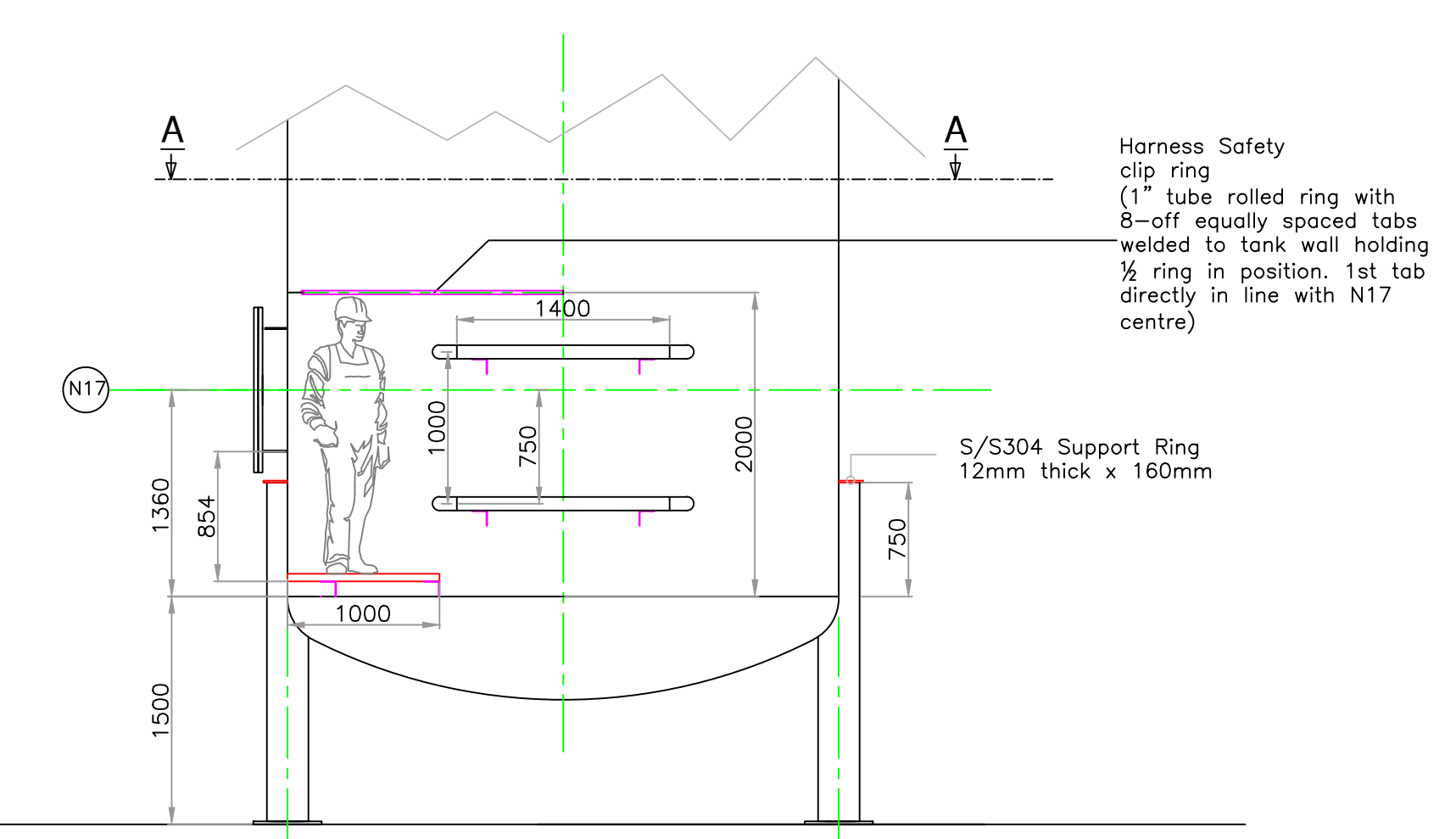
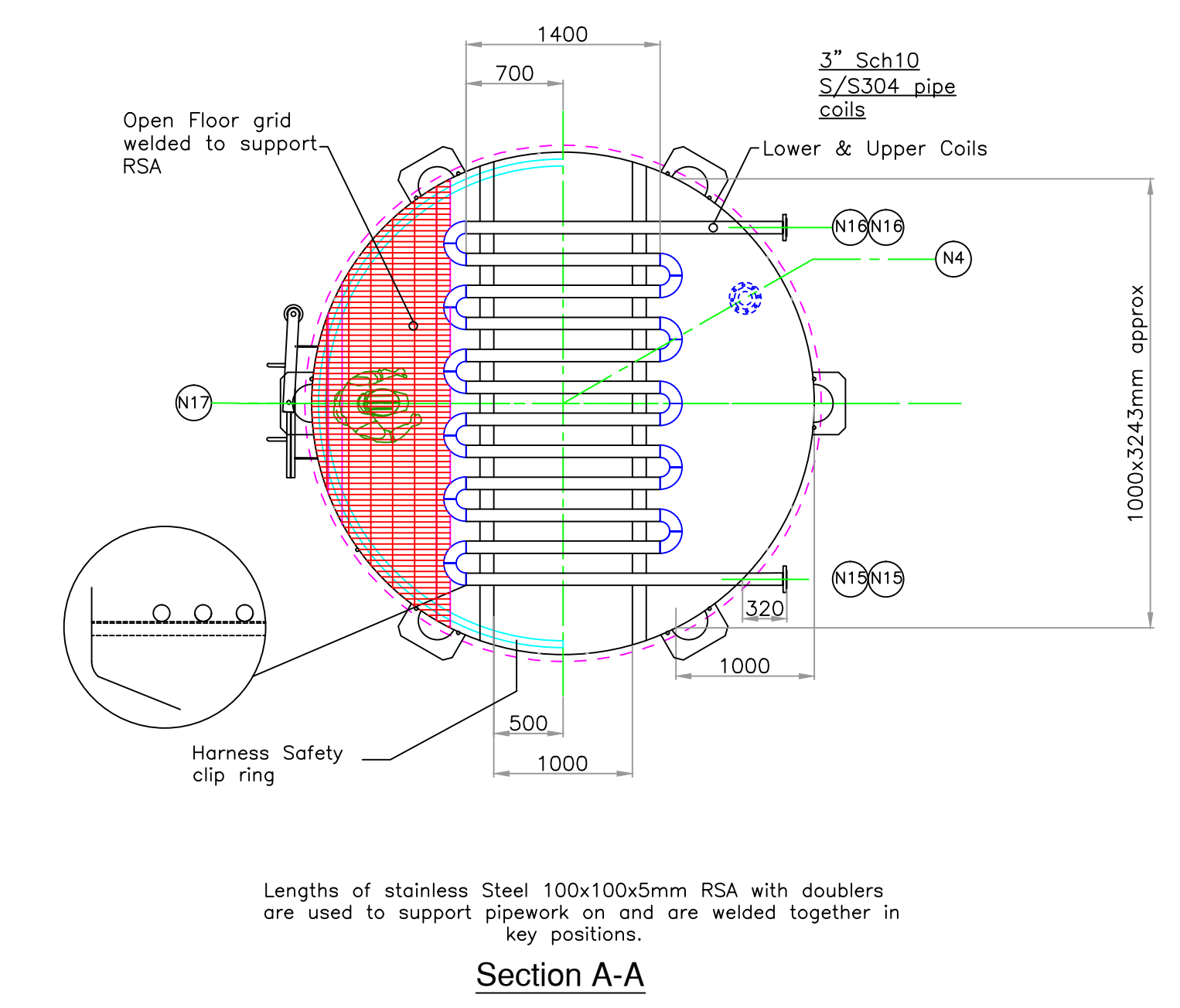
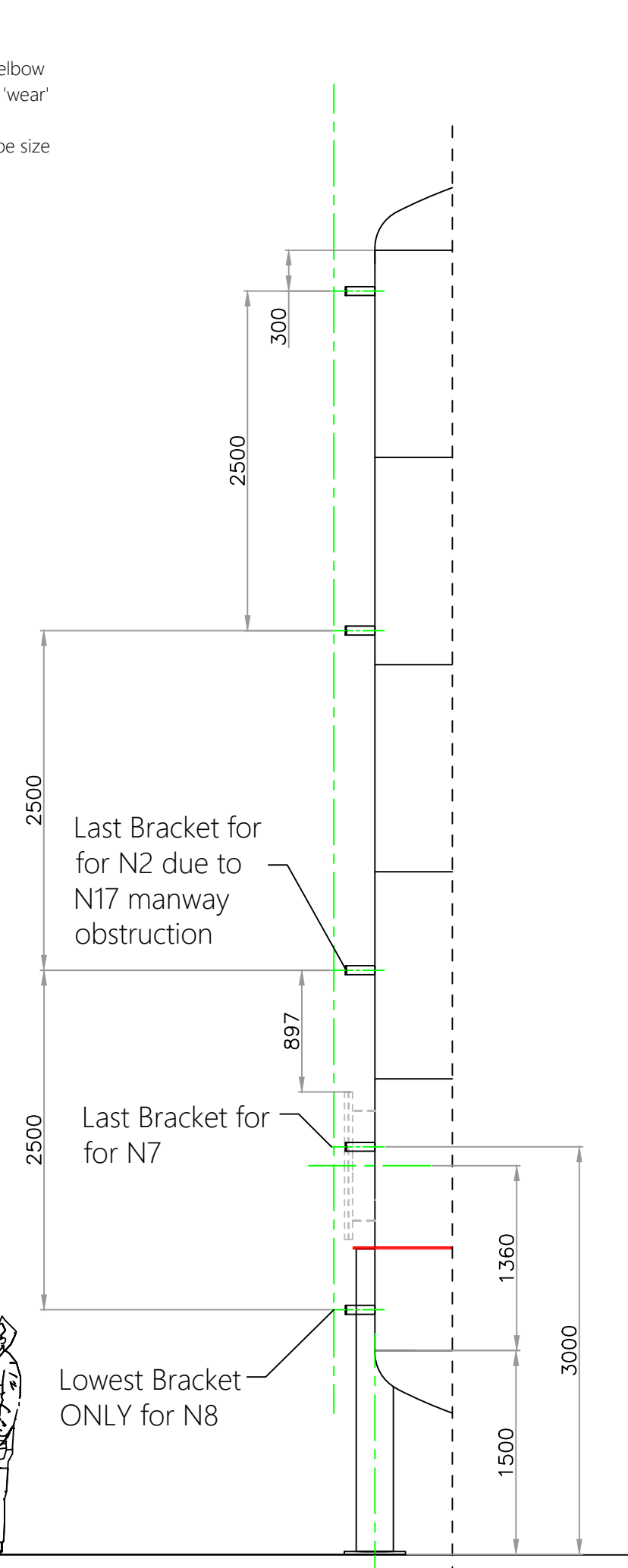
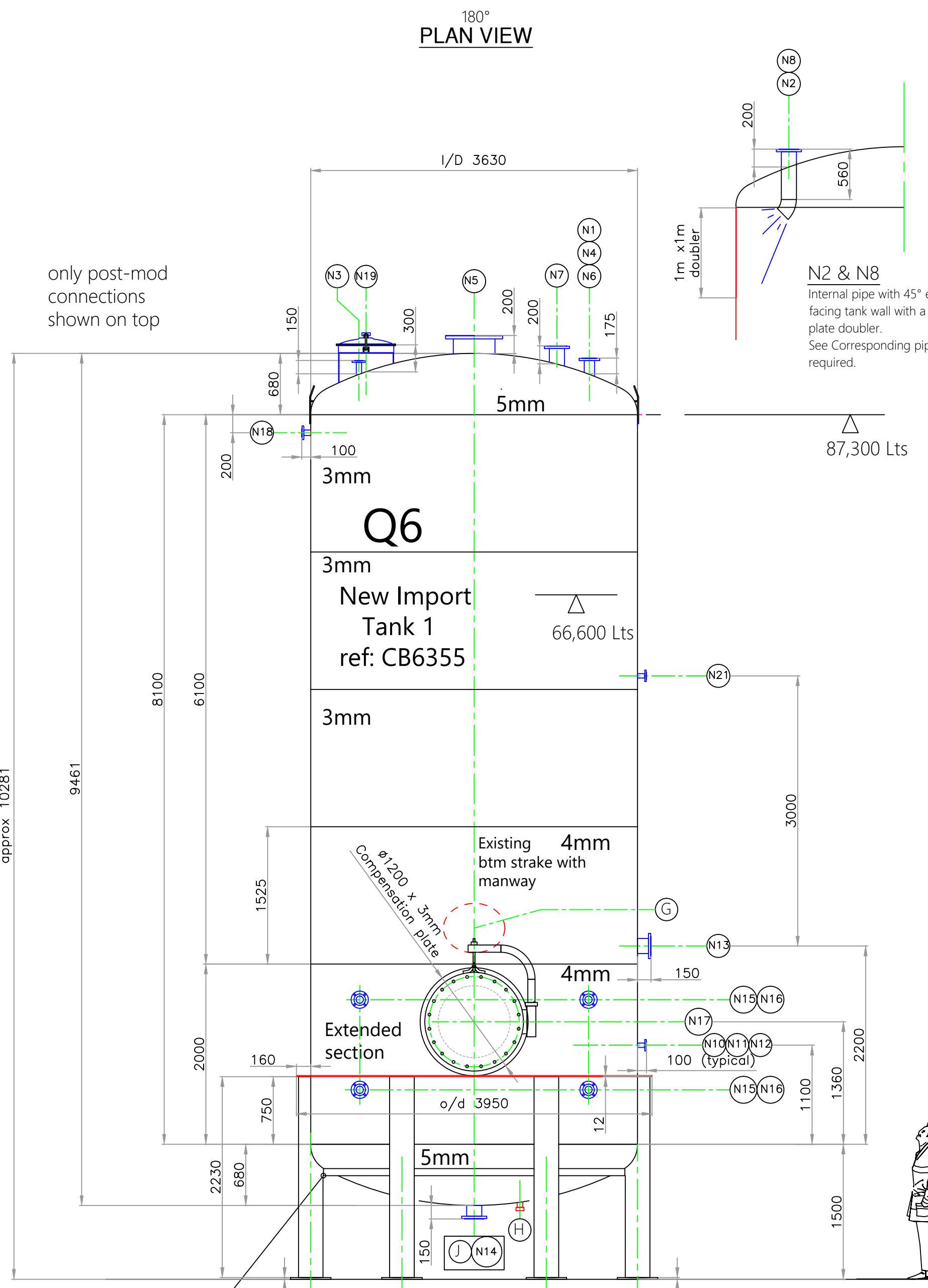
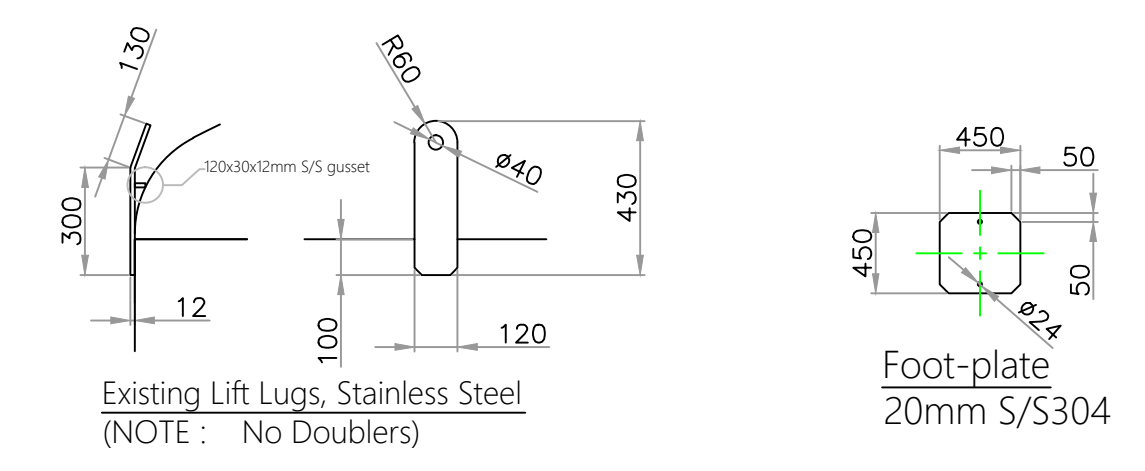
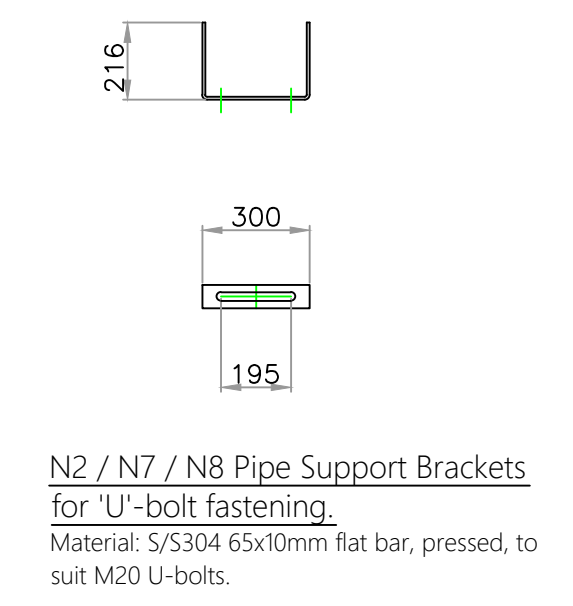
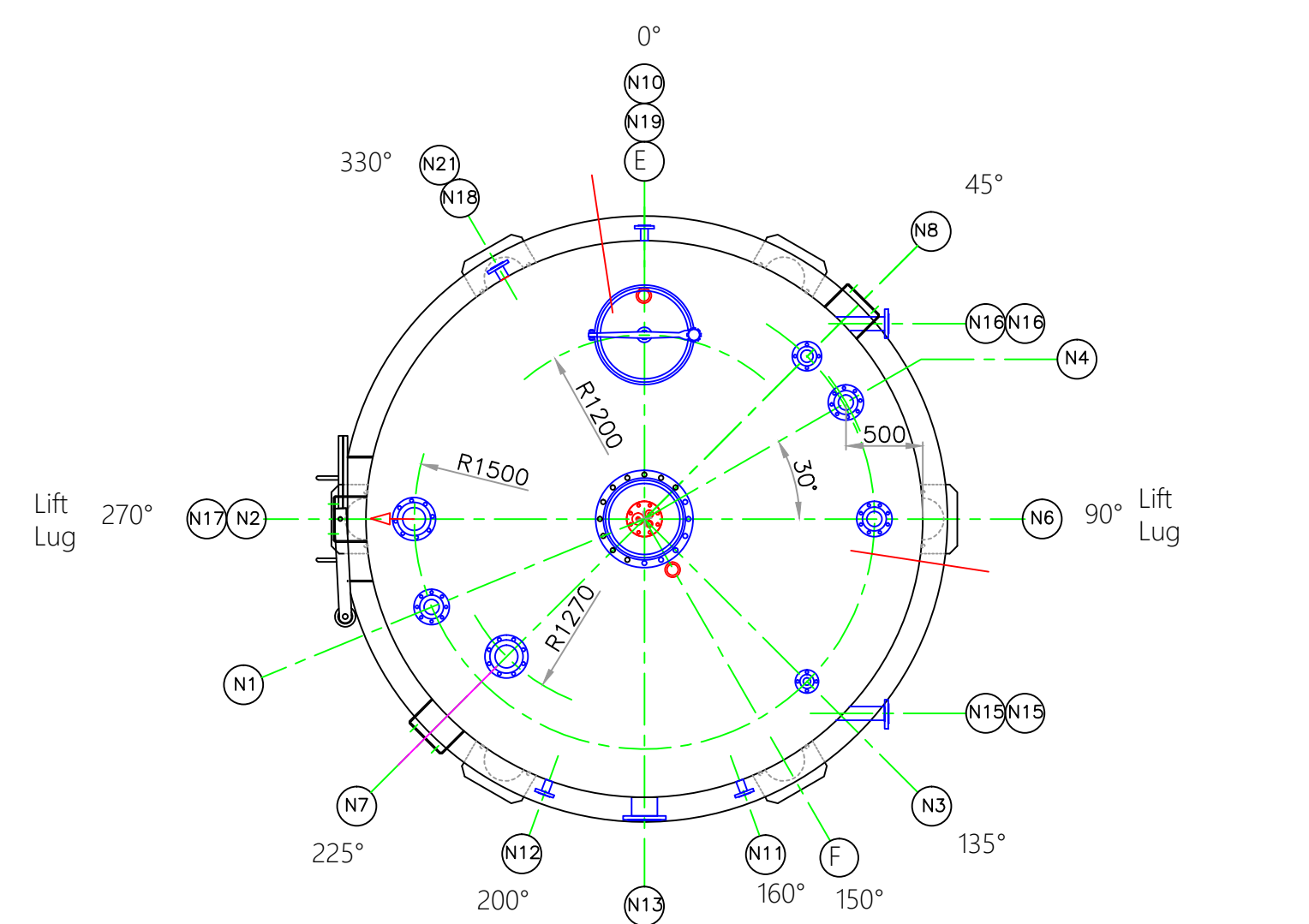
DESCRIPTION 4,400 OD x 120,000 L vertical storage tank sloping base & conical roof

PLOT SCALE DRAWING No. A0/10906-1.0 REVISION C

CZ COOKSON AND ZINN (PTL) LIMITED
STATION ROAD WORKS, POND-HALL ROAD, HADLEIGH, IPSWICH, SUFFOLK, IP7 5PN
TEL: (01473) 825200 FAX: (01473) 824164
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JOB REF: TV3370 / TANK REF: CB6355

Vessel Specification		
Original Manufacturer: BURNETT & ROLFE		
Modified to capacity below:		
Capacity: 87,300Lts 19208gallon (Working)		
Material: Stainless Steel		
SPECIFICATION		
DESIGN CODE: G.E.P & GENERALLY TO BS EN 14015 - 2004		
	TANK	COIL
DESIGN PRESSURE:	-8.5 to 185 mBAR.G	10.34 BAR.G
DESIGN TEMPERATURE:	105 DEG. C	185 DEG. C
OPERATING PRESSURE:	-2.5 to 100 mBAR.G	9.0 BAR.G
OPERATING TEMPERATURE:	40 DEG. C	180 DEG. C



Schedule of EXISTING Connections				
Ref	Duty	Qty	Description	Modifications
A	Topset	1	4" pad & Mate with B/C/D	Fully remove Topset Flange & replace with N5
B	Inlet	1	1" socket	
C	Pressure relief	1	Fort Vale: 20PSI / 1/2" Hg unit	
D	A.Vac	1	3" Tube / Spring A.V	
E	Inlet	1	3" RTT male	Fully remove & weld blank
F	Vent	1	3" RTT male with mesh vent box	Fully remove & weld blank
G	Manway	1	510x410mm Oval Manway	Fully remove & weld blank
H	Probe	1	E&H probe connection Special	Fully remove & weld blank
J	Outlet	1	3" RTT male	Fully remove & replace with N14

Schedule of Connections						
Ref	Duty	Qty	Position	DN	Type	Type
N1	Spare	1	Top	100	150 Lbs RF	ASA 150
N2	Inlet from Oilers	1	Top	150	150 Lbs RF	ASA 150
- COMPLETE WITH AN ELBOW TO WALL WITH SIDE WALL DOUBLER						
- PIPE SUPPORT CLIPS REQUIRED FROM TOP TO 3M FROM FLOOR						
N3	Spare	1	Top	50	150 Lbs RF	ASA 150
N4	Tank Level Transmitter	1	Top	100	150 Lbs RF	ASA 150
N5	Relief Manway	1	Top	18"	150 Lbs RF	ASA 150
N6	Vac Relief	1	Top	100	150 Lbs RF	ASA 150
N7	Carbon Filter Vent	1	Top	150	150 Lbs RF	ASA 150
- COMPLETE WITH AN ELBOW TO WALL WITH SIDE WALL DOUBLER						
- PIPE SUPPORT CLIPS REQUIRED FROM TOP TO FLOOR						
N8	Recirc.	1	Top	80	150 Lbs RF	ASA 150
- COMPLETE WITH AN ELBOW TO WALL WITH SIDE WALL DOUBLER						
- PIPE SUPPORT CLIPS REQUIRED FROM TOP TO FLOOR						
N9	-	-	-	-	-	-
N10	Temp Pocket	1	Side	40	150 Lbs RF	ASA 150
N11	Temp Pocket	1	Side	40	150 Lbs RF	ASA 150
N12	Temp Pocket	1	Side	40	150 Lbs RF	ASA 150
N13	Jet Mixer	1	Side	150	150 Lbs RF	ASA 150
N14	Outlet to Pump	1	Base	150	150 Lbs RF	ASA 150
N15	Steam Supply	2	Side	80	150 Lbs RF	ASA 150
N16	Condensate Return	2	Side	80	150 Lbs RF	ASA 150
N17	Manway	1	Side	800	150 Lbs RF	ASA 150
i/d 800mm Flanged access with compensation pad & davit arm.						
• Neck required to be 6mm						
• Compensation plate around manway required to be 1200 x 3mm						
N18	Level Switch	1	Side	50	150 Lbs RF	ASA 150
N19	Top Manway	1	Top	600	Model: D8 - 600 manway	Max. work pressure: 0.05bar
N21	Jet Mixer: Level Switch	1	Side	50	150 Lbs RF	ASA 150
TL	Tail Lug	2	Fit tail lugs to legs			

- Additional Information.**
- Fit New 10" S/S sch40 pipe legs with 450x450mm foot plates.
 - Extend shell by 2m. New body butt welded, doubled penetrated, weld caps cleaned / left intact.
 - 2x Internal heating pipe (3" sch10 S/S 316 tube) to be assembled and fitted into vessel complete with RSA supports with wall doublers and terminating in 2-off 3" PN16 flanges. Coil chamfered butt weld, weld cap cleaned / left intact.
 - Remove and blank any additional existing connection not listed.

Rev	By	Date	Description
L	LM	15-08-19	N1 relocated to 247.5 degrees and original position welded blank to suit new gantry design.
K	LM	14-06-19	N20 fit its internal floor & section of safety hoop removed as per sketch from D. Broadish 13-06-19
J	LM	21-05-19	N11 / N12 repositioned as per Waldeck PDF 21-05-19
H	LM	20-05-19	Updated as per email D.B 18-05-19
G	LM	17-05-19	N21 added N13 position changed as per instruction changes as per customer instruction to PB during meeting at TVI on 14-05-19 & Waldek 15-05-19
F	LM	16-05-19	changes as per customer pdf to PB
E	LM	09-05-19	changes as per customer pdf to PB
D	LM	25-04-19	customer / calc mods & connections added
C	LM	19-03-19	Body thickness added
B	LM	14-03-19	Legs changed & additional stroke added to bottom dish
A	LM	14-01-19	submitted for approval

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TANKS & VESSELS
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 Web: www.tanksandvessels.com

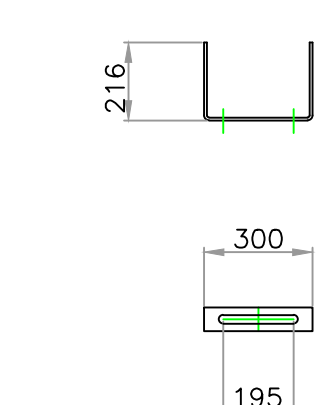
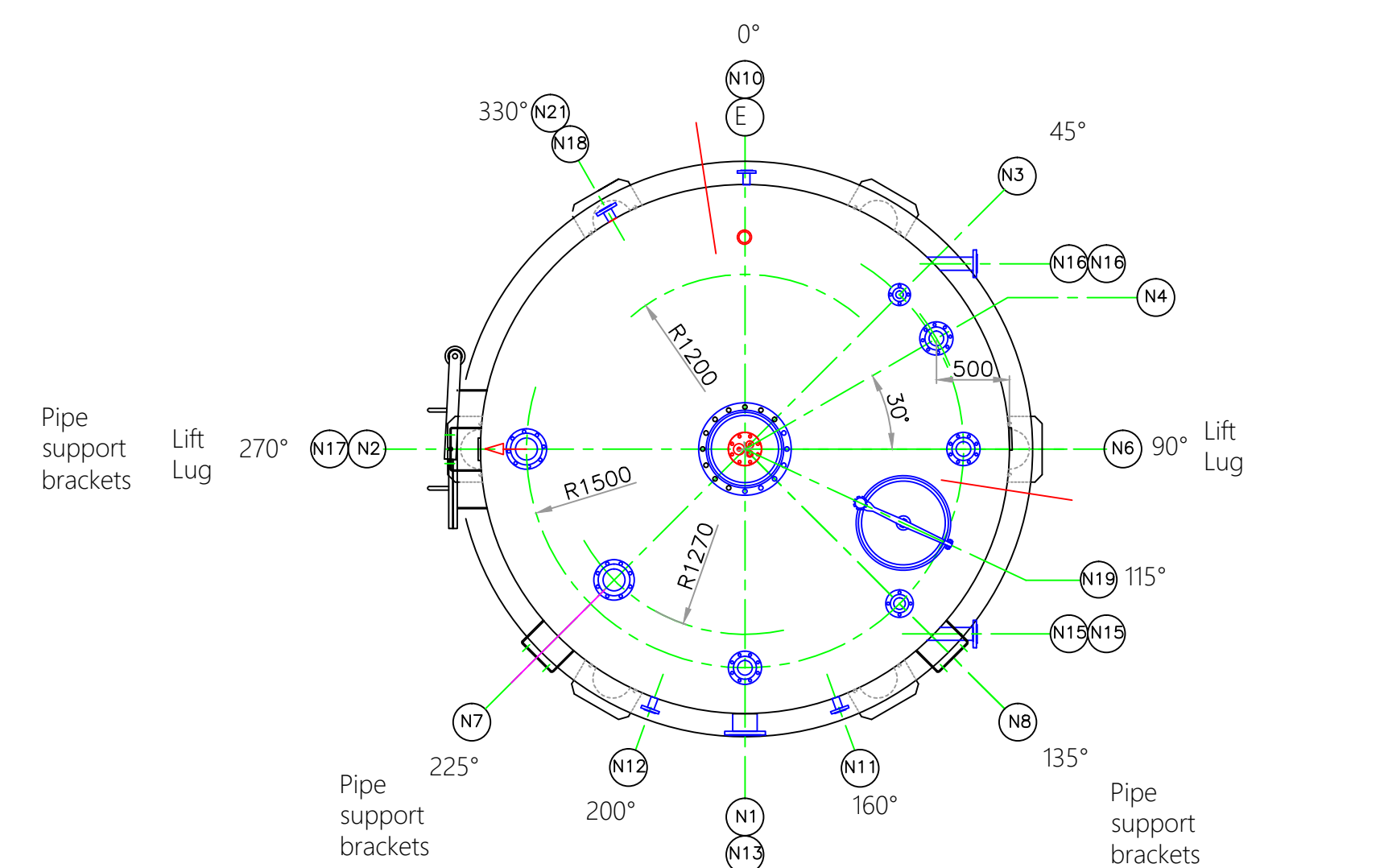
Confirmation of Acceptance		
Full Name	Sign	Date
Please sign and return 1 copy of this drawing For Work to Commence.		

Title	Revision			
CB6355 - (Q6)	L			
Job Number	Drawn By	Checked By	Date	Scale
TV3370	LM	PB	08-01-19	-
Drawing No: 2019001				

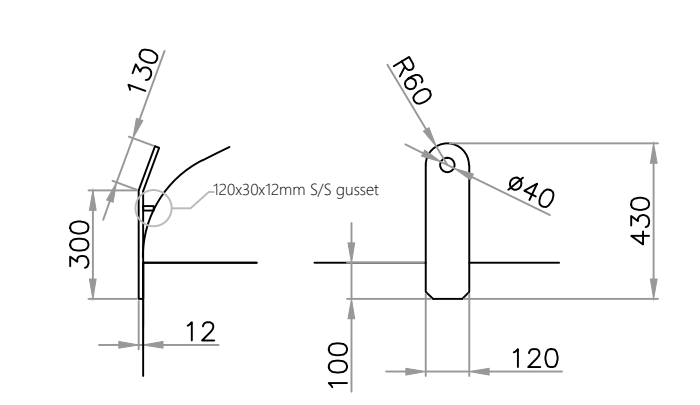
80x10mm steel support ring (sections to be cut out to allow for new legs) (****NOTE: See Plan View For Correct Orientation of Fittings / Legs etc in relation to each other****)

JOB REF: TV3370 / TANK REF: CB6356

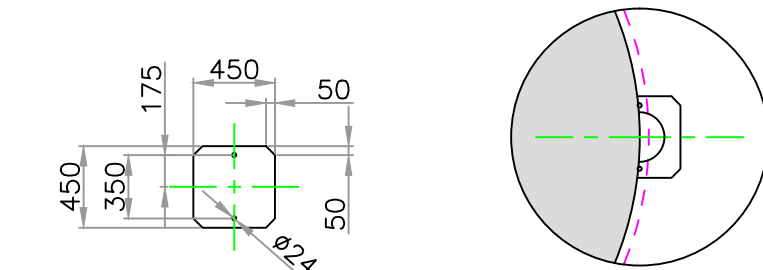
Vessel Specification		
Original Manufacturer: BURNETT & ROLFE		
Modified to capacity below:		
Capacity: 87,300Lts 19208gallon (Working)		
Material: Stainless Steel		
SPECIFICATION		
DESIGN CODE : G.E.P & GENERALLY TO BS EN 14015 - 2004		
DESIGN PRESSURE:	TANK	COIL
DESIGN TEMPERATURE:	-8.5 TO 185 mBAR G	10.34 BAR G
DESIGN TEMPERATURE:	105 DEG. C	185 DEG. C
OPERATING PRESSURE:	-2.5 TO 100 mBAR.G	9.0 BAR G
OPERATING TEMPERATURE:	-40 DEG. C	180 DEG. C



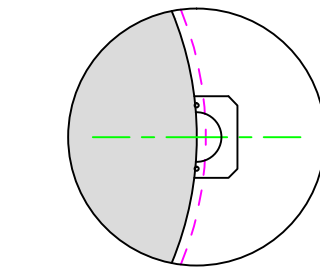
N2 / N7 / N8 Pipe Support Brackets for 'U'-bolt fastening.
Material: S/S304 65x10mm flat bar, pressed, to suit M20 U-bolts.



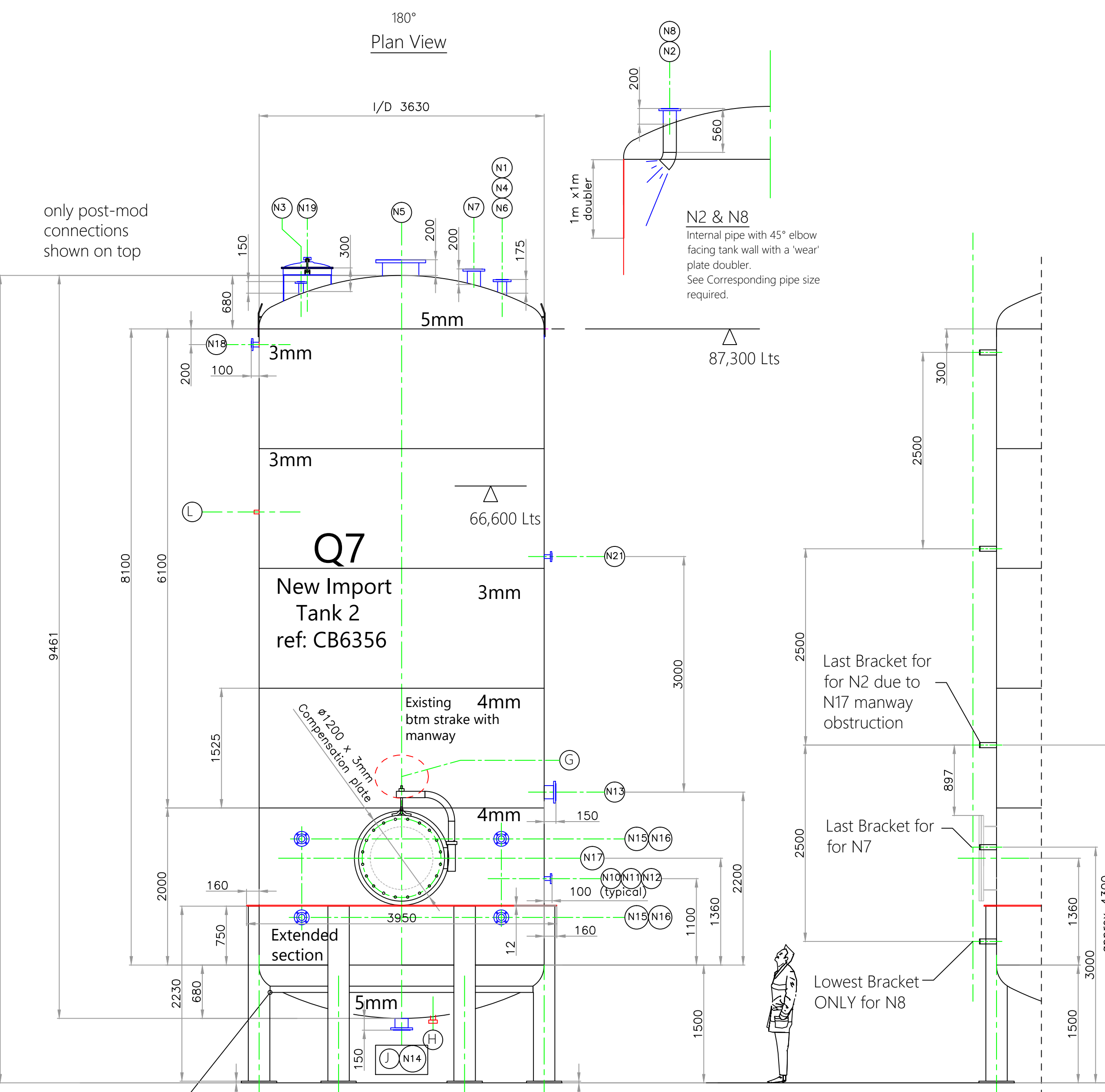
Existing Lift Lugs, Stainless Steel (NOTE : No Doublers)



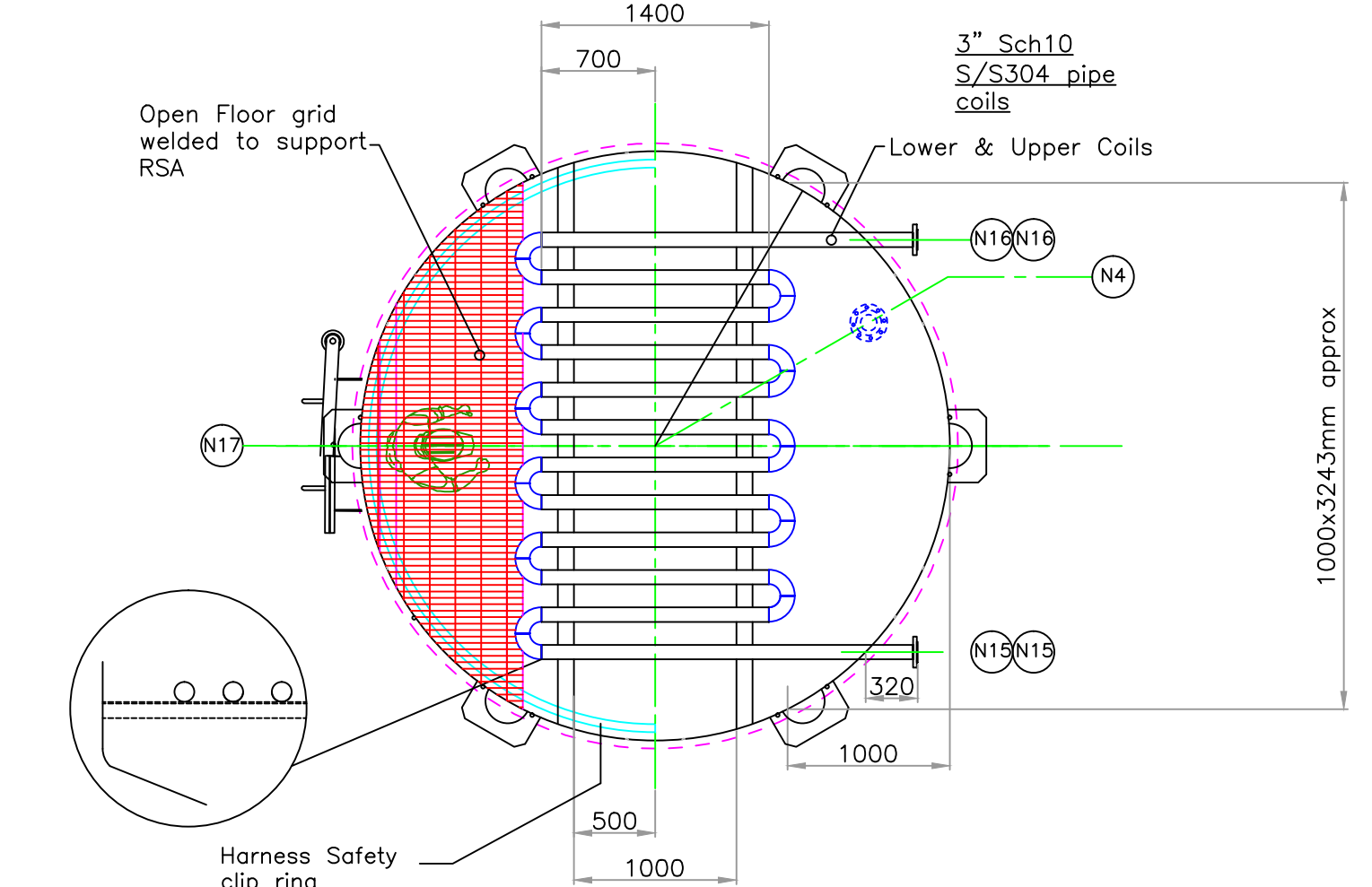
Foot-plate 20mm S/S304



Foot-plate holes orientation

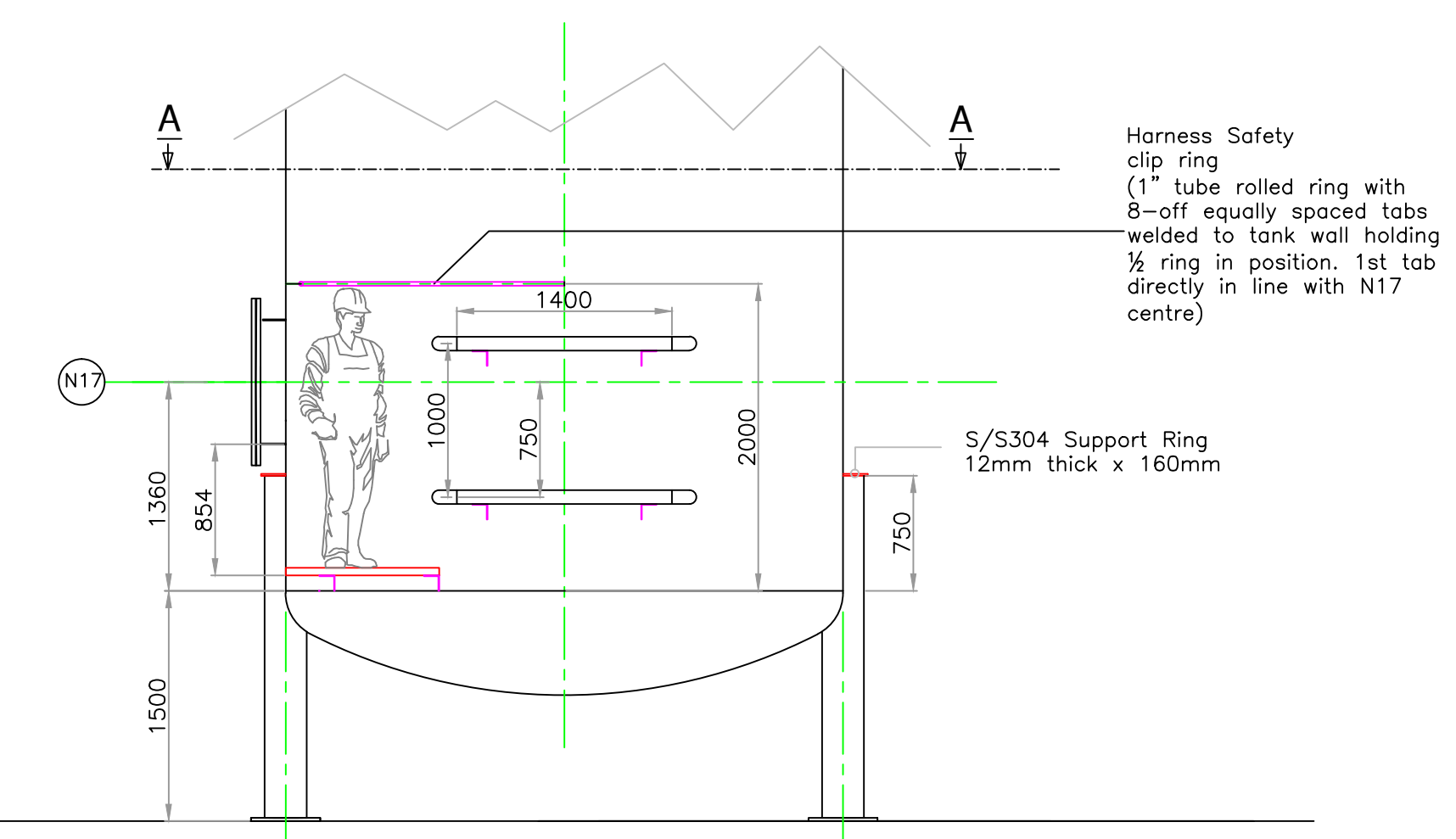


80x10mm steel support ring (sections to be cut out to allow for new legs) (****NOTE: See Plan View For Correct Orientation of Fittings / Legs etc in relation to each other****)



Lengths of stainless Steel 100x100x5mm RSA with doublers are used to support pipework on and are welded together in key positions.

Section A-A



Side reference view

SIDE VIEW: Pipe Brackets Required for N2 / N7 / N8

Ref	Duty	Qty	Description	Modifications
A	Topset	1	4" pad & Mate with B/C/D	
B	Inlet	1	1" socket	Fully remove Topset Flange & replace with 1x5
C	Pressure relief	1	Fort Vale: 20PSI / 1/2" Hg unit	
D	A.Vac	1	3" Tube / Spring A.V	
E	Inlet	1	3" RTJ male	Fully remove & weld blank
F	Vent	1	3" RTJ male	Fully remove & weld blank
G	Manway	1	510x410mm Oval Manway	Fully remove & weld blank
H	Probe	1	E&H probe Connection Special	Fully remove & weld blank
J	Outlet	1	5" PN16 Flange	Remove & Replace with N14
K	Probe	1	Probe Socket Unknown	Fully remove & weld blank
L	Probe	1	Probe Socket Unknown	Fully remove & weld blank
M	Inlet	1	3" RTJ male	Fully remove & weld blank
P	Inlet	1	3" RTJ male	Fully remove & weld blank
R	Inlet	1	1 1/2" RTJ male on 90° elbow	Fully remove & weld blank

Ref	Duty	Qty	Position	DN	Type
N1	Spare	1	Top	100	150 Lbs RF ASA 150
N2	Inlet from Oiler	1	Top	150	150 Lbs RF ASA 150
N3	Spare	1	Top	50	150 Lbs RF ASA 150
N4	Tank Level Transmitter	1	Top	100	150 Lbs RF ASA 150
N5	Relief Manway	1	Top	18"	150 Lbs RF ASA 150
N6	Vac Relief	1	Top	100	150 Lbs RF ASA 150
N7	Carbon Filter Vent	1	Top	150	150 Lbs RF ASA 150
N8	Recirc.	1	Top	80	150 Lbs RF ASA 150
N9	-	-	-	-	-
N10	Temp. Pocket	1	Side	40	150 Lbs RF ASA 150
N11	Temp. Pocket	1	Side	40	150 Lbs RF ASA 150
N12	Temp. Pocket	1	Side	40	150 Lbs RF ASA 150
N13	Jet Mixer	1	Side	150	150 Lbs RF ASA 150
N14	Outlet to Pump	1	Base	150	150 Lbs RF ASA 150
N15	Steam Supply	2	Side	80	150 Lbs RF ASA 150
N16	Condensate Return	2	Side	80	150 Lbs RF ASA 150
N17	Manway	1	Side	800	
N18	Level Switch	1	Side	50	150 Lbs RF ASA 150
N19	Top Manway	1	Top	600	Model D8 - 600 manway Max. work pressure: 0.05bar
N21	Jet Mixer, Level Switch	1	Side	50	150 Lbs RF ASA 150

- Additional Information:**
- Fit New 10" S/S sch40 pipe legs with 450x450mm foot plates.
 - Extend shell by 2m. New body butt welded, doubled penetrated, weld caps cleaned / left intact.
 - 2x Internal heating pipe (3" sch10 S/S 316L tube) to be assembled and fitted into vessel complete with RSA supports with wall doublers and terminating in 2-off 3" PN16 flanges. Coil chartered butt weld, weld cap cleaned / left intact.
 - Remove and blank any additional existing connection not listed.

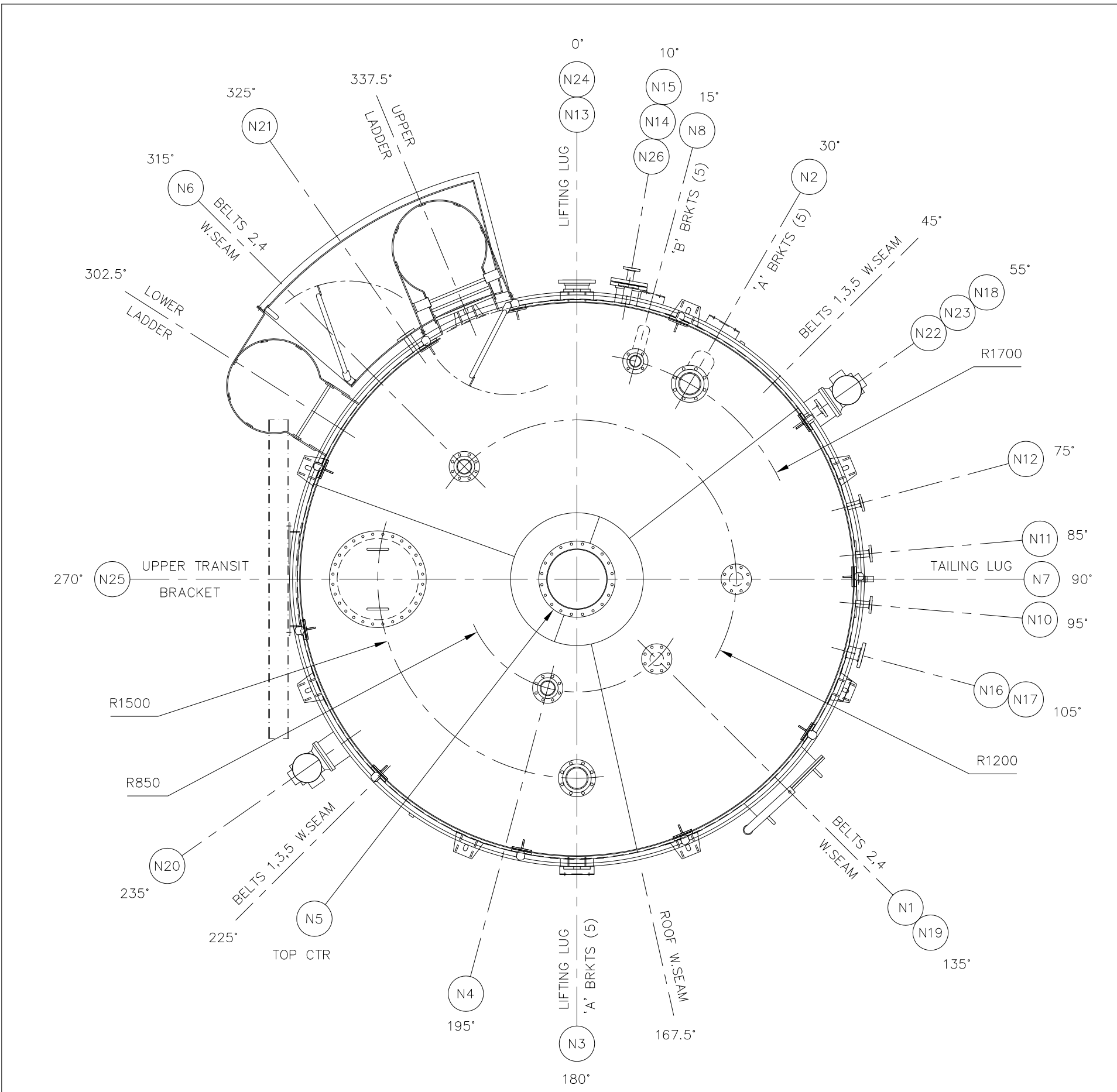
Rev	By	Date	Description
L	LM	14-06-19	N19 manway moved to 115' as requested
K	LM	14-06-19	N20 inc its internal floor & section of safety hoop removed as per sketch from D. Broadish 13-06-19
J	LM	21-05-19	N11 / N12 repositioned as per Waideck PDF 21-05-19
H	LM	20-05-19	Updated as per email D.B 18-05-19
G	LM	17-05-19	N21 added and N13 positions confirmed by customer
F	LM	16-05-19	changes as per customer instruction to PB during meeting at TV on 14-05-19 & Waideck 15-05-19
E	LM	09-05-19	changes as per customer pdf to PB
D	LM	25-04-19	customer / calc mods & connections added
C	LM	19-03-19	Body thickness added
B	LM	14-03-19	Legs changed & additional 2m stroke to be added to base dish.
A	LM	14-01-19	submitted for approval

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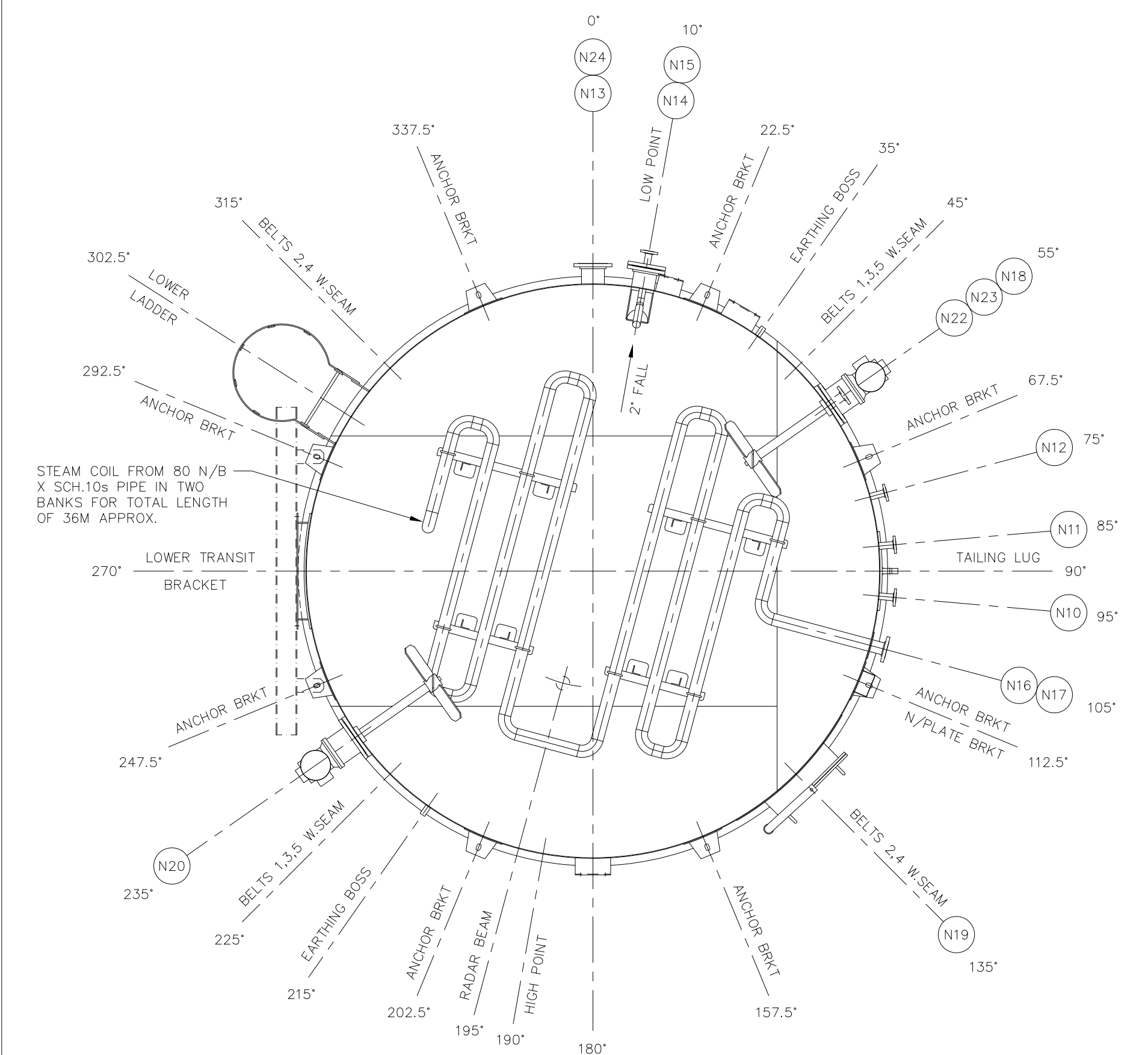
TANKS & VESSELS
Bankwood Lane Trading Estate, Bankwood Lane, Rossington, Doncaster, South Yorkshire, DN11 0PS
Tel: 01302 867328 Fax: 01302 864990
E-Mail: sales@tanksandvessels.com
Web: www.tanksandvessels.com

Title	CB6356 - (Q7)			Revision	L
Job Number	Drawn By	Checked By	Date	Scale	
TV3370	LM	PB	08-01-19	-	
Drawing No: 2019002					

Confirmation of Acceptance		
Full Name	Sign	Date
Please sign and return 1 copy of this drawing For Work to Commence.		



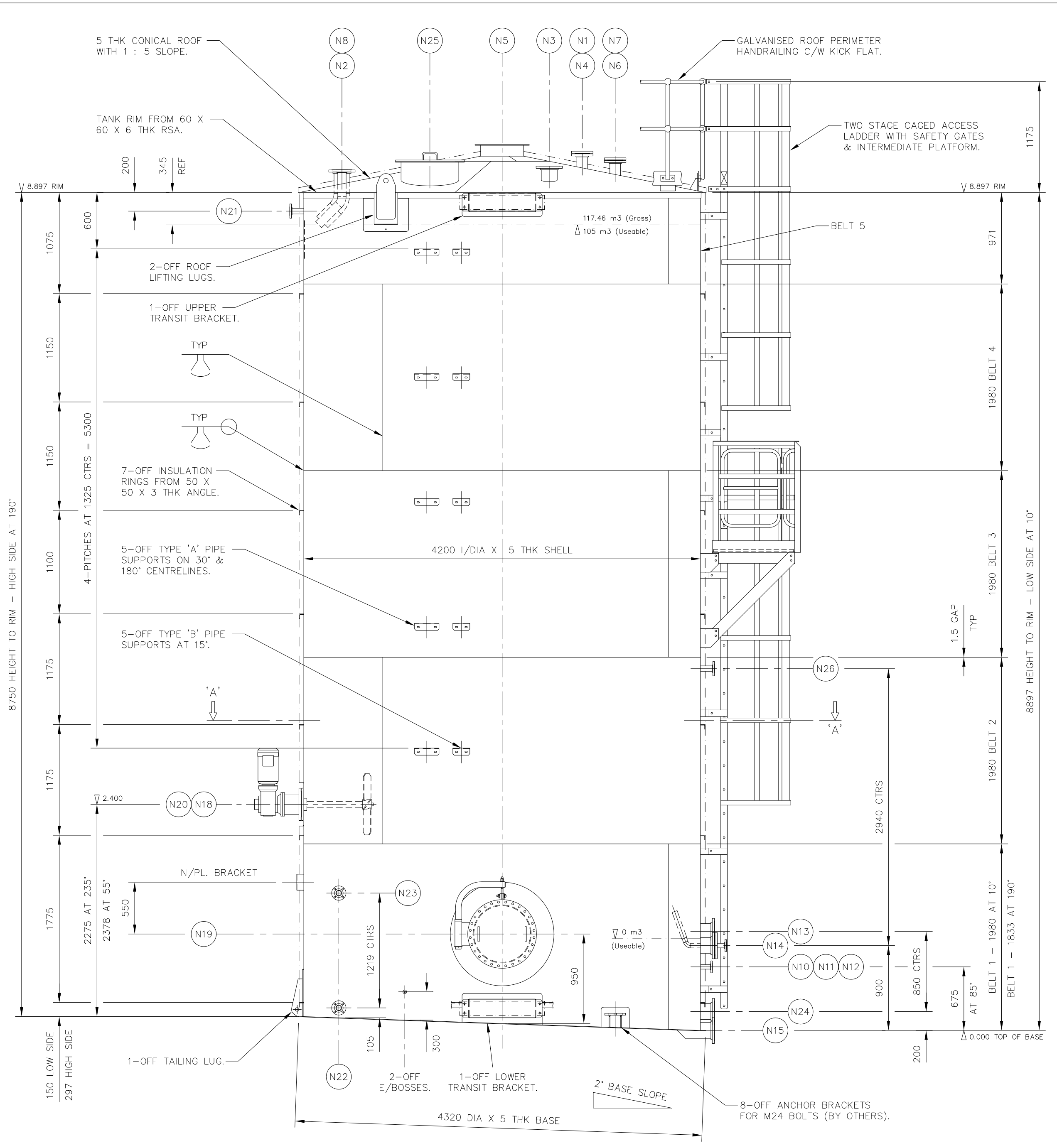
PLAN VIEW
(SHOWING TRUE ORIENTATIONS)



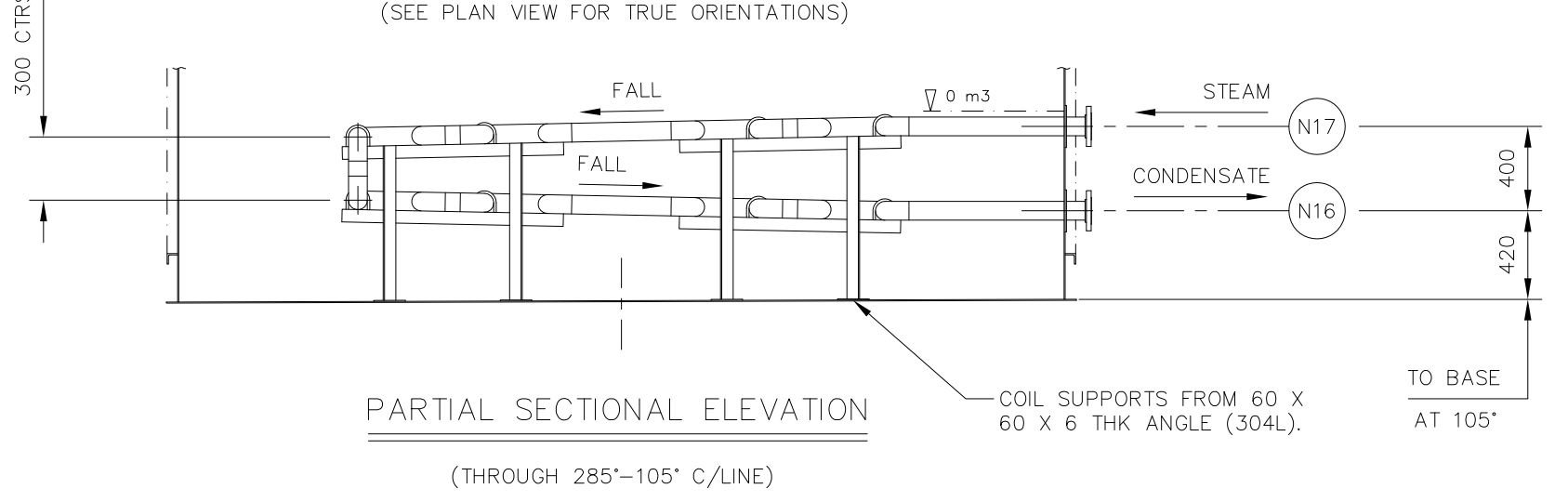
SECTIONAL PLAN VIEW
(THROUGH 'A'-A')

NOTES

- 1) FLANGE BOLT HOLES TO STRADDLE TANK MAIN VERT & HORIZ CENTRELINES.
- 2) FORGED FLANGES IN ACCORDANCE WITH ASME B16.5 : 2017.
- 3) ALL OPEN NOZZLES TO BE BLANKED WITH WOODEN DISCS AND RUBBER GASKETS PRIOR TO TRANSPORTATION TO PREVENT INGRESS OF WATER.



SIDE ELEVATION
(SEE PLAN VIEW FOR TRUE ORIENTATIONS)



PARTIAL SECTIONAL ELEVATION
(THROUGH 285°-105° C/LINE)

SPECIFICATION

DESIGN CODE :	G.E.P & GENERALLY TO BS.EN 14015 - 2004.	
DESIGN PRESSURE :	TANK -8.5 to 185 mBAR.G	COIL 10.34 BAR.G
DESIGN TEMPERATURE :	105 DEG.C	185 DEG.C
OPERATING PRESSURE :	-2.5 to 100 mBAR.G	9.0 BAR.G
OPERATING TEMPERATURE :	40 DEG.C	180 DEG.C
CORROSION ALLOWANCE :	NIL	NIL
CONTENTS :	USED OIL (900 Kg/m3)	STEAM
GROSS CAPACITY :	122.245 M ³ (105 M ³ NOMINAL).	DESIGN WIND SPEED : 45 m/s.
TESTING (AT WORKS) :	i) TANK - 100 mBAR.G AIR LEAK TEST WITH SOAPY WATER. ii) REINFORCING PLATES - 300 mBAR.G AIR WITH SOAPY WATER. iii) COIL - HYDRAULIC AT 17.7 BAR.G. iv) LIFTING LUGS - 100% DYE PENETRANT INSPECTION OF WELDS.	
MATERIAL SPECIFICATION :	A) PLATE TO ASTM A.240-304L, STAINLESS STEEL. B) FORGED FLANGES TO ASTM A.182-F304L, STAINLESS STEEL. C) CONNECTION PIPE & COIL TO ASTM A.312-TP304L, STAINLESS STEEL. D) BUTT WELD PIPE FITTINGS TO ASTM A.403-WP304L, STAINLESS STEEL. E) BOLTING TO BS.4190 GRADE 8.8, ZINC PLATED. F) GASKETS TO BE 3mm THK ASBESTOS-FREE COMPRESSED FIBRE. G) ACCESS STEELWORK TO BS.EN 10025 S275JR, CARBON STEEL. H) HANDRAIL & SAFETY GATE PIPE TO BS.1387 MED.WT, CARBON STEEL.	
INTERNAL FINISH :	WELDS LEFT NEAT AS LAID. ALL SURFACES DEGREASED, CLEANED & LEFT NATURAL FINISH.	
EXTERNAL FINISH :	WELDS LEFT AS LAID, PICKLED & PASSIVATED. ALL SURFACES DEGREASED, CLEANED & LEFT NATURAL FINISH. ACCESS STEELWORK HOT DIP GALVANISED TO EN ISO 1461.	
INSULATION :	50mm THK MINERAL WOOL TO SHELL CLAD WITH ALUZINC SHEET. 50mm THK RIGID FOAM INSULATION ON ROOF TO WITHSTAND PERSONNEL TRAFFIC, CLAD WITH ALUZINC SHEET. CLADDING JOINTS LAPPED, POP RIVETED & MASTIC SEALED.	
WEIGHT EMPTY :	9,750 Kg APPROX.	WEIGHT FULL OF WATER : 131,995 Kg APPROX.
WEIGHT FULL OF OPERATING LIQUID :	119,770 Kg APPROX.	

CONNECTIONS

REF	SIZE	W.T	RATING	DUTY
N1	100 N/B	SCH.40s	150lb S.O.R.F FLANGE	SPARE C/W BLIND FLANGE
N2	150 N/B	SCH.40s	150lb S.O.R.F FLANGE	INLET FROM ULO (C/W INTERNAL 45° BEND)
N3	150 N/B	SCH.40s	150lb S.O.R.F FLANGE	CARBON FILTER VENT
N4	100 N/B	SCH.40s	150lb S.O.R.F FLANGE	LEVEL TRANSMITTER
N5	18" N/B	5mm	SPECIAL	RELIEF MANWAY
N6	100 N/B	SCH.40s	150lb S.O.R.F FLANGE	VACUUM RELIEF
N7	100 N/B	SCH.40s	150lb S.O.R.F FLANGE	SPARE C/W BLIND FLANGE
N8	80 N/B	SCH.40s	150lb S.O.R.F FLANGE	RECIRCULATION (C/W INTERNAL 45° BEND)
N9	N/A	N/A	N/A	DELETED
N10	40 N/B	SCH.40s	150lb S.O.R.F FLANGE	TEMPERATURE POCKET (THERMOWELL BY CLIENT)
N11	40 N/B	SCH.40s	150lb S.O.R.F FLANGE	TEMPERATURE POCKET (THERMOWELL BY CLIENT)
N12	40 N/B	SCH.40s	150lb S.O.R.F FLANGE	TEMPERATURE POCKET (THERMOWELL BY CLIENT)
N13	150 N/B	SCH.40s	150lb S.O.R.F FLANGE	OUTLET TO PUMP
N14	150 N/B	SCH.40s	150lb S.O.R.F FLANGE	JET MIXER C/W 40 N/B JET MIXER PIPING
N15	150 N/B	SCH.40s	150lb S.O.R.F FLANGE	DRAIN
N16	80 N/B	SCH.40s	150lb S.O.R.F FLANGE	HEATING COIL CONDENSATE OUTLET
N17	80 N/B	SCH.40s	150lb S.O.R.F FLANGE	HEATING COIL STEAM INLET
N18	200 N/B	N/A	150lb R.F PAD	SIDE AGITATOR
N19	600 I/D	6mm	SPECIAL	SHELL MANWAY C/W DAWT
N20	200 N/B	N/A	150lb R.F PAD	SIDE AGITATOR
N21	50 N/B	SCH.40s	150lb S.O.R.F FLANGE	LEVEL SWITCH
N22	50 N/B	SCH.40s	150lb S.O.R.F FLANGE	INTERFACE INSTRUMENT
N23	50 N/B	SCH.40s	150lb S.O.R.F FLANGE	INTERFACE INSTRUMENT
N24	150 N/B	SCH.40s	150lb S.O.R.F FLANGE	OUTLET TO PUMP
N25	24" N/B	5mm	SPECIAL	ACCESS MANWAY C/W SAFETY GRID
N26	50 N/B	SCH.40s	150lb S.O.R.F FLANGE	LEVEL SWITCH

M.C INTEG LIMITED
ISSUED FOR CONSTRUCTION
Issued S.J.Borley
Date 05-06-19

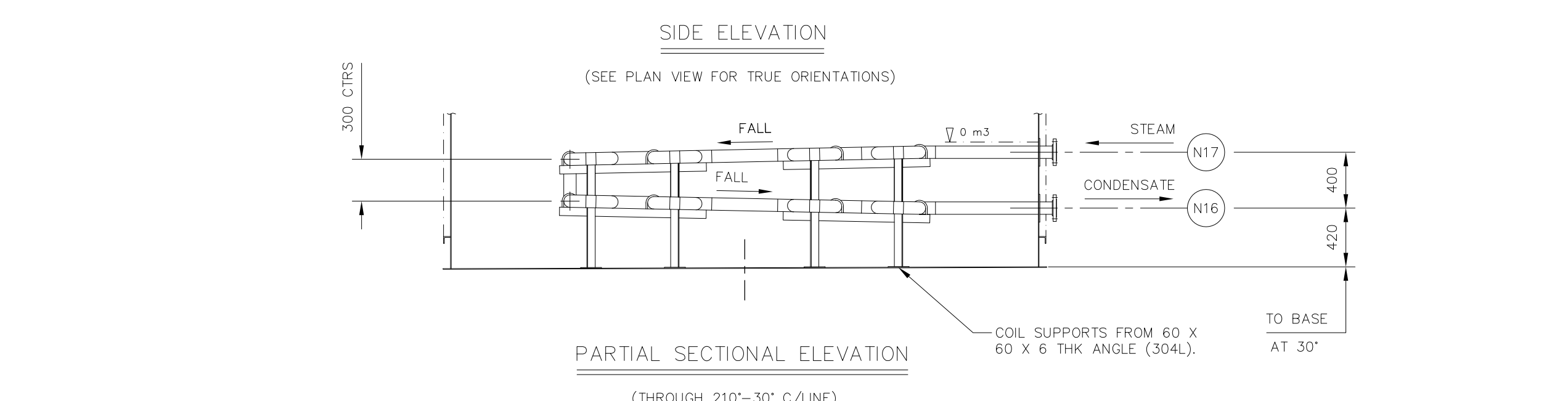
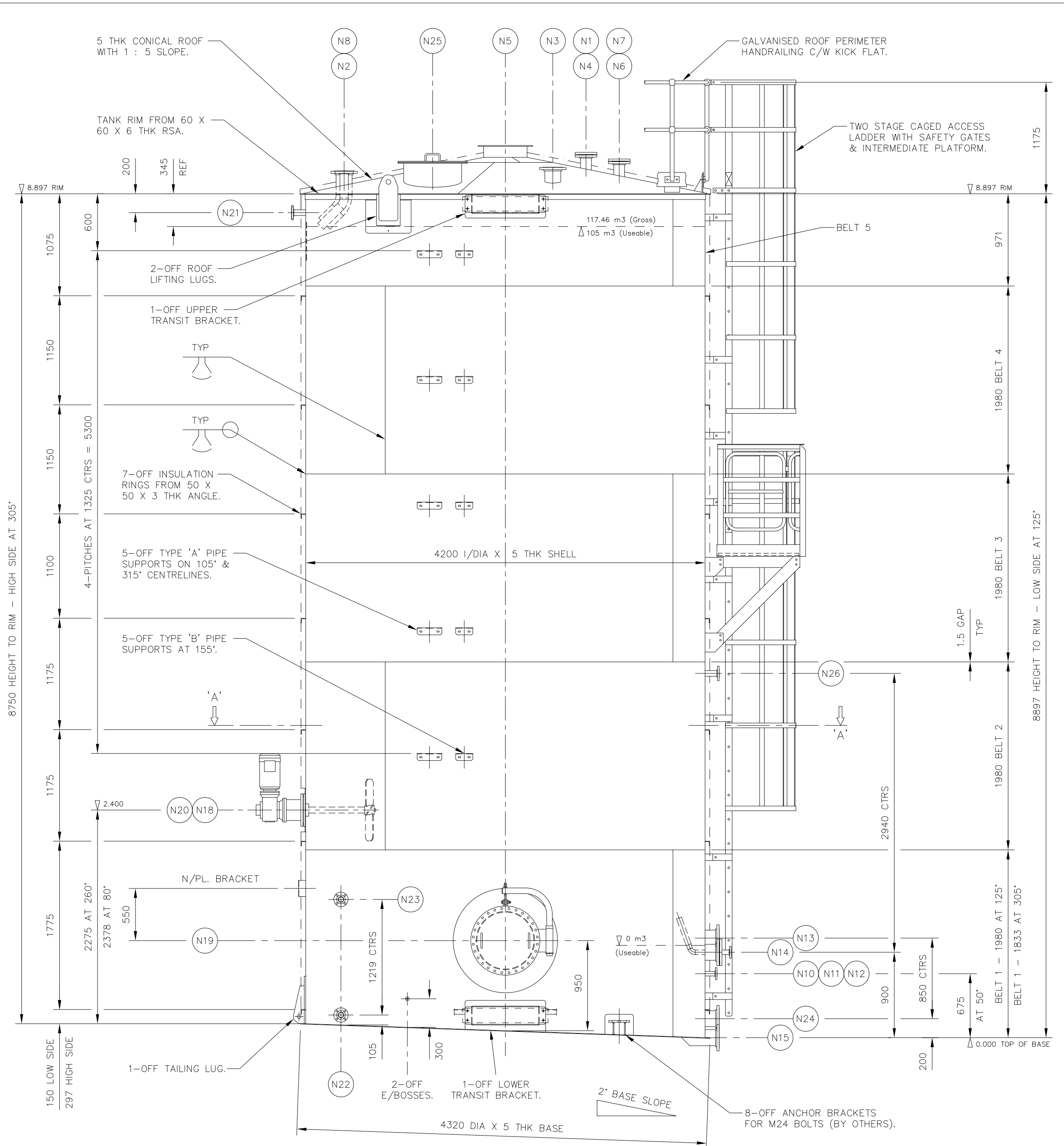
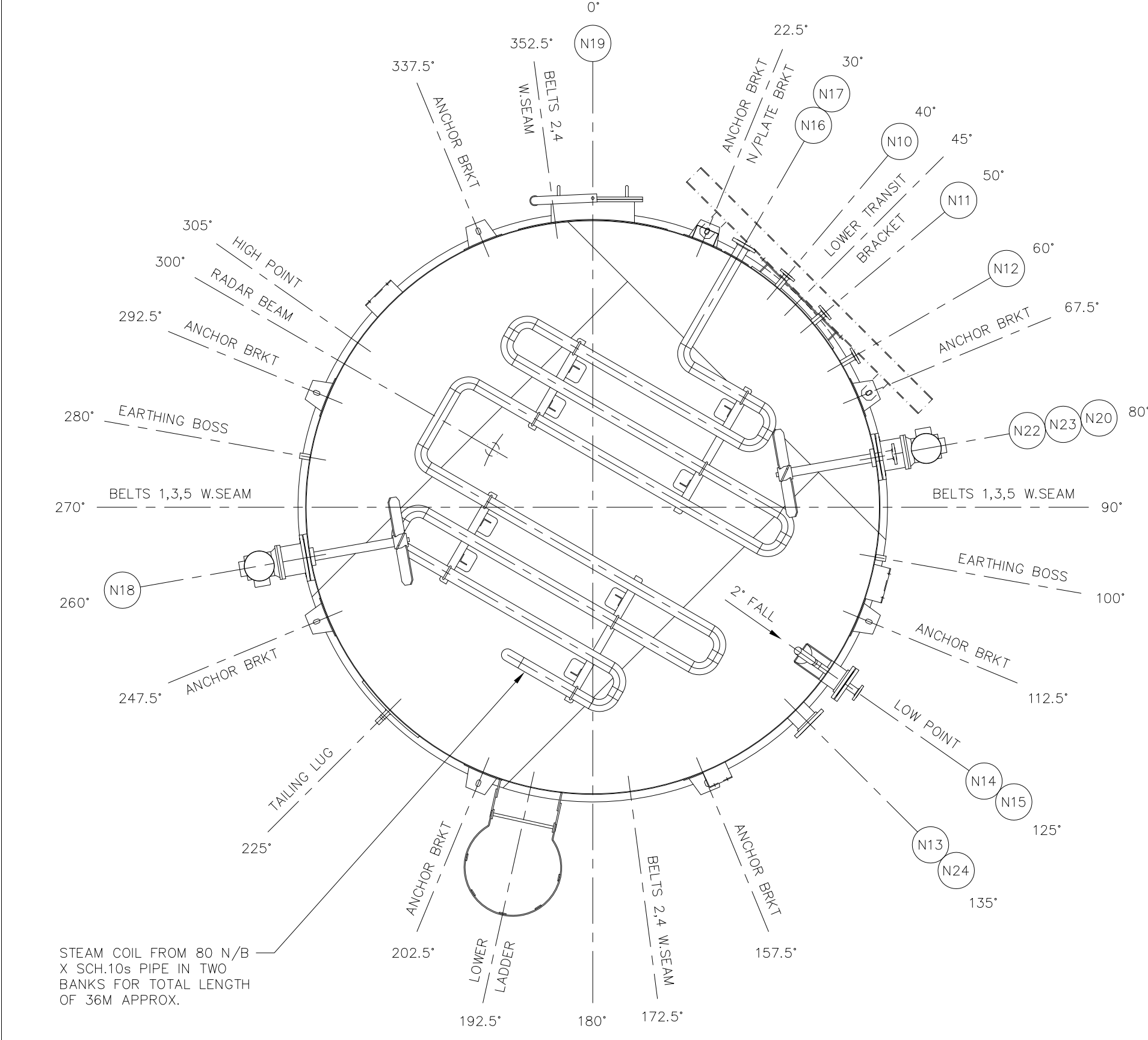
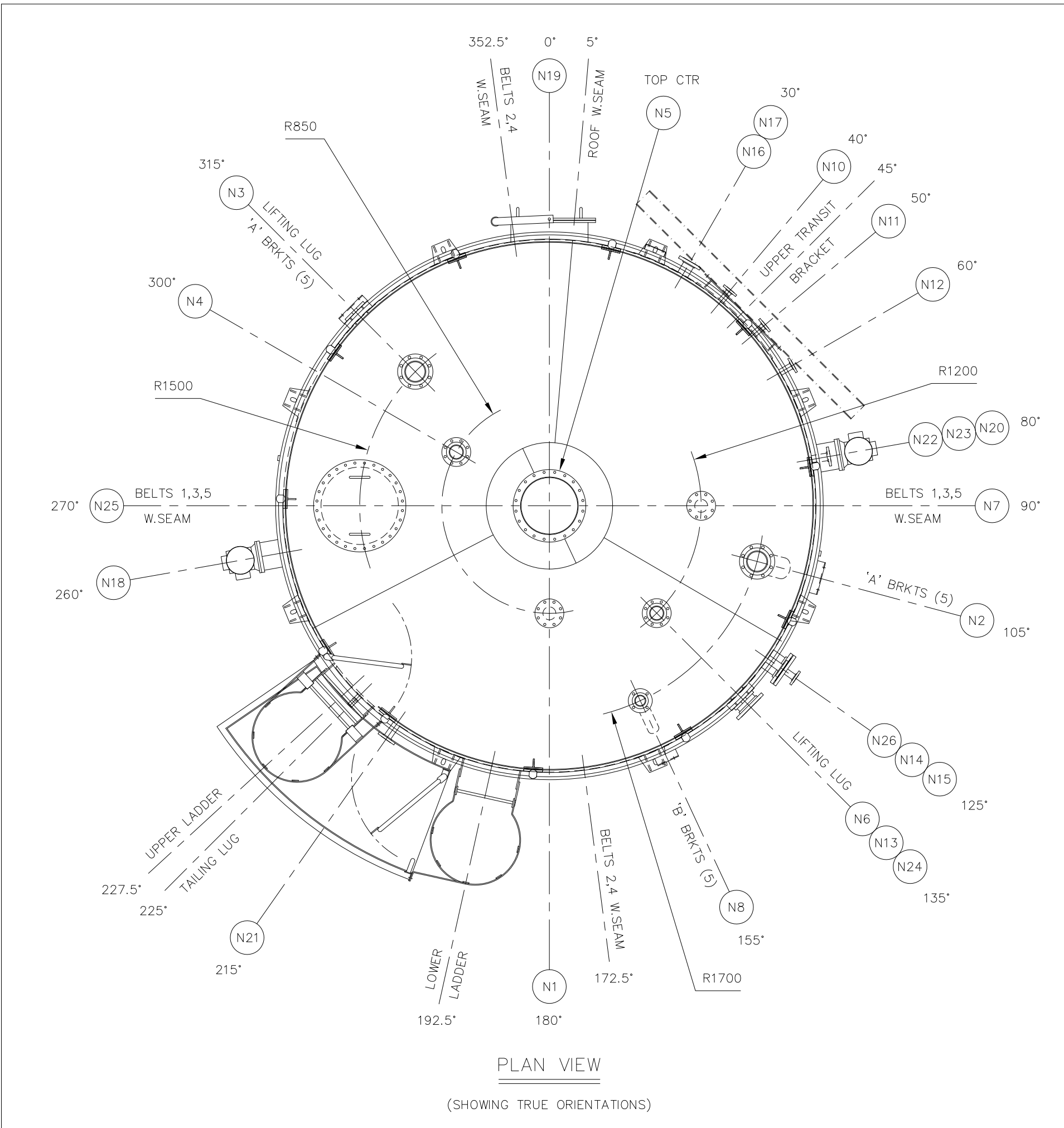
NO	DATE	DESCRIPTION	BY	CHKD	APPD
07	05-06-19	1. TRANSIT BRACKET DESIGN REVISED.	S.J.B		
06	09-05-19	2. TRANSIT BRACKET DESIGN REVISED.	S.J.B		
05	08-05-19	1. LEVEL SWITCH CONN 'N26' ADDED.	S.J.B		
04	03-05-19	1. 5-OFF INSULATION RINGS NOW 7-OFF TO FACILITATE CONSTRUCTION TO EXISTING CONSTRUCTION. 2. INTERNAL 45° BENDS AND WEAR PLATES ADDED TO CONNS 'N2' & 'N8'. 3. TAILING LUG & TRANSIT BRACKET DESIGN REVISED TO FACILITATE TRANSPORTATION. 4. CONN 'N14' WAS 100 N/B, NOW 150 N/B. 5. CONN 'N9' DELETED. 6. CONNS 'N10', 'N11' & 'N12' RELOCATED.	S.J.B		
03	17-04-19	1. REVISED IN ACCORDANCE WITH CLIENT MARKED-UP DRAWING.	S.J.B		
02	08-04-19	1. REVISED IN ACCORDANCE WITH P&ID DRC. 180307-WDK-00-ZZ-DR-Y-81003 AND CLIENT COMMENTS.	S.J.B		
01	08-02-19	FOR APPROVAL	S.J.B		
ISSUE		DESCRIPTION			DRAWN

INTEG
SPECIALISTS IN LIQUID STORAGE

M.C INTEG LIMITED
ROUGHAM INDUSTRIAL ESTATE
BURY ST EDMUNDS
SUFFOLK IP30 9ND
Tel : 01359 270610
Email : info@mc-integ.co.uk
Web : www.mc-integ.co.uk

CLIENT : ENVA ENGLAND SPECIALIST WASTE LTD
O/No : 26312
PROJECT : NEWARK
DESCRIPTION : 1-OFF 105 m³ VERT. CYL. 304L USED OIL STORAGE TANK (TAG No. Q9)

JOB No.	13601/A
DRAWN	S.J.BORLEY
CHKED	K.PENGELLY
DATE	08-02-19
SCALE	1 : 33 1/3
DRG. No	13601-A-01
ISSUE	07



NOTES

- 1) FLANGE BOLT HOLES TO STRADDLE TANK MAIN VERT & HORIZ CENTRELINES.
- 2) FORGED FLANGES IN ACCORDANCE WITH ASME B16.5 : 2017.
- 3) ALL OPEN NOZZLES TO BE BLANKED WITH WOODEN DISCS AND RUBBER GASKETS PRIOR TO TRANSPORTATION TO PREVENT INGRESS OF WATER.

M.C INTEG LIMITED
ISSUED FOR CONSTRUCTION
Issued S.J.Borley
Date 05-06-19

NO	DATE	DESCRIPTION	BY	CHKD
06	05-06-19	TRANSIT BRACKET DESIGN REVISED.	S.J.B	
05	05-06-19	TRANSIT BRACKET DESIGN REVISED.	S.J.B	
04	09-05-19	TESTING PROCEDURES REVISED.	S.J.B	
03	08-05-19	1. LEVEL SWITCH CONN 'N26' ADDED. 2. INTER-LADDER BEAMS AND WALKWAY PLATES ADDED TO CONNS 'N2' & 'N8'. 3. TAILING LUG & TRANSIT BRACKET DESIGN REVISED TO FACILITATE TRANSPORTATION. 4. CONN 'N14' WAS 100 N/B, NOW 150 N/B. 5. CONN 'N9' DELETED. 6. CONNS 'N10', 'N11' & 'N12' RELOCATED.	S.J.B	
02	18-04-19	REVISED IN ACCORDANCE WITH CLIENT MARKED-UP DRAWING.	S.J.B	
01	08-04-19	FOR APPROVAL	S.J.B	

SPECIFICATION

DESIGN CODE :	TANK	COIL
G.E.P & GENERALLY TO BS.EN 14015 - 2004.		
DESIGN PRESSURE :	-8.5 to 185 mBAR.G	10.34 BAR.G
DESIGN TEMPERATURE :	105 DEG.C	185 DEG.C
OPERATING PRESSURE :	-2.5 to 100 mBAR.G	9.0 BAR.G
OPERATING TEMPERATURE :	40 DEG.C	180 DEG.C
CORROSION ALLOWANCE :	NIL	NIL
CONTENTS :	USED OIL (900 Kg/m ³)	STEAM
GROSS CAPACITY :	122.245 M ³ (110 M ³ NOMINAL).	DESIGN WIND SPEED : 45 m/s.

TESTING (AT WORKS) :

- TANK - 100 mBAR.G AIR LEAK TEST WITH SOAPY WATER.
- REINFORCING PLATES - 300 mBAR.G AIR WITH SOAPY WATER.
- COIL - HYDRAULIC AT 17.7 BAR.G.
- LIFTING LUGS - 100% DYE PENETRANT INSPECTION OF WELDS.

MATERIAL SPECIFICATION :

- PLATE TO ASTM A.240-304L, STAINLESS STEEL.
- FORGED FLANGES TO ASTM A.182-F304L, STAINLESS STEEL.
- CONNECTION PIPE & COIL TO ASTM A.312-TP304L, STAINLESS STEEL.
- BUTT WELD PIPE FITTINGS TO ASTM A.403-WP304L, STAINLESS STEEL.
- BOLTING TO BS.4190 GRADE 8.8, ZINC PLATED.
- GASKETS TO BE 3mm THK ASBESTOS-FREE COMPRESSED FIBRE.
- ACCESS STEELWORK TO BS.EN 10025 S275JR, CARBON STEEL.
- HANDRAIL & SAFETY GATE PIPE TO BS.1387 MED.WT, CARBON STEEL.

INTERNAL FINISH : WELDS LEFT NEAT AS LAID. ALL SURFACES DEGREASED, CLEANED & LEFT NATURAL FINISH.

EXTERNAL FINISH : WELDS LEFT AS LAID, PICKLED & PASSIVATED. ALL SURFACES DEGREASED, CLEANED & LEFT NATURAL FINISH. ACCESS STEELWORK HOT DIP GALVANISED TO EN ISO 1461.

INSULATION : 50mm THK MINERAL WOOL TO SHELL CLAD WITH ALUZINC SHEET. 50mm THK RIGID FOAM INSULATION ON ROOF TO WITHSTAND PERSONNEL TRAFFIC, CLAD WITH ALUZINC SHEET. CLADDING JOINTS LAPPED, POP RIVETED & MASTIC SEALED.

WEIGHT EMPTY : 9,750 Kg APPROX. **WEIGHT FULL OF WATER :** 131,995 Kg APPROX.
WEIGHT FULL OF OPERATING LIQUID : 119,770 Kg APPROX.

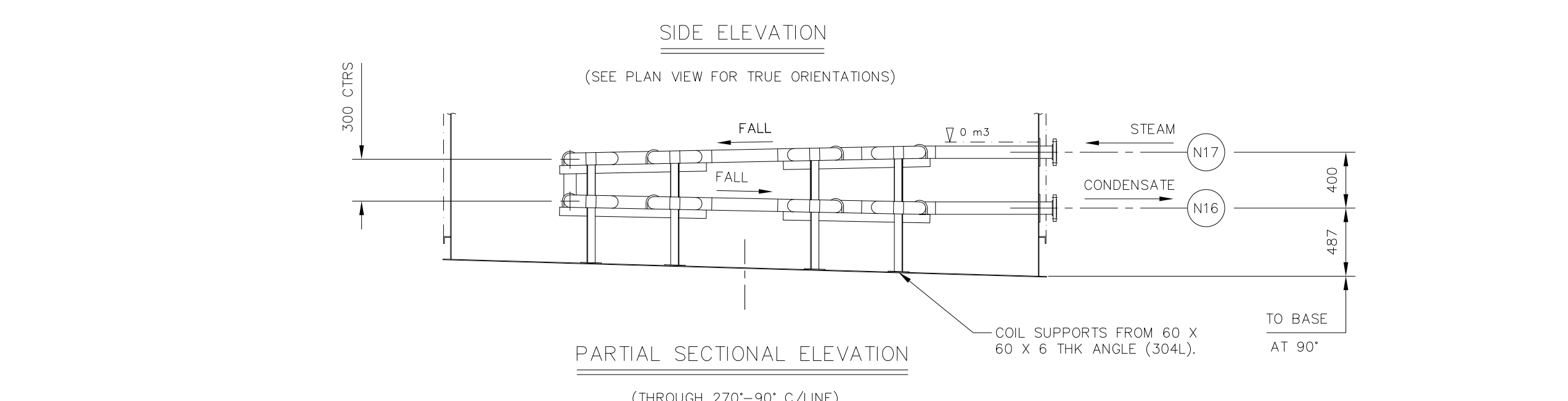
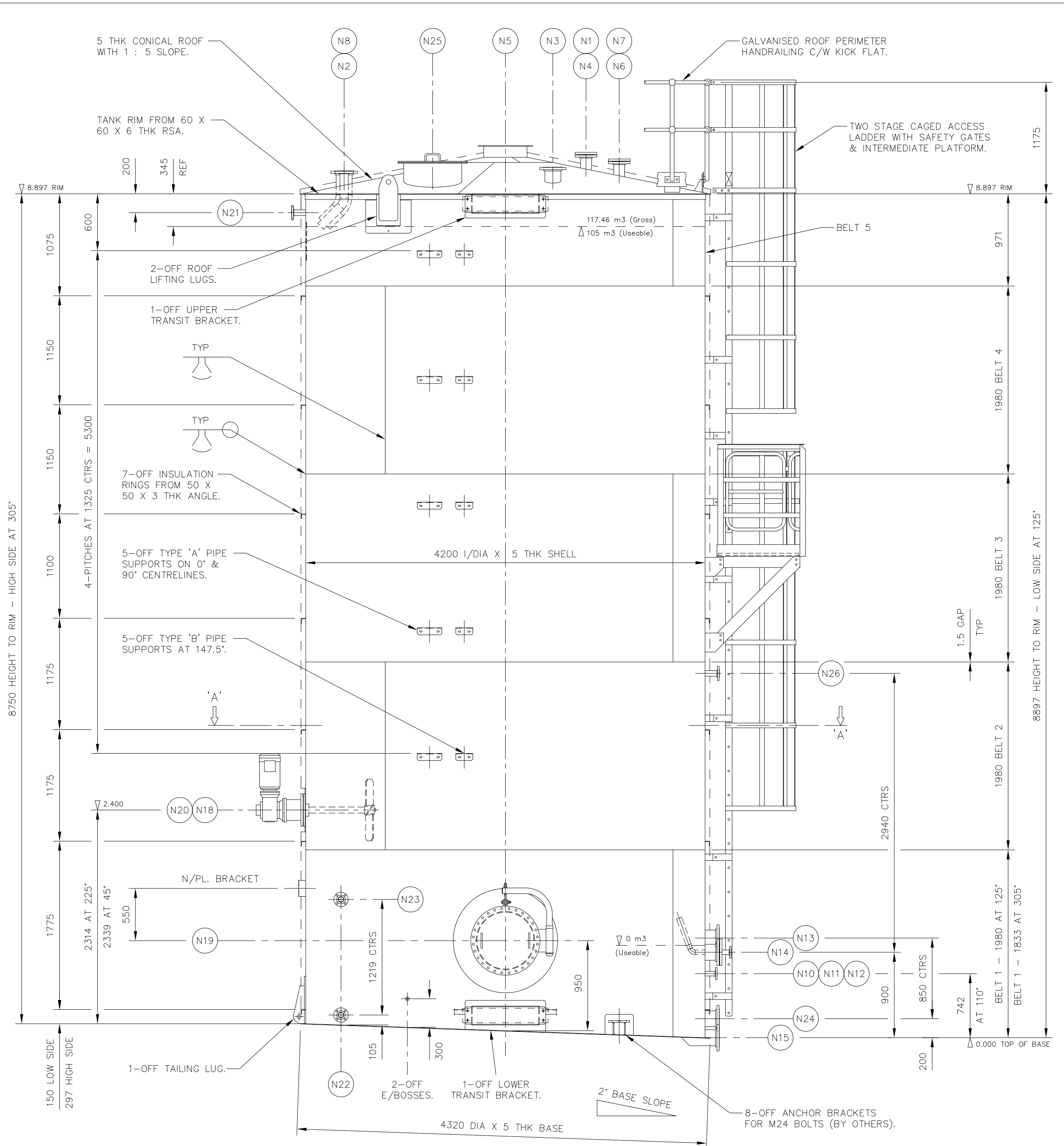
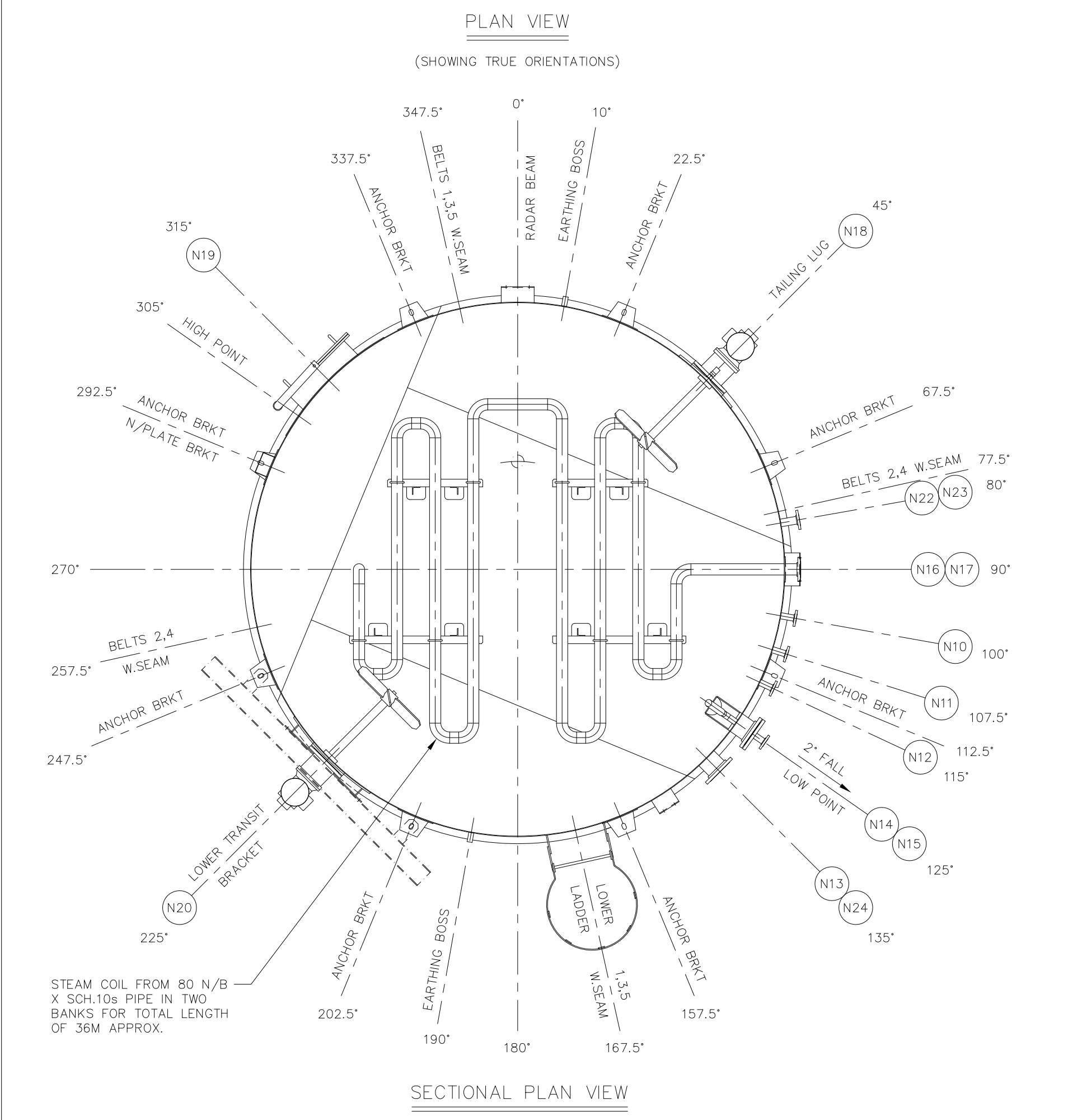
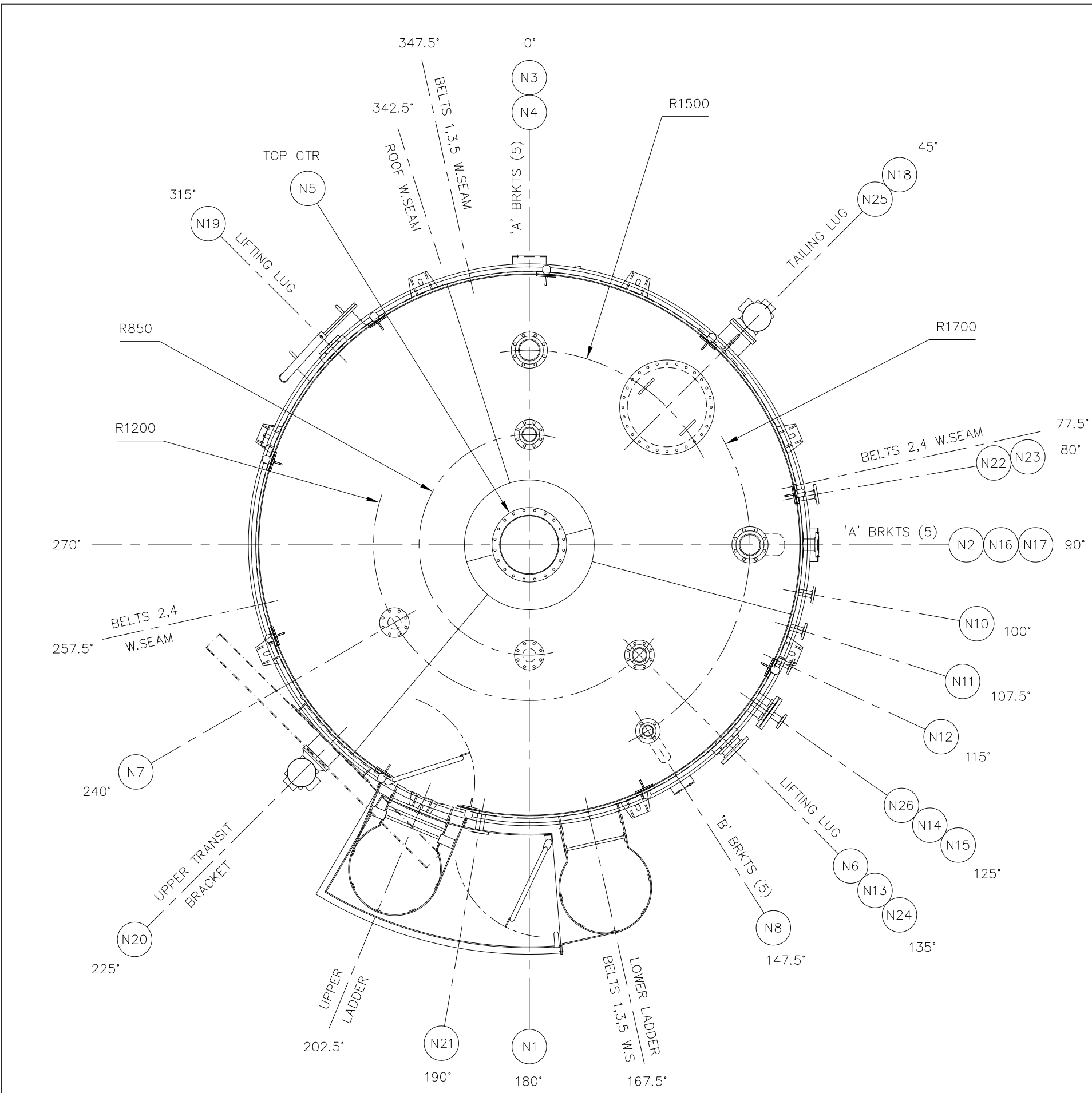
CONNECTIONS

REF	SIZE	W.T	RATING	DUTY
N1	100 N/B	SCH.40s	150lb S.O.R.F FLANGE	SPARE c/w BLIND FLANGE
N2	150 N/B	SCH.40s	150lb S.O.R.F FLANGE	INLET FROM ULO
N3	150 N/B	SCH.40s	150lb S.O.R.F FLANGE	CARBON FILTER VENT
N4	100 N/B	SCH.40s	150lb S.O.R.F FLANGE	LEVEL TRANSMITTER
N5	18" N/B	5mm	SPECIAL	RELIEF MANWAY
N6	100 N/B	SCH.40s	150lb S.O.R.F FLANGE	VACUUM RELIEF
N7	100 N/B	SCH.40s	150lb S.O.R.F FLANGE	SPARE c/w BLIND FLANGE
N8	80 N/B	SCH.40s	150lb S.O.R.F FLANGE	RECIRCULATION
N9	N/A	N/A	N/A	DELETED
N10	40 N/B	SCH.40s	150lb S.O.R.F FLANGE	TEMPERATURE POCKET (THERMOWELL BY CLIENT)
N11	40 N/B	SCH.40s	150lb S.O.R.F FLANGE	TEMPERATURE POCKET (THERMOWELL BY CLIENT)
N12	40 N/B	SCH.40s	150lb S.O.R.F FLANGE	TEMPERATURE POCKET (THERMOWELL BY CLIENT)
N13	150 N/B	SCH.40s	150lb S.O.R.F FLANGE	OUTLET TO PUMP
N14	150 N/B	SCH.40s	150lb S.O.R.F FLANGE	JET MIXER c/w 40 N/B JET MIXER PIPING
N15	150 N/B	SCH.40s	150lb S.O.R.F FLANGE	DRAIN
N16	80 N/B	SCH.40s	150lb S.O.R.F FLANGE	HEATING COIL CONDENSATE OUTLET
N17	80 N/B	SCH.40s	150lb S.O.R.F FLANGE	HEATING COIL STEAM INLET
N18	200 N/B	N/A	150lb R.F PAD	SIDE AGITATOR
N19	600 I/D	6mm	SPECIAL	SHELL MANWAY c/w DAWT
N20	200 N/B	N/A	150lb R.F PAD	SIDE AGITATOR
N21	50 N/B	SCH.40s	150lb S.O.R.F FLANGE	LEVEL SWITCH
N22	50 N/B	SCH.40s	150lb S.O.R.F FLANGE	INTERFACE INSTRUMENT
N23	50 N/B	SCH.40s	150lb S.O.R.F FLANGE	INTERFACE INSTRUMENT
N24	150 N/B	SCH.40s	150lb S.O.R.F FLANGE	OUTLET TO PUMP
N25	24" N/B	5mm	SPECIAL	ACCESS MANWAY c/w SAFETY GRID
N26	50 N/B	SCH.40s	150lb S.O.R.F FLANGE	LEVEL SWITCH

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M.C INTEG LIMITED
ROUGHAM INDUSTRIAL ESTATE
BURY ST EDMUNDS
SUFFOLK IP30 9ND
Tel : 01359 270610
Email : info@mc-integ.co.uk
Web : www.mc-integ.co.uk

CLIENT : ENVA ENGLAND SPECIALIST WASTE LTD	JOB No. 13601/B
O/No : 26312	DRAWN S.J.BORLEY
PROJECT : NEWARK	CHKCD K.PENGELLY
DESCRIPTION : 1-OFF 110 m ³ VERT. CYL. 304L USED OIL STORAGE TANK (TAG No. Q10)	DATE 08-04-19
	SCALE 1 : 33 1/3
	DRG. No 13601-B-01
	ISSUE 06



NOTES

- 1) FLANGE BOLT HOLES TO STRADDLE TANK MAIN VERT & HORIZ CENTRELINES.
- 2) FORGED FLANGES IN ACCORDANCE WITH ASME B16.5 : 2017.
- 3) ALL OPEN NOZZLES TO BE BLANKED WITH WOODEN DISCS AND RUBBER GASKETS PRIOR TO TRANSPORTATION TO PREVENT INGRESS OF WATER.

M.C INTEG LIMITED
ISSUED FOR CONSTRUCTION
Issued S.J.Borley
Date 05-06-19

NO	DATE	DESCRIPTION	BY	FOR APPROVAL
06	05-06-19	TRANSIT BRACKET DESIGN REVISED.	S.J.B	
05	09-05-19	TRANSIT BRACKET DESIGN REVISED.	S.J.B	
04	08-05-19	TESTING PROCEDURES REVISED.	S.J.B	
03	03-05-19	1. LEVEL SWITCH CONN 'N26' ADDED. 2. INTER-LADDER BRACKETS AND WELLS PLATES ADDED TO CONNS 'N2' & 'N8'. 3. TAILING LUG & TRANSIT BRACKET DESIGN REVISED TO FACILITATE TRANSPORTATION. 4. CONN 'N14' WAS 100 N/B, NOW 150 N/B. 5. CONN 'N17' DELETED. 6. CONNS 'N10', 'N11' & 'N12' RELOCATED.	S.J.B	
02	18-04-19	REVISED IN ACCORDANCE WITH CLIENT MARKED-UP DRAWING.	S.J.B	
01	09-04-19	FOR APPROVAL	S.J.B	
		DESCRIPTION		
		AMENDMENTS		
		ISSUE		

SPECIFICATION

DESIGN CODE : G.E.P & GENERALLY TO BS.EN 14015 – 2004.

	TANK	COIL
DESIGN PRESSURE :	-8.5 to 185 mBAR.G	10.34 BAR.G
DESIGN TEMPERATURE :	105 DEG.C	185 DEG.C
OPERATING PRESSURE :	-2.5 to 100 mBARG	9.0 BAR.G
OPERATING TEMPERATURE :	40 DEG.C	180 DEG.C
CORROSION ALLOWANCE :	NIL	NIL
CONTENTS :	USED OIL (900 Kg/m3)	STEAM
GROSS CAPACITY :	122.245 M ³ (110 M ³ NOMINAL).	DESIGN WIND SPEED : 45 m/s.
TESTING (AT WORKS) :		
i) TANK – 100 mBAR.G AIR LEAK TEST WITH SOAPY WATER.		
ii) REINFORCING PLATES – 300 mBAR.G AIR WITH SOAPY WATER.		
iii) COIL – HYDRAULIC AT 17.7 BAR.G.		
iv) LIFTING LUGS – 100% DYE PENETRANT INSPECTION OF WELDS.		
MATERIAL SPECIFICATION :		
A) PLATE TO ASTM A.240-304L, STAINLESS STEEL.		
B) FORGED FLANGES TO ASTM A.182-F304L, STAINLESS STEEL.		
C) CONNECTION PIPE & COIL TO ASTM A.312-TP304L, STAINLESS STEEL.		
D) BUTT WELD PIPE FITTINGS TO ASTM A.403-WP304L, STAINLESS STEEL.		
E) BOLTING TO BS.4190 GRADE 8.8, ZINC PLATED.		
F) GASKETS TO BE 3mm THK ASBESTOS-FREE COMPRESSED FIBRE.		
G) ACCESS STEELWORK TO BS.EN 10025 S275JR, CARBON STEEL.		
H) HANDRAIL & SAFETY GATE PIPE TO BS.1387 MED.WT, CARBON STEEL.		
INTERNAL FINISH : WELDS LEFT NEAT AS LAID. ALL SURFACES DEGREASED, CLEANED & LEFT NATURAL FINISH.		
EXTERNAL FINISH : WELDS LEFT AS LAID, PICKLED & PASSIVATED. ALL SURFACES DEGREASED, CLEANED & LEFT NATURAL FINISH. ACCESS STEELWORK HOT DIP GALVANISED TO EN ISO 1461.		
INSULATION : 50mm THK MINERAL WOOL TO SHELL CLAD WITH ALUZINC SHEET. 50mm THK RIGID FOAM INSULATION ON ROOF TO WITHSTAND PERSONNEL TRAFFIC, CLAD WITH ALUZINC SHEET. CLADDING JOINTS LAPPED, POP RIVETED & MASTIC SEALED.		
WEIGHT EMPTY : 9,750 Kg APPROX. WEIGHT FULL OF WATER : 131,995 Kg APPROX.		
WEIGHT FULL OF OPERATING LIQUID : 119,770 Kg APPROX.		

CONNECTIONS

REF	SIZE	W.T	RATING	DUTY
N1	100 N/B	SCH.40s	150lb S.O.R.F FLANGE	SPARE C/W BLIND FLANGE
N2	150 N/B	SCH.40s	150lb S.O.R.F FLANGE	INLET FROM ULO
N3	150 N/B	SCH.40s	150lb S.O.R.F FLANGE	CARBON FILTER VENT
N4	100 N/B	SCH.40s	150lb S.O.R.F FLANGE	LEVEL TRANSMITTER
N5	18" N/B	5mm	SPECIAL	RELIEF MANWAY
N6	100 N/B	SCH.40s	150lb S.O.R.F FLANGE	VACUUM RELIEF
N7	100 N/B	SCH.40s	150lb S.O.R.F FLANGE	SPARE C/W BLIND FLANGE
N8	80 N/B	SCH.40s	150lb S.O.R.F FLANGE	RECIRCULATION
N9	N/A	N/A	N/A	DELETED
N10	40 N/B	SCH.40s	150lb S.O.R.F FLANGE	TEMPERATURE POCKET (THERMOWELL BY CLIENT)
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N12	40 N/B	SCH.40s	150lb S.O.R.F FLANGE	TEMPERATURE POCKET (THERMOWELL BY CLIENT)
N13	150 N/B	SCH.40s	150lb S.O.R.F FLANGE	OUTLET TO PUMP
N14	150 N/B	SCH.40s	150lb S.O.R.F FLANGE	JET MIXER C/W 40 N/B JET MIXER PIPING
N15	150 N/B	SCH.40s	150lb S.O.R.F FLANGE	DRAIN
N16	80 N/B	SCH.40s	150lb S.O.R.F FLANGE	HEATING COIL CONDENSATE OUTLET
N17	80 N/B	SCH.40s	150lb S.O.R.F FLANGE	HEATING COIL STEAM INLET
N18	200 N/B	N/A	150lb R.F PAD	SIDE AGITATOR
N19	600 I/D	6mm	SPECIAL	SHELL MANWAY C/W DAWT
N20	200 N/B	N/A	150lb R.F PAD	SIDE AGITATOR
N21	50 N/B	SCH.40s	150lb S.O.R.F FLANGE	LEVEL SWITCH
N22	50 N/B	SCH.40s	150lb S.O.R.F FLANGE	INTERFACE INSTRUMENT
N23	50 N/B	SCH.40s	150lb S.O.R.F FLANGE	INTERFACE INSTRUMENT
N24	150 N/B	SCH.40s	150lb S.O.R.F FLANGE	OUTLET TO PUMP
N25	24" N/B	5mm	SPECIAL	ACCESS MANWAY C/W SAFETY GRID
N26	50 N/B	SCH.40s	150lb S.O.R.F FLANGE	LEVEL SWITCH

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CLIENT : ENVA ENGLAND SPECIALIST WASTE LTD

O/No : 26312

PROJECT : NEWARK

DESCRIPTION : 1-OFF 110 m3 VERT. CYL. 304L USED OIL STORAGE TANK (TAG No. Q11)

JOB No.	13601/C
DRAWN	S.J.BORLEY
CHKCD	K.PENGELLY
DATE	09-04-19
SCALE	1 : 33 1/3
DRG. No	13601-C-01
ISSUE	06