


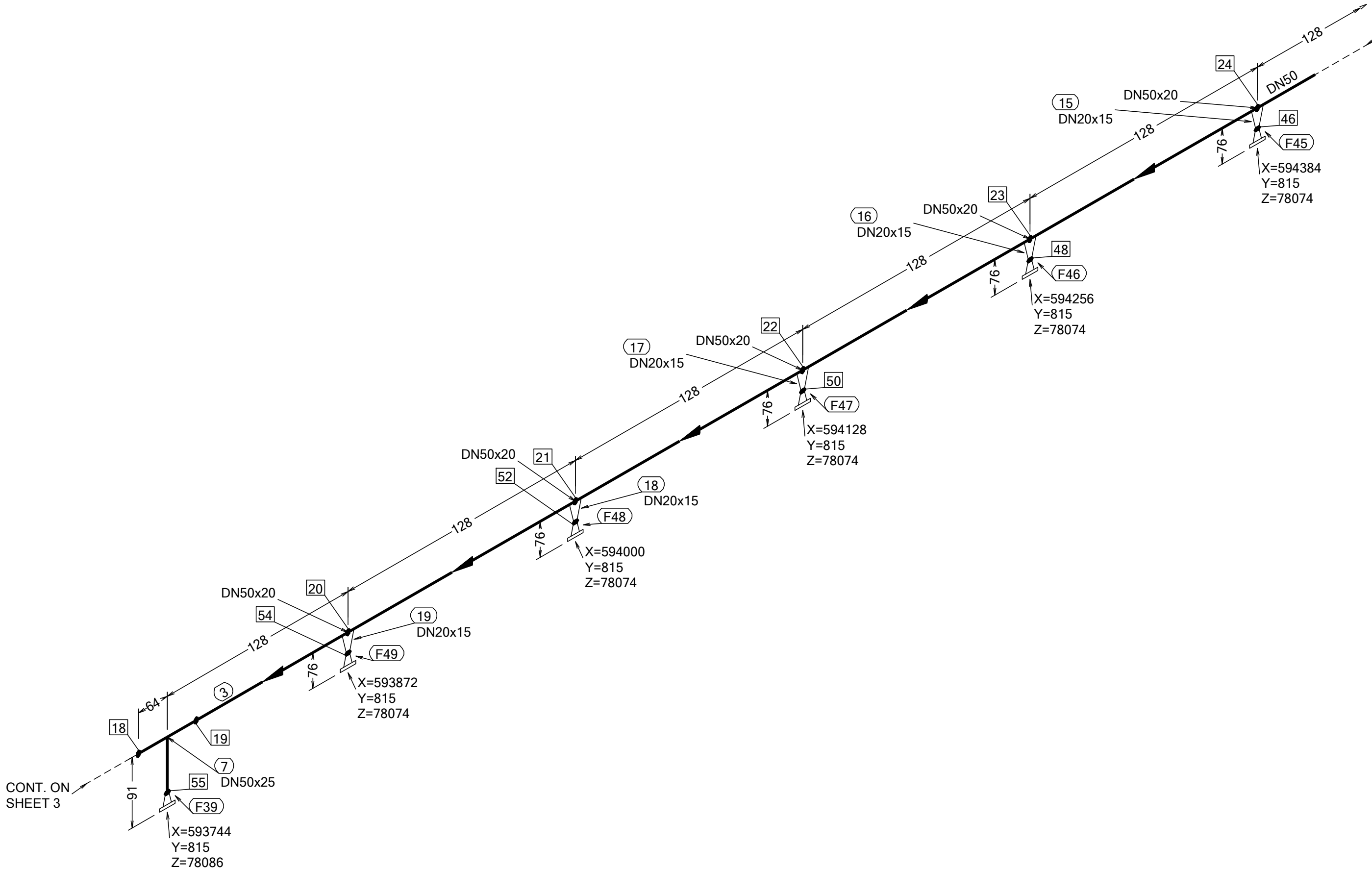
WELD	WPS
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FABRICATION MATERIALS					
PT NO	COMPONENT DESCRIPTION	DN	MATERIAL	QTY (mm)	REMARKS
	<u>PIPE</u>				
1	PIPE, SS-EN 10217-7, TC1, 60.3x2.0	50	EN 1.4404	566	
2	PIPE, SS-EN 10217-7, TC1, 60.3x2.0	50	EN 1.4404	476	SETON TEE
3	PIPE, SS-EN 10217-7, TC1, 60.3x2.0	50	EN 1.4404	319	SETON TEE
	<u>FITTINGS</u>				
6	TEE REDUCED, SS-EN 10253-4, TYPE A, 60.3x2.0 / 33.7x2.0	50 x 25	EN 1.4404	1	
9	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 60.3x2.0	50	EN 1.4404	1	
10	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 60.3x2.0	50	EN 1.4404	1	
11	REDUCER CONC, SS-EN 10253-4, TABLE A.5, 26.9x2.0 / 21.3x2.0	20 x 15	EN 1.4404	1	
12	REDUCER CONC, SS-EN 10253-4, TABLE A.5, 26.9x2.0 / 21.3x2.0	20 x 15	EN 1.4404	1	
13	REDUCER CONC, SS-EN 10253-4, TABLE A.5, 26.9x2.0 / 21.3x2.0	20 x 15	EN 1.4404	1	
14	REDUCER CONC, SS-EN 10253-4, TABLE A.5, 26.9x2.0 / 21.3x2.0	20 x 15	EN 1.4404	1	
	<u>FLANGES</u>				
34	FLANGE WN, SS-EN 1092-1, TYPE 11, PN16	50		1	
35	FLANGE WN, SS-EN 1092-1, TYPE 11, PN16	50		1	
38	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	25		1	
41	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	15		1	
42	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	15		1	
43	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	15		1	
44	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	15		1	
	<u>VALVES / IN-LINE ITEMS</u>				
64	WORCESTER BALL VALVE BW, A59-666TT-BWJ DN50	50	EN 1.4404	1	

ERECTION MATERIALS					
PT NO	COMPONENT DESCRIPTION	DN	MATERIAL	QTY (mm)	REMARKS
	<u>GASKETS</u>				
65	GASKET, EN 1514-1, TYPE XXX, T=1,5mm	50	EXPANDED GRAPHITE	1	
	<u>BOLTS</u>				
67	HEXAGONAL NUT, M6M, ISO 4032	16	EN 1515-4, A4	4	
68	WASHER, BRB, ISO 7089	16	A4, HV≥250	8	
69	65 mm HEXAGONAL BOLT, M6S, ISO 4017	16	EN 1515-4, A4-70	4	
	<u>SUPPORTS</u>				
73	ESS Atta	50		1	

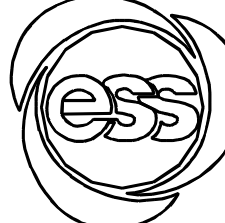
WPS See Weldlist TBN	Design Temperature 50degC	Tightening Torque For Flange Joints TBN	P&ID Drawing Number ESS-0059672	General Layout Drawing Number TBN	Calculation Report ESS-0058702	Inspection Plan TBN	Area Code G01-NC
Quality Level For Weldign Acc To TBN	Design Pressure 10bar (g)	Bend Radius N/A	Bending Procedure N/A	Coupling Installation Procedure TBN	Pressure Test Program TBN	Alternate System Tag	Date (First Issue) 170522
Weld Joint Efficiency Factor (Longitudinal) 1,0	Test Pressure 14.3bar (g)	Insulation Specification N/A					Scale -
Elevation (z) Acc To BCS	Quality Class MQC4-C	Insulation Thickness N/A					Format A2
	Media CWM	Allowance For Corrosion 0					Sheet 1 of 4
	Pipe Specification MQC4-W-PN16	Surface Treatment N/A					Revision A1
				Title/Name EUROPEAN SPALLATION SOURCE ERIC WATER COOLING SYSTEM CWL-CWS01 OVERVIEW ESS.ACC.E02.E01.WP0007			
				Document Number ESS-XXXXX64			

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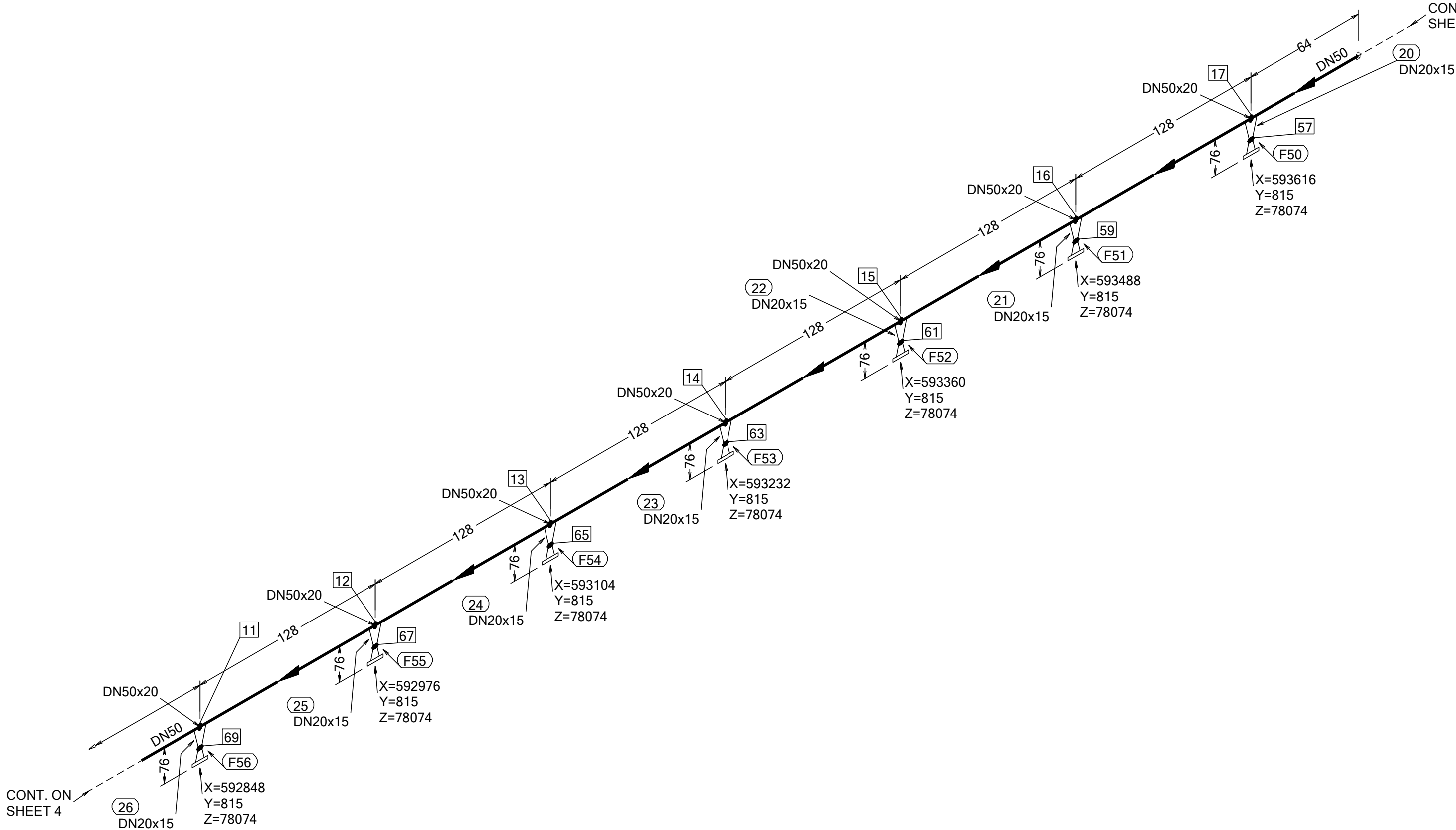
WELD	WPS
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FABRICATION MATERIALS					
PT NO	COMPONENT DESCRIPTION	DN	MATERIAL	QTY (mm)	REMARKS
PIPE					
3	PIPE, SS-EN 10217-7, TC1, 60.3x2.0	50	EN 1.4404	577	SETON TEE
FITTINGS					
7	TEE REDUCED, SS-EN 10253-4, TYPE A, 60.3x2.0 / 33.7x2.0	50 x 25	EN 1.4404	1	
15	REDUCER CONC, SS-EN 10253-4, TABLE A.5, 26.9x2.0 / 21.3x2.0	20 x 15	EN 1.4404	1	
16	REDUCER CONC, SS-EN 10253-4, TABLE A.5, 26.9x2.0 / 21.3x2.0	20 x 15	EN 1.4404	1	
17	REDUCER CONC, SS-EN 10253-4, TABLE A.5, 26.9x2.0 / 21.3x2.0	20 x 15	EN 1.4404	1	
18	REDUCER CONC, SS-EN 10253-4, TABLE A.5, 26.9x2.0 / 21.3x2.0	20 x 15	EN 1.4404	1	
19	REDUCER CONC, SS-EN 10253-4, TABLE A.5, 26.9x2.0 / 21.3x2.0	20 x 15	EN 1.4404	1	
FLANGES					
39	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	25		1	
45	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	15		1	
46	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	15		1	
47	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	15		1	
48	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	15		1	
49	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	15		1	

WPS See Weldlist TBN	Design Temperature 50degC	Tightening Torque For Flange Joints TBN	P&ID Drawing Number ESS-0059672	General Layout Drawing Number TBN	Calculation Report ESS-0058702	Inspection Plan TBN	Area Code G01-NCL
Quality Level For Weldign Acc To TBN	Design Pressure 10bar (g)	Bend Radius N/A	Bending Procedure N/A	Coupling Installation Procedure TBN	Pressure Test Program TBN	Alternate System Tag	Date (First Issue) 170522
Weld Joint Efficiency Factor (Longitudinal) 1,0	Test Pressure 14.3bar (g)	Insulation Specification N/A			Title/Name EUROPEAN SPALLATION SOURCE ERIC WATER COOLING SYSTEM CWL-CWS01 OVERVIEW ESS.ACC.E02.E01.WP0007		Scale -
Elevation (z) Acc To BCS	Quality Class MQC4-C	Insulation Thickness N/A					Format A2
	Media CWM	Allowance For Corrosion 0					Sheet 2 of 4
	Pipe Specification MQC4-W-PN16	Surface Treatment N/A			Document Number ESS-XXXXX64	Revision A1	

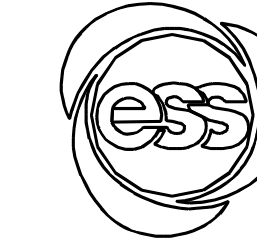
Rev	Description	Date	Drawn	Designed	Reviewed	Verified	Quality	Approved
A1	ISSUED FOR CDR	170522	FRPE	FRPE	AKCO	ANLU		

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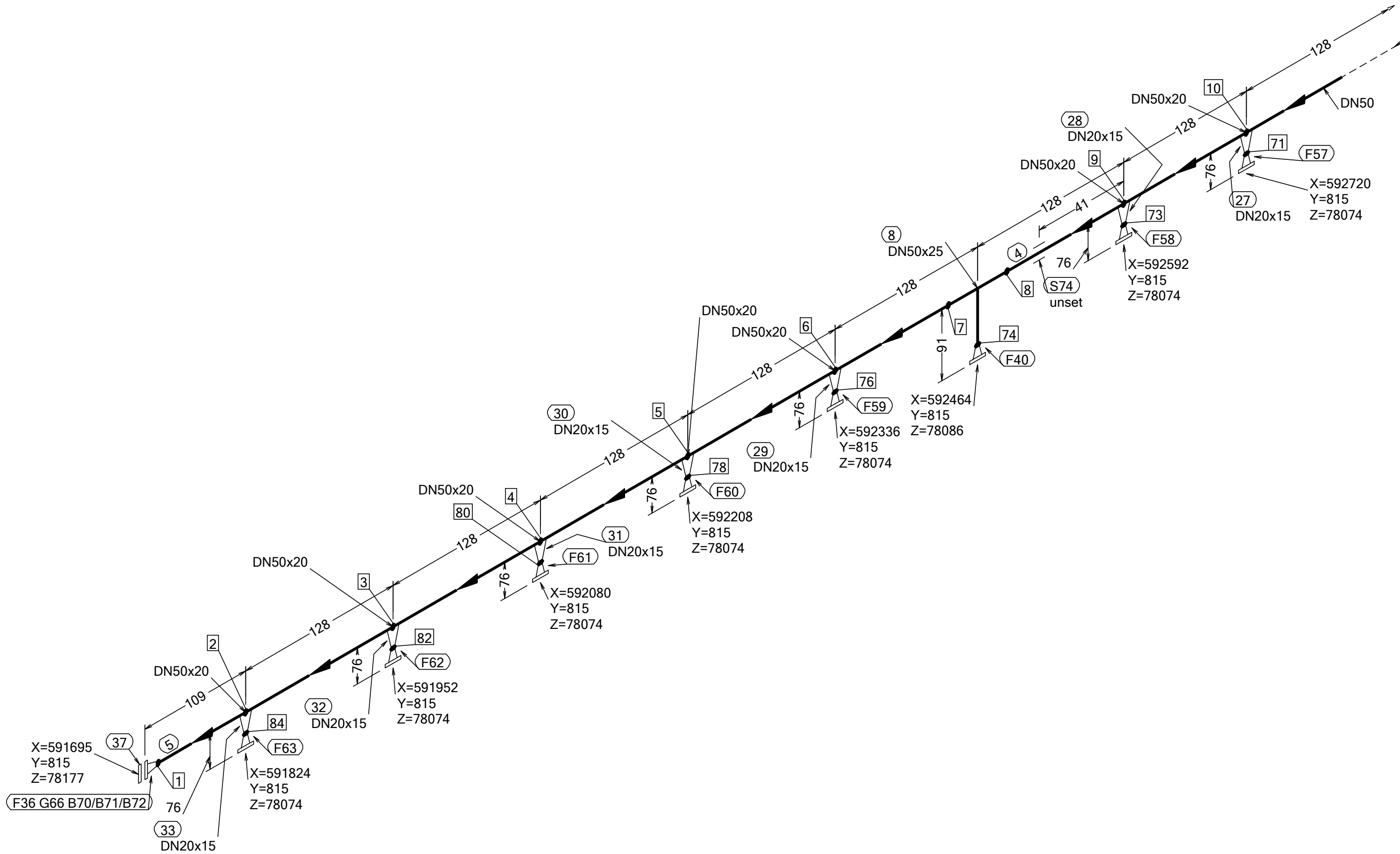
WELD	WPS
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FABRICATION MATERIALS					
PT NO	COMPONENT DESCRIPTION	DN	MATERIAL	QTY (mm)	REMARKS
PIPE					
4	PIPE, SS-EN 10217-7, TC1, 60.3x2.0	50	EN 1.4404	833	SETON TEE
FITTINGS					
20	REDUCER CONC. SS-EN 10253-4, TABLE A.5, 26.9x2.0 / 21.3x2.0	20 x 15	EN 1.4404	1	
21	REDUCER CONC. SS-EN 10253-4, TABLE A.5, 26.9x2.0 / 21.3x2.0	20 x 15	EN 1.4404	1	
22	REDUCER CONC. SS-EN 10253-4, TABLE A.5, 26.9x2.0 / 21.3x2.0	20 x 15	EN 1.4404	1	
23	REDUCER CONC. SS-EN 10253-4, TABLE A.5, 26.9x2.0 / 21.3x2.0	20 x 15	EN 1.4404	1	
24	REDUCER CONC. SS-EN 10253-4, TABLE A.5, 26.9x2.0 / 21.3x2.0	20 x 15	EN 1.4404	1	
25	REDUCER CONC. SS-EN 10253-4, TABLE A.5, 26.9x2.0 / 21.3x2.0	20 x 15	EN 1.4404	1	
26	REDUCER CONC. SS-EN 10253-4, TABLE A.5, 26.9x2.0 / 21.3x2.0	20 x 15	EN 1.4404	1	
FLANGES					
50	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	15		1	
51	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	15		1	
52	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	15		1	
53	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	15		1	
54	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	15		1	
55	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	15		1	
56	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	15		1	

WPS See Weldlist TBN	Design Temperature 50degC	Tightening Torque For Flange Joints TBN	P&ID Drawing Number ESS-0059672	General Layout Drawing Number TBN	Calculation Report ESS-0058702	Inspection Plan TBN	Area Code G01-NCL
Quality Level For Weldign Acc To TBN	Design Pressure 10bar (g)	Bend Radius N/A	Bending Procedure N/A	Coupling Installation Procedure TBN	Pressure Test Program TBN	Alternate System Tag	Date (First Issue) 170522
Weld Joint Efficiency Factor (Longitudinal) 1,0	Test Pressure 14.3bar (g)	Insulation Specification N/A				Title/Name EUROPEAN SPALLATION SOURCE ERIC WATER COOLING SYSTEM CWL-CWS01 OVERVIEW ESS.ACC.E02.E01.WP0007	Scale -
Elevation (z) Acc To BCS	Quality Class MQC4-C	Insulation Thickness N/A				Format A2	
	Media CWM	Allowance For Corrosion 0				Sheet 3 of 4	
	Pipe Specification MQC4-W-PN16	Surface Treatment N/A				Document Number ESS-XXXXX64	Revision A1

Rev	Description	Date	Drawn	Designed	Reviewed	Verified	Quality	Approved
A1	ISSUED FOR CDR	170522	FRPE	FRPE	AKCO	ANLU		

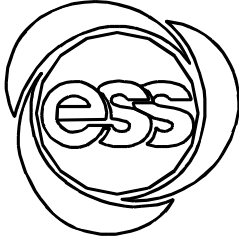
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WELD	WPS
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FABRICATION MATERIALS					
PT NO	COMPONENT DESCRIPTION	DN	MATERIAL	QTY (mm)	REMARKS
PIPE					
4	PIPE, SS-EN 10217-7, TC1, 60.3x2.0	50	EN 1.4404	319	SETON TEE
5	PIPE, SS-EN 10217-7, TC1, 60.3x2.0	50	EN 1.4404	640	SETON TEE
FITTINGS					
8	TEE REDUCED, SS-EN 10253-4, TYPE A, 60.3x2.0 / 33.7x2.0	50 x 25	EN 1.4404	1	
27	REDUCER CONC. SS-EN 10253-4, TABLE A.5, 26.9x2.0 / 21.3x2.0	20 x 15	EN 1.4404	1	
28	REDUCER CONC. SS-EN 10253-4, TABLE A.5, 26.9x2.0 / 21.3x2.0	20 x 15	EN 1.4404	1	
29	REDUCER CONC. SS-EN 10253-4, TABLE A.5, 26.9x2.0 / 21.3x2.0	20 x 15	EN 1.4404	1	
30	REDUCER CONC. SS-EN 10253-4, TABLE A.5, 26.9x2.0 / 21.3x2.0	20 x 15	EN 1.4404	1	
31	REDUCER CONC. SS-EN 10253-4, TABLE A.5, 26.9x2.0 / 21.3x2.0	20 x 15	EN 1.4404	1	
32	REDUCER CONC. SS-EN 10253-4, TABLE A.5, 26.9x2.0 / 21.3x2.0	20 x 15	EN 1.4404	1	
33	REDUCER CONC. SS-EN 10253-4, TABLE A.5, 26.9x2.0 / 21.3x2.0	20 x 15	EN 1.4404	1	
FLANGES					
36	FLANGE WN, SS-EN 1092-1, TYPE 11, PN16	50		1	
37	FLANGE BLIND, SS-EN 1092-1, TYPE 05, PN16	50		1	
40	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	25		1	
57	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	15		1	
58	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	15		1	
59	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	15		1	
60	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	15		1	
61	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	15		1	
62	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	15		1	
63	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	15		1	

ERECTION MATERIALS					
PT NO	COMPONENT DESCRIPTION	DN	MATERIAL	QTY (mm)	REMARKS
GASKETS					
66	GASKET, EN 1514-1, TYPE XXX, T=1,5mm	50	EXPANDED GRAPHITE	1	
BOLTS					
70	HEXAGONAL NUT, M6M, ISO 4032	16	EN 1515-4, A4	4	
71	WASHER, BRB, ISO 7089	16	A4, HV≥250	8	
72	65 mm HEXAGONAL BOLT, M6S, ISO 4017	16	EN 1515-4, A4-70	4	
SUPPORTS					
74	ESS Atta	50		1	

WPS See Weldlist	Design Temperature	Tightening Torque For Flange Joints	P&ID Drawing Number	General Layout Drawing Number	Calculation Report	Inspection Plan	Area Code
TBN	50degC	TBN	ESS-0059672	TBN	ESS-0058702	TBN	G01-NCL
Quality Level For Weldign Acc To	Design Pressure	Bend Radius	Bending Procedure	Coupling Installation Procedure	Pressure Test Program	Alternate System Tag	Date (First Issue)
TBN	10bar (g)	N/A	N/A	TBN	TBN		170522
Weld Joint Efficiency Factor (Longitudinal)	Test Pressure	Insulation Specification			Title/Name EUROPEAN SPALLATION SOURCE ERIC WATER COOLING SYSTEM CWL-CWS01 OVERVIEW ESS.ACC.E02.E01.WP0007		Scale
1,0	14.3bar (g)	N/A					-
Elevation (z) Acc To	Quality Class	Insulation Thickness					Format
BCS	MQC4-C	N/A					A2
	Media	Allowance For Corrosion			Document Number ESS-XXXXX64		Sheet
	CWM	0					4 of 4
	Pipe Specification	Surface Treatment					Revision
	MQC4-W-PN16	N/A					A1

Rev	Description	Date	Drawn	Designed	Reviewed	Verified	Quality	Approved
A1	ISSUED FOR CDR	170522	FRPE	FRPE	AKCO	ANLU		