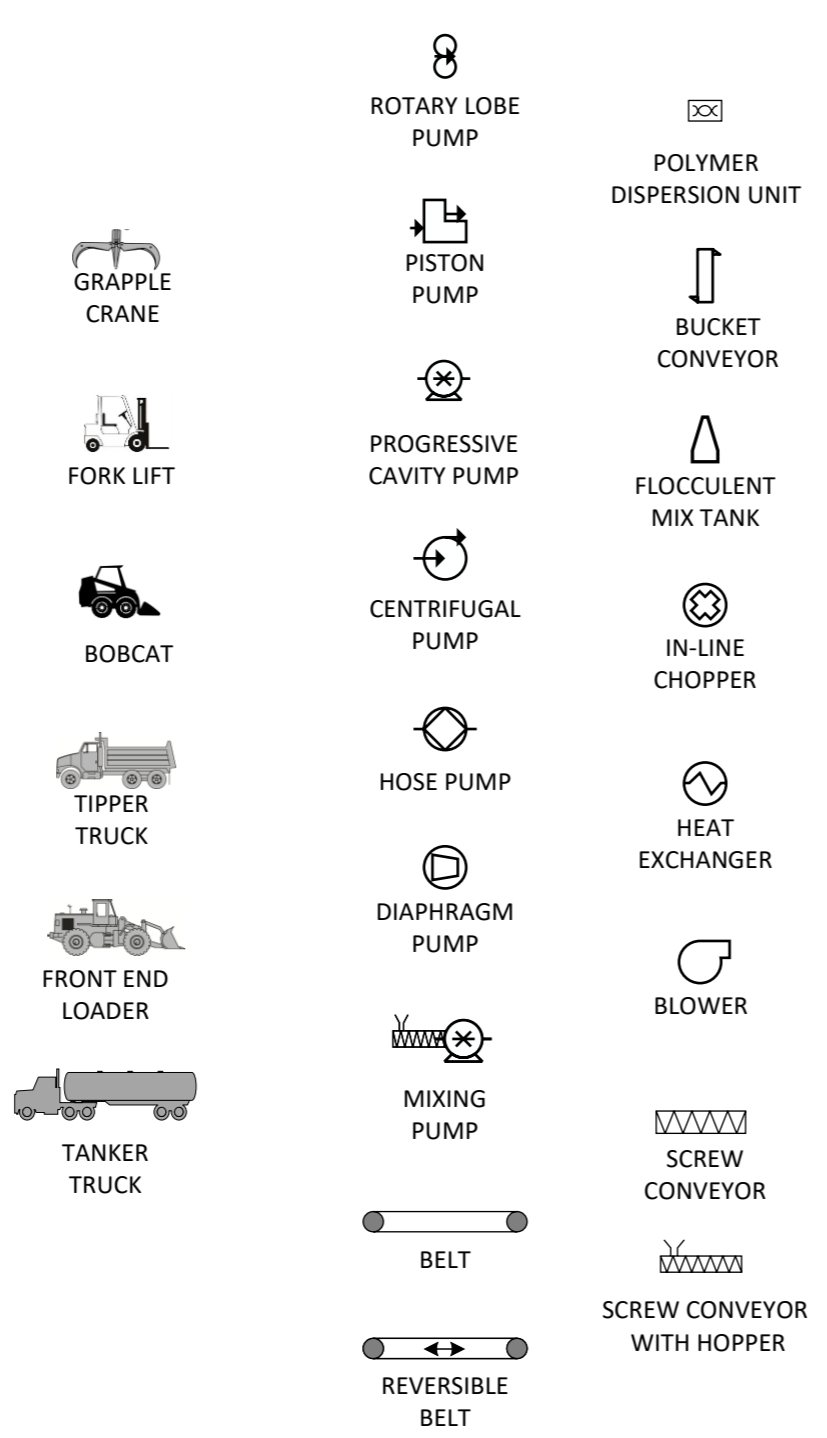
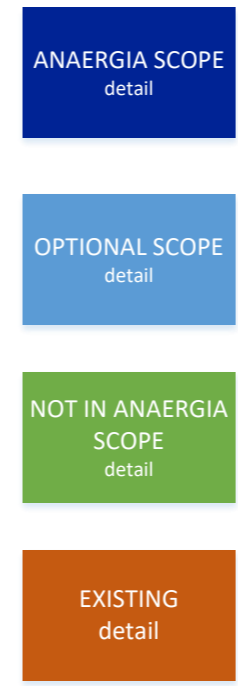


Operating hours  
24 h/d => 8 760 h/y  
7 d/w => 365 d/y

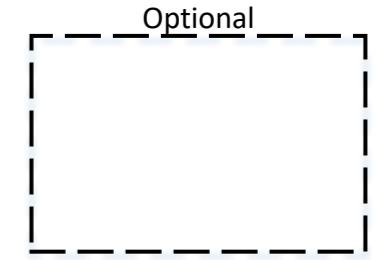


Unit Operation

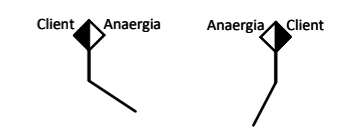
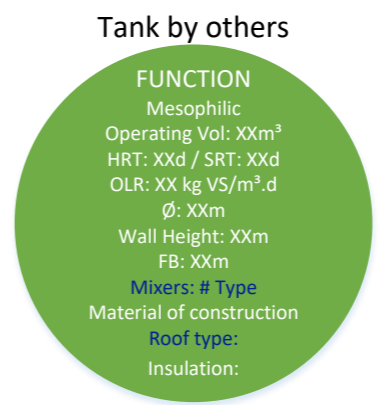


Details: operating hours, size, model, number of units (as applicable)

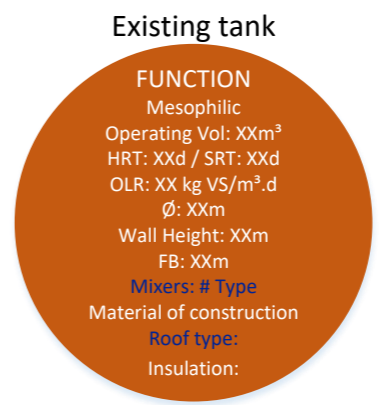
Site constructed tank (bolted steel or concrete)



TEXT TEXT  
TEXT TEXT



Text in blue is the equipment provided by Anaergia



Prefabricated tank (HDPE or Stainless steel)




Comments:

- 1 ...
- 2 ...
- 3 ...

Rev.	Date	Creat.	Check.	Appr.	Comments

<b>Drawing Name:</b>	
<b>Project:</b>	
<b>Project-No:</b>	
<b>Country:</b>	
<b>Customer:</b>	
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Packaged Food Waste		
ORG: Food Waste	95.0%	26 942
PAPER/CARD	1.5%	425
PLASTIC FILM	1.0%	284
RIGID PLASTIC	1.0%	284
GLASS	1.0%	284
FERROUS METAL	0.40%	113
NON-FERROUS METAL	0.10%	28
<b>Total</b>		<b>28 360</b>

Non-Packaged Food Waste		
ORG: Food Waste	99.0%	14 038
PAPER/CARD	0.0%	0
PLASTIC FILM	1.0%	142
RIGID PLASTIC	0.0%	0
GLASS	0.0%	0
FERROUS METAL	0.00%	0
NON-FERROUS METAL	0.00%	0
<b>Total</b>		<b>14 180</b>

Waste Definition					d/y	h/d	d/w	h/y	Input:	Combined Solid Food Waste
					350	14	7	4 900	t/y	42 540
Input										
	Composition	FM [t/y]	FM [t/d]	FM [t/h]	TS [%]	TS [t/y]	VS [%]	VS [t/y]	VS Fraction [%]	
ORG: Food Waste	96.3%	40 980	117	8.4	30.0%	12 294	92.0%	11 311	98.6%	
PAPER/CARD	1.0%	425	1	0.1	50.0%	213	75.0%	160	1.4%	
PLASTIC FILM	1.0%	425	1	0.1	50.0%	213	0.0%	0	0.0%	
RIGID PLASTIC	0.7%	284	1	0.1	50.0%	142	0.0%	0	0.0%	
GLASS	0.7%	284	1	0.1	95.0%	269	0.0%	0	0.0%	
FERROUS METAL	0.3%	113	0	0.0	95.0%	108	0.0%	0	0.0%	
NON-FERROUS METAL	0.1%	28	0	0.0	95.0%	27	0.0%	0	0.0%	
<b>Total waste INPUT</b>	<b>100.00%</b>	<b>42 540</b>	<b>122</b>	<b>8.7</b>	<b>31.2%</b>	<b>13 265</b>	<b>86.5%</b>	<b>11 470</b>	<b>100.0%</b>	

**Comments:**  
 1 ...  
 2 ...  
 3 ...

Rev.	Date	Creat.	Check.	Appr.	Comments
Rev 0	07/02/2022	Apt			First issue of Phase 2

**Drawing Name:** Phase 2 BFD  
**Project:** Bio Dynamic, Nottingham  
**Project-No:**  
**Country:** UK  
**Customer:** BioDynamic



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14 h/d (machine hours)  
7 d/w

Results in  
350 d/y  
4,900 h/y

Liquid Food Waste (#8)  
Blood (#9)

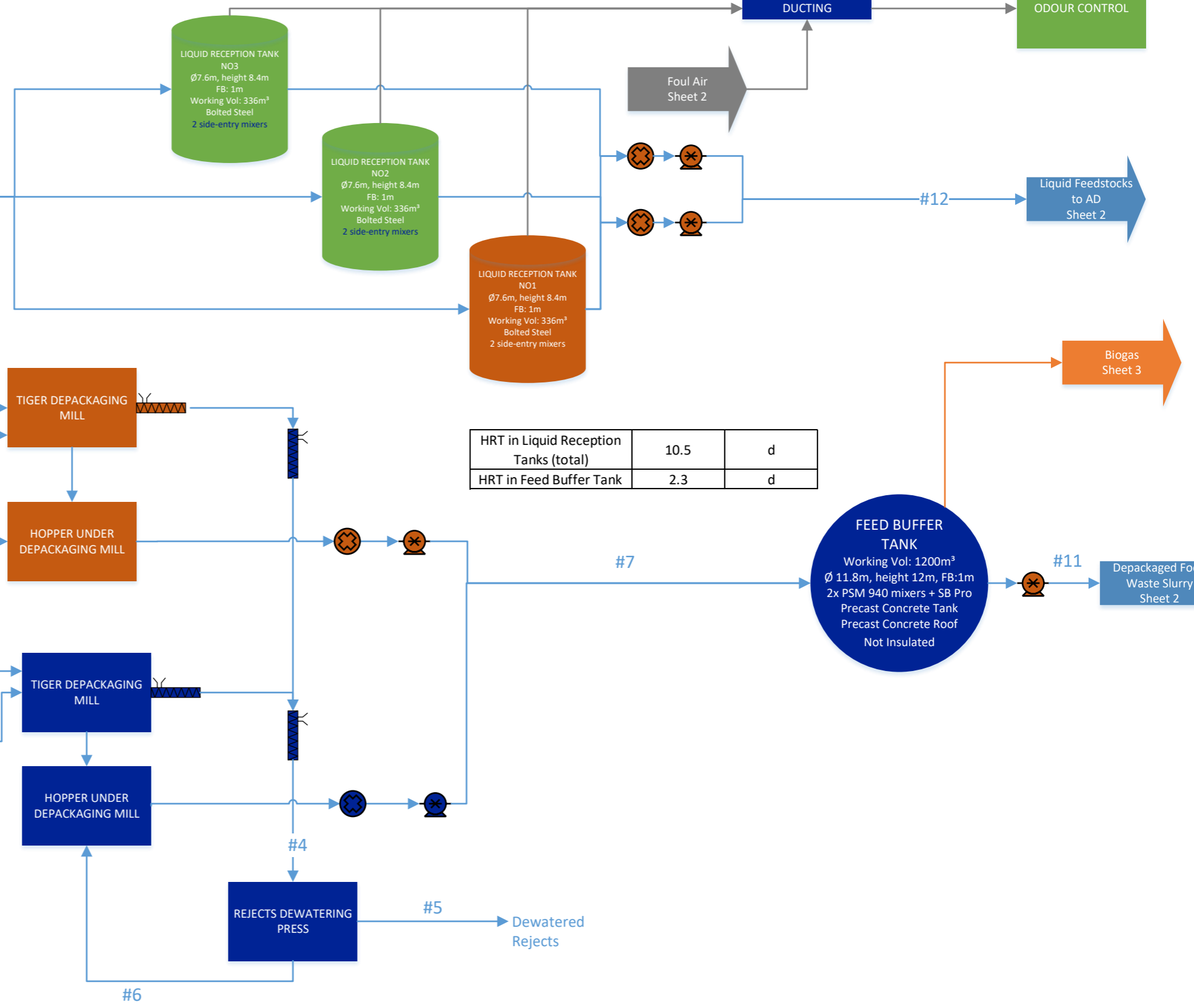
Solid Food Waste  
TIPPING FLOOR #1

Rain Water (#2)  
Dilution Liquids (#3)

DEPACKAGED BUFFER TANK  
125m<sup>3</sup>  
Bolted Steel

RECEPTION HALL SUMP


RECEPTION HALL SUMP



HRT in Liquid Reception Tanks (total)	10.5	d
HRT in Feed Buffer Tank	2.3	d

**Comments:**  
1 ...  
2 ...  
3 ...

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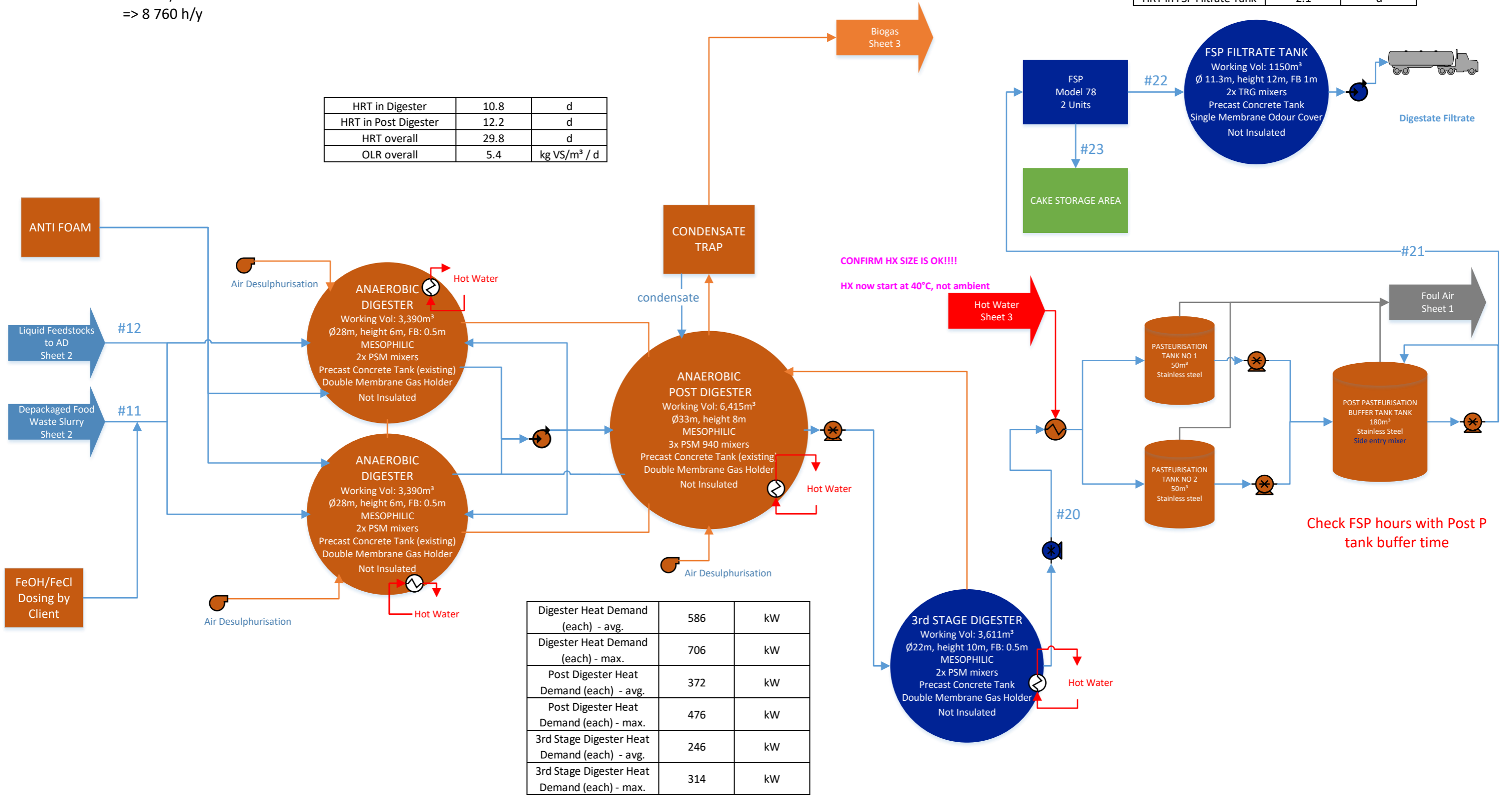
<b>Drawing Name:</b> Phase 2 BFD	
<b>Project:</b> Bio Dynamic, Nottingham	
<b>Project-No:</b>	
<b>Country:</b> UK	
<b>Customer:</b> BioDynamic	

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365 d/y  
24 h/d  
=> 8 760 h/y


HRT in Digester	10.8	d
HRT in Post Digester	12.2	d
HRT overall	29.8	d
OLR overall	5.4	kg VS/m <sup>3</sup> / d

HRT in FSP Filtrate Tank	2.1	d
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**Comments:**  
 1 ...  
 2 ...  
 3 ...

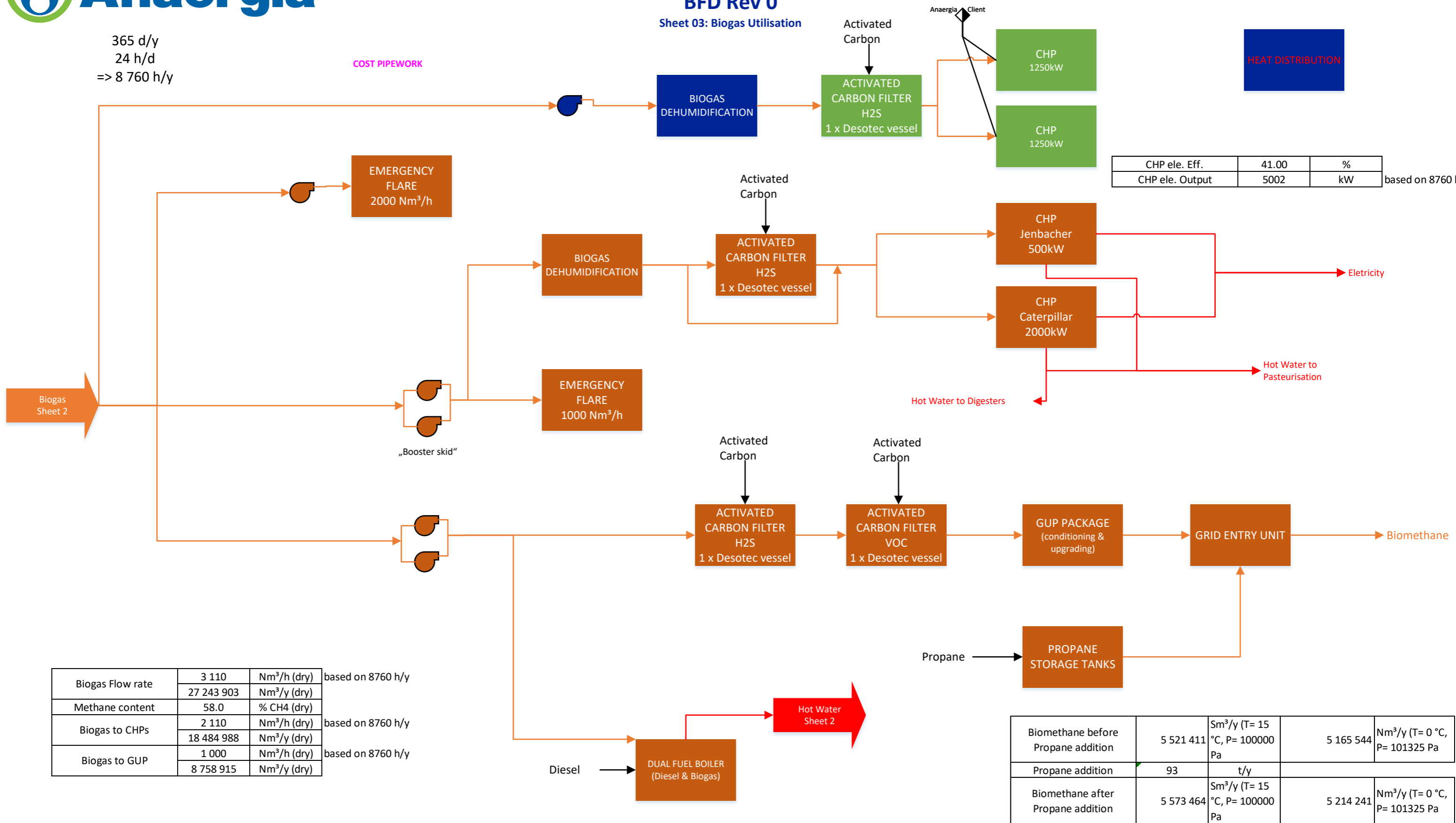
Rev.	Date	Creat.	Check.	Appr.	Comments
Rev 0	07/02/2022	APt			First issue of Phase 2

<b>Drawing Name:</b> Phase 2 BFD	
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365 d/y  
24 h/d  
=> 8 760 h/y

COST PIPEWORK



CHP ele. Eff.	41.00	%	based on 8760 h/y
CHP ele. Output	5002	kW	


Biogas Flow rate	3 110	Nm³/h (dry)	based on 8760 h/y
	27 243 903	Nm³/y (dry)	
Methane content	58.0	% CH4 (dry)	
Biogas to CHPs	2 110	Nm³/h (dry)	based on 8760 h/y
	18 484 988	Nm³/y (dry)	
Biogas to GUP	1 000	Nm³/h (dry)	based on 8760 h/y
	8 758 915	Nm³/y (dry)	

Biomethane before Propane addition	5 521 411	Sm³/y (T= 15 °C, P= 100000 Pa)	5 165 544	Nm³/y (T= 0 °C, P= 101325 Pa)
Propane addition	93	t/y		
Biomethane after Propane addition	5 573 464	Sm³/y (T= 15 °C, P= 100000 Pa)	5 214 241	Nm³/y (T= 0 °C, P= 101325 Pa)

**Comments:**  
1 ...  
2 ...  
3 ...

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Handle	#1	#2	#3	#4	#8	#9	#11	#12	#20	#21	#22	#23
Stream name	Solid Food Waste	Rain Water	Dilution Liquids	Depackaging Rejects	Liquid Food waste	Blood	Feed Blend to Digestion	Combined Liquid Feedstocks	Digestate	Plastic Removal Screen Input	Screened Digestate	Screenings Removed
Operating days [d/y]	350	350	0	350	350	0	365	365	351	351	351	351
Operating hours [h/d]	14	14	0	14	14	0	24	24	24	12	12	12
Flow [t/y]	114 750	87 113	0	17 633	35 026	0	192 943	35 026	192 658	192 658	190 549	2 109
Flow [t/d]	328	249	0	50	100	0	529	96	549	549	543	6
Flow [t/h]	23.4	17.8	0.0	3.6	7.1	0.0	22.0	4.0	22.9	45.7	45.2	0.5
TS [%]	31.2%	0.0%	0.0%	24.9%	15.0%	10.0%	16.7%	15.0%	2.9%	2.9%	2.6%	27.0%

**Comments:**  
 1 ...  
 2 ...  
 3 ...

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