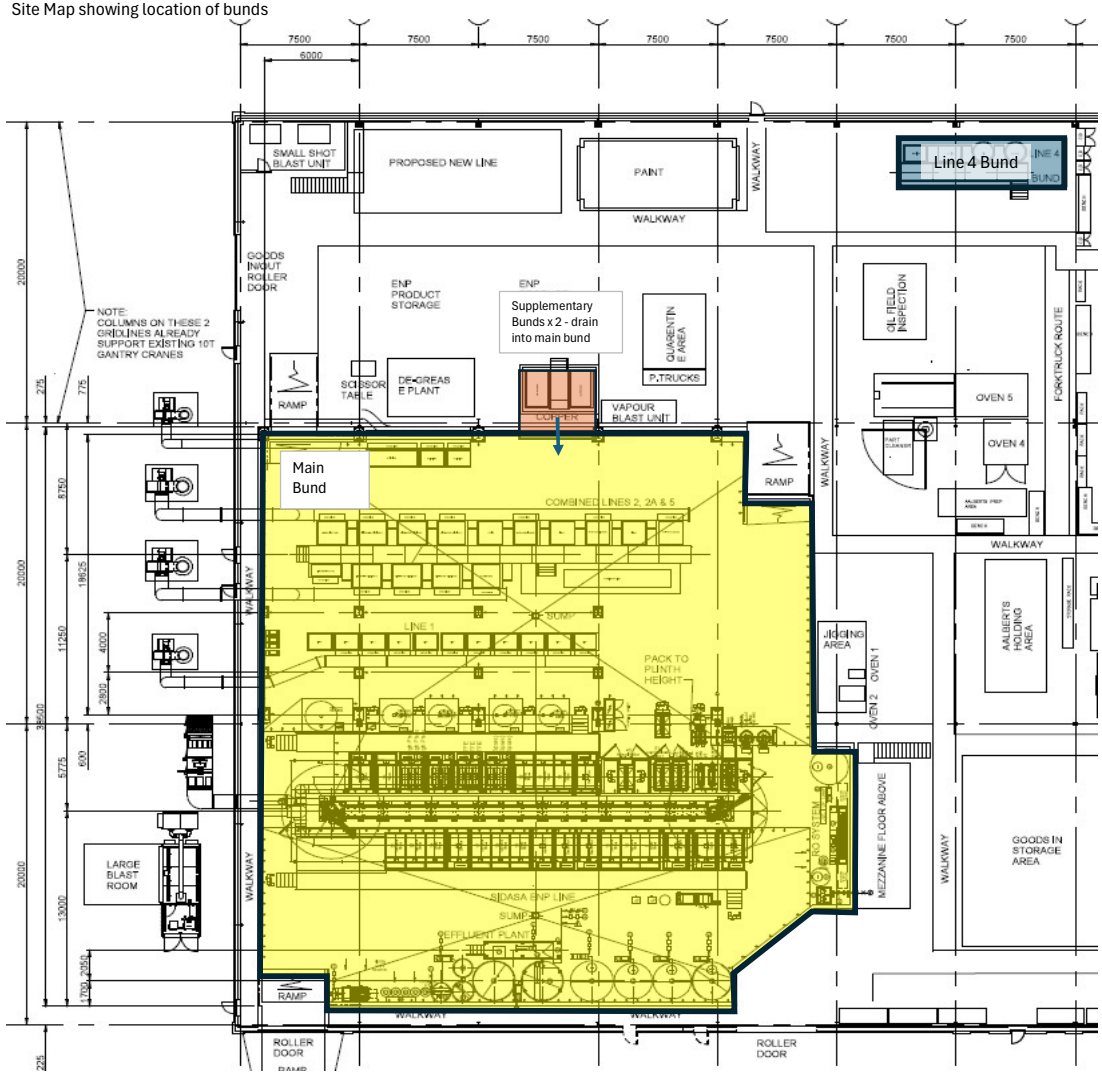
Capabilities Beyond Engineering - Bund and Operating tanks volume calculations

Bunds must have the volume to contain 110% of the largest single tank on them
Bunds must have the volume to contain 25% of the total volume of tanks on them
Main bund is 100mm deep at its circumference.
Site Map showing location of bunds



Volume Calculations

L4 Bund =	8.16m x 3.26m x 0.2m	= 5.32m3
Cu Bunds =	2.52m x 1.5m x 0.43m	=17.32m3

Main Bund =	(38.5m x 34.7m x 0.1m)	135.5	m3
+ Area under RO tanks	(6.11m x 2.3m x 0.1m)	14.1	m3
- Goods inwards 'triangle'	(6.19m x 6.19m x 0.1m x 0.5)	19.2	m3
- Main Ramp	(4.28m x 4.0m)	17.1	m3
- Concrete Plinth	(26m x 1m)	26.0	m3
- Rear door ramp	(4m x 2m)	8.0	m3
Total Volume of main bund		79.3	m3

Volumes of tanks in Operation

Volumes in m^3

Line	Tank	Total Volume: 3.1
Stripper	1	0.8
	2	0.8
	3	1.5

Line	Tank	Total Volume: 12.805
Line 1	1	1.09
	2	0.55
	3	0.55
	4	0.55
	5	0.55
	6	0.55
	7	0.55
	8	0.55
	9	0.55
	10	0.55
	11	0.55
	12	0.55
	13	0.55
	14	0.55
	15	0.55
	16	0.675
	17	0.675
	18	0.675
	19	0.89
	20	0.55
	21	0.55

Line	Tank	Total Volume: 29.7
Line 2	1	4
	2	4
	3	4
	4	4.7
	5	4.7
	6	4.7
	7	3.6

Line	Tank	Total Volume: 38.45
Line 2A	8	3.85
	9	4
	10	4
	11	4
	12	3.8
	13	4.7
	14	4.7
	15	4.7
	16	4.7

Line	Tank	Total Volume: 98.5
ETP	Equalisation	15
	Alkaline	10
	Acid	10
	Nickel Waste	12
	Neutralisation	7.5
	Clarifier	11.5
	Final Neutralisaion	7.5
	Rinse	25

Line	Tank	Total Volume: 12
RO Tanks	Feed	2
	Store	10

Main Bund

Line	Tank	Total Volume: 5.186
Line 4	1	2.2
	2	2.2
	Cleaner	0.393
	Acid	0.393

Individual L4 Bund

Line	Tank	Total Volume: 6.5
Copper	Tank 1	3.25
	Tank 2	3.25

Supplementary Bunds x 2 - drain into main bund

Grand Total Volume stored on main bund: 194.6 m^3

Cu Bunds 3.24 m^3

Overflow feed directly onto main bund

		Theoretical volume to contain Cu Tanks
Bund Volume:	79.3 m^3	82.54 m^3
total capacity (volume x 4):	317.2 m^3	330.2 m^3
Single largest possible tank on bund volume	72.09 m^3	75.04 m^3

NB **ETP Working volume = 43 m3**

Bund Volume:	5.32 m^3
total capacity (volume x 4):	21.28 m^3
Single largest possible tank on bund volume	114.3 m^3