

Question:

What is the total volume of bunded capacity? What capacity do you have it fills up and what will you do with it? Bunding is the second line of defence. If you get exceptional weather and the bunding fills up. What might be your ultimate capacity be in a failure situation.

Total Volume Capacity of Bunded Areas

A number of areas within the Aghoos Tunnelling Compound (SC3) and the accompanying Pipeline Stringing Area will be bunded. The volume of bunded areas has been calculated based on the following criteria:

- a) 110% of the capacity of the largest tank within the bunded area; and,
- b) As an additional contingency, the volume of rainfall associated with a 1 in 100 year 48 hour storm event has been included in the volume calculated for each of the bunded areas (*i.e.* a high return period and long duration rainfall event has been used to be conservative, and to cover a scenario of a high rainfall event over a weekend period when wastewater export from the site may not be possible).

Table 1 shows indicative volumes of bunded areas (including overall total bunded capacity volume) contained within the Aghoos Tunnelling Compound and Pipeline Stringing Area.

Table 1 Volume of Bunded Areas contained within SC3 and the Stringing Area

Bunded Area	Bunded Volume (m ³) (a + b)	Tank Bunds	Other bunded areas
Diesel Tank	42	√	
Separation Plant	46	√	
Centrifuge	112	√	
Bentonite Storage Containers	58	√	
Bentonite Fresh Suspension Tank	849	√	
Bentonite Used Suspension Tank	1,156	√	
Cement Silos	102	√	
Tunnel starting pit	58		√
SC3 – Storage Area for Tunnel Arisings	235		√
Stringing Area – Storage Area for Tunnel Arisings	502		√
Total (m³)	3,159	2,364	794

- Notes:**
- 1) Diesel Tank allows for a 4 day storage period – consumption 9 m³ per day.
 - 2) Total rainfall of 104.5mm is included in bunded volumes (equivalent to a 1 in 100 year 48 hour event, *i.e.* a weekend scenario).
 - 3) Totals rounded to nearest 1m³.

What will you do with it?

Water accumulating within bunded areas will be pumped to the Bentonite Used Suspension Tank. Any residual volume will remain within the bunded areas until the Bentonite Used Suspension Tank has been emptied.

What might be your ultimate capacity in a failure situation?

The volumes indicated in Table 1 include the capacity to retain volumes of stored substances/materials in the unlikely event of failure of storage facilities. On an ongoing basis stored water from the Bentonite Used Suspension Tank will be transported to a licensed wastewater treatment facility for treatment and disposal.

Consideration will also be given to covering, by tarpaulin, of the stockpiles within the temporary storage area proposed at the stringing area. As this is the largest bunded area proposed, covering of this area would significantly reduce pumping and storage requirements during an extreme rainfall event. The tarpaulin would be laid such that the bunds and closed drainage collection system would also be covered and rainwater could runoff to the piped drainage system within the stringing area, for outfall via the stringing area settlement lagoon.

All bunded area pump sumps will have a duty and standby pump in case of individual pump failure.

There is significant redundancy built into the generator capabilities, and if there is a failure of one of the generators there will be capacity within the electrical systems to power pumps.

The above procedure will ensure that all water and potential contaminants from bunded areas, will be transported off site, and will not flow into the environment, up to and including an extreme rainfall scenario of the 1 in 100 year 48 hour rainfall event.