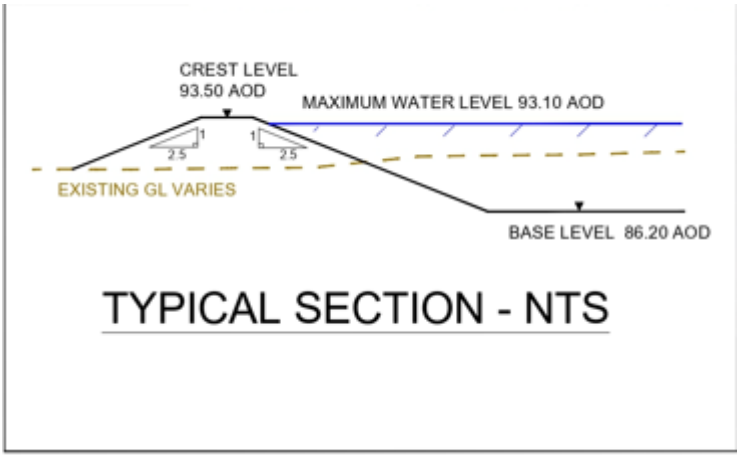
**Calculation to determine the increase in level of reservoir for a storm of 10mins:**

| | |
|---|---|
| Area of reservoir surface water at maximum water level | 5,535.7$m^2$ |

| | |
|---|---|
| Volume of water off 1866m2 roof for 10 mins storm | 15,674L |
| +40% increase for climate change | 21,944L |
| Convert to $m^3$ | 21.94$m^3$ |

| | |
|---|---|
| Volume water from roof / area of reservoir | 0.0003963365m |
| Convert to mm increase in water level | 3.96mm |

Freeboard of the reservoir is 400mm




For simplicity, the calculation assumes that the sides of the reservoir are vertical above the maximum water level. The water level increase would be less than calculated.

The water level could as a result of a rainstorm, plus 40% allowance for climate change decrease the available freeboard by less than 1%.

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