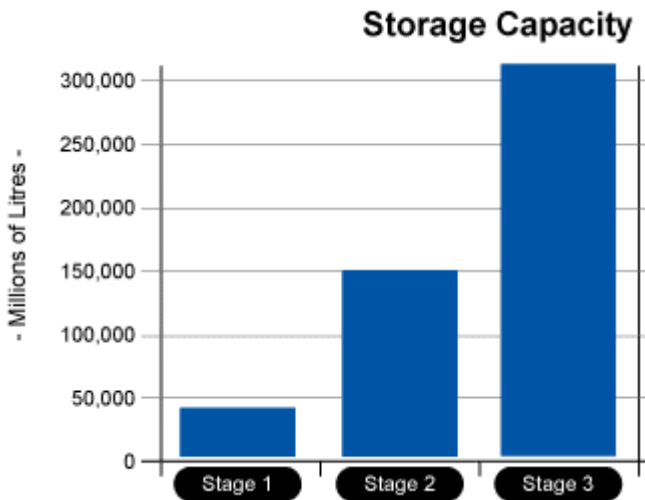


Hinze Dam

Hinze Dam was originally constructed in 1976 and was raised in 1989. Completed in 1976, Stage 1 of the Hinze Dam provided a storage capacity of 42,400 million litres, which was increased to 161,070 million litres with the completion of Stage 2 in 1989. The Stage 3 project will raise the Hinze Dam embankment wall from 93.5 metres to 108.5 metres, providing a total storage capacity of 309,700 million litres (that's about 820,000 Olympic sized swimming pools).



Hinze Dam Quick Facts

Hinze Dam / Advancetown Lake

Water Course: Nerang River
Location: 15 km southwest from central Nerang
Catchment Area: 207km²
Lake Surface Area: 972ha
Full Supply Capacity: 161,073 ML
Year Complete: 1989 (Stage 3 is currently underway)
Full Supply Waterline: 82m AHD (above sea level)
Outlet System: Uncontrolled ogee crest
Type of Construction: Zoned earthfill embankment
Length of Dam Wall: 600m



The Hinze Dam is located about 15 kilometres south-west of central Nerang in the Gold Coast Hinterland. It was built in 1976 and upgraded in 1989 to mitigate against flooding in the lower Nerang River catchment area. The initial design incorporated the potential for future upgrades; with the expectation that there would be a growing supply demand for water on the Gold Coast.

Stage 3 of the Hinze Dam will raise the dam wall by 15 metres and will increase water supply to 225 million litres per day. Costing \$395 million, the project is currently the largest infrastructure project being overseen by Seqwater and will use as much rock as it took to build the Great Pyramid of Giza!

Work is being undertaken by the Hinze Dam Alliance comprising of Seqwater, Sinclair Knight Merz, Thiess and URS. Work commenced on the upgrade in January 2008 and it is expected to be completed by 2010.

Did you know ...

- Over 77% of the catchment is native bushland and State forest.
- Hinze Stage 3 project will:
 - reduce the flooding in the lower Nerang River catchment
 - increase the surface of the dam will increase from 972 HA to 1500 HA
 - almost double the size of the existing Hinze Dam storage capacity from the current 161,000 ML to 309,700 ML
 - increase water supply capacity to 225ML per day
 - increase the full supply level from 82.2 metres to 94.5 metres
 - make Hinze Dam the highest central clay core and rock dam in Queensland.
 - Raising the dam wall by 15 metres will require 1.8 million m³ of rock, weighing approximately 5 million tonnes, and 205,000 m³ or 430,000 tonnes of clay.
 - The rock fill for the main embankment and saddle dams alone could fill the Gold Coast's Q1 building (world's tallest residential building) more than five times.



Why Raise the Wall?

The dam wall in stage 3 will be raised by approximately 15 metres. With a rapidly growing population and widespread drought, the pressure on water supply continues to increase. The Stage 3 project has been identified as a priority to increase the dam's water storage capacity and delay the release of floodwaters onto the floodplains. This will reduce downstream flood levels and decrease the number of properties vulnerable to flooding.

Additional Water Storage

Raising the Hinze Dam wall will increase its storage capacity providing an additional benefit of improved security and reliability for the region's water supply. The Gold Coast Waterfuture (GCWF) Strategy, documents an increased yield of between 10 megalitres and 24 megalitres per day, which is in addition to increased environmental flows.

Flood Mitigation

Mitigation against potential flooding in the Nerang River catchment is the key driver behind the decision to raise the Hinze Dam wall.

The Nerang River Valley is home to many iconic attractions, such as Surfers Paradise and over 4,100 downstream properties. A cost benefit analysis conducted by Gold Coast City Council revealed the need for flood mitigation to reduce potential flood damage to down-stream properties in a one in 100 year flood event (Q100). This risk minimisation project has significant direct and indirect economic benefits for the region. A recent study has revised the future of rainfall figures in the catchment area. Consequently, the predicted levels of a probable flood may also be much higher than previously anticipated.



1. Embankment

A wall constructed with clay to provide a water barrier and rock fill to provide stability.

2. Dam crest level

The height in metres above sea level to the top of the embankment.

3. Passive spillway

A permanently configured spillway designed to pass flood events safely without operation of gates or moving parts.

4. Two-level ogee spillway

The term "ogee" refers to the cross sectional shape of the spillway consisting of a low-level and high-level spillway (similar to the current spillway configuration).

5. Full supply level

The maximum water level and maximum volume of water that can be stored in the dam for water supply.

6. Flood outflow

The rate of flood waters passing through the spillway in flood events.

7. Downstream chute

Concrete channel that carries flood flows to the Nerang River.

8. Training walls to downstream chute

Concrete walls used to guide the flood outflow toward the downstream chute.



SOURCE STORE TREAT SUPPLY



