

Paradise Dam Improvement Project

Foundation Geological Mapping – November 2024

Sunwater is undertaking a range of geotechnical investigations, including geological mapping, to build a greater understanding of the foundation rock in the area where the new dam wall is planned.

What is geological mapping?

Geological mapping involves exposing, cleaning, and recording the location and properties within foundation rock. It provides our geologists a better indication of what the surface rock looks like, where natural fault lines lead, areas of strength and weakness, and areas where the new dam wall foundations will need to be strengthened.

This information is required to verify foundation stability so that it can inform the design of the new dam wall. It may also reduce costs and risks during construction.



Aerial image of geological mapping activities

How will the geological mapping be undertaken at Paradise Dam?

Geological mapping will involve the excavation of four trenches across 290 metres at depths ranging from 1–3.5 metres.

The process will occur as follows:

1. Plan and install required safety and environmental controls.
2. Excavate trenches to expose rock foundation.
3. Clean the exposed rock with hydro-excavators.
4. Geologists undertake visual inspections and map the exposed geological features (see image below)
5. Capture drone photos of the surface after mapping.
6. Backfill trenches to the current surface level with the same material that was removed in the initial excavation (step 2).

How long will the mapping take?

Geological mapping began in late-October 2024 and will be completed by the end of the year, weather and river conditions permitting.



Approximate geological mapping location downstream of Paradise Dam



Geologists mapping trenches

Safety and environment

The following measures will ensure the mapping activities comply with legislative and Sunwater safety and environmental requirements:

- local and state compliance requirements will be embedded in the work plan
- activities will be programmed using Sunwater's latest weather forecasting models
- where required, Paradise Dam operators will undertake pre-emptive releases, to limit the risk of spill events while the mapping is underway
- work will be staged to minimise the risks at active excavation zones
- safety and environmental controls will be in place during work site set up, including erosion and sediment controls, safety exclusion zones, safe access and egress, water management protocols, including proactive in-field monitoring.

Community and customers

The work is not expected to have any impacts on downstream residents, dam operations or the supply of water to customers.

Next steps

The geological mapping data will be incorporated into the existing 3D geological model prepared for the new dam wall. It will then be used to determine how much rock will need to be excavated for the new wall's foundations. Once these excavation levels have been selected, a stability analysis will be completed on various foundation level options. This critical activity will then determine if the depth of the new dam wall cut into existing rock material is sufficient to resist overturning and uplift forces during significant dam spill events.

Stakeholder engagement

Sunwater has shared information about these works with local councils and Traditional Owners.

The Paradise Dam Reference Group is the key engagement forum for the Paradise Dam Improvement Project and includes representatives from local government, peak bodies, customers, and Traditional Owners. Sunwater is committed to ongoing engagement with the community to ensure transparency as we plan for the new Paradise Dam wall.

We will continue to share updates as planning progresses. Information is also regularly shared on Sunwater's Paradise Dam Facebook page and the project webpages on the Sunwater website.

Questions?




Please contact us on **(07) 3120 0270** or **paradise.dam@sunwater.com.au** with any questions.

For general enquiries, please contact customer support by phone on **13 15 89** or live chat via **sunwater.com.au**, **Monday-Friday 8:30am-4:30pm**.



Paradise Dam is on the traditional lands of Bailai, Gurang, Gooreng Gooreng, Taribelang Bunda (BGGGTB) and Wakka Wakka Peoples who have continued sacred connection to Country and are the Traditional Custodians of the land, water and sky we rely on. Sunwater will continue to work with Traditional Owners throughout the project.

Contact us

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Owner

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