Principles for Mining in the Declared Sydney Catchment Area

WaterNSW was established to provide a safe and reliable supply of raw water suitable for treatment to drinking water standards in the Greater Sydney Declared Catchment Area. To meet this objective, WaterNSW manages its land, the Sydney drinking water catchments and infrastructure including water storages, to protect water quantity and quality.

The NSW Department of Planning, Industry and Environment, Independent Planning Commission and the Division of Resources and Geosciences are responsible for assessing and approving State significant development mining activities and associated titles.

WaterNSW has no legislated powers to control or stop mining in the declared catchments, but as the partial owner and joint manager of the Special Areas we seek to influence the planning decisions and hold the subsequent mining operations to account for all impacts which significantly harm our values (principally water quantity, water quality and ecological integrity). We perform this role by providing advice to regulators, agencies and the companies.

Based on the best available science, WaterNSW has developed the following guiding principles for consideration in the environmental planning and approval process for all mining activities, including exploration, extraction, production, rehabilitation and closure.

1. Water Supply Infrastructure

WaterNSW's water supply infrastructure is extensive and includes dams, associated storages, canals, bridges, tunnels, and pipelines. WaterNSW also operates monitoring sites that are critical for its water resource assessment and operational management.

Principle: The integrity of water supply infrastructure must not be compromised.

2. Water Quantity

In the declared Sydney catchment area, WaterNSW has a primary function to protect and enhance the quantity of water. Permanent surface water losses attributed to mining can be classified in three ways:

1) Leakage from reservoirs
2) Reduction in baseflow due to depressurisation of regional groundwater systems (i.e. groundwater drawdown), and
3) Diversion of stream flow into deeper fracture storages or to the mine itself.

To avoid or minimise surface water losses, mining companies should adopt a precautionary approach and base mine design on preventing the height of free drainage from extending to the surface or interacting with surface fracture networks. This could be achieved through narrower longwall panels, wider pillars, reduced extraction heights, increased setbacks from sensitive features, or alternative mining methods.

Principles:

Leakage from reservoirs as a result of mining activities must be avoided.

Regional depressurisation and diversion of surface water flows must be avoided and minimised by adopting a precautionary approach to mine design.

3. Water Quality

WaterNSW also has a primary function to protect and enhance the quality of water in the declared Sydney catchment area.

Mining-induced subsidence can increase connectivity between surface water and groundwater. Water-rock interactions can enhance chemical reactions and can release elements and metals from the rock mass into the water.

WaterNSW must ensure that raw water supplied to customers meets required standards and can be treated to meet Australian Drinking Water Guidelines. WaterNSW is obligated to secure a safe water supply that is suitable for treatment. Mining activities must not impact WaterNSW's ability to provide a safe drinking water supply.

There is a statutory requirement that all development applications for future mining should have a neutral or beneficial effect on water quality in the declared Sydney catchment area. This should apply during all phases of mining, including exploration, extraction, production, closure and rehabilitation.

Principle: All mining activities must have a neutral or beneficial effect on water quality.

4. Ecological Integrity

The Special Areas are mostly undisturbed bushland with significant ecological values, and they play a vital role to protect water quality and quantity. There are statutory requirements under the *Biodiversity Conservation Act 2016* to protect and maintain biodiversity, including threatened species such as Coastal Upland Swamps.

The importance of upland Swamps in the hydrological cycle is now recognised. It is also accepted that rehabilitation of upland swamps affected by mining is not possible.

Principle: The ecological integrity of the Special Areas must be maintained and protected.

Principle	Assessment Criteria	Resources
Water Supply Infrastructure	• Must not be compromised	• NSW Guideline Mining Near Declared Dams (Dams Safety, 2020) • *Heritage Act, 1977*
Water Quantity	• Avoid any leakage from reservoirs • Precautionary approach to mine design to avoid and minimise regional depressurisation and surface flow diversions	• Final Report of the Independent Expert Panel for Mining in the Catchment (2019)
Water Quality	• Neutral or beneficial effect	• State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011 • Australian Drinking Water Guidelines 2011 • Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000) • Final Report of the Independent Expert Panel for Mining in the Catchment (2019)
Ecological Integrity	• Maintain and protect ecological integrity of the Special Areas • Offset any residual swamp impacts	• *WaterNSW Act 2014* • *Biodiversity Conservation Act 2016* • NSW Biodiversity Offset Policy for Major Projects (and Addendum on Upland Swamps) • *Biosecurity Act 2015* • *National Parks and Wildlife Act 1977*