

17 March 2022

Jessie Evans
Director, Resource Assessments
Department of Planning & Environment
Via Email: jessie.evans@dpie.nsw.gov.au

Contact: Ravi Sundaram
Telephone: 0428226152
Our ref: D2022/18026

Dear Jessie

South32 DENDROBIUM MINE MODIFICATION PROPOSAL – MOD 9 - Gas Management Infrastructure (DA60-03-2001)

I refer to the Department's request on 4 March 2022 requesting advice from WaterNSW on the above proposal.

The proposal is within the footprint of South32 Dendrobium mine ventilation shaft 2 and 3 area, which is wholly located within the declared catchment area (the Sydney Drinking Water Catchment) and the Schedule 1 Metropolitan Special Area.

WaterNSW has an important statutory role "*to protect and enhance the quality and quantity of water in declared catchment areas*". The gas management infrastructure is located approximately 277 m to the east of Sandy Creek, and at an elevation approximately 47 m higher than that of the Sandy Creek bank. As such the modification proposal must demonstrate a Neutral or Beneficial Effect (NorBE) on water quality during both construction and operation stages as the development.

WaterNSW provided preliminary advice on the proposal to South32 (our reference D2022/6450). Whilst South32 has addressed several issues raised by WaterNSW in the modification application documents, the following residual issues and/or recommendations still need consideration.

1. Fire Risk and Management

Based on a review of the Bushfire Management Plan, WaterNSW recommends the following additional measures be considered including:

- increasing the inner APZ mapped to the North from 45m mark to fence line, progress east to corner (NE boundary corner) and potentially provide heat shielding to provide reduced radiant heat impact upon assets.
- increasing the inner APZ to West and NW of water tanks and provide heat shields to provide appropriate radiant heat potential for staff, contractor or fire fighters trying to access pumps and water supply.
- providing a refuge area using special fire protection standard (<10k/m²) for staff, contractors, and fire fighters, and
- treating and maintaining the remainder of the compound to an outer APZ standard.

2. Soil and Water Management

WaterNSW notes the conceptual soil and water management plan (SWMP) presented in the modification report (Appendix 1 Surface Water Review by HEC (2022)) is in accordance with the Landcom (2004) and the Department of Environment and Climate Change (2008) guidelines. The conceptual SWMP proposes to enlarge the existing sediment basins to manage sediment laden runoff from the associated catchment areas.

WaterNSW recommends that any approval granted for the modification application shall include a condition or modify existing condition requiring the preparation of a SWMP for the site to incorporate

measures proposed in the conceptual SWMP and be consistent with the cited guidelines. This is necessary to achieve a Neutral or Beneficial Effect (NorBE) on water quality of receiving waters.

3. Access – Fire Roads Upgrade

The site is accessed via unsealed Fire Roads (6, 6C, 6F and 6K) within the Metropolitan Special Area, and is located approximately 12 km from the Picton Road entry to Cordeaux Dam. The indicative construction period is about 5 months. Heavy vehicle traffic movements (trucks, semi-trailers, agitators, construction cranes, 40-foot shipping container on semi-trailer etc.) and daily vehicular traffic for 35 construction staff is expected to the site.

WaterNSW notes that the modification report only commits to repair and maintain the fire roads (FR). It does not address impacts on the unsealed fire roads during construction of the gas drainage infrastructure. WaterNSW reiterates that the road improvements and upgrades were a major issue for the SCA (now WaterNSW) during the construction of ventilation shafts 2 and 3. This required constant supervision, and issuances of clean up notices. Increases in construction traffic due to the gas drainage proposal along FR 6, 6C, 6F and 6K will require upgrading of these fire roads prior to commencement of construction for the gas drainage works. This would be a key requirement of any protocol proposed by South32 for wet weather access during both construction and operation stages of the proposal.

WaterNSW recommends any approval granted for the modification application include a condition requiring South32 to prepare a Fire Roads Upgrade Works Plan in consultation with and to the satisfaction of WaterNSW. In preparing the Fire Roads Upgrade Works Plan, South32 must:

- Conduct a site walkover and inspection with WaterNSW of the fire roads necessary for access to identify existing defects, creek crossings and drainage structures, and necessary erosion/sediment controls/upgrades necessary.
- Consider the following guidelines in review of soil, erosion, and water management structures along the fire roads:
 - Managing Urban Stormwater – Soils and Construction – Volume 2C – Unsealed Roads (Department of Environment & Climate Change NSW, 2008)
 - NSW Rural Fire Service Fire Trail Design, Construction and Maintenance Manual (Soil Conservation Service, 2017)
- Conduct geotechnical investigations in relation to heavy vehicle and construction stage traffic impacts and necessary pavement add drainage design and/or reinforcement at identified locations.
- Design road upgrade works by suitable contractor to ensure pavement profile and drainage all function as intended.
- Ensure that all table and mitre drains can function throughout the life of the operation.
- Include maintenance and monitoring of table and mitre drains that are necessary to prevent stormwater scouring of pavement materials.

Please feel free to contact Dr. Ravi Sundaram or Dr Girja Sharma if you would like to discuss any of the above matters further.

Yours sincerely



Daryl Gilchrist
A/ Manager Catchment Protection