



OUT21/16213

Angela Stewart
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NSW Department of Planning, Industry and Environment

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Dear Ms Stewart

**Sydney Metro West – The Bays to Sydney CBD (SSI-19238057)
Environmental Impact Statement (EIS)**

I refer to your email of 3 November 2021 to the Department of Planning, Industry and Environment (DPIE) Water and the Natural Resources Access Regulator (NRAR) about the above matter.

The Sydney Metro West – The Bays to Sydney CBD project proposes major civil construction consisting of enabling works, tunnel excavation and station excavation.

DPIE Water and NRAR have reviewed the EIS and have concerns regarding water balance and licencing, and groundwater impacts and management. Further details can be found in **Attachment A**.

Any further referrals to DPIE Water and NRAR can be sent by email to water.assessments@dpie.nsw.gov.au or to the following coordinating officer within DPIE Water:

Alistair Drew – Project Officer
E: Alistair.drew@dpie.nsw.gov.au

Yours sincerely

A handwritten signature in blue ink, appearing to read 'M Isaacs'.

Mitchell Isaacs
Chief Knowledge Officer
Department of Planning, Industry and Environment: Water
16 December 2021

Attachment A

Detailed advice to DPIE Planning & Assessment regarding the Sydney Metro West – The Bays to Sydney CBD (SSI-19238057) - EIS

1.0 Water Take and Licencing

1.1 Explanation

DPIE Water is currently working with Transport for NSW on the water licencing requirements for transport projects under the *Water Management Act 2000*. The proponent will need to continue liaising with DPIE Water to confirm water licencing requirements.

The proponent should provide more information on the expected water take during operational stages. Although estimates of water being intercepted during construction are a total of 77.15ML in the first year and 39.7 ML in the second year, a consolidated site water balance has not been provided for the operational phase of the project. There are estimates of average inflows of 2 millilitres per hour per m² in tanked areas and a maximum of 5 L per day per m² (estimates in Table 3-1 of Technical Paper 7 page 15 (pdf 27)) but no yearly or daily total figures provided.

We note that the proponent has compared the long-term average annual extraction limit to the current shares held reaching a conclusion that this means there is a significant amount of water available. This is incorrect. The water source is over allocated. Please refer to the share components of aquifer access licences in clause 24 of the Sydney Metropolitan Region Groundwater Sources 2011. This shows there are 2,592 unit shares available in the Sydney Basin Central Groundwater Source with 4,029.5 shares allocated.

1.2 Recommendations - Prior to Determination

The proponent should:

- Clarify the annual operational groundwater inflows and water demands. A consolidated site water balance for the operational phase is required to confirm the operational water take requirements,
- continue liaising with DPIE Water to address Water Access Licence requirements.

1.2 Recommendation – Post Approval

- The proponent must ensure sufficient water entitlement is held in a Water Access Licence/s (WAL) to account for the maximum predicted take for each water source prior to take occurring, unless an exemption under the *Water Management (General) Regulation 2018* applies.

2.0 Groundwater Impact Assessment and Management

2.1 Explanation

The EIS is based on limited site-specific detail, leaving uncertainty in the accuracy of predicted take. The proponent has recognised that further assessment of the geotechnical stability, groundwater level and quality, sea water interface level, soil and groundwater contamination and geological structures within the proposed construction sites and proposed twin tunnel alignment is required to improve the final construction design of the project. DPIE Water agree with this assessment. The requirements of the level of investigations commensurate to the scale of the project are provided in the link referenced within the recommendations. The work should be progressed leading into the detailed design stage.

Additionally, the project would benefit from use of a solute transport model for refining the risk likelihood and consequence of seawater ingress into the Pymont construction site assessment.

2.2 Recommendations – Post Determination

Prior to commencing construction activities, the proponent should:

- Conduct further geotechnical, geological, contamination, salinity and hydrogeological investigations to ensure construction site specific geological, contamination, and geotechnical matters are fully understood.
- Improve the groundwater monitoring network targeted around and at construction sites to better measure site baseline conditions (level and quality) and to document any potential project groundwater impacts (contamination, saline water interface, geological structure groundwater flow pathways) at or close to the proposed station sites (Pymont and Hunter St). Monitoring of groundwater levels to track drawdown, must include but not be limited to along the alignment of the project tunnels and stations.
- Include sufficient groundwater monitoring installations to track any changes in groundwater levels, gradients, flow directions, water quality and return to semi quasi steady state in the aquifers beneath / beside and into the proposed sites during project construction and continued into operation should this be required.
- Commensurate to the scale of the project, develop a Dewatering Management Plan (DMP) consistent with Section 3 and Section 4 of the NSW Government's 'Minimum Requirements for building site groundwater investigations and reporting'. The DMP should be finalised in consultation with relevant Government agencies with refined estimates of predicted take both during and post construction reconciled. See: https://www.industry.nsw.gov.au/_data/assets/pdf_file/0004/343291/minimum-requirements.pdf
- Consider the inclusion of a solute transport model to evaluate the likelihood of seawater ingress.

3.0 Watercourse impacts

3.1 Explanation

Technical Paper 7 (page 61) notes that water will be discharged into stormwater networks and watercourses. Should there be new outlets constructed onto watercourses they should be in accordance with the NRAR Guidelines for Controlled Activities. This would decrease potential impacts on the watercourse including scour or erosion.

3.2 Recommendation – Post Determination

- The proponent should ensure that all works on waterfront land as defined by the *Water Management Act 2000* are in accordance with the NRAR Guidelines for Controlled Activities on Waterfront Land, including outlet structures into watercourses. The NRAR Guidelines can be found <https://www.industry.nsw.gov.au/water/licensing-trade/approvals/controlled-activities/guide>

End Attachment A