



Your ref: SSD-62855708
Our ref: DOC24/637166

Sally Munk
Principal Planning Officer
Department of Planning, Housing and Infrastructure
4 Parramatta Square, 12 Darcy St,
Parramatta NSW 2150

13 September 2024

Subject: Waste Management Facility, Botany – SSD-62855708 – EIS

Dear Sally,

Thank you for your referral received 2 August 2024 requesting advice from the Biodiversity, Conservation and Science (BCS) Group of the Department of Climate Change, Energy, Environment and Water (DCCEEW) on this State Significant Development (SSD-62855708).

BCS has reviewed the Environmental Impact Statement (EIS) prepared by EME Advisory (dated 15 July 2024) and accompanying technical reports and provides its comments and recommendations at Attachment A.

Should you have any queries regarding this matter, please contact Theo Wilkinson, Senior Conservation Planning Officer via theo.wilkinson@environment.nsw.gov.au.

Yours sincerely,

Louisa Clark
**Director, Greater Sydney
Regional Delivery
Biodiversity, Conservation and Science**

BCS response on the EIS for Waste Management Facility Botany – SSD-62855708

Flood risk management

In preparing this advice, BCS has reviewed the following documents:

- EIS, EME Advisory (dated 15 July 2024)
- Flood Impact Assessment (FIA), CJ Arms

BCS notes the site is highly constrained by flooding because of the above-ground Sydney Water sewer pipes (SWSOOS - Southern and Western Suburbs Ocean Outfall System) which are located on either side of the site and built up to a level of approximately 4m Australian Height Datum (AHD). These above-ground sewers prevent overland flow and effectively dam this area as drainage can only occur via the authority drainage which has limited capacity to convey stormwater flows under the SWSOOS. BCS notes the site is extremely sensitive to flood drainage during rare events where inundation can last from 18 hours to several days.

In accordance with the [Understanding and Managing Flood Risk Guideline](#) (FB01) when planning and developing new waste facilities in the context of flood risk management, several considerations should be applied to ensure their resilience and operational effectiveness during flooding events. This guideline recommends that waste facilities should ideally be located outside of flood-prone areas. If this is not possible, they should be situated in areas with limited flood impacts, such as those classified under flood planning constraint categories (FPCC) that indicate lower flood risk.

In this case, the site has significant flood impacts. BCS highlights:

- In the 5% Annual Exceedance Probability (AEP) event the site is flood free, however, is isolated by floodwaters with waters remaining in Hale Street for up to 17 hours.
- For the 1% AEP event the site is surrounded by floodwaters with Hale Street not safe for vehicles with a flooding duration for the site of approximately 24 hours.
- In the 90-minute Probable Maximum Flood (PMF) storm event, the flood levels exceed 4.24m AHD which inundates the entire site making conditions unsafe at ground level. The flooding duration is estimated at 7-10 days due to trapped water in the low lying areas and the reduced drainage capacity of floodwaters receding from the area. In the PMF event the entire site and precinct is entirely compromised (inundated to depth greater than 100mm) in less than 10 minutes with car and truck entries compromised in 5-6 minutes from the start of the storm. The flood water level in the carpark for the PMF exceeds the proposed design finished floor level (FFL) (2.5m) in approximately 20 minutes from start of the storm indicating that this is when water will begin to enter the building. The water levels reach a peak at 90 minutes.
- The site is subject to H5 hazards in the PMF event. H5 flood hazards indicate hazardous conditions that are unsafe for vehicles and people, increasing the likelihood of structural damage to the facility and the release of hazardous materials into the environment. In the PMF, even under design conditions, almost the entire site will act as floodway with a small portion of flood storage.

The current design protects the site up to the 1% AEP (+0.5m freeboard). BCS considers this level of protection does not appropriately address the flood constraints to the site. The FIA states:

'With the site level being close to sea level, it is not surprising that sea level rise has the greatest impact on the flood levels compared to increased rainfall in the climate change scenarios investigated above. It is likely that the planning requirement of 500mm freeboard will be sufficient to offer some protection against climate change impacts to the year 2050, however, the more severe changes to the year 2100 affect the entire precinct and will require alternate approaches to drainage in the area maintain viability of the site and the precinct itself.'

When assessing sea level rise for an industrial facility, it is essential to consider a long-term time horizon (i.e. 2090, as presented in the FB01 Guideline). This timeframe allows for the evaluation of potential impacts based on current projections of sea level rise, which are informed by climate change models and scientific research. Specifically, the International Panel on Climate Change (IPCC) projects significant increases in sea levels by 2100, with estimates ranging from 0.5-1.3m depending on greenhouse gas emission scenarios.

The consent authority needs to be satisfied that the risks associated with rising sea levels in low lying areas around foreshore road are appropriately considered for flood risk management of the site. This proactive approach enables the implementation of appropriate design measures, such as elevating structures, enhancing drainage systems, and developing contingency plans to ensure the facility's resilience against future climate impacts. This can help ensure that operations can continue even during extreme flood events or during future sea level rise scenarios. The design should maximise accessibility for staff and emergency responders during floods. This may involve planning for alternative access routes and ensuring that entrances are designed to remain operational during flood conditions. Adequate storage for waste products should be provided, ensuring that waste is kept away from floodwaters to prevent contamination and environmental hazards.

The proposed facility should have emergency response plans in place that include procedures for evacuation, alternative waste management strategies during floods, and arrangements for staff to access the facility. Given the flashy nature of flooding at the site and the high flood constraints relating to evacuation and warning times, BCS strongly recommends consultation with the NSW State Emergency Service (SES) for advice on all matters relating to the emergency response management of the site.

End of Submission