

State Emergency Service

FLOOD POLICY UNIT

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21 August 2025

John Ramsay
Executive Commissioner
Tasmanian Planning Commission
GPO Box 1691
HOBART TAS 7001

Via email: tpc@planning.tas.gov.au

Dear Mr Ramsay

STATE EMERGENCY SERVICE SUBMISSION ON MACQUARIE POINT MULTIPURPOSE STADIUM PROJECT OF STATE SIGNIFICANCE – STORMWATER ASSESSMENT REPORT 8 MAY 2025

Thank you for the opportunity to provide a submission on the Macquarie Point Multipurpose Stadium Project of State Significance - Stormwater Assessment Report (the Report) prepared by Pitt & Sherry for the Macquarie Point Development Corporation and provided on the Tasmanian Planning Commission's (TPC) website on 8 May 2025.

The State Emergency Service (SES) have undertaken a technical review of the Report and provide the following technical comments for the TPC's consideration in its assessment of the Project of State Significance as it relates to flood and drainage.

SES make its comments in the context of recognition that the Report is to be considered an interim report as stated in section 1.2:

"This report provides a high-level overview of the existing and proposed conditions with a comprehensive report to follow."

SES provide the following comments regarding the Report in the consideration of the forthcoming comprehensive report:

- The Report provides limited detail around the modelling methodology and assumptions.
- The 1-dimensional DRAINS model used in the Report would not typically be used for a development of this scale and site complexity. Typically, a 2-dimensional model would be used for the existing case and the developed case.
- Assumptions that are expected to be discussed in the comprehensive report would include:

- **Detailed modelling methodology**
 - overview of software and approach used.
 - **Rainfall data assumptions**
 - Design rainfall intensities
 - Temporal patterns
 - **Catchment characteristics**
 - Land use and impervious percentages reflecting current and proposed development layouts.
 - Surface roughness and slopes estimated from available topographic data.
 - Sub-catchment delineation methodology.
 - **Hydrologic assumptions**
 - Soil types and infiltration rates
 - Initial losses and continuing losses
 - **Hydraulic modelling assumptions**
 - Culvert and pipe dimensions, inverts, and alignments as per design drawings or survey
 - Energy losses through pits, bends, and transitions
 - Boundary conditions and assumptions
 - **Asset condition**
 - Existing stormwater infrastructure. Operational performance of existing infrastructure (depth, blockage, maintenance, operational constraints)
 - **Development scenario**
 - Future development scenarios.(2D model, including all existing infrastructure and catchments draining/contributing to the outlets/overland flows)
 - **Limitations**
 - **Data availability**
 - **Model resolution**
 - **Climate change**
 - Future climate change impacts, especially short duration events representative of the overland flow complexity
 - **Third-party data**
 - Reliance on external data (LIDAR, rainfall, GIS layers)
- The Report has been undertaken in isolation from adjacent catchments, particularly the Hobart Rivulet catchment and Brooker Avenue catchments, both of which contribute to the project area. Overland flows from these catchments should be incorporated into the comprehensive report.
 - The Report assesses the stormwater pipe network without accounting for existing flows from surrounding areas. While the report briefly mentions that the Evans Street pipeline may have insufficient capacity, it does not clarify the extent of this issue. The comprehensive report should consider the current inflows and any capacity limitations of the existing stormwater systems.

- The Report's climate change scenario only assesses tailwater level using 1.7 m AHD, corresponding to the HAT for 2100. The tailwater level in the comprehensive report should also consider storm surge, due to their infrequent but high-impact nature. Storm surge typically occurs during severe weather events involving low atmospheric pressure and are strongly linked to storm intensity. The same weather systems can also generate high rainfall totals, increasing the risk of coincident effects in coastal areas.
- The *City of Hobart Stormwater Management Policy for Development* should inform the modelling and design approach for the comprehensive report, with the policy stating:

"All new or upgraded minor stormwater drainage systems shall be designed to meet 5% AEP storm events with an allowance for climate change. All new or altered major stormwater drainage systems shall be designed for the safe conveyance of 1% AEP storm events with an allowance for climate change."
- The comprehensive report should also explain the rationale for the selection of key model input parameters including climate change rainfall intensity factors, surface roughness coefficients, initial losses coefficient, and continuing losses coefficient.
- The comprehensive report should provide a detailed assessment and analysis of modelled pre-development and modelled post-development flows and the differences between them, especially if there is a significant decrease or increase in values.

Please contact Chris Irvine – Manager Flood Policy Unit at chris.irvine@ses.tas.gov.au if you have any questions regarding the matters raised in this submission.

Yours sincerely



Mick Lowe
EXECUTIVE DIRECTOR, SES AND VOLUNTEERS