

19 December 2021

TfNSW Reference: SYD17/00705/03

DPI&E Reference: SSI 8441

David Way  
Department of Planning, Industry and Environment  
GPO Box 39  
SYDNEY NSW 2001

Dear Mr Way

## **WARRAGAMBA DAM RAISING – EXHIBITION OF EIS - CREST ROAD, WARRAGAMBA**

Reference is made to the Department of Planning, Industry and Environment's referral dated 28 September with regard to the abovementioned Environmental Impact Statement, which was referred to Transport for NSW (TfNSW) in accordance with the *State Environmental Planning Policy (Infrastructure) 2007*. This letter is offered as a collective response from agencies of the TfNSW cluster.

TfNSW has reviewed the documentation provided for the abovementioned development and notes that the proposal seeks development advice for for the proposal to raise Warragamba Dam for the purpose of downstream flood mitigation.

The documentation *Environmental Impact Statement (EIS) – Appendix O: Traffic and Transport* in support of the proposal has been reviewed and comments and recommendations are provided in **Attachment A– TfNSW comments**.

TfNSW is the lead agency for 4 initiatives known as the Hawkesbury Nepean Valley (HNV) Program under the Hawkesbury Nepean Flood Risk Management Strategy 2017 (the Strategy). They are:

1. Evacuation Road Flood Resilience Upgrade Program
2. Evacuation and Signage Strategy
3. Regional Evacuation Road Master Plan (Guidelines)
4. Evacuation Road Model

The HNV Program responds to the Strategy in relation to:

- *Outcome 5: An aware, prepared and responsive community — including a coordinated focus on raising community understanding of flood risk and flood evacuation routes*
- *Outcome 8: Adequate local roads for evacuation — undertaking around 40 high priority local evacuation road upgrades.*

TfNSW provides comments focused on the HNV Program aspects of the EIS proposal in **Attachment B**.

As access to the Dam includes local and regional roads under the care and control of Penrith City Council, it is suggested that the proponent engages with the Council on all discussions relating to the local and regional road access to ensure that Council is in support of the outcomes.

If you have any further questions, Laura van Putten, Land Use Planner at TfNSW, would be pleased to take your call on (02) 8849 2480 or please email [development.sydney@transport.nsw.gov.au](mailto:development.sydney@transport.nsw.gov.au).

Yours sincerely

A handwritten signature in black ink, appearing to read 'E Platon', written in a cursive style.

Edmond Platon  
A/Senior Manager Land Use Assessment West & Central

## Attachment A – TfNSW comments

### Environmental Impact Statement – Appendix O: Traffic and Transport.

#### 1. Comment

- a. The report does not provide information regarding Silverdale Road (unclassified regional road)'s current upgrade project nor accounts for its impact in this report.

Silverdale Road Safety upgrades Stage 2 (which covers the section of Silverdale Road used for construction vehicles movements by this proposal) has begun construction as of September 2021 and is expected to be completed in Q4 2022 therefore impacting the throughput and performance of the road at this section.

- b. There will be likely growth of traffic along Park Road due to the development and operation of Western Sydney Airport and the new precinct at Bradfield. The EIS traffic study should address this anticipated growth.

- c. Table 7.2 of the report, shown below, indicates a high-level contingency plan. With respect to the proposed contingencies for pavement failure at the Blaxland Crossing bridge. It is recommended that a detour plan excluding Park Road and the subsequent bridge route be prepared.

Table 24-20. Construction contingency plan

Event	Proposed contingency plan (included in Table 24-21 as TT1)	When to be implemented	Responsibility
Flood and fire	All workers, sub-contractors and suppliers shall be provided with proper training on emergency evacuation plan during flood and/or fire	Throughout the construction period	Construction contractor
Flood, fire, road accidents, major pavement failure, loading capacity of Blaxland Crossing bridge	Feasibility of using alternate route (The Northern Road-Cobbitty Road-Werombi Road-South part of Silverdale Road) shall be checked to access the construction site in the event of road closure during development of construction traffic management plan	Before commencement of construction	Construction contractor
Major pavement failure and Loading capacity of Blaxland Crossing bridge	Reduced loading capacity of trucks shall be considered	During the emergency event scenarios	Construction contractor
Road breakdown, Road accident, Major pavement failure	Trained personnel shall be deployed to the event location to manage/control traffic movements in consultation with concerned authorities	During the emergency event scenarios	Construction contractor

- d. Section 4.3.1 provides discussion and SIDRA modelling for the temporary signalisation of the intersection of Warradale Road & Production Avenue.

It is noted that eastbound heavy vehicles turning left at this intersection is not currently achievable without intersection treatment works. Intersection upgrade works should be completed prior to construction.

This signalised arrangement was previously used in the Dam’s auxiliary spillway project (2011). Findings from this previous arrangement and any reported impacts of the temporary signalisation should be provided.

**Recommendation**

TfNSW requests the abovementioned information to be addressed/provided for further assessment prior to the determination of the application. TfNSW will further review and provide response upon receipt of the additional information.

2. **Comment**

Section 5.2.2 discusses the project’s impact on major road river closure times due to flooding. The report indicates that four bridges are severely impacted by this project as shown in the excerpt below:

- i. Windsor Bridge (Bridge Street) forms part of the Wilberforce Road (state road 182) with an estimated traffic volume of 19,300 AADT in both directions.
- ii. Cattai Creek Bridge and Yarramundi Bridge are similarly part of state roads 181 and 570 respectively. Traffic volumes travelling along Springwood Road are estimated at 5,000 AADT.

Table 5-1. Major road river crossings closure time (50th percentile) during flood events for existing conditions and with Project

Description	Bridge Name	Phase	Hours closed for a range of flood events								PMF
			1 in 5	1 in 10	1 in 20	1 in 50	1 in 100	1 in 200	1 in 500	1 in 1000	
Bridge on Cattai Road over Cattai Creek	Cattai Creek Bridge	Current	94	124	140	151	157	166	175	181	230
		Project	205	333	349	359	348	343	335	328	309
Bridge on Springwood Road over Hawkesbury River	Yarramundi Bridge	Current	72	105	119	131	138	147	154	160	198
		Project	81	304	322	344	329	316	309	305	284
Bridge on Bridge Street over Hawkesbury River	Windsor Bridge (New)	Current	59	88	105	116	125	135	145	149	182
		Project	209	328	356	369	358	352	343	338	265
Bridge on Bells Line of Road over Hawkesbury River	North Richmond Bridge	Current	49	80	94	108	115	126	136	140	171
		Project	0	42	70	128	152	166	179	186	244

It is noted that the only mitigation proposed as detour arrangements to mitigate these delays.

**Recommendation**

TfNSW would like to understand if there have been any other mitigation measure explored other than detour arrangements.

3. **Comment**

Traffic modelling for the base condition is based on traffic surveys conducted in 2018 with future year modelling based on 2022.

**Recommendation**

Given that the construction period for this project is set to occur between 2022-2025, it is recommended that the traffic modelling and analysis be updated to reflect the volumes & conditions for these years.

## Attachment B

Topic	EIS extract	TfNSW Comment
<b>Purpose of Project</b>	<i>“The aim of the Proposal is to hold back floodwater for longer and provide additional time for evacuation and to reduce the downstream flood peak.” (BMT, Preliminary Assessment, Page 24)</i>	TfNSW supports the overall flood risk management strategy, to reduce risk to life and property.
<b>Flood Management Strategy</b>	<i>“...the proposed dam wall raising is a component of an integrated flood risk management strategy for the Valley that covers a full range of measures to reduce flood risk, including governance arrangements, policy settings, planning, community education and infrastructure.” (BMT, Preliminary Assessment, Page 9)</i>	TfNSW supports the overall flood risk management strategy, to reduce risk to life and property.
<b>Alternatives</b>	<i>“Roads are an infrastructure measure to support mass evacuation primarily by private vehicle during flood events as shelter in place is not an option for this valley. Several options were considered including the Castlereagh Connection, and major capacity upgrades to The Northern Road, Londonderry Road, Llandilo Road and Castlereagh Road. While roads are critical for evacuation, they do nothing to mitigate the effect of floods. As a result, roads neither</i>	TfNSW is responsible for delivery of the HNV Road Resilience Program to support the outcomes of the flood strategy and regional evacuation roads (including local and state roads) which are separate and in addition to the proposed Dam raising.

Topic	EIS extract	TfNSW Comment
	<p><i>reduce damages nor reduce the risk to life for those people who are exposed to flood risk and cannot or do not evacuate in time". (EIS, Introduction, Page 24)</i></p>	
<b>Construction Impacts</b>	<p>The operation of the road system during the forecast 4 year construction period will be impacted if there is a flood event during the construction time (BMT, page 1 and page 22).</p>	<p>TfNSW seeks clarification regarding the potential impacts on road capacity ahead of a flood event and the proposed ceasing of construction activity to ensure evacuation roads in the Wallacia flood plain are available at full capacity in the event of a flood. Traffic Management Plans will need to be discussed as part of the emergency strategy.</p>
<b>Flood Hydrograph (flood peaks and duration)</b>	<p><i>"Depending on the magnitude of flood events and the adopted release rate after such events, flows released from the FMZ may continue for several weeks or months for subsequential events. Consequently, the duration of active morphodynamic activity in the Warragamba River would be for longer than that experienced during past historical floods under existing dam operation conditions (albeit at smaller volumes)."</i> (BMT, Preliminary Assessment, Page 39).</p> <p>"The low-lying Yarramundi Bridge could remain closed for hours and up to around 10 days longer with controlled releases from the dam" (EIS, Executive Summary, page 37)</p>	<p>The flood modelling being developed by TfNSW can consider a variety of HNV regional flood scenarios. TfNSW seeks clarification regarding the potential impact on regional evacuation road capacity during controlled releases from the dam.</p>

Topic	EIS extract	TfNSW Comment
<b>Evacuation Impacts</b>	<p><i>“The proposed dam raising would significantly reduce the risk of flood exposure to thousands of vulnerable people and their homes. If evacuation becomes necessary ahead of a major flood, the dam raising would allow more time for emergency services to help prepare and safely evacuate people with additional health, transport and social support needs.”</i> (Executive Summary, page 25).</p> <p>The aim of the Proposal is to <i>“hold back floodwater for longer and provide additional time for evacuation and to reduce the downstream flood peak”</i> (BMT, Preliminary Assessment, page 24).</p> <p><i>“...the proposed dam wall raising is a component of an integrated flood risk management strategy for the Valley that covers a full range of measures to reduce flood risk, including governance arrangements, policy settings, planning, community education and infrastructure.”</i> (BMT, Preliminary Assessment, page 9 )</p>	TfNSW notes that the forecast reduction in risk to life and property from increased evacuation times. TfNSW supports the overall flood risk management strategy, to reduce risk to life and property.
<b>Social Impacts</b>		TfNSW supports the overall flood risk management strategy, to reduce risk to life and property.

Topic	EIS extract	TfNSW Comment
<b>Economic impacts</b>		TfNSW supports the overall flood risk management strategy, to reduce risk to life and property. However the forecast increase in flood duration from controlled releases could cause potential disruption to TfNSW operations and assets across the HNV. TfNSW requests further information on this aspect.

**Contact:** [Mary Whalan, Director Capital Projects Development,](mailto:mary.p.whalan@transport.nsw.gov.au)  
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