Department of Planning and Environment

OUT22/13763

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15 September 2022

Subject: **Inland Rail - Narromine to Narrabri (SSI 9487) - Preferred Infrastructure/ Amendment Report**

Dear Mr Fallon

I refer to your email of 25 August 2022 to the Department of Planning and Environment (DPE) Water about the above matter.

This section of the Inland Rail project consists of approximately 300 km of new single track rail line, through private and public property in a "greenfield" environment between Narromine and Narrabri.

DPE Water has reviewed the Preferred Infrastructure/Amendment Report and provides the following recommendations:

- The proponent should amend mitigating measure FH2 and FH5 to include a geomorphic, vegetation and watercourse sensitivity assessment and mitigating measures consistent with the Updated Flooding and Hydrology Assessment Report (Revision 9).
- The proponent should include post-construction geomorphology monitoring of watercourses to ensure the mitigating measures are achieving the designed outcome.
- The proponent is required to replace any government monitoring bores that are decommissioned due to the project.

Please see Attachment A for more detail.

Should you have any further queries in relation to this submission please do not hesitate to contact DPE Water Assessments at water.assessments@dpie.nsw.gov.au. or to the following coordinating officer within DPE Water: Tim Baker, Senior Project Officer - email: tim.baker@dpie.nsw.gov.au

Yours sincerely

Mitchell Isaacs
Chief Knowledge Officer, Knowledge Division
Department of Planning, Industry and Environment: Water

Attachment A

Detailed advice to DPE Planning & Assessment regarding the Inland Rail - Narromine to Narrabri (SSI 9487) – Preferred Infrastructure/ Amendment Report

1.0 Surface Water

1.1 Recommendation – Post approval

That the proponent ensures the design process for works near watercourses includes geomorphic, vegetation and watercourse sensitivity assessments, and the development of appropriate rehabilitation measures. This can be reflected in the mitigating measures by including the following updates:

- Update mitigating measure FH2 in Table 8-1 to state that erosion control design will include a geomorphic, vegetation and watercourse sensitivity assessment which is consistent with the process used for the Erosion Potential and Fluvial Geomorphology Assessment (Appendix O) in the Updated Flooding and Hydrology Assessment Report (Revision 9).
- Update mitigating measure FH5 in Table 8-2 to include the mitigating measures that are in the Updated Flooding and Hydrology Assessment Report (Revision 9). This is to include the addition of the following text to FH5:
    - *Site-specific geomorphic assessments of watercourse crossings would be undertaken to inform the design process. The final design would minimise adverse impacts to geomorphic stability and functioning. Appropriate rehabilitation measures would be proposed in accordance with A Rehabilitation Manual of Australian Streams (Rutherfurd et al. 2000). 'Soft' engineering measures, such as use of vegetation would be preferred, to avoid 'hard' instream engineering structures, with consideration of the limited extent of direct impact.*

Explanation

The project involves crossing many watercourses that are highly sensitive to disturbance and have conservation value, and a threat to downstream reaches could occur if disturbed. Constriction in waterway area through and downstream of the crossings may potentially induce bed and bank erosion. Comprehensive assessment at the erosion control design stage is recommended to mitigate this risk.

The updated Flooding and Hydrology assessment report includes a detailed geomorphic assessment of a representative sample of watercourses and drainage lines. The same analysis and process should be adopted for the design phase of all the culverts and erosion control and mitigation measures.

Mitigation measures for threats to geomorphic condition of the watercourses associated with the installation of the culverts should explicitly include guidance on geomorphic rehabilitation. This is in addition to the guidance on water quality already provided in FH2.

1.2 Recommendation – Post approval

The proponent should include post-construction geomorphology monitoring of watercourses for a sufficient time period that enables watercourse inundation to occur on at least four occasions.

Explanation

This is because the effect of hydrological change on the watercourse's physical structure may not be seen during the construction phase as flows may not occur through some culverts during this period, and often the impacts will be cumulative over successive flows.

The monitoring is to ensure that the mitigating measures are achieving the desired outcome.

2.0 Groundwater

2.1 Recommendation – Post approval

The proponent is required to replace (or fully fund the replacement of) any government monitoring bores within 18 months that are decommissioned due to the project. Consultation with DPE Water will be required to establish the bore design criteria and bore location prior to replacement.

Explanation

The project information has indicated three government monitoring bores will need to be decommissioned. While the proponent has noted DPE Water's previous request, no commitment has been made and this should be required.

End Attachment A