



**Office of
Environment
& Heritage**



PCU034029

Ms Diane Sarkies
A/Manager – Rail and Ports
Infrastructure Projects
Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

Dear Ms Sarkies

I refer to your letter of 3 April 2012 inviting comments from the Office of Environment and Heritage – EPA on the Environmental Impact Statement (EIS) for the North West Rail Link (NWRL) State significant infrastructure (SSI) modification and SSI application – major construction works.

As you may be aware the NSW Government established the Environment Protection Authority (EPA) as an independent statutory authority separate from the Office of Environment and Heritage (OEH) on 29 February 2012. The EPA is responsible for licensing and regulating air emissions, contaminated sites, hazardous materials, noise, pesticides, forestry activities, waste and water quality. OEH develops policy in all environmental matters and regulates biodiversity, Aboriginal cultural heritage, European heritage, waters and rivers, wildlife and native vegetation.

OEH has reviewed the EIS and provides the attached comments in relation to Aboriginal cultural heritage, biodiversity, flooding and salinity (Attachment 1). Comments in relation to European heritage may be provided separately by OEH's Heritage Branch. OEH also understands that the EPA will be making a separate submission.

If you wish to discuss any of the issues raised in this attached comments, please contact Richard Bonner on 9995 6833.

Yours sincerely

 21/6/12

LOU EWINS
Manger Planning and Aboriginal Heritage
Conservation and Regulation, Metropolitan
Office of Environment and Heritage



Attachment 1: OEH's comments on the Environmental Impact Statement for North West Rail Link
Stage 1: Major Civil Construction Works

Attachment 1: OEH comments on the Environmental Impact Statement for North West Rail Link Stage 1:-Major Civil Construction Works

1. Aboriginal Cultural Heritage

The EIS broadly conforms with the requirements of the Conditions of Approval (CoA), Director-General's Requirements (DGRs) and Statement of Commitments (SoCs), however, OEH notes the following:

- CoA 3.14 requires the indigenous heritage impacts of the project be considered in relation to the cumulative impacts from surrounding developments. The discussion of cumulative impacts presented in the EIS does not provide any assessment of the cumulative impacts of this and surrounding developments on the type of Aboriginal archaeological sites. The proposed management and mitigation measures for Aboriginal cultural heritage have also not been discussed in terms of cumulative impacts.
- SoCs 31 and 32 relates to European heritage matters only which are addressed in chapter 11 not chapters 12 and 16 of the EIS as stated on page 3-21.
- SoC 33 states that consultation with DECC will occur in relation to the development of the Indigenous Heritage protocol and methodology. As previously advised, OEH (and EPA) does not have a regulatory role in this process and does not require consultation in relation to the development of an Indigenous Heritage protocol and methodology – this appears to be recognised by the proposed indigenous heritage mitigation measures.

2. Biodiversity

General Comments

The NWRL Ecological Assessment indicates 30.87 ha of vegetation communities will be directly impacted, 18.71 ha of which is outside the North West Growth Centre (NWGC). Over 80% of the vegetation to be cleared is the critically endangered ecological community, Cumberland Plain Woodland (CPW), 13.88 ha of which is outside the NWGC. In addition, a significant number of tree hollows (at least 112) will be removed which will result in loss of habitat for a number of hollow-dependent fauna, including nine threatened fauna species (Technical Paper 5a – Ecology).

OEH notes these direct impacts are a 'worst case scenario' and *'it may be possible to retain some vegetation within the construction footprint'* (Technical Paper 5a – Ecology, p.39). OEH strongly recommends DoPI encourage the proponent to consider and minimise impacts on areas of native vegetation and habitats when preparing final designs for the construction footprint.

OEH also notes from the Ecological Assessment that Shale-Sandstone Transition Forest (SSTF) is considered equivalent to the BioMetric Vegetation Type *'Red Bloodwood – Scribbly Gum Healthy Woodland on sandstone plateaux, Sydney Basin'* (Technical Paper 5a – Ecology, p. 44). SSTF is actually equivalent to the vegetation community "Narrow-leaved Ironbark – Broad-leaved Ironbark – Grey Gum Open Forest on the edges of the Cumberland Plain, Sydney Basin".

Offset Strategy

A native vegetation offset strategy for areas directly impacted by the proposal incorporating ratios of 3:1, 4:1 and 5:1 for poor, moderate or good condition vegetation respectively is proposed to compensate for unavoidable losses outside the NWGC. OEH notes the offset ratios *'are not as high as some ratios applied in the Biobanking Assessment Methodology (BBAM) as they take into account the fragmented urban landscape in which most of the clearing is occurring'* (Technical Paper 5a – Ecology, Appendix N, p. 333). OEH recommends the offset strategy be amended to ensure consistency with the 2011 NSW OEH Interim Policy on Assessing and Offsetting Biodiversity Impacts of Part 3A, State Significant Development (SSD) and State Significant Infrastructure (SSI) Projects which is currently being trialled in partnership with DoP&I. Ideally a 'tier 1: improve or maintain' standard should be the biodiversity outcome for the proposal with offsetting requirements calculated using the BBAM.

In terms of securing vegetation offset sites, OEH notes the strategy proposal that they '*be secured ... within commencement timeframe agreed with government agencies*' (Technical Paper 5a – Ecology, p.80). OEH's view is that offset sites should be identified and secured prior to the clearing of any vegetation and recommends this be included as a condition of approval.

Vegetation Management Plans

OEH notes VMPs '*are to be prepared for reaches of riparian zones which intersect with the construction footprint as identified in the riparian assessment report*' and for three other sites (Epping [Tile 1], Cheltenham [Tiles 2 and 3] and Cherrybrook [Tile 6]) (Technical Paper 5a, p.77). This is contradicted by Construction Environmental Management Framework which advises VMPs '*will be prepared for sites where vegetation is proposed to be retained*' (EIS, Volume 1B, Appendix C, p. 1-37).

OEH recommends consent conditions which require the preparation of VMPs for identified riparian areas and all areas of retained remnant native vegetation within 50m of the construction footprint to be implemented for a minimum of 5 to 10 years following construction depending on the level of disturbance and rehabilitation required.

Mitigation Measures and Ecological Management Procedures

It is not clear whether all the mitigation measures and ecological management procedures detailed in chapters 5 of the ecological and riparian assessment reports (Technical Papers 5a and 5b) have been endorsed by the proponent. For example, measures regarding a monitoring program (table 25) and the Green and Golden Bell frog (table 26) of Technical Paper 5a are not included in section 15.6 (summary of mitigation measures) of the EIS volume 1B.

OEH also notes the EIS main document proposes a mitigation measures entailing additional surveys for, and the translocation of, *Epacris purpurascens* var. *purpurascens* (E3 and E14). Mitigation measure E3 proposes '*the results of the survey be ... submitted to OEH ... and, if necessary, details of additional mitigation measures*' while the Ecological Assessment suggests '*the species will be relocated into preferred habitat in consultation with Hornsby Council and OEH*' (Technical Paper 5a, p. 288). In relation to the translocation of species, OEH recommends:

- It be undertaken in accordance with the "*Guidelines for the translocation of threatened plants in Australia*" (Australian Network for Plant Conservation, 2004); and
- A 'licence to harm or pick threatened species' in accordance with section 91 of the *Threatened Species Conservation Act, 1995* would be more appropriate than a 'scientific license' in accordance with section 132C of the *National Parks and Wildlife Act, 1974*.

In relation to any consultation or referral of reports or assessments required by any conditions of consent, statements of commitment or mitigation measure, these should be referred to DoPI. Referral of plans or other documents to OEH for consultation or endorsement should only be made with the written endorsement of OEH. References to OEH in mitigation measures E3 and E6 should therefore be removed. OEH would be pleased to advise DoPI on these matters, if required.

Subject to the comments and recommendations detailed above being appropriately addressed, OEH recommends the mitigation measures detailed in EIS volume 1B (including the Environmental Management Framework at Appendix C), the ecological assessment report (Technical Paper 5a), and riparian assessment report (Technical Paper 5b) be amalgamated and included in any conditions of approval that may be granted.

3. Flooding

The primary objective of the Government's Flood Prone Land Policy is to reduce the impact of flooding and flood liability on individual owners and occupiers of flood prone land and reduce private and public losses resulting from floods. The most appropriate method to assess the development of flood prone land is through the floodplain risk management process which is detailed in the *NSW Floodplain Development Manual (2005) (FDM)*.

Under the NSW Government's Flood Prone Land Policy, local councils have the prime responsibility for floodplain risk management including areas affected by local overland flooding and determining the acceptability of flood impacts, it would be appropriate for the EIS and Technical Paper 6 to be referred to the relevant local councils for comment.

OEH provides the following comments in relation to the Technical Paper 6 assessment of the potential flooding impacts of the proposal:

- Although potential flood impacts are addressed against each key construction activity, it is considered inadequate to assess the ongoing performance of the proposal because the assessment is limited to the mainstream up to the 100 year ARI flood extent and level. The assessment should be based on a comprehensive understanding of the nature of the flood hazards and risks to people and property for the full range of flood up to the probable maximum flood (PMF) taking into consideration various flood hazard aspects such as flood depths, velocity, rate of rises, warning time, evacuation difficulties and potential isolation. Furthermore, impacts from local catchment overland flow paths can result in significant risks to people during construction phase and after completion of the project. Accordingly, EIS 2 should adequately address flood risks of both mainstream and overland flow paths up to the PMF level in order to identify appropriate mitigation measures.
- Technical Paper 6 suggests flood level impacts in areas that are currently sensitive to flooding and experience widespread flooding, could be offset by local mitigation works. It is essential, however, that any permanent mitigation works be assessed on an overall catchment basis in order to overcome any adverse impact to surrounding areas.
- With regard to the impacts of the proposal on flow velocities, it is necessary to assess any increase in flow velocity in relation to its impacts on the provisional hazard (refer to figure L2 in FDM). This approach comprises both depth and velocity and assists in quantifying flooding impact and its acceptability. It is also important to consider this approach when assessing the impacts for floods larger than the 100 year ARI.
- While noting no significant impacts are expected in the 100 year ARI flood event within site 13, the flood level impacts for larger flood events need to be addressed in EIS 2.
- Any proposed temporary mitigation works should be assessed with regard to the potential for flood affectation on surrounding properties during the time of construction.
- Technical Paper 6 states tunnel openings would be located outside the flood prone area. According to FDM, however, flood prone area are all those areas affected by flooding up to the PMF flood level considering both mainstream flooding and local overland flow paths.
- It is essential that during construction, the safety of construction personnel be adequately addressed. An Emergency Response Plan (ERP) should be in place to ensure risk to people and potential damage to works above the tunnel openings during flood events level is minimised. Relevant local councils and the State Emergency Service (SES) should also be consulted in the preparation of the ERP which would include a strategy to ensure safe evacuation can be achieved. In addition, the ERP needs to consider the potential failure of any proposed drainage pumping equipment, as such a scenario may result in an extreme hazards.
- Earthworks within the floodplain have the potential to alter the flood behaviour and impact the surrounding areas. Therefore, the flood impacts and risks of earthworks at sites 8 to 11, 16 and 17 should be based on an understanding of staging construction and cumulative flood impacts up to the PMF level.
- While noting that stockpiles located in the floodplain are likely to obstruct and alter flood behaviour, additional detail is required as to why stockpiles are located above the 20 year ARI flood extent. Ideally, stockpiles should be located above the 100 year ARI extent and an assessment should be carried out to address their temporary impacts on flood behaviour and the surrounding environment up to the PMF level.
- The assessment of the concrete batch plant and pre-casting facility should assess any temporary impacts on flood behaviour and on the adjacent development for floods larger than the 100 year ARI up to the PMF.

OEH recommends EIS 2 adequately address the existing flood behaviour within the project area for the full range of floods up to the PMF comprising mainstream and local over land flow. The assessment should satisfactorily address the potential flood impacts against each key construction activity and measures to offset the impacts detailed above.

4. Salinity

The EIS has identified that areas of high salinity potential or with known salinity are present within the project area but limited further assessment of those areas is provided. Given the size and extent of the project, OEH considers it appropriate that additional soil salinity assessment is undertaken (mitigation measure SG9). This assessment would enable the development of management and mitigation measures to ensure that saline soils are managed appropriately, and damage to the environment as well as infrastructure is minimised.