



Office of
Environment
& Heritage

DOC15/481527
SSI6788

Ms Karen Jones
Director
Transport Assessments
Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

Attention: Dominic Crinnion

Dear Ms Jones

WestConnex New M5 (SSI 6788) - Amended Submission

I refer to the Office of Environment and Heritage's (OEH's) letter sent to you on 8 February 2016, containing OEH's submission on the public exhibition of the project environment impact statement for the proposed WestConnex New M5 (SSI 6788).

Please find attached amended advice for your consideration. This advice replaces that previously provided. If you have any further questions about this issue please contact Marnie Stewart, Senior Operations Officer on 99995 6868 or at marnie.stewart@environment.nsw.gov.au

Yours sincerely


15.2.16

TOM GROSSKOPF
Director Metropolitan
Regional Operations

Contact officer: MARNIE STEWART
9995 6868

Enclosure:

Attachment 1: The proposed WestConnex New M5 (SSI 6788) - Office of Environment and Heritage comments – 15 February 2016

Flood Risk Management

As the Department of Planning and Environment (DPE) is aware, OEH provided comments on 6 November 2015 on flood risk management matters as part of the consistency review process. OEH considers that these comments remain relevant to this stage of the assessment.

Sustainability

It is noted that it is proposed to apply the Infrastructure Sustainability Council of Australia's *Infrastructure Sustainability Rating Scheme*. This is strongly supported by OEH.

Biodiversity

The WestConnex New M5 project was declared a controlled action under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) by the Commonwealth Government. In accordance with the Bilateral Agreement between the Commonwealth of Australia and the State of New South Wales, the DPE will undertake an assessment of matters of national environmental significance.

To assist the Department, the following assessment has been undertaken in accordance with the DPE and OEH *Interim guidance for the review of the assessment of EPBC-listed threatened species and ecological communities in relation to major projects*.

Application of the Framework for Biodiversity Assessment

1. Identify whether or not the Framework for Biodiversity Assessment (FBA) has been applied to EPBC-listed species and communities. Where the FBA has not been correctly applied, identify the deficiencies that need to be resolved, or refer to other assessment material where this detail is provided.

OEH assessment

The FBA assessment has been conducted correctly, with the exceptions that:

- The exhibited Biodiversity Assessment Report (BAR) did not include the field data sheets from the plot surveys. These have since been provided to OEH.
- The Biodiversity Offsetting Strategy (BOS) did not confirm the location or quantity of the offsets. (See discussion of BOS at point 19 below).

The FBA checklist has been completed by OEH and applied to EPBC-listed Green and Golden Bell Frog (GGBF) and Cooks River Castlereagh Ironbark Forest in the Sydney Basin Bioregion (CRCIF).

Relevant EPBC-listed threatened species and ecological communities

EPBC-listed Ecological Communities (Vulnerable, Endangered, Critically Endangered)

2. Check that the proponent has considered all EPBC-listed ecological communities occurring on the project area and expressed a statement about the potential impact i.e. likely significant, low risk of impact, not occurring etc.

OEH assessment

The only EPBC Act-listed Endangered Ecological Community (EEC) occurring in the project area is CRCIF. This was determined by appropriate floristic plot surveys, etc., of the vegetation to be impacted. The impacts are assessed throughout the BAR. There is a significance assessment in Appendix G of BAR.

The referral advice also determined a possible significant effect on Turpentine Ironbark Forest in the Sydney Basin Bioregion, but the BAR (p32) has demonstrated that the vegetation in question does not meet the listing criteria (size and condition) under the EPBC Act. Consequently, this EEC will not be considered further in this assessment.

3. List the **EPBC-listed ecological communities** that will be **significantly impacted** by clearing or disturbance as a result of the development. List the Plant Community Types (PCTs) associated with these ecological communities.

OEH Assessment

Significantly impacted EPBC-listed Ecological Community	Associated PCTs	Impacted Area (ha)
Cooks River Castlereagh Ironbark Forest	Broad-leaved Ironbark - <i>Melaleuca decora</i> shrubby open forest on clay soils of the Cumberland Plain, Sydney Basin Bioregion	1.4

4. Confirm that the identification of PCTs has been appropriate. Confirm that the delineation of the extent of EPBC-listed ecological community has been appropriate. Identify if any of the EPBC-listed ecological communities are "Impacts for Further Consideration".

OEH assessment

The site inspection undertaken by OEH and review of data has indicated that identification and delineation of PCTs is correct.

While pre-assessment advice from OEH listed a number of entities for further consideration, this was due to the generalised nature of the description and location of the project at that time – it was only a wide potential corridor with no indication of where the project would impact on the surface provided.

The BAR (Section 7.6) has, correctly, determined that none of those species or communities is likely to become extinct in the Interim Biogeographic Regionalisation for Australia (IBRA) subregion as a result of the development and, of the three ***Threatened Species Conservation Act 1995*** (TSC Act)-listed entities to be impacted, none are listed as critically endangered. Therefore, there are no EECs for further consideration.

Threatened species

5. Check that the proponent has considered all the EPBC-listed species in the project area and expressed a statement about the potential impact i.e. likely significant, low risk of impact, not occurring etc.

OEH assessment

Table 15 in the BAR reviews all likely TSC Act-listed species and correctly concludes only GGBF to be significantly affected. There are no relevant EPBC-listed species that are not considered in the table.

While the referral brief considered that seven species (*Acacia bynoeana*, *Acacia pubescens*, *Melaleuca deanei*, *Persoonia hirsuta*, *Pimelea spicata*, *Syzygium paniculatum* and *Tetratheca juncea*) could

potentially be significantly affected, Table 26 of the BAR has correctly excluded these species from further assessment and significant effects are not likely. These species need not be discussed further.

Appendix A correctly discusses likelihood of occurrence of EPBC-listed species (including the seven listed in the referral decision brief) and concludes all species other than GGBF and Grey-headed Flying-fox (GHFF) are unlikely to be or are not present.

Significance was assessed in Appendix G and correctly concluded significant effect on GGBF, not GHFF.

6. List the **EPBC-listed threatened species** that are likely to be significantly impacted by the development. These are the relevant species.

OEH Assessment

Significantly impacted EPBC-Threatened Species
Green and Golden Bell Frog

7. List the significantly impacted EPBC-listed threatened species that are classified as “ecosystem credit species” for the purposes of the FBA.

OEH Assessment

EPBC-listed Species	Threatened	Associated PCTs
Nil.		n/a

List the significantly impacted EPBC-listed threatened species that are classified as “species credit species” for the purposes of the FBA.

EPBC-listed Threatened Species	Targeted survey results
Green and Golden Bell Frog	<p>EPBC Guidelines at http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=1870#survey_guidelines.</p> <p>Surveys of GGBF were not conducted for this project due to the long term monitoring of the site that has occurred over the last decade. It is considered that these previous studies have provided an acceptable knowledge of the species' population, distribution and habitat use on site.</p>

8. Identify if any of the EPBC-listed species are “Impacts for Further Consideration”.

OEH assessment

Nil. While pre-assessment advice from OEH listed a number of species for further consideration, this was due to the generalised nature of the project at that time - only a wide potential corridor with no indication of where the project would impact on the surface was provided.

The BAR (Section 7.6) has, correctly, determined that none of those species or communities are likely to become extinct in the IBRA subregion as a result of the development and, of the three TSC Act-listed entities to be impacted, none are listed as critically endangered. Therefore, there are no species for further consideration.

Measures to avoid and minimise impacts

9. Comment on whether or not the EIS identifies measures to avoid and minimise impacts on the significantly impacted (relevant) species and communities. Section 8 of the FBA requires that proponents detail these efforts and commitments in the EIS. Make a summary statement as to whether or not all avoid and minimise measures can be considered to benefit relevant EPBC-listed species and communities. Identify any measures specifically targeted at a single or a particular grouping of relevant EPBC-listed species and communities. Comment on the adequacy of measures to avoid and minimise impacts. Provide references to sections and page numbers in the EIS.

OEH assessment

Chapter 6 of the BAR discusses avoidance and minimisation of impacts. Specific avoid and minimise actions that have been or will be undertaken include:

1. Opportunities to minimise the impact on Cooks River Castlereagh Ironbark Forest at Beverly Grove “would be considered further during detailed design” (BAR p60) but “the avoid option has been exhausted” (BAR p103).
2. Reduction in the footprint of the works compound at Kogarah Golf Course – reducing the impact on GGBF foraging habitat during construction (BAR p61).
3. Provision of a 32m separation between the works at Kogarah Golf Course and the GGBF breeding ponds – reducing the likelihood of indirect impacts on GGBF during construction (BAR p61).
4. Providing a movement corridor between the breeding ponds and foraging habitat that will be retained on the golf course – reducing impacts on GGBF during construction (BAR p61).
5. Specific measures to reduce indirect impacts on GGBF from noise, vibration, light and dust during construction (BAR p76).
6. Preparation of a Flora and Fauna Management Plan (BAR p84-85) to include measures to minimise impacts on Cooks River Castlereagh Ironbark Forest.
7. Preparation of a GGBF Plan of Management (BAR p85-86), including establishment of a captive breeding colony to insure against stochastic events, removing and excluding GGBF from the construction area, augmenting existing foraging habitat, increasing available habitat at Marsh Street and reinstating habitat on the golf course post-construction.

Section 6.6.3, in particular Table 22 of the BAR, assesses the expected or predicted effectiveness of the proposed avoidance and mitigation measures.

OEH is not able to determine whether the work sites could be reconfigured to reduce the development footprints and must accept that the footprints and their impacts are as small as possible.

The measures proposed for avoiding indirect impacts during construction are, in general, appropriate and are based on previous projects that impact on the same species. For example, the use of exclusion fencing and pre-clearance surveys for GGBF has been a standard practice in developments for over a decade.

Impact assessment

Ecological Communities (Vulnerable, Endangered, Critically Endangered)

10. Check that an analysis of the impacts has been undertaken on each of the relevant EPBC-listed ecological communities.

OEH assessment

Significantly impacted EPBC-listed ecological communities	Brief statement of the nature and extent of impact
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Cooks River Castlereagh Ironbark Forest	<p>The BAR includes analysis of direct and indirect impacts at Table 16.</p> <p>Direct loss of 1.4 ha. Minor fragmentation impacts by reduction in remnant size from 2.0 ha to 0.6 ha.</p> <p>As stated in Table 16, “the landscape context within which this remnant exists is currently already highly urbanised and fragmented”. Additionally, OEH considers that there will be minimal increases in edge effects because this remnant is nearly all edge already and has only been maintained in its current condition through active management by RMS since the construction of the existing M5 motorway.</p>
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11. Summarise the impacts calculated for Plant Community Types associated with EPBC-listed ecological communities. These impacts are the direct impacts to vegetation that remain following the application of measures to avoid and minimise impact. This is referred to by the Commonwealth as a residual significant adverse impact and requires an offset.

OEH Assessment

EPBC-listed ecological community	PCT	Area	Credits required
CRCIF	725	1.4	31
TOTAL		1.4	31

Threatened species

12. Check that an analysis of the impacts has been undertaken on each of the relevant EPBC-listed threatened species.

OEH Assessment

Significantly impacted EPBC-listed Threatened Species	Brief statement of the nature and extent of impact
Green and Golden Bell Frog	<p>Analysis of direct and indirect impacts in Table 16 of BAR:</p> <ul style="list-style-type: none"> • 7.82 ha of foraging, sheltering and dispersal habitat, small number of intermittent breeding ponds (artificial) temporarily unavailable during construction. • Smaller, unspecified, area (including one pond used rarely for breeding) permanently lost due to construction of operational facilities. • Potential for direct loss of individual GGBF during construction. • Potential for water spillage to transfer Chytrid fungus to existing breeding ponds during construction. • Potential for indirect impacts through noise, dust, light and vibration during construction.

13. Summarise the impacts that have been calculated for Plant Community Types associated with (significantly impacted) EPBC-listed threatened species that are “ecosystem credit species” for the purposes of the FBA. These impacts are the direct impacts to vegetation that remain following the application of measures to avoid and minimise impact. This is referred to by the Commonwealth as a residual significant adverse impact and requires an offset.

OEH Assessment

EPBC-listed Threatened Species	Associated PCT	Condition score	Area	Credits required
Nil				

14. Summarise the impacts have been calculated for EPBC-listed species that are “species credit species” for the purposes of the FBA. These impacts are the direct impacts to habitat that remain following the application of measures to avoid and minimise impact. This is referred to by the Commonwealth as a residual significant adverse impact and requires an offset.

OEH Assessment

Species	Area	Credits required
Green and Golden Bell Frog	7.82 ha	203

Indirect impacts

15. Comment on whether or not the EIS assesses indirect impacts. Comment on the completeness of the analysis of impacts. Comment on whether or not indirect impacts are appropriately managed by the ‘avoid and minimise’ measures. Make a summary statement as to whether indirect impacts are likely to add to residual significant adverse impacts. If there are residual significant adverse impacts resulting from indirect impacts additional offsets may be required.

OEH assessment

The analysis of indirect impacts is thorough and complete. Measures proposed to avoid and minimise indirect impacts are the most appropriate available. There is a very low risk that indirect impacts could result in the loss of the breeding population of GGBF at Marsh Street during construction, but the consequences of such an outcome are high which is why it is proposed to establish an ex-situ population. It may be appropriate to condition the approval to require additional offsets should the worst case scenario arise and the population on site be lost.

Offset package

Ecological Communities

16. Summarise the proposed offsets for EPBC-listed EECs, located within remnant vegetation.

OEH Assessment

EPBC-listed ecological community	Associated PCTs	Area	Credits generated
See discussion under Point 19			
TOTAL			

17. Summarise any supplementary measure proposed for ecological communities, including whether the conditions for seeking to offset with a supplementary measure have been met and provide references to the EIS (Section, pages).

See discussion under Point 19

Threatened species

18. Summarise proposed offsets for EPBC- listed threatened species that are ecosystem credit species for the purposes of the FBA are summarised below. These offsets have been generated by remnant vegetation.

OEH Assessment

EPBC-listed Community	Ecological	Associated PCTs	Area	Credits generated
See discussion under Point 19				
TOTAL				

19. Summarise the proposed offsets for EPBC-listed threatened species that are species credit species for the purposes of the FBA are summarised below.

OEH Assessment

EPBC-listed Community	Ecological	Associated PCTs	Area	Credits generated
See discussion under below				
TOTAL				

The BOS has outlined the measures that have been taken to attempt to secure the credits required for offsetting of this project. This has included:

- Identifying existing GGBF credits on the market and entering discussions with the landholder.
- Identifying other sites where GGBF credits could potentially be generated.
- Identifying two sites where CRCIF credits could be generated.
- Discussion of possible supplementary measures.

These efforts have been compliant with Appendix A of the NSW Biodiversity Offsets Policy for Major Projects.

The BOS is not, however, compliant with Appendix 7, Table 22, of the FBA as it has not confirmed the locations of the offsets, nor provided a credit calculator output, etc.

It is important that the timing for delivery and the security of the offsets proposed be specified in the conditions of approval. To facilitate this, it is recommended that DPE, OEH and Sydney Motorway Corporation discuss the most appropriate requirements prior to approval being issued.

20. Describe any supplementary measure proposed, including whether the conditions for seeking to offset with a supplementary measure have been met and provide references to the EIS (Section, pages).

See discussion under Point 19

Information and advice relied upon

21. The following references and information were relied upon for this evaluation of the assessment of impacts on EPBC-listed Threatened Species and Ecological Communities.

OEH Assessment

Reference	Information considered
No other expert opinion was sought	

Acceptability of impacts

22. Make a summary statement on the acceptability of impacts. Consider the following:

- The impacts in the context of the avoid, minimise and offset package proposed
- Additional information provided for any "Impacts for further consideration"
- Conditions that may improve the acceptability of the impact
- Whether further information is required to properly evaluate the acceptability of the impact.

OEH assessment

Cooks River Castlereagh Ironbark Forest in the Sydney Basin Bioregion

The proposal will result in the permanent removal of 1.4 ha of CRCIF. This 1.4 ha is not substantial in the context of the 1100 ha that currently exists.

The approved conservation advice has Priority Conservation Actions (p16), including: "Identify high conservation value sites for conservation management... that meet the high quality condition thresholds". This site would meet the high condition class threshold of the Conservation Advice as it is >0.5ha and >70% of the perennial understorey is native. However, this is likely to only be because of active management since the M5 was constructed. Current management of this site is subject to unsecured RMS funding and it is not in a secure conservation tenure. Securing an offset in a BioBanking agreement would more effectively achieve the Priority Conservation Action of the Conservation Advice noted above.

For these reasons the direct impacts are considered acceptable.

The remaining 0.6 ha of CRCIF from the remnant will be subject to very minor additional edge effects but, given the current small size of the remnant (~2 ha) the additional impacts will be minimal and acceptable.

Green and Golden Bell Frog

The proposal will remove 7.8 ha of foraging, dispersal and occasional breeding habitat for GGBF. An unspecified area (which OEH estimates to be 1 ha) of this habitat will be permanently removed for the construction of a motorway operations complex. The remainder would be reinstated. As this habitat consists of trees within a golf course, tees, fairways, greens, etc., and artificial ponds, reinstatement should be successful. Nevertheless, the proposed offset is for the entire 7.8 ha.

There are also potential indirect impacts from noise, dust, vibration and lighting, etc., during construction. These are assessed in Section 6.4.2 of the BAR and will be addressed by measures listed in that section.

Indirect impacts through the introduction of pathogens or pests are addressed in 6.4.1, which correctly concludes that the proposal will not substantially increase these threats.

Additionally, there will be the possibility of stochastic incidents (chemical spills, etc.) during construction. This is noted in 6.6.2 of the BAR, which proposes the establishment of an ex-situ insurance colony.

There is still a small potential for loss of the population due to these factors, but the consequences of such an outcome are high. It is recommended that any approval be conditioned so that, in the event of the population being lost during construction, further offsets be required to be provided. These offsets should be calculated using the FBA and be based on the loss of the population of GGBF (individuals) rather than the loss of an area of habitat (hectares).

There are also lesser potential permanent indirect impacts of noise and lighting from the motorway operations complex. These need to be considered in the context of the current site which has a major road (Marsh Street) and the current M5 motorway adjacent to it. In that context, any impacts from the operations complex should be minor and are acceptable.

Finally, the Approved Conservation Advice has relevant Regional Priority Actions (p3):

- "Investigate formal conservation arrangements, management agreements and covenants on private land, and for crown and private land investigate and/or secure inclusion in reserve tenure if possible". This Action will be implemented through the retirement of GGBF credits at an existing BioBanking site or through securing an additional site with a GGBF population.
- "Ensure there is no disturbance in areas where the green and golden bell frog occurs,...". This proposal is minimising the disturbance to the GGBF population to the greatest extent possible.

EPBC- decision making

OEH Assessment

Assessment not inconsistent with plans

Name of plan	Relevant matters	Key considerations	Reference in EIS
Draft NSW and Commonwealth GGBF Recovery Plan http://www.environment.nsw.gov.au/recoveryplanGreenGoldBellFrogDraft.pdf	<p>Arnccliffe population is a key population for the species. The Recovery Plan recommends developing a management plan for key populations.</p> <p>Specific Objectives:</p> <ul style="list-style-type: none"> • "Increase the security of key GGBF populations by way of preventing the further loss of GGBF habitat at key populations across the species range and where possible secure opportunities for increasing protection of habitat areas". • "Ensure extant GGBF populations are managed to eliminate or attenuate the operation of factors that are known or discovered to be detrimentally affecting the species." <p>Overall Criteria:</p> <ul style="list-style-type: none"> • "No net loss of habitat will occur at key populations across the species range and mechanisms to improve security of each of these populations will be explored and implemented where possible". • "Currently operating threats at key populations will be better understood, ameliorated and/or reduced to a level such that the populations are no longer subject to imminent extinction threats and an integrated habitat rehabilitation, creation and management program (involving the community where possible) will be established to address long term on-going site management issues at key populations". 	<p>Management Plan has been developed (see discussion below)</p> <p>Proposed works conflict with these objectives [but impacts have been minimised and/or mitigated].</p> <p>Offsetting through retiring BioBanking credits will implement the second of these objectives.</p> <p>The only permanent loss of habitat will be the approximately 1 hectare for the motorway operations centre. The BioBanking site where GGBF credits are currently available is part of the key population at Crescent Head/Hat Head National Park, so retiring those credits would partially address the long term management issues at that population.</p>	<p>BAR 2.1.2</p> <p>BAR p.200</p> <p>BAR Table 16</p>

	<p>Reservation/Conservation Recovery Actions</p> <ul style="list-style-type: none"> • [OEH] will liaise with private landholders whose properties contain key populations of the GGBF. This liaison will be directed towards increasing the level of protection of areas of GGBF habitat. 	<p>The RMS proposal to augment and improve the GGBF habitat at Arncliffe would also address the long term management issues at this population.</p> <p>The retirement of BioBanking credits for this species will implement this action.</p>	BAR 3.3.2
<p>Department of Environment and Climate Change (NSW) 2008, Management Plan for the Green and Golden Bell Frog Key Population on the lower Cooks River. Department of Environment and Climate Change (NSW), Sydney</p>	<p>Strategy 2.1 "Consent authorities will ensure that losses of habitat resulting from proposed and future developments are accompanied by appropriate offsetting."</p>	<p>Offsetting of this proposal will implement that strategy. Additionally, RMS is pursuing creation, enhancement and securing of habitat adjacent to the development site as another measure in the BOS (BAR 3.3.2).</p>	<p>BAR 2.1.2</p> <p>BAR pp.200-201</p>

Consideration of guidelines and plans

EPBC-listed species or community	Relevant Approved Conservation Advice	Reference in EIS
Cooks River Castlereagh Ironbark Forest	CRCIF Approved Conservation Advice http://www.environment.gov.au/biodiversity/threatened/communities/pubs/129-conservation-advice.pdf	Sections 4.1.1, Appendix G
Green and Golden Bell Frog	GGBF Approved Conservation Advice http://www.environment.gov.au/biodiversity/threatened/species/pubs/1870-conservation-advice.pdf	Section 5.2.1, Appendix G

