

Environmental Assessment Requirements

Section 5.16 of the *Environmental Planning and Assessment Act 1979*

Application Number	SSI-10045
Project	Mole River Dam
Location	Mole River Dam Project, near Tenterfield NSW, and the areas identified by information provided by the proponent in the Mole River Dam Scoping Report (Report Number J190822 RP-007, Version v4, dated 9 March 2020)
Proponent	WaterNSW ABN 21 147 934 787
Date of Issue	27 July 2020
General Requirements	<p>The Environmental Impact Statement (EIS) must be prepared in accordance with Part 3 of Schedule 2 of the <i>Environmental Planning and Assessment Regulation 2000</i> (the EP&A Regulation).</p> <p>The project requires approval under the <i>Environmental Protection and Biodiversity Conservation Act 1999 (Cth)</i> (EPBC Act), and is being assessed under the <i>Bilateral agreement made under section 45 of the Environmental Protection and Biodiversity Conservation Act 1999 (Cth) relating to environmental assessment between Commonwealth of Australia and The State of New South Wales (Bilateral Agreement)</i> as amended. The EIS must address the requirements of Attachment 1.</p> <p>Where the Proposal requires approval under the EPBC Act and is being assessed under the Bilateral Agreement the EIS should address:</p> <ul style="list-style-type: none">(a) consideration of any Protected Matters that may be impacted by the development where the Commonwealth Minister has determined that the Proposal is a Controlled Action.(b) identification and assessment of those Protected Matters that are likely to be significantly impacted.(c) details of how significant impacts to Protected Matters have been avoided, mitigated and, if necessary, offset.(d) consideration of, and reference to, any relevant conservation advices, recovery plans and threat abatement plans. <p>The onus is on the Proponent to ensure legislative requirements relevant to the Proposal are met.</p> <p>In particular, the EIS must include, but not necessarily be limited to, the following:</p> <ul style="list-style-type: none">(a) an executive summary.(b) a full description of the project, including:<ul style="list-style-type: none">i. the design for the project that is proposed to be constructed and operated.ii. all components, disturbance areas, materials, activities, site preparation and construction infrastructure (e.g. storage compounds, dirty water areas, roads, concrete batch plants) required to construct the project (including any ancillary development that may require separate approvals).iii. the operation of the dam, and associated dam or water delivery

- infrastructure that is proposed to be constructed.
 - iv. likely staging or sequencing of the project, including construction, operation, maintenance, decommissioning and rehabilitation.
 - v. site plans, maps, drawings and diagrams at an adequate scale with dimensions in an electronic format that enables integration with mapping and other technical software, showing:
 - A. the location and dimensions of all project components.
 - B. existing infrastructure, land use, and environmental features.
 - C. the development footprint that has been assessed and consideration of design options.
 - vi. the likely interactions between the project and any other existing, approved, proposed, reasonably foreseeable development in the vicinity of the site, including an assessment of the cumulative impacts on the environment.
 - vii. Identification of the extent of significant impacts from the regulation of previously unregulated river systems, including the end of system point, and justification for the selection of this extent.
- (c) a summary of the strategic need for the project, having regard to the project as critical State significance infrastructure, and relevant State Government policy.
- (d) a statement of the strategic objective(s).
- (e) a description of how alternatives to and options within the project were analysed and optimised to inform the selection of the preferred alternative / option. The description must contain sufficient detail to enable an understanding of why the preferred alternative was selected over other options(s) considered for achieving the project strategic objective.
- (f) the statutory context of the Proposal (as a whole) including:
 - i. how it meets the provisions of the *Environmental Planning and Assessment Act 1979* (the EP&A Act) and the EP&A Regulation.
 - ii. a list of any approvals that must be obtained under any other Act or law before the Proposal may lawfully be carried out.
 - iii. identification of the existing environmental planning instruments and other current government strategic plans and policies relevant to the project and land subject to the Proposal (including State environmental planning policies, land use and infrastructure strategies and local strategic planning statements).
- (g) an assessment of the likely impacts of the project on the biophysical and socio-economic environment, focusing on the specific issues identified below and any other significant issues identified, including:
 - i. a description of how the project has considered potential interaction with the NewGrid Proposal in consultation with Tenterfield Shire Council.
 - ii. a description of the existing environment likely to be affected by the project using relevant and adequate data.
 - iii. an assessment of the potential impacts of the project, including any cumulative impacts, and taking into consideration relevant guidelines, policies, plans and industry codes of practice.
 - iv. a description and details of how the project has been designed to avoid, minimise and offset impacts.
 - v. a description of how any residual impacts will be managed or offset, including justification of the selection and effectiveness of these measures.
 - vi. any assumptions used in the modelling for the assessment

- of likely impacts.
- (h) a chapter that synthesises the environmental impact assessment and provides:
- i. a succinct but complete description of the project for which approval is sought.
 - ii. a description of any uncertainties that still exist around design, construction methodologies and/or operational methodologies and how these will be resolved
 - iii. a compilation of the impacts of the project that have not been avoided.
 - iv. a compilation of the proposed measures associated with each impact to avoid or minimise or offset these impacts.
 - v. a compilation of the outcome(s) the proponent will achieve.
 - vi. the reasons justifying carrying out the project as proposed, having regard to the biophysical, economic and social considerations, including ecologically sustainable development and cumulative impacts.
 - vii. a consolidated summary of all the proposed environmental management and monitoring measures, identifying all the commitments in the EIS.

The EIS(s) must only include data and analysis that is reasonably needed to make a decision on the Proposal. Relevant information must be succinctly summarised in the EIS and included in full in appendices. Irrelevant, conflicting or duplicated information must be avoided.

While not exhaustive, Attachment B contains a list of some of the environmental planning instruments, guidelines, policies, and plans that may be relevant to the environmental assessment of the project.

Key Issues

The level of assessment of likely impacts should be commensurate with the significance, degree or extent of impact within the context of the proposed location and surrounding environment. The assessment must have regard to applicable NSW and Commonwealth Government policies and guidelines. In particular, the EIS must address the following:

Water – including:

Assessment of water related impacts in consultation with, and having regard to the requirements of DPIE Water regarding scientific modelling assumptions, hydrological modelling methodologies and modelling inputs, including:

1. A description and mapping, of the existing hydrological and hydrogeological regimes upstream and downstream to the proposed end of system flow point of the planned regulated river for surface and groundwater resources likely to be impacted by the project, including:
 - a) rivers, streams, wetlands, groundwater resources, groundwater dependant ecosystems, drainage patterns, watercourses, and riparian land.
 - b) preferred options for proposed intake and dam discharge locations.
 - c) highly connected alluvial aquifers and their responses to river flows.
 - d) groundwater systems including alluvial aquifers and recharge rates.

This description must incorporate relevant and adequate baseline assessment data and information, including:

- a) baseline data such as flows, levels, quantity and quality of flows.
 - b) river channel form and river styles.
 - c) relationships between the channel and adjacent floodplains.
 - d) geomorphic assessment including in-channel geomorphic features of the project footprint, and upstream and downstream banks.
 - e) sediment transmission rates, storage and reworking, and in-channel sediment features.
 - f) energy transmission through the system.
2. An assessment and mapping of the predicted impacts of construction and operation of the project on water quality and hydrological, hydrogeological regimes, impacts of regulated river operations and any required contingency arrangements on flow characteristics at the project footprint, upstream and downstream for all surface and groundwater resources likely to be impacted by the project, including:
- a) a detailed water balance for ground and surface water.
 - b) comparison to baseline data.
 - c) any changes to hydrologic behaviour.
 - d) altered flow hydrographs where unregulated rivers become regulated rivers.
 - e) impacts to river hydrology, hydraulics and geomorphology
 - f) quantification and assessment of the lotic habitat changes (temporary and permanent).
 - g) on indicators and trigger values/criteria for the environmental values identified in Water Quality Objectives in accordance with ANZECC (2000) Guidelines for Fresh and Marine Water Quality, and any local water quality objectives.
 - h) water quality impacts arising from the initial filling of the dam and subsequent releases.
 - i) identification of water take volumes from relevant surface water and groundwater sources due to construction and operation of the project.
 - j) the extent and changes in longitudinal and lateral hydrologic connectivity.
 - k) any impacts to existing water users.
 - l) anticipated impacts to flood flow transmission and continuity.
 - m) compatibility with the hydraulic functions of flow conveyance in floodways, and storage in flood storage areas of the land.
 - n) potential for water eutrophication, the potential for blue green algal blooms.
 - o) changes to groundwater recharge and levels.
 - p) hydrologic connectivity along the regulated river and pool function and behaviour.
 - q) interruption of sediment transmission, effects of sediment starvation and potential for erosion and sediment release.
 - r) impacts to erosion, bank form, sediment release and transport rates and bed perturbation from altered rates of rise and fall.
 - s) potential for bank slumping or erosion.
3. Identification of mitigation measures for any residual impacts to hydrology, water quality and geomorphology resulting from the construction and operation of the project, including details of any monitoring programs proposed to measure the performance of the mitigation measures.
4. Details of design criteria relating to the process of regulating a currently unregulated system, including:

- a) river flow hydrographs.
 - b) release rules.
 - c) any proposed translucency measures and other alteration of riverine hydrology.
 - d) flow energy.
 - e) sediment transport.
5. Details of the proposed operational management of water supply and proposed delivery system with specific reference to:
- a) any use restrictions.
 - b) treatment requirements.
 - c) other necessary management tied to threshold percentage levels within the storage.
6. An assessment of the project's consistency with legislation and relevant consents, licences or permissions or any form of authorisation that govern the use or impacts of water, or affect water users, including:
- a) identification of legislative and regulatory context and relationships between these.
 - b) identification of whether potential legal or administrative changes are required to carry out the project.
 - c) assessment of the impact on all existing water entitlements, approvals, or relevant exemptions required for the construction or operation of the project, including an assessment of the current market depth where water entitlement will be purchased.
 - d) details of how Basin Plan requirements for protection of planned environmental water and sustainable diversion limits will be considered.
 - e) details of consultation and agreements with the Border Rivers Commission.
 - f) details of any impacts on existing Water Sharing Plans (WSP) or Water Resource Plans, including any changes to meet WSP and Basin Plan objectives and requirements.
 - g) impacts to groundwater in accordance with the NSW Aquifer Inference Policy.

Terrestrial Biodiversity and Ecology – including:

7. Assessment of terrestrial, riparian and floodplain biodiversity and ecology that addresses all direct, indirect, and prescribed impacts of the project on flora and fauna, threatened species, populations, and communities for the construction and operation of the asset, including flow dependent and groundwater dependent ecosystems.
8. Assessment of impacts of changes to inundation behaviour on the floodplain ecosystems on, adjacent to or downstream from the project site. This must be informed by the flooding assessment required by these SEARs.
9. Assessment and reporting of terrestrial biodiversity values and the likely biodiversity impacts of the project in accordance with the Biodiversity Conservation Act 2016 and Biodiversity Conservation Regulation 2017, including:
- a) assessment using the NSW Biodiversity Assessment Method (BAM) by a person accredited in accordance with the Accreditation Scheme for the Application of Biodiversity Assessment Order 2017 under s6.10 of the Biodiversity Conservation Act 2016.
 - b) production of a Biodiversity Development Assessment Report

(BDAR) by a person accredited in accordance with the Accreditation Scheme for the Application of Biodiversity Assessment Order 2017 under s6.10 of the Biodiversity Conservation Act 2016.

- c) assessment of impacts to listed threatened species and ecological communities, migratory species, and wetlands of international importance.
10. The BDAR produced must:
- a) document the avoid, minimise, offset framework for all direct, indirect and prescribed impacts in accordance with the BAM
 - b) include details of the measures proposed to address biodiversity offsetting requirements, including:
 - i. the number and classes of biodiversity credits required to be retired for the project.
 - ii. number and classes of like-for-like biodiversity credits to be retired.
 - iii. number and classes of biodiversity credits proposed to be retired in accordance with the variation.
 - iv. any proposal to fund a biodiversity conservation action.
 - v. any proposal to make a payment to the biodiversity conservation fund.
 - vi. if seeking approval to use the variation rules, the BDAR must contain details of the reasonable steps that have been taken to while attempting to obtain like-for-like biodiversity credits.
11. The BDAR must be submitted with all spatial data associated with the survey and assessment as per Appendix 11 of the BAM.
12. A strategy to offset any residual impacts of the project on terrestrial biodiversity in the medium to long term.

Aquatic and Riparian Biodiversity and Ecology – including:

13. Assessment of aquatic, riverine and riparian biodiversity and ecology that addresses all direct, indirect, and prescribed impacts of the project on Key Fish Habitat and associated flora and fauna, threatened species, populations, and communities for the construction and operation of the asset.

The assessment must comply with requirements outlined in the Policy and Guidelines for Fish Habitat Conservation and Management (2013), and must be prepared in consultation with, and have regard to the requirements of DPI Fisheries.

14. Assessment of impact of changes to inundation behaviour on aquatic ecosystems upstream and downstream from the project site.
15. An assessment of likely significant impacts on listed threatened species, populations or ecological communities, in accordance with Part 7A of the Fisheries Management Act, 1994, including:
 - a) assessment of the impacts according to the ‘Seven-Part Test’.
 - b) consideration of NSW DPI threatened species indicative distribution maps for species, populations and ecological communities likely to be present.
16. An Aquatic Biodiversity Offsets Strategy that is consistent with the Policy and Guidelines for Fish Habitat Conservation and Management (2013) and the NSW Biodiversity Offsets Policy for Major Projects that addresses direct, indirect, and prescribed impacts of the project

during construction and operation, focusing on protecting and improving the biodiversity and conservation values of the Border Rivers Valley, its biota, and associated riparian zones in the medium to long-term. The strategy must be prepared in consultation with, and have regard to the requirements of DPI Fisheries.

17. Description of the type and extent of any dredging or reclamation activities within 'water land' as defined under the FM Act. This assessment must be prepared in consultation with, and have regard to the requirements of DPI Fisheries.
18. An assessment performed in consultation with, and have regard to the requirements of NSW DPI Fisheries of the ecological impact of the Mole River Dam and associated project infrastructure upon the safe upstream and downstream passage of fish over the full range of dam operating conditions, including:
 - a) assessment of how the proposed operating rules of the dam may impact upon safe fish passage as a result of the rules.
 - b) assessment of the risks of spillway design on the safe downstream passage of native fish, and mitigation measures that will be implemented to secure the safe downstream passage of native fish during dam spill events.
 - c) assessment of how the spillway stilling basin design mitigates the risk of fish being left stranded within or beneath the spillway following the cessation of spillway operation.
19. Development of suitable fish passage mitigation strategies (including potential offsets) to the satisfaction of NSW DPI Fisheries that align with the NSW DPI Fisheries Fishway Design Guidelines (2015) and the Policy and Guidelines for Fish Habitat Conservation and Management (2013), including:
 - a) justification that proposed fish passage mitigation will be effective over the full operational range of the dam.
 - b) details and identification of the costs of any monitoring program that is proposed to evaluate fish passage impacts and planned mitigation measures for the purpose of adaptive management of the dam.
20. A description and assessment of how the dam and associated water infrastructure will be managed over the full range of operating conditions, and how this relates to aquatic biodiversity mitigation and offsetting strategies.
21. An assessment of the ecological impacts of Cold-Water Pollution (CWP) from the operation of Mole River Dam.
22. Details of CWP impact mitigation strategies developed to minimise the impacts of CWP when releasing dam water into receiving waterways, including;
 - a) justification that any proposed CWP mitigation will be effective during dam operation, including under operating constraints imposed by requirements to manage algae in the dam, and in accordance with water quality conditions outlined in Schedule 11 of the Murray Darling Basin Plan and within the NSW Cold Water Pollution Strategy Guidelines for Managing Cold Water Releases from High Priority Dams (2011).

b) proposed operating protocols for any CWP mitigation measures, and details of how CWP mitigation operating protocols are affected by operating protocols put in place to manage algae in the dam.

c) identification of the total cost of any monitoring program that is proposed to evaluate CWP impacts and planned mitigation measures for the purpose of adaptive management post dam construction.

Aboriginal cultural heritage – including:

23. Identification, description and assessment of impacts upon Aboriginal cultural heritage values that across the whole area that will be affected by the project, and any other area which the project could directly or indirectly impact.

24. Documentation of impacts to aboriginal cultural heritage in an Aboriginal Cultural Heritage Assessment Report (ACHAR) in accordance with the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010) and guided by the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NMSW (DECCW 2011, which must:

- a) be prepared in consultation with the local Aboriginal community and other relevant stakeholders.
- b) be prepared in consultation with DPIE Biodiversity and Conservation Division regional branch officers
- c) document all surface survey and test excavations.
- d) demonstrate attempts to avoid impact upon cultural heritage values and identify any conservation outcomes.
- e) outline measures proposed to mitigate impacts, and identify any conservation outcomes, where impacts are unavoidable.
- f) any objects recorded as part of the assessment must be documented and notified DPC Heritage.

25. Assessment of potential impacts upon Aboriginal cultural fishing activities, including potential impacts on fishing opportunities and access facilities (e.g. public boat ramps, during construction and operation.

26. Documentation of consultation with Aboriginal stakeholders regarding potential impacts of the project on cultural fishing activities.

Non-Aboriginal Heritage – including:

27. An assessment of non-Aboriginal Heritage including potential impacts on the surrounding site and surrounding area, including any built landscape items, conservation areas, views and settings.

28. A Statement of Heritage Impact (SOHI) prepared by a suitably qualified heritage consultant in accordance with the guidelines in the NSW Heritage Manual. The SOHI is to address the impacts of the proposal on the heritage significance of the site and adjacent areas and is to identify the following:

- a) all heritage items (state and local) within the vicinity of the site including built heritage, landscapes and archaeology, detailed mapping of these items, and assessment of why the items and site(s) are of heritage significance.
- b) compliance with any relevant Conservation Management Plan/s.
- c) the impacts of the proposal on heritage item(s) including visual impacts, required BCA and DDA works, new fixtures, fittings

- and finishes, any modified services.
- d) the attempts to avoid and/or mitigate the impact on the heritage significance or cultural heritage values of the site and the surrounding heritage items.
- e) justification for any changes to the heritage fabric or landscape elements including any options analysis.

Land – including:

29. An assessment of the impacts of the project on soils and land capability of the site and surrounds, including:
 - a) stability.
 - b) acid sulphate soils.
 - c) Salinity.
 - d) soil erosion and sediment transport.
 - e) acid drainage from waste rock, overburden, spoil, and excavated areas.
30. An assessment of the impacts of the project on landforms, including the short- and long-term geotechnical stability of any new landforms and any seismic or subsidence impacts.
31. An assessment of the risk of soil contamination based on the predicted geochemistry of any excavated rock and any previous disturbance of land.
32. Characterisation of the nature and extent of any contamination on the site and surrounding area.
33. Documented consultation with landholders within the potential project area, including the inundation area, for the purpose of determining where any known current or historic private landfills or waste disposal locations are situated.
34. The procedure or assessment plan by which landfills, or waste disposal locations will be identified, contamination risks mitigated, and appropriately remediated and/or removed from site.
35. Assessment of the Pyes deposit mine workings to investigate any investigate any potential land and water contamination issues in connection with the site, by way of an assessment methodology approved by NSW EPA.
36. Documentation of any actions that are necessary actions to be taken to prevent contamination of surface, groundwaters and soils should also be documented, determined in in consultation with NSW EPA.
37. A description of any quarry established to provide material to the project, including the location, estimate of extraction, material characterisation, and determination of whether an environment protection licence under the Protection of the Environment Operations Act 1997 would be required.
38. The Proponent must assess the impacts on soil and land resources (including erosion risk or hazard). Particular attention must be given to soil erosion and sediment transport consistent with the practices and principles in the current guidelines.

Flooding – including:

39. An assessment, modelling and mapping of the impacts on flooding

and floodplain behaviour during construction and operation of the project for a full range of flood events (including at least the 10%, 5%, 1% and 0.2% AEP), up to the probable maximum flood (PMF) in consideration of the Floodplain Development Manual (2005) and related guidelines. For the operational assessment, the assessment must be taken when the infrastructure is filled to fully supply level (FSL). The assessment must consider and document:

- a) comparison with council and any relevant rural flood studies in the area and examine the consistency of modelling to existing studies.
- b) assessment of consistency with Local Council and Rural Floodplain risk management plans.
- c) any increased impacts from flooding on other properties, assets and infrastructure.
- d) impacts of the development on flood behaviour resulting in altered potential flood affection flow velocities, flood levels, timing and flood duration and hazard categories where there is a change in flood behaviour leading to an increased risk of flooding.
- e) compatibility of the existing use of other property with the altered flood hazard and hydraulic categories of the land where there is a change in flood behaviour leading to an increased risk of flooding.
- f) the extent and nature of impacts from managed floodplain inundation possible using the dam outlet.
- g) in areas where there is a change in flood behaviour, the changes to the flood extents for modelled events should be mapped and the location of any changes to the existing case highlighted.
- h) assessment of the impact the project may have upon existing emergency management arrangements for flooding in consultation with Council and the NSW SES.
- i) where there would be a change in emergency arrangements, including a reduction in the time to implement arrangements or an increase in frequency of needing to activate these arrangements, details of the emergency management, evacuation and access and contingency measures for construction and operational stages of the project need to be included considering the full range of floods including the PMF, in consultation with Council and the SES.
- j) specific measures that are proposed to manage the risk to life from flood where there would be a change in risk to life, in consultation with Council and the NSW SES.
- k) consideration of contingency plans for the management of traffic during construction in the event of road closures in the area.
- l) an assessment of the risk and vulnerability of the project to changes in flooding behaviour resulting from climate change in accordance with appropriate current guidelines, and a justification for the use of those guidelines
- m) impacts the development may have on the social and economic cost to the community as a consequence of flooding where there would be a change in flooding impacts.

40. An assessment, mapping and modelling of the impacts of reduced inundation and altered floodplain behaviour during construction and operation of the project for a range of water supply levels on other properties.

Transport – including:

41. Provide a Traffic Impact Assessment (TIA) addressing construction and operational traffic impacts prepared by a suitably qualified person in accordance with the Austroads Guide to Traffic Management, TfNSW Supplements to Austroads and the RTA Guide to Traffic Generating Developments. The TIA is to be developed in consultation with Transport for NSW.
42. For identified road safety concerns at specific locations along the proposed haulage routes, the TIA should be supported by a targeted Road Safety Audit undertaken by suitably qualified persons.
43. Identify controls for transport and use of any dangerous goods in accordance with State Environmental Planning Policy No. 33 – Hazardous and Offensive Development, the Australian Dangerous Goods Code and Australian Standard 4452: Storage and Handling of Toxic Substances.
44. Provide details of any temporary or permanent river closures, or exclusion zones during construction and operation of the project identified in consultation with Transport for NSW.

Noise and Vibration – including:

45. A quantitative assessment of potential demolition, construction, operational and transport noise and vibration impacts of the project. This is to include the identification of existing and potential future sensitive receivers and consideration of approved and/or proposed development in the vicinity.
46. Details and justification of proposed noise mitigation and monitoring measures.
47. An assessment of blast impacts (if blasting is required) compliance with current guidelines.

Air – including:

48. A quantitative assessment of the potential air quality, dust and odour impacts of the project in accordance with the relevant guidelines. This is to include the identification of existing and potential future sensitive receivers and consideration of approved and/or proposed developments in the vicinity.
49. Details and justification of proposed air quality mitigation and monitoring measures.

Public Safety – including:

50. Assessment of how Dam Safety NSW legislation, guidelines and guidance are to be considered in the design, construction and operation of the dam, including:
 - a) identification of the consequence category of the dam; and
 - b) description of how dam safety will be managed for the life of the asset.
51. A Health Impact Assessment of the project in accordance with the current guidelines.
52. An assessment of the likely risks of the project to public safety including flood risk, subsidence risks, bushfire risks and the handling and use of dangerous goods.

Social – including a Social Impact Assessment, that:

53. Identifies and assesses the potential social impacts of the project, from the points of view of the affected community/ies and other relevant stakeholders, i.e. how they expect to experience the project.
54. Assesses the significance of positive, negative and cumulative social impacts considering likelihood, extent, duration, severity/scale, sensitivity/importance, and level of concern/interest.
55. Includes mitigation measures for likely negative social impacts and any proposed enhancement measure.
56. Provides details of how social impacts will be adaptively monitored and managed over time.
57. Identifies any positive or negative long-term recreational use impacts.

Visual – including:

58. An assessment of the visual impact of the project and any ancillary infrastructure during construction and operation on:
 - a) views and vistas.
 - b) key sites and buildings.
 - c) heritage items including Aboriginal places and non-Aboriginal heritage.
 - d) the local community.
59. Artist impressions, perspective drawings and view analysis of the project to illustrate how the project has minimised the visual impact through design and landscaping.

Public domain and public access - including

60. Identify the proposed public domain areas and linkages, including key vehicular, bicycle and pedestrian access points.

Waste – including:

61. Details of the quantities and classification of all waste streams to be generated on site during construction, operation and decommissioning of the project, including spoil and other excavated materials.
62. Details of waste storage, handling and disposal during construction and operation of the project and potential sources of disposal.
63. Details of the measures that would be implemented to ensure that the construction and operation of the project is consistent with the aims, objectives and guidance in the NSW Waste Avoidance and Resource Recovery Strategy 2014-2021.

Ecological sustainable development (ESD) – including:

64. An assessment against an accredited ESD rating system or an equivalent program of ESD performance. This should include a minimum rating scheme target level.
65. How ESD principles (as defined in clause 7(4) of Schedule 2 of the Regulation) will be incorporated in the design and ongoing operation phases of the development.
66. Consideration of the project against the current guidelines including

targets and strategies to improve Government efficiency in use of water, energy and transport.

Climate Change – including:

67. Assessment of the risk and vulnerability of the project to climate change in accordance with the current guidelines, including any Regional Water Strategy and associated climate change modelling as relevant to the project.
68. Quantified specific climate change risks with reference to the NSW Government's climate projections and incorporate specific adaptation actions in the design.
69. An assessment of potential future climate variability impacts on the operation and management of the dam and associated delivery works (such as water deliver by way of river operations, or pipe infrastructure), having regard to research on groundwater recharge and surface run-off and the NSW Climate Impact Profile.
70. Assessment of the greenhouse gas emissions from the construction and operation of the project for the life of infrastructure, including:
 - a) documentation and justification of an appropriate methodology for estimating greenhouse gas emissions for the project as a water storage, or water reservoirs project where permanent land use change occurs.
 - b) assessment of carbon dioxide, nitrous oxide and methane gas emissions, including gases emitted by decomposing plants and organic material within the dam inundation area.
 - c) quantitative assessment of Scope 1, 2 and 3 greenhouse gas emissions.
 - d) an assessment of reasonable and feasible measures to minimise greenhouse gas emissions and ensure energy efficiency.
 - e) project emissions as a proportion of NSW and Australia's greenhouse gas emissions budgets.
 - f) details of all proposed mitigation, management and monitoring measures.

Consultation

During the preparation of the EIS, the proponent should consult with the relevant local, State or Commonwealth Government authorities, service providers, aboriginal community, community groups and affected landowners, including but not limited to:

- a) Registered Aboriginal Parties.
- b) Tenterfield Shire Council.
- c) Local Councils which depend on surface water from Mole River for water supply.
- d) NSW DPI Fisheries.
- e) Department of Planning Industry and Environment – Biodiversity and Conservation.
- f) NSW Environment Protection Authority.
- g) Department of Planning Industry and Environment (Water Division).
- h) Transport for NSW.
- i) NSW Subsidence Advisory.
- j) NSW Geoscience and NSW Legacy Mines.
- k) Department of Premier and Cabinet, NSW Heritage.
- l) Murray Darling Basin Authority.
- m) Commonwealth Environmental Water Holder.
- n) NSW State Environmental Water Holder.

	<p>o) Border Rivers Commission.</p> <p>In particular, the proponent must:</p> <p>a) Document a detailed community and stakeholder participation strategy which identifies who in the community has been consulted and a justification for their selection, other stakeholders consulted and the form(s) of the consultation, including a justification for this approach.</p> <p>b) Provide a report containing details of how the community and stakeholder participation strategy has been carried out (to date), including description of consultation that was carried out, including details of:</p> <ul style="list-style-type: none"> i. Documentation of all consultation methods. ii. Timeframes of consultation. iii. Report upon any digital engagement strategies, and demonstrate the relevance of digital engagement methods to potentially affected stakeholders. iv. Issues raised by the community and surrounding landowners and occupiers that may be impacted by the proposal. v. Details of how issues raised during community and stakeholder consultation have been addressed and whether they have resulted in changes to the proposal. vi. Details of the proposed approach to future community and stakeholder engagement based on the results of the consultation.
<p>Further consultation after 2 years</p>	<p>If you do not lodge the EIS for the project within 2 years of the issue date of these assessment requirements, you must consult further with the Secretary in relation to the preparation of the EIS.</p>

Attachment 1

Attachment 1 **Guidelines for preparing assessment documentation relevant to the EPBC Act for proposals being assessed under the NSW Assessment Bilateral Mole River Dam Project near Tenterfield (2020/8654)**

On 11 June 2020, the delegate of the Commonwealth Minister for the Environment determined that the Mole River Dam Project near Tenterfield is a Controlled Action requiring approval under the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act). This Guideline outlines the requirements for assessment in accordance with the EPBC Act. This Guideline should be read in conjunction with the Secretary's Environmental Assessment Requirements for SSI-10045.

Introduction

1. These guidelines provide information on assessment requirements in relation to matters of national environmental significance (MNES) in accordance with the *New South Wales Bilateral Agreement relating to environmental assessment (2020)*. To meet requirements, the project must be assessed in the manner specified in Schedule 1 to that agreement including that the assessment documentation contains:
 - i. An assessment of all impacts that the action is likely to have on each matter protected by a provision of Part 3 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).
 - ii. Enough information about the proposal and its relevant impacts to allow the Commonwealth Minister to make an informed decision on whether or not to approve.
 - iii. Information addressing the matters outlined in Schedule 4 of the *Environment Protection and Biodiversity Conservation Regulations (2000)*.
2. In the circumstance that a proposal has been determined to be a 'controlled action' requiring full assessment, the decision will identify which MNES protected under the EPBC Act have triggered for assessment. These are called the controlling provisions. Proponents are only required to provide an assessment of protected matters under the controlling provisions that have been triggered. Following is the list of controlling provisions:
 - i. listed threatened species and communities (sections 18 and 18A - refer to Attachment A)
3. The proponent must consider each of the protected matters under the triggered controlling provisions that may be impacted by the action. The Department of Agriculture, Water and Environment has provided list of threatened species and communities that are considered to be at risk of impact from the proposal at **Attachment A**. Note that this may not be a complete list and it is the responsibility of the proponent to undertake an analysis of the relevant impacts and ensure all protected matters that are likely to be impacted are assessed for the Commonwealth Minister's consideration.

Relevant Regulations

4. Assessment documentation prepared for the purposes of approval under the EPBC Act must, in addition to providing sufficient information for a decision, address the matters outlined in Schedule 4 of the *Environment Protection and Biodiversity Conservation Regulations 2000* (Cth). The following includes requirements that have been identified as additional to the requirements prescribed in Schedule 2 of the NSW *Environmental Planning and Assessment Regulations 2000*. Proponents are advised to check that requirements in Schedule 4 of the EPBC Regulations have been appropriately addressed. http://www.austlii.edu.au/au/legis/cth/consol_reg/epabcr2000697/

General Requirements

Project Description

5. The title of the action, background to the action of the action and current status.
6. The precise location and description of all works to be undertaken (including associated offsite works and infrastructure), structures to be built or elements of the action that may have impacts on MNES.
7. How the action relates to any other actions that have been, or are being taken in the region affected by the action.
8. How the works are to be undertaken and design parameters for those aspects of the structures or elements of the action that may have relevant impacts on MNES.

Impacts

9. The EIS must include an assessment of the relevant impacts of the action on the matters protected by the controlling provisions, including:
 - i. a description and detailed assessment of the nature and extent of the likely direct, indirect and consequential impacts, including short term and long term relevant impacts;
 - ii. a statement whether any relevant impacts are likely to be unknown, unpredictable or irreversible;
 - iii. analysis of the significance of the relevant impacts; and
 - iv. any technical data and other information used or needed to make a detailed assessment of the relevant impacts.

Avoidance, mitigation and offsetting

10. For each of the relevant matters protected that are likely to be significantly impacted by the action, the EIS must provide information on proposed avoidance and mitigation measures to manage the relevant impacts of the action including:
 - i. a description, and an assessment of the expected or predicted effectiveness of the mitigation measures,
 - ii. any statutory policy basis for the mitigation measures;
 - iii. the cost of the mitigation measures;

- iv. an outline of an environmental management plan that sets out the framework for continuing management, mitigation and monitoring programs for the relevant impacts of the action, including any provisions for independent environmental auditing;
 - v. the name of the agency responsible for endorsing or approving each mitigation measure or monitoring program.
11. Where a significant residual adverse impact to a relevant protected matter is considered likely, the EIS must provide information on the proposed offset strategy, including discussion of the conservation benefit associated with the proposed offset strategy.
12. For each of the relevant matters likely to be impacted by the action the EIS must provide reference to, and consideration of, relevant Commonwealth guidelines and policy statements including any:
- i. conservation advice or recovery plan for the species or community,
 - ii. relevant threat abatement plan for a process that threatens the species or community
 - iii. wildlife conservation plan for the species
 - iv. management plan for Ramsar wetland
 - v. management plan for a World Heritage property or National Heritage place;
 - vi. Marine Bioregional Plan;
 - vii. any strategic assessment.

[Note: the relevant guidelines and policy statements for each species and community are available from the Department of the Environment Species Profiles and Threats Database.

<http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl>]

13. In addition to the general requirements described above, specific information is required with respect to each of the determined controlling provisions. These requirements are outlined in paragraphs 10-24.

Key Issues

Biodiversity (threatened species and communities and migratory species)

14. The EIS must identify each EPBC Act listed threatened species and community and migratory species likely to be impacted by the action. For any species and communities that are likely to be impacted, the proponent must provide a description of the nature, quantum and consequences of the impacts. For species and communities potentially located in the project area or in the vicinity that are not likely to be impacted, provide evidence why they are not likely to be impacted.
15. For each of the EPBC Act listed threatened species and communities and migratory species likely to be impacted by the action the EIS must provide a separate:
- a. description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plans;

- b. details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements;
- c. description of the relevant impacts of the action having regard to the full national extent of the species or community's range; and
- d. description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action;
- e. identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account;
- f. a description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established.
- g. details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts; and
- h. details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the FBA and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites;

[Note: For the purposes of approval under the EPBC Act, it is a requirement that offsets directly contribute to the ongoing viability of the specific protected matter impacted by a proposed action and deliver an overall conservation outcome that improves or maintains the viability of the MNES i.e. 'like for like'. In applying the BAM, residual impacts on EPBC Act listed threatened ecological communities must be offset with Plant Community Type(s) (PCT) that are ascribed to the specific EPBC listed ecological community. PCTs from a different vegetation class will not generally be acceptable as offsets for EPBC listed communities.]

16. Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the Environment Protection and Biodiversity Conservation Act 1999 Environmental Offset Policy. <http://www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy>.

Other approvals and conditions

17. Information in relation to any other approvals or conditions required must include the information prescribed in Schedule 4 Clause 5 (a) (b) (c) and (d) of the EPBC Regulations 2000.

Environmental Record of person proposing to take the action

18. Information in relation to the environmental record of a person proposing to take the action must include details as prescribed in Schedule 4 Clause 6 of the EPBC Regulations 2000.

Information Sources

19. For information given in an EIS, the EIS must state the source of the information, how recent the information is, how the reliability of the information was tested; and what uncertainties (if any) are in the information.

REFERENCES

- *Environment Protection and Biodiversity Conservation Act 1999* - section 51-55, section 96A(3)(a)(b), 101A(3)(a)(b), section 136, section 527E
- *Environment Protection and Biodiversity Conservation Regulations 2000 Schedule 4*
- NSW Assessment Bilateral Agreement (2015) - Item 18.1, Item 18.5, Schedule 1
- *Matters of National Environmental Significance - Significant impact guidelines 1.1* (2013) EPBC Act
- *Environment Protect and Biodiversity Conservation Act 1999 Environmental Offsets Policy* October 2012

**Attachment A – Protected matters relevant to the Mole River Dam Project, near Tenterfield
NSW (2020/8654, SSI 10045)**

Based on the information available in the referral, the Department of Agriculture, Water and Environment (DAWE) considers the proposed action is likely to have a significant impact on the following matters of national environmental significance:

Listed threatened species

- Murray Cod (*Maccullochella peelii*) – Vulnerable
- Koala (*Phascolarctos cinereus*) (combined populations of Queensland, New South Wales and the Australian Capital Territory) – Vulnerable
- Beadles Grevillea (*Grevillea beadleana*) – Endangered
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (Box-Gum Grassy Woodland) – Critically Endangered

DAWE also considers that there is a real chance or possibility that the project's activities will significantly impact on the following:

- Silver Perch (*Bidyanus bidyanus*) - Critically Endangered
- Bell's Turtle (*Wollumbinia belli*) - Vulnerable
- Greater Glider (*Petauroides volans*) - Vulnerable
- Corben's Long-eared Bat (*Nyctophilus corbeni*) - Vulnerable
- Swift Parrot (*Lathamus discolor*) - Critically Endangered
- Regent Honeyeater (*Anthochaera phrygia*) - Critically Endangered
- Large-eared Pied Bat (*Chalinolobus dwyeri*) - Vulnerable
- New Holland Mouse (*Pseudomys novaehollandiae*) - Vulnerable
- Red Goshawk (*Erthrotriorchis radiatus*) - Vulnerable
- Border Thick-tailed Gecko (*Uvidicolus sphyrurus*) - Vulnerable
- Spot-tailed Quoll (*Dasyurus maculatus* (SE mainland population)) - Endangered
- Rusty Desert Phebalium (*Phebalium glandulosum* subsp. *eglandulosum*) - Vulnerable
- Wandering Pepper-cress (*Lepidium peregrinum*) - Endangered
- Semi-evergreen Vine Thicket in the Brigalow Belt (North and South) and Nandewar Bioregions – Endangered.

Note that this attachment may not be a complete list and it is the responsibility of the proponent to ensure any protected matters under the EPBC Act are adequately assessed for the Commonwealth decision-maker's consideration.

ATTACHMENT 2

Relevant Environmental Planning Instruments, Policies, Guidelines & Plans

Water

- Framework for Biodiversity Assessment – Appendix 2 (OEH, 2014)
- Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom 2004) and Volume 2 (A. Installation of Services; B. Waste Landfills; C. Unsealed Roads; D. Main Roads; E. Mines and Quarries) (DECC, 2008)
- NSW Aquifer Interference Policy (DPI, 2012)
- Risk assessment Guidelines for Groundwater Dependent Ecosystems (Office of Water, 2012)
- NSW Water Quality and River Flow Objectives at <http://www.environment.nsw.gov.au/ieo/>
- Using the ANZECC Guidelines and Water Quality Objectives in NSW (DEC, 2006)
- Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, 2018)
- Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (DECC, 2008)
- Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom 2004) and Volume 2 (A. Installation of Services; B. Waste Landfills; C. Unsealed Roads; D. Main Roads; E. Mines and Quarries) (DECC, 2008)
- Guidelines for Managing Risks in Recreational Water (NHMRC, 2008)
- National Environment Protection (Assessment of Site Contamination) Measure 1999, (NEPC, as amended 2013)
- NSW Cold Water Pollution Strategy Guidelines for Managing Cold Water Releases from High Priority Dams (2011)
- Relevant NSW Water Sharing Plans
- Relevant NSW Water Resource Plans
- Relevant NSW Regional Water Strategies
- Murray Darling Basin Plan

Biodiversity and Aquatic Ecology

- Biodiversity Assessment Method (OEH, 2017)
- Guidance and criteria to assist a decision maker to determine a serious and irreversible impact (OEH, 2017)
- NSW guide to surveying threatened plants (OEH, 2016)
- NSW Biodiversity Offsets Policy for Major Projects (OEH, 2014)
- NSW Weirs Policy 1997
- Policy and Guidelines for Fish Habitat Conservation and Management – Update 2013 (DPI, 2013)
- Threatened Species Survey and Assessment Guidelines
- Policy and Guidelines for Fish Habitat Conservation and Management 2013
- Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (NSW Fisheries, 2003)
- NSW Fish Passage Strategy 2019
- NSW DPI Fisheries Fishway Design Guidelines 2015
- NSW Sustainable Design Guidelines Version 3.0 (TfNSW, 2013)
- Aquatic Ecology in Environmental Impact Assessment – EIA Guideline (Marcus Lincoln Smith 2003)

Flooding

- NSW Government's Floodplain Development Manual (Department of Natural Resources, 2005)
- PS 07-003 New guideline and changes to section 117 direction and EP&A Regulation on flood prone land
- Practical Consideration of Climate Change - Flood risk management guideline (DECC, 2007)

Aboriginal Cultural Heritage

- Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (OEH, 2011)
- Aboriginal Cultural Heritage Consultation requirements for proponents (DECCW, 2010)
- Code of practice for archaeological investigation of Aboriginal objects in NSW (DECCW, 2010)

- NSW Skeletal Remains: Guidelines for Management of Human Remains (Heritage Office, 1998)
- Criteria for the assessment of excavation directors (NSW Heritage Council, 2011)

Non - Aboriginal Heritage

- NSW Heritage Manual (Heritage Office and Department of Urban Affairs and Planning, 1994)
- Assessing Heritage Significance (NSW Heritage Office, 2001)
- The Australia ICOMOS Burra Charter

Land

- Acid Sulfate Soils Assessment Guidelines (DoP, 2008)
- Acid Sulfate Soils Manual (Acid Sulfate Soils Management Advisory Committee, 1998)
- Managing Land Contamination: Planning Guidelines SEPP 55 –Remediation of Land, (DUAP & EPA, 1998)
- Guidelines for Consultants Reporting on Contaminated Sites (OEH, reprinted 2011)
- Guidelines for the NSW Site Auditor Scheme (DEC, 2006)
- Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997 (EPA, 2015)
- Urban and regional salinity – guidance given in the Local Government Salinity Initiative booklets (<http://www.environment.nsw.gov.au/salinity/solutions/urban.htm>) which includes Site Investigations for Urban Salinity (DLWC, 2002)
- Landslide risk management guidelines presented in Australian Geomechanics Society (2007)
- Soil and Landscape Issues in Environmental Impact Assessment (DLWC 2000)
- Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom 2004) and Volume 2 (A. Installation of Services; B. Waste Landfills; C. Unsealed Roads; D. Main Roads; E. Mines and Quarries) (DECC, 2008)

Transport

- Guide to Traffic Management – Part 3 Traffic Studies and Analysis (Austroads, 2007)
- Guide to Traffic Generating Developments Version 2.2 (RTA, 2002)
- NSW Sustainable Design Guidelines Version 3.0 (TfNSW, 2013)

Noise

- Technical Basis for Guidelines to Minimise Annoyance due to Blasting Overpressure and Ground Vibration (ANZECC, 1990)
- Assessing Vibration: a technical guideline (DEC, 2006)
- Interim Construction Noise Guideline (DECCW, 2009)
- NSW Industrial Noise Policy (EPA, 2000)
- Construction Noise Strategy (TfNSW, 2012)
- Rail Infrastructure Noise Guideline (EPA, 2013)
- NSW Road Noise Policy (DECCW, 2011)
- Environmental Noise Management Manual (RMS 2001)
- Development Near Rail Corridors and Busy Roads – Interim guideline (DoP, 2008)
- Noise Mitigation Guideline (RMS, 2015)
- Noise Criteria Guideline (RMS, 2015)
- NSW Sustainable Design Guidelines Version 3.0 (TfNSW, 2013)
- German Standard DIN 4150-3: Structural Vibration - effects of vibration on structures

Waste

- EPA's Waste Classification Guidelines (as in force from time to time)
- NSW Sustainable Design Guidelines Version 3.0 (TfNSW, 2013)
- NSW Waste Avoidance and Resource Recovery Strategy 2014-2021
- Air Quality
- Approved Methods for the Modelling and Assessment of Air Pollutants in NSW
- Approved Methods for the Sampling and Analysis in NSW
- Technical Framework: Assessment and Management of Odour from Stationary Sources in NSW
- Climate Change Risk
- Australian Government's Climate Change Impacts and Risk Management – A Guide for Business and Government (2006)
- AS/NZS 3100:2009 Risk Management – Principles and Guidelines
- Technical Guide for Climate Change Adaptation for the State Road Network (RMS, in draft)

- Public Safety
- Environmental Health Risk Assessment, Guidelines for assessing human health risks from environmental hazards, Commonwealth of Australia (enHealth, 2012)
- Methodology for Valuing the Health Impacts of Changes in Particle Emissions (EPA, 2013)
- Health Impact Assessment: A practical guide (NSW Health, 2007)
- Health Impact Assessment Guidelines, Commonwealth Department of Health and Aged Care (enHealth, 2001)
- SEPP No. 33 - Hazardous and Offensive Development
- Dam Safety Committee Guidance Sheets, including but not limited to, DSC2A (Dam Safety Management System) and DSC2B (Documentation and Information Flow Over Dam Life Cycle)

Protected and Sensitive Lands

- Guidelines for developments adjoining land and water managed by the Department of Environment, Climate Change and Water (DECCW, 2010)
- Revocation, Re-categorisation and Road Adjustment Policy (OEH, 2012)
- Guidelines for controlled activities on waterfront land (DPI 2012)
- Water Management Act, 2000

Air

- Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (EPA, 2016)
- Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (DEC, 2006)
- Technical Framework - Assessment and Management of Odour from Stationary Sources in NSW (DEC, 2006)

Climate Change

- Australian Government's Climate Change Impacts and Risk Management – A Guide for Business and Government (2006)
- AS/NZS 3100:2009 Risk Management – Principles and Guidelines
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- Revocation, Re-categorisation and Road Adjustment Policy (OEH, 2012)
- Guidelines for controlled activities on waterfront land (DPI 2012)
- Water Management Act, 2000

Ecologically Sustainable Development

- NSW Sustainable Design Guidelines Version 3.0 (TfNSW, 2013)
- Infrastructure Sustainability Rating Tool Scorecard relating to energy and carbon for large infrastructure projects, ISCA

Community Consultation

- Community Participation Plan (DPIE, 2019)
- Community and Stakeholder Engagement, (DPE, 2017)

Social

- Social Impact Assessment Guideline (DPE, 2017)

Visual

- AS4282-1997 Control of the obtrusive effects of outdoor lighting
- NSW Sustainable Design Guidelines Version 3.0 (TfNSW, 2013)