

**Terms of reference for an
environmental impact statement:**

KUR-World Integrated Eco-Resort

October 2016

The Department of State Development

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Contents

Part A. About these terms of reference	2
1. Statutory basis.....	2
2. Accredited process for controlled actions under Commonwealth legislation	2
3. EIS guidelines	2
4. More information.....	2
Part B. Content of the EIS	3
5. General approach.....	3
6. Mandatory requirements of an EIS	3
7. Further requirements of an EIS.....	4
8. Executive summary	5
9. Introduction.....	5
Project proponent	5
The environmental impact assessment process	5
Project approvals process	6
10. Project description	6
Proposed development.....	6
Site description	7
Climate	8
Proposed construction and operations.....	8
Infrastructure requirements.....	9
11. Assessment of critical matters	11
Land use	12
Flora and fauna	13
Water quality	15
Social and economic	16
Transport.....	20
12. Assessment of routine matters	21
Air.....	21
Biosecurity.....	22
Cultural heritage	23
Hazards, health and safety	23
Noise and vibration.....	24
Water resources	25
Waste management	27
13. Content of the EIS for matters of national environmental significance.....	27
Background and context.....	27
World Heritage properties.....	30
National Heritage places.....	32
Listed threatened species and communities	33
Great Barrier Reef Marine Park	34
Offsets.....	35
14. Appendices to the EIS	35
Acronyms and abbreviations	36
Appendix 1. Policies and guidelines	38

Part A. About these terms of reference

1. Statutory basis

- 1.1. The Coordinator-General has declared the KUR-World Integrated Eco-Resort to be a 'coordinated project for which an environmental impact statement (EIS) is required' under section 26(1)(a) of the *State Development and Public Works Organisation Act 1971* (SDPWO Act). This declaration initiates the statutory environmental impact assessment procedure of Part 4 of the SDPWO Act, which requires a proponent to prepare an EIS for the project.
- 1.2. These terms of reference (TOR) set out the matters the proponent must address in an EIS for the project and are approved by the Coordinator-General under section 30 of the SDPWO Act.

2. Accredited process for controlled actions under Commonwealth legislation

- 2.1. On 27 June 2016, the Commonwealth Minister for the Environment determined the KUR-World Integrated Eco-Resort project a 'controlled action' under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act), due to the likely potential impacts on matters of national environmental significance (MNES) (reference number EPBC 2016/7710).
- 2.2. The EIS process has been accredited under the Bilateral Agreement for the assessment of the project under the EPBC Act, hence the EIS must state the controlling provisions for the project and describe the particular aspects of the environment that led to the controlled action decision.
- 2.3. The assessment of the controlling provisions, mitigation measures and any offsets for residual impacts must be described and illustrated in a stand-alone report in the EIS that fully addresses the matters relevant to the controlling provisions. Requirements for MNES are set out on pages 27 to 29 of this TOR.

3. EIS guidelines

- 3.1. This TOR should be read in conjunction with *Preparing an environmental impact statement: Guideline for proponents*, which explains the following:
 - participants in the EIS process
 - consultation requirements
 - EIS format and copy requirements.
- 3.2. In addition, subject-specific guidelines are referenced throughout this TOR; refer to Appendix 1 for a list of these policies and guidelines.

4. More information

- 4.1. For information about the project or the EIS process conducted under the SDPWO Act, visit www.statedevelopment.qld.gov.au/cg

Part B. Content of the EIS

5. General approach

- 5.1. For the purposes of the EIS process, 'environment' is defined in Schedule 2 of the SDPWO Act and includes social and economic matters.
- 5.2. The EIS should give priority to the critical matters associated with the project (specified in section 11 of this TOR).
- 5.3. The detail at which the EIS deals with matters relevant to the project should be proportional to the scale of the impacts on environmental values. When determining the scale of an impact, consider its intensity, duration, cumulative effect, irreversibility, the risk of environmental harm, management strategies and offsets provisions.

6. Mandatory requirements of an EIS

- 6.1. For all the relevant matters, the EIS must identify and describe the environmental values that must be protected. Environmental values are specified in the *Environmental Protection Act 1994* (EP Act),¹ the *Environmental Protection Regulation 2008* (EP Regulation), environmental protection policies (EPPs) and relevant guidelines.²
- 6.2. The impact assessment of environmental values should cover both the short and long terms and state whether any relevant impacts are likely to be irreversible. Also discuss scenarios of unknown, unpredictable impacts.
- 6.3. Provide all available baseline information including seasonal variation relevant to the environmental risks of the project. Provide details about the quality of the information provided, in particular: the source of the information; how recent the information is; how the reliability of the information was tested; and any uncertainties in the information.
- 6.4. Provide detailed strategies for the protection, or enhancement as desirable, of all relevant environmental values in terms of outcomes and possible conditions that can be measured and audited. In general, the preferred hierarchy for managing likely impacts is: (a) to avoid; (b) to minimise/mitigate; and (c) if necessary and possible, to offset.
- 6.5. Impact minimisation measures should include ongoing monitoring and proposals for an adaptive management approach, as relevant, based on monitoring. The proposed measures should give confidence that, based on current technologies, the impacts can be effectively avoided or minimised over the long-term.
- 6.6. Each matter assessed in the EIS (as described in section 11 and 12 of this TOR) should include a concise summary of the potential impacts of the project and the measures proposed by the proponent to avoid, minimise, mitigate and/or offset those impacts, for example in a table at the end of each chapter.

¹ Part 3, Division 2, Subdivision 1, section 9

² For example, the *Queensland Water Quality Guidelines* and the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (refer to Appendix 1 for details).

- 6.7. Present feasible alternatives of the project's configuration (including individual elements) that may improve environmental and social outcomes, including those identified in community consultation. Discuss the reasons for selecting the preferred option/s and rejecting alternatives.
- 6.8. Describe any infrastructure alternatives, justified in terms of ecologically sustainable development. Describe energy and water conservation and waste reduction, re-use, recycling and recovery in the context of relevant Commonwealth, State and Local government policies.
- 6.9. Discuss the consequences of not proceeding with the project.
- 6.10. Assess the extent to which the project meets all policy, statutory and regulatory requirements of local, state and Commonwealth governments. Demonstrate that the project and the predicted outcomes are consistent with current state policies and guidelines. If there is conflict, comment on the government policy merits that support the project.
- 6.11. An appropriate public consultation program is essential to the impact assessment process. The proponent should consult with local, state and Commonwealth government agencies, and potentially affected local communities.
- 6.12. The EIS should describe the consultation that has taken place and adequately address comments from the community and agencies. Describe how the comments from the community and agencies have been incorporated into the design and outcomes of the project.
- 6.13. Detail the engagement processes used to ensure open and transparent dialogue with all stakeholders. Such processes should include, but not be limited to, community reference group forums. Include the project's pre-construction planning, construction and stages of development. Engagement processes should consider social and cultural factors, customs and values and linkages between environment, economic and social impact issues.
- 6.14. Include, as an appendix, a public consultation report detailing how the public consultation plan was implemented, and the results.

7. Further requirements of an EIS

- 7.1. The assessment and supporting information should be sufficient for the administering authority to decide whether an approval should be granted. Where applicable, sufficient information should be included to enable approval conditions to be decided.
- 7.2. To the extent of the information available, the assessment should predict the *cumulative* impact³ of the project on environmental values over time including direct, indirect and consequential impacts. The EIS should also outline ways in which the cumulative impact assessment and management could subsequently be progressed further on a collective basis. This will inform the Coordinator-General's assessment and decision on the EIS and the setting of conditions.

³ Cumulative impact is defined as 'combined impacts from all relevant sources (developments and other activities in the area)'.

- 7.3. Include a consolidated description of all the proponent's commitments to implement management measures (including monitoring programs). Should the project proceed, these should be able to be carried over into the approval conditions as relevant.
- 7.4. Provide all geographical coordinates throughout the EIS in latitude and longitude against the Geocentric Datum of Australia 1994 (GDA94).
- 7.5. An EIS should also describe the expected benefits and opportunities associated with the project.

8. Executive summary

- 8.1. The executive summary should describe the project and convey the most important and preferred aspects and environmental management options relating to the project in a concise and readable form. It should use plain English, avoid jargon, be written as a stand-alone document and be structured to follow the EIS. It should be easy to reproduce and distribute on request to those who may not wish to read the whole EIS.

9. Introduction

- 9.1. Clearly explain the function of the EIS, why it has been prepared and what it sets out to achieve. Include an overview of the structure of the document.

Project proponent

- 9.2. Describe the following:
 - (a) the designated proponent's full name, postal address and ABN, if relevant (including details of any joint venture partners)
 - (b) the nature and extent of business activities
 - (c) proponent's experience
 - (d) proponent's environmental record, including a list of any breach of relevant environmental laws during the previous ten years
 - (e) proponent's environmental, health, safety and community policies.

The environmental impact assessment process

- 9.3. Provide an outline of the environmental impact assessment process, including the role of the EIS in the Coordinator-General and Commonwealth Minister for the Environment decision-making processes. The information in this section is required to ensure readers are informed of the process to be followed and are aware of any opportunities for input and participation.
- 9.4. Inform the reader how and when properly made submissions on the EIS will be addressed and taken into account in the decision-making process.

Project approvals process

- 9.5. Provide an outline of the approvals required to enable the project to be constructed and operated. Explain how the environmental impact assessment process (and the EIS itself) informs the issue of the leases/licences/permits/consents required by the proponent before construction can commence. Provide a flow chart indicating the key approvals and opportunities for public comment.
- 9.6. Inform the reader of how the SDPWO Act and the *Sustainable Planning Act 2009* (SPA) interact, with reference to the project. Inform the reader how a properly made submission on the EIS relates to the development application process under SPA.
- 9.7. The State Development Assessment Provisions (SDAP) prescribed in the Sustainable Planning Regulation 2009 set out the matters of interest to the state for development assessment where the chief executive of SPA is the assessment manager for development applications. If the proponent intends to satisfy the information requirements of future development assessment decisions under SDAP for any component of the project during this coordinated project EIS process, the material provided in accordance with sections 10–12 of this TOR should be sufficient to permit those assessments to be completed for that project component. Further information on SDAP requirements can be assessed from www.dilgp.qld.gov.au/planning/development-assessment/state-development-assessment-provisions.html

10. Project description

Proposed development

- 10.1. The EIS must describe and illustrate at least the following specific information about the proposed project:
 - (a) project title
 - (b) project description, including all project components and activities that are to be assessed as part of the EIS process
 - (c) project objectives
 - (d) expected capital expenditure
 - (e) rationale for the project
 - (f) regional and local context of the project's footprint and impact area (with maps at suitable scales)
 - (g) relationship to other major projects and/or developments (of which the proponent should reasonably be aware)
 - (h) workforce numbers to be employed by the project during its various phases
 - (i) where personnel would be accommodated
 - (j) proposed construction staging and likely schedule of works.

Site description

- 10.2. Provide real property descriptions of the project land and adjacent properties; any easements; any tenures; any reconfiguration of lots; and identification number of any lease for the project land that is subject to the application. Key transport, state-controlled roads, rail, air, port/sea and other infrastructure or services in the region and to the site should be described and mapped.
- 10.3. Describe and illustrate the topography of the project site and surrounding area, and highlight any significant features shown on the maps. Include and name dams, rivers, creeks and any other named features and include all mapped waterways as shown in the spatial data layer Queensland waterways for waterway barrier works. Maps should include a scale, a north arrow, a legend and have contours at suitable increments relevant to the scale, location, potential impacts and type of project, shown with respect to Australian Height Datum (AHD) and drafted to GDA94.
- 10.4. Describe and illustrate specific information about the project including the precise location of the proposed development in relation to designated and protected areas.
- 10.5. Maps at suitable scales must be provided showing the location of the project footprint and impact areas, and in particular:
 - (a) the location and boundaries of established and proposed land tenures, to which the project area is and would be subject to, including adjoining land tenure
 - (b) the location of existing infrastructure on the site
 - (c) the location of known matters of cultural significance on the site
 - (d) the location of development necessarily occurring as a consequence of approval of the project, including excavations, stockpiles, areas of fill, including all services infrastructure, plant locations, water storages, buildings, bridges and culverts
 - (e) fire-prone areas of the project area
 - (f) the location of any proposed buffers surrounding the operational areas; and lands identified for conservation, either through retention in their current natural state or to be rehabilitated. This includes firebreaks and safety buffers for the safe use of the site.⁴
- 10.6. Where relevant, describe and map in plan and cross-sections the geology and landforms, including catchments, of the project area. Show geological structures, such as aquifers, faults and economic resources (such as agricultural products) that could have an influence on, or be influenced by, the project's activities.
- 10.7. Where relevant, describe, map and illustrate soil types and profiles of the project area at a scale relevant to the proposed project. Identify soils that would require particular management due to waterlogging, erosivity, depth, acidity, salinity or other features.

⁴ Under the *Sustainable Planning Regulation 2009*, clearing native vegetation for firebreaks is considered essential management and is measured at 1.5 times the height of the tallest adjacent vegetation to the infrastructure or 20m, whichever is greater.

- 10.8. Identify potential and actual areas of acid sulfate soils. Where potential areas are identified, further investigations (including field surveys) should be undertaken in accordance with the State Planning Policy (SPP) and accepted industry guidelines.
- 10.9. Provide all spatial data presented in the EIS in appropriate electronic form such as shapefiles.
- 10.10. Plans and drawings provided must be detailed enough to enable the Coordinator-General and advisory agencies to adequately assess the project matter.

Climate

- 10.11. Describe the site's climate patterns that are relevant to the environmental assessment, with particular regard to discharges to water and air and the propagation of noise. Climate information should be presented in a statistical form including long-term averages and extreme values, as necessary, including consideration of rainfall patterns and cyclone events.

Proposed construction and operations

- 10.12. Describe the following information about the proposal:
 - (a) all pre-construction activities (e.g. vegetation clearing, site access, interference with watercourses and floodplain areas, including wetlands)
 - (b) existing infrastructure and easements on the potentially affected land
 - (c) the proposed construction methods, associated equipment and techniques
 - (d) any activity that is a prescribed an Environmentally Relevant Activity (ERA)
 - (e) location of quarry operations the project may source materials from
 - (f) location, concept designs and capacity of water supply, telecommunications, power generation, transmission infrastructure, sewerage system and stormwater drainage
 - (g) any infrastructure alternatives, justified in terms of ecologically sustainable development (including energy and water conservation)
 - (h) infrastructure requirements (e.g. roads, electricity, telecommunications, sewerage)
 - (i) the sequencing and staging of activities
 - (j) hours of operation for proposed construction works, including night time works
 - (k) the capacity of high-impact plant and equipment, their chemical and physical processes, and chemicals or hazardous materials to be used
 - (l) the known locations of new or altered works and structures and infrastructure necessary to enable the construction and operation of the development
 - (m) the range of land uses and site layout
 - (n) built form and design specifics
 - (o) operation detail (e.g. hours of operation for project components)

- (p) the commissioning process including landscaping and the rehabilitation of affected areas after construction
- (q) management structure of final development (e.g. body corporate) and asset ownership structure
- (r) location and scale of parking requirements.

Infrastructure requirements

Objectives

The project should provide necessary infrastructure to service the development that:

- (a) maintains or enhances services to existing users
- (b) ensures any required works are compatible with existing infrastructure
- (c) designed and operated to be efficient and sustainable.

- 10.13. This section should detail, with concept and layout plans, requirements for new infrastructure, or the upgrading and/or relocating of existing infrastructure to service the project. Infrastructure to be considered should include water supply, energy supply, telecommunications, stormwater, waste disposal, sewerage and transport (refer section 11).
- 10.14. Consider likely peak utilisation of water and wastewater facilities, demand management strategies and when/if additional capacity is required.
- 10.15. Discuss key approvals external providers will require for the proposed development to be constructed and operated.
- 10.16. Describe the typical service corridors or clearances for sewerage and recycled water mains in relation to other services.
- 10.17. Assess and identify any existing or proposed infrastructure external to the project that would be impacted by the development, and describe any upgrades that may be required to cater for the development.

Energy

- 10.18. Describe all energy requirements, including electricity, natural gas, and/or solid and liquid fuel requirements for the construction and operation of the project. The location, design and capacity of power generation and transmission infrastructure for construction and ongoing use should be detailed. Indicate the locations of any easements on the infrastructure plan and identify potential for on-site generation of energy requirements utilising renewable technologies.

Water supply and storage

- 10.19. Provide information on the proposed water capture and usage by the project, including details about:
 - (a) the supply required to meet the demand for full occupancy of the development, including timing of demands (seasonal variations)
 - (b) the capacity of existing water resources to cater for project requirements and the project's effects on water supply planning

- (c) the quality and quantity of all water supplied to the site during the construction and operational phases based on minimum yield scenarios for water re-use, rainwater re-use and any bore water volumes
 - (d) a water balance analysis
 - (e) a site plan outlining actions to be taken in the event of failure of the main water supply or water storage infrastructure.
- 10.20. Describe proposed sources of water supply given the implication of any approvals required under the *Water Act 2000*. Estimated rates of supply from each source (average and maximum rates) must be given and proposed water capture conservation and management measures must be described.
- 10.21. Determination of potable and non-potable water demand must be made for the project, including the temporary demands during the construction period. Include details of any existing town water supply to meet such requirements. Detail should also be provided to describe any proposed on-site water storage and treatment for use by the site workforce during construction and operational phases.
- 10.22. Provide detailed designs for all infrastructure utilised in the treatment of on-site water including how any on-site water supplies are to be treated, contaminated water is to be disposed of and any decommissioning requirements and timing of temporary water supply/treatment infrastructure is to occur.

Water infrastructure master plan

- 10.23. Provide master plans for wastewater and water reticulation systems including external existing and proposed infrastructure, including any upgrades. Include hydraulic network analysis, design drawings, alignments, location and sizing of pump stations, location and sizing of water storages and staging. Demonstrate that the design will comply with the Far North Queensland Regional Organisation of Councils development manual and Water Sensitive Urban Design Principles.
- 10.24. Describe how the development will impact on or alter the Council's infrastructure plans.
- 10.25. Describe the typical service corridor or clearances for water supply and reticulation mains in relation to other services.

Stormwater drainage

- 10.26. Describe the proposed stormwater drainage system and the proposed disposal arrangements, including any off-site services.
- 10.27. Detail the sources of stormwater and the quantity, quality and location of discharge to watercourses and marine areas.

Wastewater

- 10.28. Describe sewerage infrastructure required by the project, including:
- (a) options assessed for wastewater treatment, including wastewater recycling and re-use
 - (b) the capacity of the existing wastewater treatment facilities to cater for the project requirements

- (c) measures required to mitigate any risks to the environment from discharges and overflows
 - (d) the proposed disposal and/or re-use of the treated effluent and the management of such use. An irrigation plan should be provided detailing where the use of treated effluent is likely. Details of the likely impacts of treated effluent on groundwater quality should also be provided
 - (e) how the development will manage operation of the wastewater treatment and disposal system in circumstances of disaster or disruption to power supplies, including determination of the potential emergency effluent storage that would be required in an extended rain event (one-in-50 and one-in-100-year, wet weather storage, accounting for climate change).
- 10.29. Describe the typical service corridors or clearances for sewerage and recycled water mains in relation to other services.
- 10.30. The impacts of the project's infrastructure requirements on external systems is to be discussed in the 'routine matters' section of the EIS.
- 10.31. Assess and identify any water and wastewater trunk infrastructure, existing or proposed, that would be impacted by the development and describe any upgrades that may be required to cater for the development. Identify all proposed connection points to Council's networks.
- 10.32. Describe the treatment measures/precautions of any wastewater generated on the site (temporarily or permanently) that will be discharged to Council sewerage infrastructure, so that the sewage will not adversely impact on treatment processes at Council's wastewater treatment plants.

11. Assessment of critical matters

- 11.1. This section sets out the scope of critical matters that should be given detailed treatment in the EIS. A critical matter is an aspect of the proposal that is reasonably expected to have one or more of the following characteristics:
- (a) a high or medium probability of causing serious or material environmental harm or a high probability of causing an environmental nuisance⁵
 - (b) considered contentious in the public domain, for example, has been the subject of extensive media coverage and/or there is a public perception that an activity has the potential to cause serious or material environmental harm or an environmental nuisance (regardless of the likelihood of occurrence).
- 11.2. The final scope of critical matters will be determined by the Coordinator-General when finalising the TOR. In the course of preparing the EIS, information may become available that warrants a change of scope.

⁵ 'Material environmental harm', 'serious environmental harm' and 'environmental nuisance' are defined in Part 3, sections 15, 16 and 17 of the *Environmental Protection Act 1994*.

Land use

Objectives

Development should be designed and operated to:

- (a) improve environmental outcomes
- (b) contribute to community wellbeing
- (c) contribute to social, economic and environmental sustainability.

Information requirements

- 11.3. Provide a copy of the proposed plan of development (or local area plan), in the preferred planning scheme format, explaining how the plan may vary the Mareeba Shire Council Planning Scheme.
- 11.4. Discuss the compatibility of the project with the surrounding area and the Kuranda region, taking into consideration the proposed measures that would be used to avoid or minimise impacts. The discussion should include:
 - (a) existing and proposed land uses, in and around the project area, referring to regional plans and the local government planning scheme
 - (b) how the proposal will integrate with existing community facilities and infrastructure
 - (c) any tenures overlying and adjacent to the project site, and any to be applied for as part of this project
 - (d) state interests identified in the SPP
 - (e) locational factors influencing the choice of site
 - (f) factors influencing the location of elements within the site
 - (g) forecasting to demonstrate the need and scale for the proposed residential components of the project
 - (h) locational factors influencing the choice of site, including the risks associated with natural hazards and sensitive environmental areas
 - (i) any permit, claim, licence, lease or other authority held under the *Mineral Resources Act 1989*, the *Petroleum Act 1923* or the *Petroleum and Gas (Production and Safety) Act 2004* that is over or immediately adjacent to the project area.
- 11.5. Discuss the proposal in the context of the Far North Queensland Regional Plan and the Mareeba Shire Council Planning Scheme.
- 11.6. Discuss the approach to the staging of project components and the timing and integration of each project stage to demonstrate a holistic approach to development, particularly the provision of essential community infrastructure required for the viability of the entire project.
- 11.7. Present feasible alternatives of the project's configuration (including individual elements) that may improve environmental outcomes.

- 11.8. If the project impacts on Strategic Cropping Land (SCL), describe the approach to addressing the requirements of the *Regional Planning Interests Act 2014* (RPI Act). Document the necessary studies and discussions that have been completed preceding any SCL protection decision⁶. Identify any agricultural land Class A or B as defined in the SPP.
- 11.9. Discuss the impacts of the project on the Kuranda Village and the proposed linkages and interaction of the project with Kuranda and the surrounding region.
- 11.10. Describe and illustrate the visual impact of the construction and operation of the project. Include major views, view sheds, outlooks and features contributing to the amenity of the area, including assessment from private residences.
- 11.11. Outline how the project will manage general public access to or along the Barron River and the surrounding local area.
- 11.12. Detail any known or potential sources of contaminated land. Describe how any proposed land use may result in land becoming contaminated.
- 11.13. Identify existing and potential native title rights and interests possibly impacted by the project and the potential for managing those impacts by an Indigenous Land Use Agreement or other measure.

Flora and fauna

Objective

Matters of environmental significance are valued and appropriately safeguarded to support healthy and resilient ecosystems and ensure the sustainable, long-term conservation of biodiversity and local linkages, and the social, economic, cultural and environmental benefits it provides.

Information requirements

- 11.14. Using maps, illustrate the context of the project site in relation to surrounding vegetation, areas of essential habitat, wetlands, watercourses and drainage features, ecological communities and wildlife habitat corridors. The location of flora and fauna found on the site and in immediate surrounds should be shown on maps in relation to their habitat and connectivity in the landscape. Include maps showing areas of:
 - (a) mapped regulated vegetation, as shown on the regulated vegetation management map, over the subject and adjoining lots
 - (b) mapped as concern regional ecosystems on the vegetation management supporting map, essential habitat on the essential habitat map and wetlands on the vegetation management wetlands map.
- 11.15. Describe the likely impacts on the biodiversity and natural environmental values of affected areas arising from the construction and operation of the project. Take into account any proposed avoidance and/or mitigation measures and enhancements proposed.
- 11.16. The assessment should include, but not be limited to, the following key elements:

⁶ Refer to: <https://www.dnrm.qld.gov.au/land/accessing-using-land/strategic-cropping-land>

- (a) matters of state environmental significance and national environmental significance
 - (b) terrestrial and aquatic ecosystems (including groundwater-dependent ecosystems) and their interaction, including with ground and surface water hydrology and the quality of controlled and potentially uncontrolled discharges
 - (c) biological diversity including listed flora and fauna species and location of any known or potential habitat, and regional ecosystems including the location and extent of any endangered and of concern regional ecosystems
 - (d) evidence of the height of the tallest vegetation adjacent to the proposed infrastructure
 - (e) the existing integrity of ecological processes, including habitats of threatened, near-threatened or special least-concern species
 - (f) the integrity of landscapes and places, including wilderness and similar natural places
 - (g) actions of the project that require an authority under the *Nature Conservation Act 1992* and *Water Act 2000* (for example, riverine protection permits) and/or would be assessable development for the purposes of the *Vegetation Management Act 1999* (VMA) or the EP Act
 - (h) acute or chronic, low-level exposure to contaminants or the bio-accumulation of contaminants
 - (i) impacts on native fauna due to proximity to the site and site impacts
 - (j) construction and operational impacts (e.g. lighting, noise, waste, increased visitation, traffic management).
- 11.17. Propose practicable measures for protecting or enhancing natural values, and assess how the nominated quantitative indicators and standards may be achieved for nature conservation management. In particular, address measures to protect or preserve any matters of state or national environmental significance. Measures should include but not be limited to:
- (a) maintenance of functional corridors into the future to enable the dispersal of rainforest biota and their genes between northern and southern rainforest strongholds, north and south of the Barron river.
- 11.18. Assess the need for fire breaks and safety buffer zones and provide details on the retention, rehabilitation or planting of movement corridors.
- 11.19. Demonstrate that the development will avoid waterways, drainage features and wetlands or propose measures to mitigate the impacts of development on these features. Include mitigation strategies for construction, operation and maintenance phases.
- 11.20. Assess the likely effectiveness of proposed buffer zones around waterways and draining features and wetlands on the site to avoid land degradation, maintain ecological processes and prevent the loss of biodiversity. Demonstrate how buffers will protect bank stability and aquatic terrestrial habitat.
- 11.21. Describe how the achievement of the objectives would be monitored and audited, and how corrective actions would be managed.

- 11.22. Where Queensland or Commonwealth legislation or policy requires an offset for a significant residual impact on a particular natural environmental value, the offset assessment and proposal shall be presented in a form consistent with relevant legislation and policy.
- 11.23. Describe what the impacts of pets (dogs, cats etc.) will be on threatened and rainforest dependent biota and how this will be mitigated.

Water quality

Objective

Development is planned, designed, constructed and operated to protect environmental values of Queensland waters, including the Great Barrier Reef, and supports the achievement of water quality objectives.

Information requirements

- 11.24. Describe the hydrology within the study area and the adjoining waterways in terms of water levels, discharges and freshwater flows. Detail the interaction of groundwater and surface water.
- 11.25. Detail the chemical and physical characteristics of surface waters and groundwater within the area that may be affected by the project. Include a description of water quality variability associated with climatic and seasonal factors, variability of freshwater flows and extreme events.
- 11.26. Identify the quantity, quality, timing, duration and location of all potential discharges of water and contaminants by the project, whether as point sources (such as controlled discharges) or diffuse sources (such as irrigation to land of treated sewage effluent).
- 11.27. Provide relevant information on existing and proposed sewerage infrastructure (related to ERA 63). Detail how proposed sewage treatment (ERA 63) will comply with the relevant requirements of the EP Act and subordinate legislation.
- 11.28. Describe the proposed management of existing and/or constructed waterbodies on the project site to maintain water quality.
- 11.29. Describe erosion and sediment controls to be utilised during construction and operation of the proposed development. Detail the timing of works and design criteria to be adopted for erosion and sediment controls.
- 11.30. Assess the potential impacts of any discharges on the quality and quantity of receiving waters taking into consideration the assimilative capacity of the receiving environment and the practices and procedures that would be used to avoid or minimise impacts.
- 11.31. Describe how the achievement of the water quality objectives would be monitored and audited, and how corrective actions would be managed. Describe mitigation strategies and contingency plans for:
 - (a) potential accidental discharges of contaminants and sediments during construction and operation
 - (b) stormwater run-off from the project facilities and associated infrastructure
 - (c) flooding of relevant river systems.

Social and economic

Objectives

The construction and operation of the project should aim to:

- (a) avoid or mitigate adverse social and economic impacts arising from the project
- (b) capitalise on opportunities potentially available for capable local industries and communities
- (c) demonstrate a net economic benefit to the region and State.

Information requirements

11.32. In accordance with the Coordinator-General's *Social impact assessment guideline*⁷, describe the likely social impacts (positive and negative) on affected communities, taking into account proposed mitigation measures.

Social and cultural area

- 11.33. Define the project's social and cultural area of influence, including the local, regional and state level as relevant taking into account the:
- (a) potential for social and cultural impacts to occur
 - (b) population and demographics of the affected area
 - (c) history and settlement pattern of the local area
 - (d) location and types of physical and social infrastructure
 - (e) social values that might be affected by the project integrity of social conditions, liveability, social harmony and wellbeing and sense of community
 - (f) Indigenous social and cultural characteristics, such as native title rights and interests, cultural heritage.

Community engagement

- 11.34. Consistent with national and international industry good practice, and with regard to local and regional strategies for community engagement, the proponent must undertake a community consultation and engagement strategy to engage at the earliest practicable stage with all likely affected parties across the project footprint, to discuss and explain the project, to identify and respond to issues and concerns identified as social impacts and to explain the ongoing community engagement strategy.
- 11.35. The Strategy for Stakeholder and Community Consultation and Engagement should be provided as part of the EIS and should include the following:
- (a) The project's pre-construction planning, construction and operation stages.
 - (b) Detail of the community engagement principles, process and tools used and to be adopted in the future to conduct open and transparent dialogue with all stakeholders. Such processes should include but not be limited to community reference groups.

⁷ Refer to: www.statedevelopment.qld.gov.au/resources/guideline/social-impact-assessment-guideline.pdf

- (c) List of all stakeholders and communities involved with analysis of the level of potential impacts to identify those stakeholders and communities most affected by the project.
 - (d) Details of the engagement, negotiation and liaison strategies, including:
 - (i) an explanation of how engagement types and tools are appropriate to the identified stakeholders
 - (ii) evaluation methods (to determine the effectiveness of the engagements)
 - (iii) how complaints resolution will be addressed, for all stages of the project.
 - (e) Details of the range of issues that will form part of the consultation engagement, liaison and negotiation strategies to be implemented, including the aspects of the project that may be shaped by the community (i.e. partnership arrangements)
 - (f) Timeframes and frequency for delivering stakeholder and community consultation and engagement strategies for all stages of the project.
- 11.36. In the context of Stakeholder and Community consultation and engagement also see the requirements of the impacts and mitigation management section below.

Social baseline study

- 11.37. Undertake a targeted baseline study of the people residing in the project's social and cultural area, to identify the project's social issues, potential adverse and positive social impacts, and strategies, measures and outcomes developed to address the impacts. The social baseline study should be based on qualitative and quantitative and participatory methods. It should be supplemented by community engagement processes, and reference relevant data contained in local and state government publications, reports, plans, guidelines and documentation, including regional and community plans.
- 11.38. The social baseline study should take account of social issues such as:
- (a) the social infrastructure, civic facilities, services and networks—for the definition, see the Far North Queensland Regional Plan 2009–31
 - (b) the identity, values, lifestyle, vitality, characteristics and aspirations of those living in the social and cultural area, including Indigenous communities
 - (c) the use of the social and cultural area for recreation, fishing, business and industry, tourism and indigenous cultural use of the land and flora and fauna
 - (d) housing availability and affordability: rental market (size, vacancy rates, seasonal variations, weekly rent, the availability and typical costs of housing for purchase and the availability of social house).

Impacts and mitigation management measures

- 11.39. Address and describe the type, level and significance of the project's social impacts (beneficial and adverse) on the local and cultural area, based on the outcomes of community engagement processes and the social baseline study.

- 11.40. The assessment of impacts should address the following matters:
- (a) the outcomes of community engagement including the response of the affected communities, including Indigenous people
 - (b) potential impacts on affected Indigenous and non-Indigenous communities, including:
 - (i) the ability to live in accordance with individuals' own values and priorities
 - (ii) the use of and access to culturally important areas and landscapes
 - (iii) the access to existing human and commercial services and housing
 - (iv) the ability to participate in regional and local employment and training opportunities
 - (c) all mitigation and management strategies completed in close consultation, collaboration and negotiation with key stakeholders
 - (d) any consultation, collaboration and/or negotiation about the acceptance or agreement of proposed mitigation and management strategies, and how project commitments and monitoring regimes will be implemented.
- 11.41. Include sufficient data to enable affected local and state authorities to make informed decisions about the project's effect on their business and to plan for the provision of social infrastructure in the project's social and cultural area.
- 11.42. For identified social impacts, present social mitigation strategies and measures to address the following:

Housing and accommodation

- 11.43. Consistent with the following core principles to guide the identification and assessment of accommodation and housing impacts and the development of mitigation and management strategies:
- (a) requirements for project workforce accommodation, considering housing market impacts
 - (b) strategies to mitigate or manage negative impacts of project workforce accommodation and housing market impacts
 - (c) clear and detailed strategies for accommodating construction and operational workforces (including plans for accommodating the proportion of the workforce who will not readily access local accommodation during pre-construction, construction and operational phases).

Workforce profile and demand

- 11.44. A workforce management plan is require that demonstrates and includes:
- (a) projected size, nature and location of the workforce for the project, for pre-construction, construction and operational phases of the project
 - (b) workforce demand: the estimated composition of the proposed workforce by occupation, project stage and duration
 - (c) recruitment/workforce planning and policies for recruiting workers, including strategies for priority recruitment of workers from local and regional communities, areas of high unemployment, Indigenous workers and people with a disability.

Social infrastructure, health and community wellbeing

- 11.45. A social infrastructure, health and community wellbeing plan must be provided that details:
- (a) demographic change in the profile and how sufficient is the current social infrastructure, services, local organisations, including but not limited to health and welfare, education, policing and emergency services, given the changes resulting from the project
 - (b) forecast impacts on and assess the demand for health and medical services provided by hospitals, general practitioners and community health centres
 - (c) how impacted community services and facilities will be maintained for the community
 - (d) scope, frequency and scale of any community development programs to be implemented and outcomes to be achieved

Social impact action plans

- 11.46. The following impact mitigation and management action plans detailing outcomes to be achieved must be provided:
- (a) Workforce Management Action Plan
 - (b) Housing and Accommodation Action Plan
 - (c) Stakeholder and Community Consultation and Engagement Action Plan
 - (d) Social Infrastructure, Community Health and Wellbeing Action Plan
 - (e) Local Industry Participation and Procurement Plan.

Economic impact assessment

- 11.47. Identify the size and economic effects of the project on the local and regional area. Estimate the net public benefits of the proposal using regional impact analysis and cost-benefit analysis methodologies.
- 11.48. Identify relevant eco-tourism certification criteria and how these will be achieved.
- 11.49. Describe the local and regional economies likely to be impacted by the project and identify the relevant stakeholders.
- 11.50. Proponents should use a robust method to quantify the direct and indirect economic impacts on local, regional and state economies arising from each stage of the project, and estimate the changes in key indicators including:
- (a) gross regional project (GRP)
 - (b) gross state product (GSP)
 - (c) employment outcomes
 - (d) value added to the economy by the project by sector or industry.
- 11.51. The economic analysis could consider matters including, but not limited to:
- (a) the significance of the proposal in the local and regional economic context (with reference to the various project components and stages)
 - (b) the significance of the proposal in terms of the local, regional and State tourism industry, including visitor numbers (for both day and overnight visitors), visitor expenditure, direct and indirect benefits, national and international exposure and flow-on benefits, direct and indirect

employment from the project, youth employment and training benefits, direct and indirect impact on airline routes (national and international) into Cairns, and wider related tourism impacts)

- (c) labour demand, including the ability for labour to be drawn from the existing local workforce, and the potential effects this may have on local businesses
- (d) transport and infrastructure networks along with other essential services and facilities
- (e) the cost to all levels of government of any additional infrastructure
- (f) the potential impacts the project may have on relevant prices, which might include wages, housing market costs, input costs and/or household goods and services
- (g) the potential, if any, for direct equity investment in the project by local businesses or communities
- (h) local business and supply chain opportunities
- (i) any significant economic benefits and costs arising from all stages of the project, or different project options if available. Potential benefits and costs along with relevant positive and negative externalities should be valued where reasonable, otherwise they should be described using quantitative and qualitative information. The results of this assessment should be presented as the net present values.

Transport

Objectives

The construction and operation of the project should aim to:

- (a) maintain the safety and efficiency of all affected transport modes for the project workforce and other transport system users
- (b) avoid or mitigate impacts on the condition of transport infrastructure
- (c) ensure any required works are compatible with existing infrastructure and future transport corridors.

Information requirements

- 11.52. Detail the total traffic volumes generated by the project, including workforce, inputs and outputs during the construction and operational phases.
- 11.53. Present the transport assessment in separate sections for each project-affected mode (road, pedestrian, cycling, public transport, rail and air) as appropriate for each phase of the project.
- 11.54. Detail any use of helicopters for transport to and from Cairns Airport and the scenic flights.
- 11.55. Provide sufficient information to allow an independent assessment of how existing transport infrastructure will be affected by project transport at the local and regional level (for example, local roads and state-controlled roads). Discuss likely effects on the Kuranda area, including Barnwell Road, Warril Drive, Myola Road, the Kennedy Highway and Kuranda Range Road.

- 11.56. Provide reference to the traffic and transport impacts of commuter and visitor traffic via the state-controlled road network, as well as the impacts on the Kuranda Scenic Rail, Sky Rail and coach and bus transfers.
- 11.57. Discuss the impact of proposed permanent road closures.
- 11.58. Include details of the adopted assessment methodology for impacts on roads within the road impact assessment report in accordance with the *Guidelines for Assessment of Road Impacts of Development*.
- 11.59. Discuss and recommend how identified impacts will be mitigated. Mitigation strategies are to be prepared in close consultation with relevant transport authorities (including local government).
- 11.60. Provide detail regarding the dedication and ownership of road and transport routes internal to the site.

12. Assessment of routine matters

- 12.1. The following subsections list the routine matters for coordinated projects, with (where applicable) a reference to the relevant objectives. In some cases, not all the matters may be relevant, while in others the list may not be exhaustive.
- 12.2. For each routine matter identified below, the level of detail should be proportional to the risk or magnitude of impacts. As a minimum, the proponent should supply sufficient information that confirms the risks/impacts are not significant.

Air

Objective

Development is planned, designed, constructed and operated to protect the environmental values of air.

Information requirements

- 12.3. Fully describe the characteristics of any contaminants or materials released that may be released as a result of the construction or operations of the proposal, including point source and fugitive emissions. Emissions (point source and fugitive) during construction, commissioning, operations and upset conditions should be described.
- 12.4. Predict the impacts of the releases from the activity on environmental values of the receiving environment using recognised quality assured methods. The description of impacts should take into consideration the assimilative capacity of the receiving environment and the practices and procedures that would be used to avoid or minimise impacts. The impact prediction must:
 - (a) address residual impacts on the environmental values (including appropriate indicators and air quality objectives) of the air receiving environment, with reference to sensitive receptors.⁸ This should include all

⁸ For example, the locations of existing residences, places of work, schools, etc., agricultural or ecologically significant areas/species that could be impacted.

- relevant values potentially impacted by the activity, under the EP Act, EP Regulation and Environmental Protection (Air) Policy 2008 (EPP (Air))
- (b) address the cumulative impact of the release with other known releases of contaminants, materials or wastes associated with existing development and possible future development (as described by approved plans and existing project approvals)
 - (c) quantify the human health risk and amenity impacts associated with emissions from the project for all contaminants whether or not they are covered by the National Environmental Protection (Ambient Air Quality) Measure or the EPP (Air).
- 12.5. Describe the proposed mitigation measures and how the proposed activity will be consistent with best practice environmental management. Where a government plan is relevant to the activity or site where the activity is proposed, describe the activity's consistency with that plan.
- 12.6. Describe how the achievement of the objectives would be monitored, audited and reported, and how corrective actions would be managed.

Biosecurity

Objectives

The construction and operation of the project should aim to ensure:

- (a) the spread of weeds and pest animals is minimised
- (b) existing weeds and pests are controlled.

Information requirements

- 12.7. Propose detailed measures to control and limit the introduction and spread of pests and weeds on the project site and adjacent areas. This includes declared plants under the Biosecurity Regulation 2016⁹, weeds of national significance, and designated pests under the *Public Health Act 2005*. All proposed measures must be in accordance with any relevant biosecurity surveillance or prevention program authorised under the *Biosecurity Act 2014*. Particular reference must be made to regional threats such as Yellow Crazy Ants and Electric Ants.

⁹ *The Biosecurity Act 2014 Biosecurity Regulation 2016* replaces the previous *Land Protection (Pest and Stock Route Management) Act 2002*

Cultural heritage

Objective

The construction and operation of the project should aim to ensure that the nature and scale of the project does not compromise the cultural heritage significance of a heritage place or heritage area.

Information requirements

- 12.8. Unless section 86 of the *Aboriginal Cultural Heritage Act 2003* (ACH Act) applies, the proponent must develop a Cultural Heritage Management Plan in accordance with the requirements of Part 7 of the ACH Act.
- 12.9. For non-Indigenous historical heritage, undertake a study of, and describe, the known and potential historical cultural and landscape heritage values of the area potentially affected by the project. Any such study should be conducted by an appropriately qualified cultural heritage practitioner. Provide strategies to mitigate and manage any negative impacts on non-Indigenous cultural heritage values and enhance any positive impacts.

Hazards, health and safety

Objectives

- (a) The risk of, and the adverse impacts from, natural hazards are avoided, minimised or mitigated to protect people and property and enhance the community's resilience to natural hazards.
- (b) Developments are to be appropriately located, designed and constructed to minimise health and safety risks to communities and individuals and adverse effects on the environment.
- (c) The risk of zoonosis is avoided in the development such as viruses spread from horses especially in rain-forested areas (e.g. Hendra virus).

Information requirements

General

- 12.10. Describe the potential risks to people and property that may be associated with the project, and immediately adjacent to the property, in the form of a preliminary risk assessment for all components of the project and in accordance with relevant standards and legislation. The assessment should include:
- (a) potential hazards, accidents, spillages, fire and abnormal events that may occur during all stages of the project, including estimated probabilities of occurrence
- (b) identifying all hazardous substances to be used, stored, processed or produced and the rate of usage
- (c) potential wildlife hazards, natural events (for example, cyclone, flooding, bushfire, landslide) and implications related to climate change
- (d) how the project may potentially affect hazards away from the project site (for example, changing flooding characteristics).

- 12.11. Outline measures required to ensure that the proposed project avoids the release of hazardous materials as a result of a natural hazard event.
- 12.12. Provide details on the safeguards that would reduce the likelihood and severity of hazards, consequences and risks to persons, within and adjacent to the project area(s). Identify the residual risk following application of mitigation measures. Present an assessment of the overall acceptability of the impacts of the project in light of the residual uncertainties and risk profile.
- 12.13. Provide an outline of the proposed integrated emergency management planning procedures and communication strategies (including evacuation plans, if required) for the range of situations identified in the risk assessment developed in this section.
- 12.14. Outline any consultation undertaken with the relevant emergency management authorities, including the Local Disaster Management Group.
- 12.15. Provide an outline of the specific measures to be adopted to manage bushfire risk from within the property and from adjacent properties and any specific bushfire hazard mitigation strategies.

Flooding

- 12.16. Describe flood risk for a range of annual exceedance probabilities (including Probable Maximum Flood) for the site, and assess how the project may change flooding characteristics. Include a discussion of historical events.
- 12.17. The assessment should consider all infrastructure associated with the project including levees, dams and water storage, including stormwater and wastewater containment, roads and linear infrastructure and all proposed measures to avoid or minimise risks to life, property, community (including damage to other properties) and the environment during flood events.

Noise and vibration

Objective

Development is planned, designed, constructed and operated to protect the environmental values of the acoustic environment.

Information requirements

- 12.18. Fully describe the characteristics of the noise and vibration sources that would be emitted when carrying out the activity (point source and general emissions). Describe noise and vibration emissions (including fugitive sources) that may occur during construction, commissioning, upset conditions, and operation.
- 12.19. Predict the impacts of the noise emissions from the construction and operation of the project on the environmental values of the receiving environment, with reference to sensitive receptors¹⁰, using recognised quality assured methods. Discuss separately the key project components likely to present an impact on noise and vibration for the construction and operation phases of the project.

¹⁰ For example, the locations of existing residences, places of work, schools, etc., agricultural or ecologically significant areas/species that could be impacted.

- 12.20. Taking into account the practices and procedures that would be used to avoid or minimise impacts, the impact prediction must address the:
- (a) activity's consistency with the objectives
 - (b) cumulative impact of the noise with other known emissions of noise associated with existing development and possible future development (as described by approved plans)
 - (c) potential impacts of any low-frequency (<200 Hz) noise emissions.
- 12.21. Describe how the proposed activity, and in particular, the key project components described above, would be managed to be consistent with best practice environmental management for the activity. Where a government plan is relevant to the activity, or the site where the activity is proposed, describe the activity's consistency with that plan.
- 12.22. Describe how the achievement of the objectives would be monitored and audited, and how corrective actions would be managed.

Water resources

Objectives

The construction and operation of the project should aim to meet the following objectives:

- (a) equitable, sustainable and efficient use of water resources
- (b) environmental flows, water quality, in-stream habitat diversity, and naturally occurring inputs from riparian zones support the long-term maintenance of the ecology of aquatic biotic communities
- (c) the condition and natural functions of water bodies, lakes, springs and watercourses are maintained—including the stability of beds and banks of watercourses
- (d) volumes and quality of groundwater are maintained and current lawful users of water (such as entitlement holders and stock and domestic users) and other beneficial uses of water (such as spring flows and groundwater-dependent ecosystems) are not adversely impacted by the development.

Information requirements

- 12.23. Provide details of any proposed impoundment, extraction, discharge, injection, use or loss of surface water or groundwater. Identify any approval or allocation that would be needed under the *Water Act 2000*.
- 12.24. Detail any significant diversion or interception of overland flow. Include maps of suitable scale showing the location of diversions and other water-related infrastructure.

- 12.25. Develop hydrological models as necessary to describe the inputs, movements, seepage paths, infiltration rates, exchanges and outputs of all significant quantities and resources of surface water and groundwater, including existing registered bores and landholder riparian rights that may be affected by the project. The models should address the range of climatic conditions that may be experienced at the site, and adequately assess the potential impacts of the project on water resources. The models should include a site water balance. This should enable a description of the project's impacts at the local scale and in a regional context including proposed:
- (a) changes in flow regimes from structures and water take
 - (b) alterations to riparian vegetation and bank and channel morphology
 - (c) direct and indirect impacts arising from the development.
- 12.26. Provide information on the proposed water usage by the project, including details about:
- (a) the ultimate supply required to meet the demand for full occupancy of the development, including timing of demands
 - (b) the quality and quantity of all water supplied to the site during the construction and operational phases based on minimum yield scenarios for water re-use, rainwater re-use and any bore water volumes
 - (c) a water balance analysis
 - (d) a site plan outlining actions to be taken in the event of failure of the main water supply.
- 12.27. Describe proposed sources of water supply given the implication of any approvals required under the *Water Act 2000*. Estimated rates of supply from each source (average and maximum rates) must be given and proposed water conservation and management measures must be described.
- 12.28. Determination of potable water demand must be made for the project, including the temporary demands during the construction period. Include details of any existing town water supply to meet such requirements. Detail should also be provided to describe any proposed on-site water capture storage and treatment for use by the site workforce during construction and residents during operational phases. Consideration should be given to possible significant rainfall events during the construction period.
- 12.29. Provide detailed designs for all infrastructure utilised in the treatment of on-site water including how any on-site water supplies are to be treated, contaminated water is to be disposed of and any decommissioning requirements and timing of temporary water supply/treatment infrastructure is to occur.

Waste management

Objective

Any waste transported, generated, or received as part of carrying out the activity is minimised and managed in a way that protects all environmental values.

Information requirements

- 12.30. For wastes besides wastewater (which is addressed in paragraphs 10.30–10.32), describe all the expected significant waste streams from the proposed project activities during the construction and operational phases of the project.
- 12.31. Describe the quantity, form (liquid, solid, gas), hazard and toxicity of each significant waste, as well as any attributes that may affect its likelihood of dispersal in the environment, as well the associated risk of causing environmental harm.
- 12.32. Define and describe the objectives and practicable measures for minimising the generation and impact of waste for protecting or enhancing environmental values from impacts by wastes. Take into account best practice waste management strategies and the Environmental Protection (Waste) Policy 2000 and the Environmental Protection (Waste) Regulation 2000.
- 12.33. Assess the proposed management measures against the preferred waste management hierarchy, namely: avoid waste generation; cleaner production; recycle; re-use; reprocess and reclaim; waste to energy; treatment; disposal. This includes the generation and storage of waste.
- 12.34. Describe how nominated quantitative standards and indicators may be achieved for waste management, and how the achievement of the objectives would be monitored, audited and managed.
- 12.35. Provide details on natural resource-use efficiency (such as energy and water), integrated processing design, and any co-generation of power and by-product re-use as shown in a material/energy flow analysis.

13. Content of the EIS for matters of national environmental significance

Background and context

- 13.1. This section should provide a stand-alone description and detailed assessment of the impacts of the project on the controlling provisions for the project under the EPBC Act inclusive of any avoidance, mitigation and offset measures.
- 13.2. A delegate for the Commonwealth Minister for the Environment determined the project will impact upon the following controlling provisions under the EPBC Act:
 - World Heritage properties (sections 12 and 15A)
 - National Heritage places (sections 15B and 15C)
 - listed threatened species and communities (sections 18 and 18A)
 - Great Barrier Reef Marine Park (sections 24B and 24C).

- 13.3. The EIS must be prepared pursuant to the bilateral agreement between the Commonwealth of Australia and the State of Queensland. This will enable the EIS to meet the impact assessment requirements under both Commonwealth and Queensland legislation. The project will require approval from the responsible Commonwealth Minister under Part 9 of the EPBC Act before it can proceed.
- 13.4. Once the EIS has been prepared to the satisfaction of the Coordinator-General and MNES addressed to the satisfaction of the Australian Government Department of the Environment and Energy, the EIS will be made available for public comment.
- 13.5. The proponent may be required by the Coordinator-General or the Department of the Environment and Energy to provide additional material to address matters raised in submissions on the EIS.
- 13.6. At the conclusion of the environmental assessment process, the Coordinator-General will provide a copy of the report to the Commonwealth Minister for the Environment and Energy, in accordance with Part 13, section 36(2) of the State Development and Public Works Organisation Regulation 2010 (Qld) (SDPWO Regulation).
- 13.7. After receiving the evaluation report and sufficient information about the relevant impacts of the action, the Commonwealth Minister for the Environment and Energy has 30 business days to consider whether the impacts of the proposal are acceptable, or not, and to decide whether or not to approve each controlling provision.
- 13.8. The Minister's decision is separate to the approval decisions made by Queensland state agencies and other agencies with jurisdiction on state matters.
- 13.9. Consideration should be given to any relevant policy statements available from www.environment.gov.au, including:
 - *Matters of National Environmental Significance: Significant impact guidelines 1.1*
 - *Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy*
 - *Environment Protection and Biodiversity Conservation Act 1999 Outcomes based conditions policy*
 - approved conservation advice, recovery plans and threat abatement plans.
- 13.10. In accordance with Section 3.1 of Schedule 1 of the bilateral agreement, the EIS must:
 - assess all the relevant impacts that the action has, will or is likely to have
 - provide enough information about the action and its relevant impacts to allow the Commonwealth Minister for the Environment and Energy to make an informed decision whether or not to approve the action
 - address the matters set out in Schedule 4 of the Environment Protection and Biodiversity Conservation Regulations 2000 (Cwlth) (EPBC Regulations) and Schedule 1 of the SDPWO Regulation.

- 13.11. The MNES section of the EIS should bring together assessments of impacts from other chapters and produce a stand-alone assessment in a format suited for assessment under the EPBC Act.
- 13.12. The project should initially be assessed in its own right followed by an assessment of the cumulative impacts related to all known proposed developments in the region with respect to each controlling provision and all identified consequential actions. Cumulative impacts not solely related to the project development should also be assessed.
- 13.13. Predictions of the extent of threat (risk), impact and the benefits of any mitigation measures proposed, should be based on sound science and quantified where possible, including defining the systems/methods and how they will be monitored or verified and improved. Reference all sources of information relied upon and provide an estimate of the reliability of predictions. Also identify and evaluate any positive impacts.
- 13.14. The extent of any new field work, modelling or testing should be commensurate with risk and should be such that when used in conjunction with existing information, provides sufficient confidence in predictions that well-informed decisions can be made.
- 13.15. Project alternatives must be discussed in accordance with Schedule 4, section 2.01(g) of the EPBC Regulations, including:
 - (a) if relevant, the alternative of taking no action;
 - (b) a comparative description of the impacts of each alternative on the triggered MNES protected by controlling provisions of Part 3 of the EPBC Act for the action; and
 - (c) sufficient detail to make clear why any alternative or option is preferred to another.
- 13.16. Short, medium and long-term advantages and disadvantages of the alternatives or options must be discussed.
- 13.17. The information provided must include details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against:
 - (a) the person proposing to take the action; and
 - (b) for an action for which a person has applied for a permit, the person making the application.

If the person proposing to take the action is a corporation, details of the corporation's environmental policy and planning framework must also be included.
- 13.18. For the purposes of the Commonwealth's consideration of the project, the economic and social impacts of the action, both positive and negative, must be analysed. Further information requirements on economic and social impacts as required for the State's considerations, are included from Social and Economic section of this document.

Matters of interest may include:

 - (a) details of any public consultation activities undertaken, and their outcomes
 - (b) details of any consultation with Indigenous stakeholders

- (c) projected economic costs and benefits of the project, including the basis for their estimation through cost/benefit analysis or similar studies; and
 - (d) employment and other opportunities expected to be generated by the project (including construction and operational phases).
- 13.19. Economic and social impacts should be considered at the local, regional and national levels. Details of the relevant cost and benefits of alternative options to the proposed action, as identified in Section 4 above, should also be included.
- 13.20. Identification of affected parties is required, including a statement mentioning any communities that may be affected and describing their views.
- 13.21. The following content requirements are based on these matters and considerations, with the addition of directions specific to the proposed action and the receiving environment.

World Heritage properties

Wet Tropics of Queensland World Heritage Area

- 13.22. Identify and describe the characteristics, values and integrity of the Wet Tropics of Queensland World Heritage Area that are likely to be impacted by all stages of the project. World Heritage Values are those described in the *Statement of outstanding universal value for the Wet Tropics World Heritage Area*.
- 13.23. Values include, but are not restricted to, exceptional natural beauty and aesthetic importance of the area, species of conservation significance and the significant regional habitat for listed threatened and migratory species (<https://www.environment.gov.au/heritage/places/world/wet-tropics/values>).
- 13.24. Integrity relates, but not limited to, the ‘wholeness and intactness’ of the property as at the time of inscription and how it conveys the values it holds. Integrity can also relate to the size of the property and to any threats affecting the property as described in the *Operational Guidelines for the Implementation of the World Heritage Convention*. Discuss the potential direct, indirect and consequential impacts on outstanding universal value and integrity of the Wet Tropics of Queensland World Heritage Area including:
- (a) modification, destruction, fragmentation, isolation or disturbance of an important or substantial area of habitat
 - (b) impacts on other users of the area
 - (c) the potential impacts on important amenities, navigation, water quality, threatened or migratory species or sensitive habitat
 - (d) include consideration of consequential impacts on the Wet Tropics of Queensland World Heritage Area Outstanding Universal Value and integrity potentially arising from any increased road traffic movement.
 - (e) the extent to which impacts can be forecasted or predicted, and effectively managed and minimised.
- 13.25. Assess the impacts of the project against relevant policies and strategies for the Wet Tropics World Heritage Area including but not limited to *Wet Tropics Management Authority Strategic Plan 2013–2018*, *Wet Tropics Conservation Strategy* and *Wet Tropics Nature Based Tourism Strategy*.

- 13.26. Analyse the impact of the action on the values of the Wet Tropics of Queensland World Heritage Area.
- 13.27. Describe any mitigation and management measures proposed to protect, conserve or rehabilitate the Wet Tropics of Queensland World Heritage Area.
- 13.28. Describe the residual impacts of the proposed development after all proposed avoidance and mitigation measures are taken into account. Where residual significant impacts to the attributes and/or integrity of the Wet Tropics of Queensland World Heritage Area are determined likely, include proposed offsets consistent with the *EPBC Act environmental offsets policy* (2012).
- 13.29. Demonstrate that the project will not be inconsistent with:
 - (a) Australia's obligations under the World Heritage Convention, or
 - (b) the Australian World Heritage management principles, or
 - (c) a plan that has been prepared for the management of a declared World Heritage property under section 316 or as described in section 321 of the EPBC Act.

Great Barrier Reef World Heritage Area

- 13.30. Identify and describe the characteristics, values and integrity of the Great Barrier Reef World Heritage Area that are likely to be impacted by all stages of the project. World Heritage Values are those described in the *Statement of outstanding universal value for the Great Barrier Reef World Heritage Area*.
- 13.31. Values include, but are not restricted to, exceptional natural beauty and aesthetic importance of the area, species of conservation significance and the significant regional habitat for listed threatened and migratory species (<https://www.environment.gov.au/heritage/places/world/gbr/values>).
- 13.32. Discuss the potential direct, indirect and consequential impacts on the outstanding universal value and integrity of the Great Barrier Reef World Heritage Area, including:
 - (a) changes to water quality
 - (b) modification, destruction, fragmentation, isolation or disturbance of an important or substantial area of habitat
 - (c) impacts resulting from sedimentation and erosion
 - (d) impacts on other users of the area
 - (e) the potential impacts on important amenities, navigation, threatened or migratory species or sensitive habitat
 - (f) the extent to which impacts can be forecasted or predicted, and effectively managed and minimised.
- 13.33. Analyse the impact of the action on the values of the Great Barrier Reef World Heritage Area.
- 13.34. Describe any mitigation and management measures proposed to protect, conserve or rehabilitate the Great Barrier Reef World Heritage Area.

- 13.35. Assess the impacts of the project against relevant reports and documents published as part of the Great Barrier Reef Region Strategic Assessment, including but not restricted to: *Great Barrier Reef Coast Strategic Assessments Reports*, the *Reef 2050 Long-Term Sustainability Plan* and the *Reef Water Quality Protection Plan 2013*.
- 13.36. Demonstrate that the project will not be inconsistent with:
- (a) Australia's obligations under the World Heritage Convention, or
 - (b) the Australian World Heritage management principles, or
 - (c) a plan that has been prepared for the management of a declared World Heritage property under section 316 or as described in section 321 of the EPBC Act.

National Heritage places

Wet Tropics of Queensland National Heritage Place

- 13.37. Assess and discuss all potential and likely impacts to the National Heritage values of the Wet Tropics of Queensland National Heritage place including both natural and Indigenous heritage values. This must also include consultation with the Indigenous community.
- 13.38. Analyse the direct, indirect and consequential impacts of the action on the values of the Wet Tropics of Queensland National Heritage place.¹¹
- 13.39. Describe any mitigation and management measures proposed to protect the values of the Wet Tropics of Queensland National Heritage place.
- 13.40. Demonstrate that the project will not be inconsistent with:
- (a) the National Heritage management principles
 - (b) an agreement to which the Commonwealth is party in relation to a National Heritage place, or
 - (c) a plan that has been prepared for the management of a National Heritage place under section 324S or as described in section 324X of the EPBC Act.

Great Barrier Reef National Heritage Place

- 13.41. Assess and discuss all potential and likely impacts to the National Heritage values of the Great Barrier Reef National Heritage place.
- 13.42. Analyse the direct, indirect and consequential impacts of the action on the values of the Great Barrier Reef National Heritage place.
- 13.43. Describe any mitigation and management measures proposed to protect or enhance impacts on the Great Barrier Reef National Heritage place.
- 13.44. Demonstrate that the project will not be inconsistent with:
- (a) the National Heritage management principles, or

¹¹ Values include natural and cultural values, including but not restricted to, geological and indigenous cultural events and processes, rarity, research, aesthetics, indigenous tradition and cultural technical achievement (http://www.environment.gov.au/cgi-bin/ahdb/search.pl?mode=place_detail;place_id=105689).¹¹

- (b) an agreement to which the Commonwealth is party in relation to a National Heritage place, or
- (c) a plan that has been prepared for the management of a National Heritage place under section 324S or as described in section 324X of the EPBC Act.

Listed threatened species and communities

- 13.45. Describe the listed threatened species and ecological communities likely to be impacted by the project and identified by a Protected Matters search (including EPBC Act status, distribution, life history and habitat).
- 13.46. Provide details of the scope, timing/effort (survey season/s) and methodology for studies or surveys used to provide information on the listed species/community/habitat at the site (and in areas which may be impacted by the proposed development). Include details of:
- (a) the application of best practice survey guidelines
 - (b) how studies or surveys are consistent with (or a justification for divergence from) published Australian Government guidelines and policy statements.
- 13.47. Provide an assessment of the relevant impacts to the listed threatened species and ecological communities that are found to be or may potentially be present in areas that may be impacted by the project, or for which suitable habitat is likely to be impacted. Identify which component of the project is of relevance to each listed threatened species or ecological community or if the threat of impact relates to consequential actions resulting from:
- (a) a decrease in the size of a population or a long-term adverse effect on an ecological community
 - (e) reduction in the area of occupancy of the species or extent of occurrence of the ecological community
 - (f) fragmentation of an existing population or ecological community
 - (g) disturbance or destruction of habitat critical to the survival of the species or ecological community
 - (h) disruption of the breeding cycle of a population
 - (i) modification, destruction, removal, isolation or reduction of the availability or quality of habitat to the extent that the species is likely to decline
 - (j) modification or destruction of abiotic (non-living) factors (such as water, nutrients or soil) necessary for the ecological community's survival
 - (k) the introduction of invasive species that are harmful to the species or ecological community becoming established
 - (l) interference with the recovery of the species or ecological community
 - (m) action that may be inconsistent with a recovery plan.
- 13.48. Describe the indirect, cumulative and facilitated impacts that may result from the project.
- 13.49. Describe any mitigation measures proposed to reduce the impact on the listed threatened species and ecological communities and the anticipated benefit of proposed mitigation measures.

- 13.50. Supporting evidence should be provided to demonstrate the appropriateness of mitigation measures proposed. Where the likely success of mitigation measures cannot be supported by evidence, identify contingencies in the event the mitigation is not successful.
- 13.51. Describe the residual significant impacts of the proposed development after all proposed avoidance and mitigation measures are taken into account.
- 13.52. Where relevant, demonstrate that the project will not be inconsistent with:
 - (a) Australia's obligations under:
 - (i) the Biodiversity Convention
 - (ii) the Apia Convention
 - (iii) CITES
 - (b) a recovery plan or threat abatement plan.
- 13.53. Discuss how the project has had regard to approved conservation advice for listed threatened species and communities.

List of potential listed threatened species and their status

- 13.54. Address impacts to listed threatened species, including but not limited to the following:
 - (a) Kuranda tree frog (*Litoria myola*), endangered
 - (b) Australian laceid tree frog (*Litoria dayi*), endangered
 - (c) mist frog (*Litoria rheocola*), endangered
 - (d) Myola palm (*Archonotophoenix myolensis*), endangered
 - (e) southern cassowary (*Casuarius casuarius johnsonii*), endangered
 - (f) northern quoll (*Dasyurus hallucatus*), endangered.

Great Barrier Reef Marine Park

- 13.55. Assess and discuss the potential direct, indirect and consequential impacts of all stages of the proposed development on the environment of the Great Barrier Reef Marine Park, including, but not limited to:
 - (a) impacts resulting from an increase in contaminants to water quality
 - (b) impacts resulting from sedimentation and erosion
 - (c) potential risk of pest species becoming established in the Great Barrier Reef Marine Park area.
- 13.56. An assessment and discussion of the potential and likely impacts of the proposed development on the environment of the Great Barrier Reef Marine Park. This must reference the key values and attributes outlined in the *Great Barrier Reef Outlook Report 2014* (Great Barrier Reef Marine Park Authority) that may be impacted by proposed development.
- 13.57. Assess the impacts of the project against relevant actions, targets and objectives of the *Reef 2050 Long-Term Sustainability Plan* and the *Reef Water Quality Protection Plan 2013*.
- 13.58. Describe the residual significant impacts of the project after all proposed avoidance and mitigation measures are taken into account.

Offsets

- 13.59. Describe the residual impacts of the proposed development for each relevant MNES, after all proposed avoidance and mitigation measures are taken into account. Identify whether the residual impacts are significant, requiring offsets.
- 13.60. Propose and describe offsets for significant residual impacts to relevant MNES consistent with the *EPBC Act environmental offsets policy (2012)*.
- 13.61. Where residual significant impacts to the attributes and/or integrity of either of the World Heritage Areas or National Heritage Places are determined likely, propose and describe offsets consistent with the *EPBC Act environmental offsets policy (2012)*.

Conclusion

- 13.62. Include an overall conclusion as to the environmental acceptability of the proposal on each relevant MNES, including:
 - (a) a discussion on the consideration with the requirements of the EPBC Act, including the objects of the EPBC Act, the principles of ecologically sustainable development and the precautionary principle
 - (b) reasons justifying undertaking the proposal in the manner proposed, including the acceptability of the avoidance and mitigation measures
 - (c) if relevant, a discussion of residual significant impacts and any offsets and compensatory measures proposed or required for residual significant impacts on relevant MNES, and the relative degree of compensation and acceptability.

14. Appendices to the EIS

- 14.1. Appendices should provide the complete technical evidence used to develop assertions and findings in the main text of the EIS.
- 14.2. No significant issue or matter should be mentioned for the first time in an appendix—it must be addressed in the main text of the EIS.
- 14.3. Include a table listing the section of the EIS where each requirement of the TOR is addressed.
- 14.4. Include a glossary of terms and a list of acronyms and abbreviations.

Acronyms and abbreviations

The following acronyms and abbreviations have been used in this document.

Acronym/abbreviation	Definition
AHD	Australian Height Datum
EIS	environmental impact statement
EP Act	<i>Environmental Protection Act 1994</i>
EP Regulation	Environmental Protection Regulation 2008
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cwlth)
EPBC Regulations	Environment Protection and Biodiversity Conservation Regulations 2000 (Cwlth)
EPP	Environmental Protection Policy (under the EP Act)
ERA	Environmentally Relevant Activities
GDA94	Geocentric Datum of Australia 1994
MNES	matters of national environmental significance (under the EPBC Act)
SDAP	State Development Assessment Provisions prescribed in the Sustainable Planning Regulation 2009
SDPWO Act	<i>State Development and Public Works Organisation Act 1971</i>
SDPWO Regulation	State Development and Public Works Organisation Regulation 2010
SPA	<i>Sustainable Planning Act 2009</i>
SPP	State Planning Policy
TOR	terms of reference
VMA	<i>Vegetation Management Act 1999</i>

Appendix 1. Policies and guidelines

Australian and New Zealand Environment and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand 2000, *The Australian and New Zealand Guidelines for Fresh and Marine Water Quality*, Australian Water Association (Artarmon) and NZ Water and Wastes Association (Auckland), viewed 3 August 2016, <http://www.environment.gov.au/water/publications/quality/nwqms-guidelines-4-vol1.html>

The Coordinator-General 2015, *Preparing an environmental impact statement: Guideline for proponents*, Department of State Development, Brisbane, viewed 3 August 2016, <http://www.statedevelopment.qld.gov.au/resources/guideline/cg/preparing-an-eis-guideline-for-proponents.pdf>

The Coordinator-General 2013, *Social impact assessment guideline*, Department of State Development, Infrastructure and Planning, Brisbane, viewed 3 August 2016, <http://www.statedevelopment.qld.gov.au/resources/guideline/social-impact-assessment-guideline.pdf>

Department of Agriculture and Fisheries, *DAFF Environmental Impact Assessment Companion Guide*, August 2014, Department of Agriculture and Fisheries, Brisbane, 2014, viewed on 3 August 2016, <https://publications.qld.gov.au/storage/fi/2014-10-16T04:21:57.215Z/environmental-impact-assessment-guide.pdf>

Department of Environment, *EPBC Act Environmental Offsets Policy 2012*, viewed 5 August 2016, <http://www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy>

Department of Environment, *Environmental Protection (Waste Management) Policy 2000*, viewed 5 August 2008, <https://www.legislation.qld.gov.au/LEGISLTN/SLS/2000/00SL180.pdf>

Department of Sustainability, Environment, Water, Population and Communities, 2012, *EPBC Act Environmental offsets policy*, Brisbane, viewed 5 August 2016, <http://www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy>

Department of Environment and Heritage Protection 2013, *Queensland Water Quality Guidelines, Version 3*, Department of Environment and Heritage Protection, Brisbane, viewed 3 August 2016, <http://www.ehp.qld.gov.au/water/guidelines>

Department of Environment and Heritage Protection, 2016, *EIS information guideline – Quarry material*, Department of Environment and Heritage Protection, viewed 3 August 2016, <http://www.ehp.qld.gov.au/management/impact-assessment/eis-processes/documents/generic-tor-supporting-guidelines/tor-guideline-quarry-material.docx>

Department of Environment and Heritage Protection 2008, *Environmental Protection (Air) Policy 2008*, viewed 5 August 2016, <https://www.ehp.qld.gov.au/management/env-policy-legislation/>

Department of Main Roads, *Guidelines for Assessment of Road Impacts of Development*, Department of Main Roads, Brisbane, 2006, viewed 3 August 2016, www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Guidelines-for-assessment-of-road-impacts-of-development.aspx

Department of Main Roads, 2012, *Road Maintenance Code of Practice – Wet Tropics Management Authority*, viewed 4 October 2016, www.wettropics.gov.au/site/user-assets/docs/roadmaintenancetop2012.pdf

Department of Natural Resources and Mines 2014, *Preparing an environmental impact statement*, viewed 3 August 2016, www.dnrm.qld.gov.au/our-department/corporate-publications/preparing-an-environmental-impact-statement

Department of Infrastructure, Local Government and Planning, 2016, *State Development Assessment Provisions*, Version 1.9, Department of Infrastructure, Local Government and Planning, Brisbane, viewed 3 August 2016, <http://www.dilgp.qld.gov.au/planning/development-assessment/state-development-assessment-provisions.html>

Department of Infrastructure, Local Government and Planning 2016, *State Planning Policy April 2016*, viewed 3 August 2016, <http://www.dilgp.qld.gov.au/resources/policy/state-planning/spp-april-2016.pdf>

United Nations Educational, Scientific and Cultural Organisation 2012, *Operational Guidelines for the Implementation of the World Heritage Convention*, viewed 5 October 2016, <http://whc.unesco.org/archive/opguide12-en.pdf>

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