Terms of reference for an environmental impact statement:

North Queensland Country Club Resort and Equestrian Centre

September 2019

COORDINATOR-GENERAL

Queensland Government

The Department of State Development, Manufacturing, Infrastructure and Planning

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Contents

Part A. About these terms of reference

1. Introduction

1.1 This document outlines the draft terms of reference (TOR) for the North Queensland Country Club Resort and Equestrian Centre (the project), proposed by Landmark Projects Pty Ltd and being assessed under the *State Development and Public Works Organisation Act 1971* (SDPWO Act).

1.2 The project is located on a 440-hectare site, north-west of the Toolakea township in the suburb of Bluewater, 30 kilometres (km) north-west of Townsville. The project comprises an integrated resort including an accommodation precinct with up to 2,800 rooms and units, a sport and recreation precinct including an equestrian centre and an environmental and open space precinct for nature-based recreation activities.

1.3 The project proponent intends that the project be constructed in five stages over a 20 to 25-year period. Subject to approvals, construction of stage 1 would commence in 2022 with estimated completion of the final stage 5 in 2044 depending on market conditions and alignment to infrastructure upgrades as necessary.

2. Statutory basis

2.1 The Coordinator-General has declared the North Queensland Country Club Resort and Equestrian Centre to be a 'coordinated project for which an environmental impact statement (EIS) is required' under section 26(1)(a) of the 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.

2.2 These 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.

3. Accredited process for controlled actions under Commonwealth legislation

3.1 On 18 June 2019, the Commonwealth Minister for the Environment determined the project is a 'controlled action' under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (Cth), due to the likely potential impacts on matters of national environmental significance (MNES) (reference number EPBC 2019/8445).

3.2 The EIS process has been accredited under the Bilateral Agreement between the Commonwealth and the State of Queensland under section 45 of the EPBC Act relating to Environmental Assessment (Bilateral Agreement), hence the EIS is to state the controlling provisions for the project and describe the particular aspects of the environment that led to the controlled action decision.

3.3 The assessment of the controlling provisions, mitigation measures and any offsets for residual impacts are to 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 in section 13 of this TOR.

4. EIS guidelines

4.1 This TOR must be read in conjunction with *Preparing an environmental impact statement: Guideline for proponents* (refer Appendix 1), which explains the following:

(a) participants in the EIS process

(b) consultation requirements

(c) EIS format and copy requirements.

4.2 In addition, subject-specific policies and guidelines are referenced throughout this TOR and are listed in Appendix 1. The most recent version of relevant policy and guidelines documents contained in Appendix 1 (including methodologies, standards, parameters, procedures and other technical guidance) must be complied with. Should relevant policy or guidelines be superseded during the preparation of the EIS, application of new guidelines, standards and policies will be confirmed through consultation between the Coordinator-General, the proponent and advisory agencies.

5. More information

5.1 For information about the project or the EIS process conducted under the SDPWO Act, visit **www.dsdmip.qld.gov.au/cg**

Part B. General approach and requirements

6. General approach

6.1 The objectives of the EIS are to provide a detailed description of the proposed project and to ensure that all relevant environmental, social and economic matters of the project are identified and assessed, and to recommend measures to avoid, minimise, mitigate, manage or offset adverse impacts. The EIS should demonstrate that the project is based on sound environmental principles and practices.

6.2 For the purposes of the EIS process, 'environment' is defined in Schedule 2 of the SDPWO Act and includes social and economic matters.

6.3 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, nature, impact interactions, direct, indirect, permanent, temporary and consequential impacts, cumulative effect, irreversibility, the risk of environmental harm, management strategies and ability to offset the impact.

6.4 The EIS is to be prepared in accordance with relevant policies, standards and guidelines. Application of such guidelines, standards and policies will be confirmed throughout the development of the EIS in consultation between the Coordinator-General, the proponent and advisory agencies.

7. Mandatory requirements of an EIS

7.1 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 2019 (EP Regulation), environmental

[1] Part 3, Division 2, Subdivision 1, section 9.

protection policies (EPPs) and relevant guidelines.[2] Other values may also apply such as those specified in other State legislation, policies and guidelines including the *Nature Conservation Act 1992* and project specific matters outlined in Section 12.

7.2 The assessment should cover the short to long terms impacts of the project and state whether any relevant impacts are likely to be irreversible. The assessment should also discuss scenarios of unknown and unpredictable impacts.

7.3 Provide all available baseline information relevant to the environmental risks of the project including seasonal and long-term (determined over a period of at least 12 months) variations. 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 assumptions and uncertainties in the information.

7.4 Provide detailed strategies regarding all matters 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.

7.5 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 risks can be effectively minimised over the long-term. Provide an assessment of the expected or predicted effectiveness, of the proposed avoidance and mitigation measures for dealing with the proposed project's relevant impacts during construction and operation, and demonstrate they are consistent with current best practice environmental management. Provide management strategies to ensure ongoing best practice during construction and operation.

7.6 Each matter assessed in the EIS (as described in Section 12 of this TOR) should include a concise description of the existing environment, potential impacts of the project and the measures proposed by the proponent to avoid, minimise, mitigate, manage and/or offset those impacts.

7.7 Present feasible alternatives of the project's configuration (including individual elements), including conceptual, technological and locality. Provide sufficient detail to provide understanding for preferred option/s and discuss the consequences of not proceeding with the project.

7.8 Assess the extent to which the construction and operation (to the extent known) of the project meets all statutory and regulatory requirements of the State and Commonwealth and that the intended outcomes are consistent with current state and commonwealth policies and guidelines. If there is a conflict, provide comment on the planning merit that supports the project.

7.9 An appropriate public consultation program is essential to support the impact assessment process. The proponent is to consult with local, State and Commonwealth government agencies, and potentially affected communities.

7.10 The EIS must describe the consultation that has taken place and how the responses from the community and agencies have been incorporated into the design and outcomes of the project.

7.11 Include as an appendix a consultation report detailing how the community and stakeholder engagement program was implemented and the results.

[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).

8. Further requirements of an EIS

8.1 The proponent must identify in the EIS the scope of all government approvals sought through the EIS process. Where an approval is sought, the assessment and supporting information should be sufficient for the administering authority to decide whether an approval should be granted. If approval is not sought via the EIS process, it may be appropriate for less detail to be provided and this should be determined in consultation with the Coordinator-General. Where applicable, sufficient information should be included to enable approval conditions to be decided.

8.2 To the extent of the information available, the assessment should endeavour to predict the cumulative impact[3] of the project on environmental values over time and in combination with impacts created by the activities of other adjacent and upstream and downstream developments and landholders—as detected by baseline monitoring. This will inform the decision on the EIS and the setting of conditions. The EIS should also outline ways in which the cumulative impact assessment and management could subsequently be progressed further on a collective basis.

8.3 Include a consolidated description of all the proponent's commitments to implement management, planning and governance measures (including monitoring programs), controlled development parameters, body corporate code and onsite by-laws. Should the project proceed, these would then be carried over into the approval conditions as relevant.

8.4 Provide all geographical coordinates throughout the EIS in latitude and longitude against the *Geocentric Datum of Australia 1994* (GDA94) (or updated datum sets).

8.5 An EIS must also describe the expected benefits and opportunities associated with the project.

Part C. EIS content and suggested structure

9. Executive summary

9.1 The executive summary must 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 or purchase the whole EIS.

10. Introduction

10.1 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

10.2 Describe the following:

(a) the proponent's full name, postal address and Australian Business Number, if relevant (including details of any joint venture partners)

(b) the nature and extent of business activities

(c) proponent's experience

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

(d) proponent's (including directors) environmental record in Australia, including a list of any breach of relevant environmental laws during the previous ten years

(e) proponent's environmental, health, safety and community policies

(f) experience and qualifications of consultants and sub-consultants engaged by the proponent to complete the EIS.

The environmental impact assessment process

10.3 Provide an outline of the environmental impact assessment process, including the role of the EIS in the Coordinator-General's decision-making process. 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.

10.4 Inform the reader how and when properly made public submissions on the EIS will be addressed and considered in the decision-making process.

Project approvals process

10.5 Describe the approvals, and the entities granting each approval, required to enable the project to be constructed and operated and the level of approval sought via the EIS assessment process. Explain how the environmental impact assessment process (and the EIS itself) informs the issue of the leases/ licences/ preliminary approvals/ development permits/ consents required by the proponent before construction can commence. Provide a flow chart indicating the key approvals, stages, timing and opportunities for public comment.

10.6 Provide detailed information pertaining to the planning history of the project site (e.g. rezoning history, land use approvals, current applications). Clarify the relationship between the current development application and the superseded City of Thuringowa Planning Scheme 2003 (particularly the Rural Planning Area Code and the Toolakea Local Area Code), including a description of the mechanism(s) within the superseded scheme which would allow the current material change of use application (subject to code assessment) to be issued with a development permit.

10.7 Identify the preferred land use planning approval framework for the project site, particularly in relation to project stages (e.g. Development Permit or Preliminary Approval for Material Change of Use for all or some of the project stages), including any proposed condition sets that could attach to planning approvals issued subsequent to the EIS assessment process.

10.8 Clause 10.8 to 10.10 are applicable if the proponent intends to seek a variation request under the *Planning Act 2016* for the project.
Provide detailed information which would allow TCC to assess a variation request. A Draft Plan of Development should be provided which sets out additional planning provisions to those set out in the Townsville City Plan 2014 which vary the effect of the planning scheme. The Draft Plan of Development should:

(a) categorise development as assessable or accepted development,

(b) include tables of assessment which specify categories of assessment required for different types of assessable development

(c) set out the matters (assessment benchmarks) than an assessment manager must assess any assessable development against – these would replace use and overlay codes identified in the Townsville City Plan

(d) include common material against which subsequent development applications within the Plan of Development Area will be assessed.

10.9 A variation request or application for preliminary approval to override the Townsville City Plan 2014 would amend a local planning instrument. The State Planning Policy applies when making or amending a local planning instrument. The local government must consider how the relevant parts of the SPP apply in their local area and appropriately integrate those parts of the SPP in a local planning instrument.

10.10 Demonstrate how the Draft Plan of Development incorporates the consideration and assessment of State interests as described by the State Planning Policy. Identify these interests and their provisions which apply to the proposed uses of land within the project site. Identify how the State Interest policies and assessment benchmarks are to be implemented and enforced through the Plan of Development. Where it is considered that State interests and associated provisions of the SPP do not apply, provide justification for that position. Provide detailed plans and supporting documentation which clearly identifies all aspects of the proposed development including:

(a) the layout, design and extent of all proposed buildings and structures including scaled site plans, architectural drawings and elevations

(b) the breakdown of all land uses within each of the proposed precincts, including land area and maximum yield for each stage

(c) a staging plan with a detailed description of each precinct with supporting plans to indicate land area, land uses, accommodation types, car parking spaces and a description of vehicle movements

(d) extent of works such as filling and excavation

(e) layout and design for internal roads.

10.11 The State Development Assessment Provisions (SDAP) prescribed in the Planning Regulation 2017 (Planning Regulation) sets out the matters of interest to the state for development assessment where the chief executive of the *Planning Act 2016* (Planning Act) 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 6–12 of this TOR should be sufficient to permit those assessments to be completed for that project component[4]. Further information on SDAP[5] requirements can be assessed from **https://planning.dsdmip.qld.gov.au/.**

10.12 Describe the assessment process under the Bilateral Agreement between the Commonwealth and the State of Queensland under section 45 of the EPBC Act relating to Environmental Assessment (Bilateral Agreement).

10.13 The EIS must provide, where relevant, the information required under section 125 of the EP Act in support of the project's environmentally relevant activities (ERA). Any ERA to be conducted as part of the project should be listed separately with the appropriate ERA number, activity name and required threshold (see EP Regulation, Schedule 2 for a list of ERAs). The assessment and supporting information provided in the EIS should be sufficient for the administering authority to decide whether an approval should be granted. Environmental values

[4] Provision of a statement for the project against *State Code 16: Native vegetation clearing of the State Development Assessment Provisions* would allow native vegetation clearing requirements (as per SDAP) to be met within the EIS.
[5] Version 2.5 effective 1 July 2019

and approval requirements are specified in the EP Act, the EP Regulation, EPP and relevant guidelines.

10.14 The information in the EIS must satisfy previous requests for information from relevant administering authorities related to the existing application with TCC.

11. Project description

Proposed development

11.1 The EIS must describe and illustrate at least the following specific information about the proposed project:

(a) project title

(b) project description, for:

(i) on-site activities

(ii) off-site activities, including any proposal for beach access

(c) project objectives

(d) expected capital expenditure for each of the five stages

(e) rationale for the project

(f) the regional and local infrastructure context of the project's footprint (with maps at suitable scales)

(g) relationship to other major projects and/or development (of which the proponent should reasonably be aware)

(h) the workforce numbers to be employed by the project during its various phases

(i) where personnel would be accommodated during construction and operation of the project

(j) proposed construction staging and likely schedule of works including details of early works

(k) include information on the potential expected population and whether short or long term (e.g. permanent or semi-permanent) and proportion - international or domestic.

Site description

11.2 Describe the tenure and real property descriptions of the project land and adjacent properties; any easements and roads (existing and/or proposed); subject to the application. Identify any land proposed to be used external to the project site, and detail any activities requiring authorisation under the *Land Act 1994* and/or the *Native Title Act 1993*, where required.

11.3 Describe and map key transport, all local government and state-controlled roads, private and government owned corporation energy, rail, air, port/sea and other infrastructure or services in the region impacted by the project.

11.4 Describe and map proximate rural premises, business precincts, and public facilities (e.g. childcare and education facilities, health facilities).

11.5 Describe and map the topography of the project site and surrounding area, highlighting any significant features shown on the maps. Include and name rivers and creeks. Maps should include a scale 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 (or updated datum sets).

11.6 Describe and illustrate specific information about the proposed project including the precise location of the proposed development in relation to designated and protected areas such as erosion prone areas, the coastal management district, marine park boundaries, fish habitat areas and World Heritage Areas.

11.7 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.

11.8 Describe, map and illustrate land and soil resources (types and profiles) of the project area including added fill and/or exposed ground surface of all parts of the project area at a scale relevant to the proposed project. Identify soils that would require specific management due to wetness, erosivity, depth, acidity, salinity or other features. Describe the existing soil conditions of the site to determine the suitability of the land for irrigation of treated sewerage and managing waste from horses.

11.9 Describe the planning schemes, regional plans[6], state policies, government priorities for the project area.

11.10 Describe tourist destinations and sites to be used by guests for recreation onsite or in the surrounding region and identify transport and site access routes for such destinations, including public access to the beach.

11.11 Plans and drawings provided must be detailed enough to ensure adequate assessment of the proposal, for the approvals being sought. Detailed plans and supporting documentation must be provided so that the approvals being sought can be adequately assessed. Detailed plans and supporting information may include:

(a) master planning site layouts which designate development precinct and sub precinct areas, and include maximum development parameters or development codes and constraint controls

(b) the layout, design and extent of all proposed buildings and structures including scaled site plans, architectural drawings and elevations

(c) the breakdown of all land uses within each of the proposed precincts, including land area and maximum yield for each stage, location of short or long stay, permanent or semi-permanent accommodation, capacity and type

(d) a staging plan with a detailed description of each precinct with supporting plans to indicate land area, land uses, accommodation types, car parking spaces and a description of vehicle movements

(e) extent of works such as filling and excavation

(f) layout and design for internal roads.

11.12 All plans and drawings should comply with the Townsville City Plan Development Manual Planning Scheme Policy which sets out the level of information required to support development applications.

[6] Draft North Queensland Regional Plan released for review and comment until 22 November 2019 –draft to be considered in EIS preparation until final plan released.

Climate

11.13 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. Long-term averages should be taken from the nearest meteorological station for which publicly available data are available, for the maximum period those data are available.

Proposed construction and operations

11.14 Describe the following information about the proposed project:

Pre-construction

(a) the sequencing and staging of activities
(b) project site access arrangements
(c) establishment of internal access tracks
(d) proposed vegetation clearing, including all clearing that may become exempt clearing work (e.g. fire breaks and/or safety buffers and fire management lines)
(e) proposed interference with waterways, watercourses and floodplain areas, including wetlands
(f) proposed upgrades, realignments, relocation, deviation or restricted access to roads and other infrastructure including water, power, telecommunications, stormwater and sewerage
(g) an estimate of any fill or quarry materials required and location of the potential source/s
(h) proposed construction of temporary site offices and services

Construction

(i) the sequencing and staging of activities
(j) hours of operation for proposed construction works, including night time works
(k) the proposed earthworks, construction methods, associated equipment and techniques
(l) disturbance areas
(m) the capacity of high-impact plant and equipment, their chemical and physical processes, and chemicals or hazardous materials to be used
(n) existing and proposed on-site and off-site infrastructure requirements including the location, design and capacity (e.g. roads, electricity, telecommunications, water supply, sewerage related infrastructure, stormwater and ancillary works) needed for construction
(o) site drainage, erosion and stormwater management, flood protection and waste water management
(p) any activity that is a prescribed ERA
(q) the rehabilitation of affected areas after construction

Operation

(r) the sequencing and staging of activities
(s) operation detail (e.g. hours of operation for project components)

(t) the range of land uses and site layout including any beach access points

(u) built form and design specifics including beach access points and any structures proposed to be constructed on the beach or in tidal waters

(v) location and scale of parking requirements

(w) management structure of final development (e.g. body corporate)

(x) existing and proposed on-site and off-site infrastructure requirements and management (e.g. roads, electricity, telecommunications, water supply, sewerage related infrastructure, stormwater) for operations

(y) any activity that is a prescribed ERA

(z) location, design and capacity of water supply, sewerage, roads, stormwater, telecommunications, power generation and transmission infrastructure and other infrastructure and ancillary works for operations

(aa) any infrastructure alternatives, justified in terms of ecologically sustainable development (including energy and water conservation)

11.15 For each stage of development, identify the type, quantity, origin, routes, delivery modes, storage and laydown requirements for materials required during the pre-construction, construction and operation of the project for works:

(a) at the project site

(b) at the project component sites, to the degree it is required for subsequent approval processes

(c) for the transport and site access route including public access to beach.

12. Assessment of project specific matters

Flora and fauna

Objective

Biodiversity including matters of state environmental significance are identified and appropriately safeguarded to support healthy and resilient ecosystems and ensure the sustainable, long-term conservation of biodiversity and the social, economic, cultural and environmental benefits it provides.

Existing environment

12.1 Identify and describe matters of state environmental significance (MSES), State and regionally significant biodiversity and natural environmental values of the terrestrial and aquatic ecology likely to be impacted by the project. Where MSES have been addressed in the section on MNES, cross referencing may be appropriate.

Impact assessment

12.2 The general layout and footprint of development in the November 2018 Change Application with TCC has been modified - provide further information regarding the proposed changes to the development footprint and how it differs from the original development application.

12.3 Provide maps at suitable scales are provided showing the location of the project footprint and impact areas. This includes the location of:

(a) regional ecosystems, essential habitat, wetlands, watercourses and drainage features

(b) existing and proposed infrastructure on the site (i.e. buildings, fences, roads service and utility connections including underground services)

(c) location of operational areas associated with the development (i.e. equestrian rings, stock handling facilities, camping grounds and vehicle parking areas), and

(d) proposed firebreaks and/or safety buffers from adjacent areas of regulated vegetation.

12.4 Describe the likely direct and indirect impacts on the biodiversity and natural environmental values of affected areas, arising from the construction and operation of the project (including potential/likely and known impacts) in accordance with DES Information guideline for an environmental impact statement relevant to terrestrial and aquatic ecology and other guidelines (refer Appendix 1).

12.5 Taking into account any proposed avoidance and/or mitigation measures, the assessment should include, but not be limited to, the following:

(a) MSES, matters of local environmental significance (MLES), and designated State and regional biodiversity values and conservation corridors of conservation significance. Reference should be made to the Biodiversity Planning Assessment and BioCondition assessment tools where appropriate (refer Appendix 1). Identify and illustrate the extent of any overlap between MNES, MSES and MLES. Assessment should also take into account the Natural Asset Overlay in the Townsville City Council Planning Scheme and include:

  (i) natural vegetation in good condition or other habitat in good condition (e.g. wetlands)

  (ii) degraded vegetation or other habitats that still supports high levels of biodiversity or acts as an important corridor for maintaining high levels of biodiversity in the area

  (iii) a site containing other special ecological values, for example, high habitat diversity and areas of high endemism

  (iv) ecosystems which provide important ecological functions such as: wetlands of national, state and regional significance; coral reefs; riparian vegetation; important buffer to a protected area or important habitat corridor between areas

  (v) significant coastal dunes and significant coastal wetlands as defined by Queensland Coastal Plan

  (vi) any high-value regrowth.

(b) terrestrial, aquatic and marine ecosystems (including groundwater-dependent ecosystems) and their interaction

(c) Biological diversity including listed flora and fauna species and regional ecosystems

(d) the existing integrity and connectivity of ecological processes, including regional ecosystems and habitats of threatened, near-threatened or special least-concern species

(e) the integrity of landscapes and places, including wilderness and similar natural places

(f) actions of the project that require an authority under the *Nature Conservation Act 1992* and *Water Act 2000* and/or would be assessable development for the purposes of the *Vegetation Management Act 1999*, the *Fisheries Act 1994* or the *Coastal Protection and Management Act 1995*

(g) chronic, low-level exposure to contaminants or the bio-accumulation of contaminants

(h) impacts on native fauna (terrestrial and marine) due to proximity to the site and site impacts (e.g. lighting, noise, waste, surface water runoff)

(i) impacts of sky glow (light pollution) from the proposed development on marine turtle nesting numbers (for more information see *Limpus C.J. 2009 Biological review of marine turtles in Australia,* Environmental Protection Agency, Appendix 1)

(j) evidence of the height of the tallest vegetation adjacent to proposed infrastructure which is relevant in considering/determining future exemptions for vegetation clearing.

12.6 Include maps at suitable scales showing the location of disturbance areas, estimates of disturbance for MSES likely to be impacted as a result of the project, and quantify the extent of habitat for listed threatened species and communities adjacent to the project site to provide clarity on the regional context of these habitats on the project site. Where MSES have been addressed in the section on MNES, cross referencing may be appropriate.

12.7 Discuss how impacts to MSES values identified are going to be avoided, minimised and/or mitigated to the greatest extent practicable.

Mitigation measures

12.8 Propose practical 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 threatened or near-threatened species.

12.9 Describe strategies for protecting any Ramsar wetlands; and discuss any obligations imposed by state or Commonwealth legislation or policy, or international treaty obligations (that is, Japan–Australia Migratory Birds Agreement (JAMBA), China–Australia Migratory Birds Agreement (CAMBA) and Republic Of Korea–Australia Migratory Birds Agreement (ROKAMBA)).

12.10 Describe how the development will avoid waterways or drainage features, or propose measures to mitigate impacts on these features. Include mitigation strategies for construction, operation and maintenance phases. Assess the likely effectiveness of proposed buffer zones around waterways and drainage features 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 and terrestrial habitat.

12.11 Assess the need for buffer zones and the retention, rehabilitation or planting of movement corridors, and propose measures that would avoid the need for waterway barriers, or propose measures to mitigate the impacts of their construction and operation.

12.12 Describe how the achievement of the flora and fauna objectives would be monitored, audited and reported, and how corrective/preventative actions would be managed for all phases of the project.

Offsets

12.13 Where a significant residual impact will occur on a prescribed environmental matter as outlined in the Environmental Offsets Regulation 2014, the offset proposal(s) must be consistent with the requirements of Queensland's *Environmental Offsets Act 2014* and the Queensland's *Environmental Offsets Policy (Version 1.6) 2018* and relevant parts of the Guide to determining terrestrial habitat quality (refer Appendix 1).

Land

Objectives

Development should be designed and operated to:

(a) minimise impacts on the environment and improve environmental outcomes

(b) contribute to a strong, connected community that draws on diversity, skills and expertise of residents to build a community that has provide in its culture and lifestyle

(c) contribute to strong and balanced social, economic and environmental sustainability.

Land use

Existing environment

12.14 Detail the existing land uses on the project site and surrounding area.

12.15 Discuss the compatibility of the project with the surrounding area (Bluewater and Toolakea) and the Townsville region, taking into consideration the proposed measures that would be used to avoid or minimise and manage impacts. The discussion should include:

(a) existing and known proposed land uses, in and around the project area, assessed against relevant regional plans[7] and local government planning schemes (*City of Thuringowa Planning Scheme 2003* and/or the *Townsville City Plan 2014*)

(b) any land tenures overlying and adjacent to the project site, and any to be applied for as part of this project; this includes any easements and roads (existing and/or proposed)

(c) identification of how the project complies with state interests identified in the State Planning Policy (SPP)

(d) locational factors influencing the choice of site.

12.16 Provide justification for any instances where the project is not compatible with any of the above plans, or the state interests identified in the SPP.

Impact assessment

12.17 Assess impacts on land in accordance with DES *Application requirements for activities with impacts to land* and DES EIS information guideline for an environmental impact statement – land (refer Appendix 1).

12.18 Assess the proposal in the context of the applicable regional plan[8] and the Townsville City Council planning scheme and justify any inconsistency between the proposed project and these plans.

12.19 Describe, illustrate and assess 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.

12.20 Outline how the project will maintain or enhance general public access to or along the foreshore, unless this is contrary to the protection of coastal resources or public safety.

[7] Draft North Queensland Regional Plan released for review and comment until 22 November 2019 – draft to be considered in EIS preparation until final plan released.

[8] Draft North Queensland Regional Plan released for review and comment until 22 November 2019 – draft to be considered in EIS preparation until final plan released.

12.21 If the project impacts on Strategic Cropping Land (SCL), provide the approach to addressing the requirements of the *Strategic Cropping Land Act 2011* (SCL Act). Document the necessary studies and discussions that have been completed preceding any SCL protection decision.

12.22 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 SPP and accepted industry guidelines.

12.23 Detail any known or potential sources of contaminated land. Describe how any proposed land use may result in land becoming contaminated.

Mitigation measures

12.24 Identify and describe the measures that would be used to avoid, minimise or mitigate any impact on land values and uses in the surrounding area (Bluewater and Toolakea), including the management of existing infrastructure remaining on land parcels.

12.25 Detail measures proposed during the construction and operation (maintenance) of the project to avoid and minimise land degradation (which includes, but is not limited to, soil erosion, expression of salinity, waterlogging and mass movement by gravity of soil or rock).

12.26 Describe any proposed measures to avoid, minimise or mitigate potential impacts on landscape character and visual amenity from publicly accessible vantage points (e.g. entrance to development, beach front).

12.27 Identify the measures to avoid or mitigate potential impacts of the project on soil values must be described.

12.28 Describe what actions would be taken to avoid, identify, clean-up, manage and dispose of soil that is currently contaminated or becomes contaminated.

12.29 If potential or actual acid sulfate soils are identified, describe measures to avoid disturbing these, such as outlining alternative development footprints and avoiding oxidation of the sulphides, or how treatment will occur to neutralise the acid if it forms. This should be done in accordance with the accepted industry guidelines such as Acid Sulfate Soil National guidance materials and managing acid sulfate soil including best-practice guidelines to find out more about managing acid sulfate soils in Queensland (refer Appendix 1).

Native Title

12.30 Identify the 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.

Infrastructure requirements

Objectives

The construction and operation of the project should avoid or mitigate adverse impacts to infrastructure. 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) ensure upgrades to essential infrastructure are funded by the proponent.

12.31 This section should detail, with concept and layout plans, requirements for new infrastructure, or the upgrading, retention, relocating and/or decommissioning for each stage of development of existing on-site and off-site infrastructure to service the project. Infrastructure to be considered should include, but is not limited to, access roads including connections to public roads and proposed road/rail interfaces railway corridors / railway level crossings, bridges, public access to the beach, water supply, energy supply, telecommunications, stormwater, waste storage, treatment and/or disposal, sewerage (including location and size of the sewage treatment plant, the sewage collection system, wet weather storage and any pipelines and waste disposal areas associated with the plant), and locations of any existing and proposed infrastructure easements and/or service corridors. Include on suitably scaled and georeferenced maps or plans the location of sensitive features, on-site structures, monitoring locations, site contours, Q10 and Q100 flood levels, groundwater bore locations and site boundaries.

12.32 For each stage of development, describe the timing of requirements for this infrastructure (starting with construction of the project) and detail any proposed decommissioning schedule for project related infrastructure.

12.33 Provide details of the options assessed for the provision and management of proposed raw water supply pipeline, electricity transmission line, telecommunications infrastructure, wastewater treatment and disposal, sewage waste and roads, including justification for the preferred and final alignments or locations chosen.

12.34 Identify any proponent commitments for contributions to infrastructure upgrade requirements to support the project.

12.35 Provide sufficient supporting information in relation to proposed infrastructure to meet TCC's documentation guidelines for development applications, including water and sewer network analysis.

12.36 Provide an estimate of infrastructure charges payable to cover trunk infrastructure costs that arise as a result of the project using TCC's contributions calculators.

12.37 Provide supporting information which demonstrates that upgrades to existing infrastructure and the establishment of any new infrastructure can be fully funded by the proponent (costs to include contributions for the capital, depreciation, operations and maintenance costs of additional trunk infrastructure)

12.38 Demonstrate the assumed growth profile for the development and provide relevant information to support the underlying growth assumptions.

Water

Objective

Development is planned, designed, constructed and operated to protect environmental values of Queensland waters and supports the achievement of water quality 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 to 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) waterway barrier works in fish habitats are constructed to maintain connectivity and habitat values

(e) volumes and quality of water resources are maintained and current lawful users of water (such as entitlement holders, 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.

Existing environment

12.39 Describe the water related environmental values and the existing surface water and groundwater regime within the study area and the adjoining tidal waterways in terms of water levels, discharges and high/low freshwater flows. Detail the interaction of freshwater flows with different tidal states and where appropriate, clearly define the tidal limits of the waterways which traverse the subject lot/s. In addition, detail the interaction of freshwater flows with different tidal states including projected sea level rise due to climate change scenarios[9]

12.40 With reference to the EPP (Water and Wetland) Policy 2019, EPP (Water) Policy 2009 – Black River Basin, section 9 of the EP Act, Schedule 8 of the EP Regulation and *SPP State Interest Guideline – Water Quality,* identify the environmental values of surface water and groundwater within the project site and surrounding area including immediately downstream that may be affected by the project, including any human uses of the water and any cultural values.

12.41 At an appropriate scale, detail the chemical, physical and biological characteristics of surface waters and groundwater within the area that may be affected by the project including within and adjacent to the site. Water quality parameters should be appropriate to the downstream, upstream and coastal water uses and environmental values that may be affected. Include a description of water quality variability within the study area associated with climatic and seasonal factors, climate change scenarios[10], variability of freshwater flows and extreme events using suitable reference locations and sufficient data to adequately establish baseline conditions (to be considered sufficient, data to be collected over at least 12 consecutive months, preferably 24 consecutive months).

12.42 Describe any existing and/or constructed waterbodies within and adjacent to the project.

12.43 Identify the location and source aquifer of any licenced groundwater extraction bores in areas potentially impacted by the project.

Water quality

Impact assessment

12.44 Provide information required in order to assess impacts from the proposed onsite sewage treatment plant and associated infrastructure consistent with DES guideline *Application requirements for activities with impacts to water* and DES EIS information guideline for an environmental impact statement – water and other relevant guidelines (refer Appendix 1).

[9] May be sourced from the Queensland Government's Future Climate Dashboard, the Australian Government's Climate Change in Australia's website, or another reputable source (with appropriate justification).
[10] May be sourced from the Queensland Government's Future Climate Dashboard, the Australian Government's Climate Change in Australia's website, or another reputable source (with appropriate justification).

12.45 The following information is required under the *Environmental Protection Act 1994 (ERA 63 Sewage Treatment)* to allow an application to be fully assessed and appropriate conditions prepared:

(a) What is the proposed "daily peak design capacity/capacities" for the various proposed sewage treatment works for the various development stages for the facility (the methodology of how this figure is arrived at must be provided, especially with respect to the methodology outlined in the Environmental Protection Regulation 2019, Schedule 2, Part 13, Water Treatment Services, 63 Sewage Treatment)

(b) Provide information to demonstrate how the activity will be operated in a way that protects environmental values of air, waters, wetlands, groundwater and any associated surface ecological systems, the acoustic environment and land including soils, subsoils, landforms and associated flora and fauna as outlined in the Environmental Protection Regulation 2019, Schedule 8, Part 3 Environmental objectives and performance outcomes, Division 1 Operational assessment

(c) Sufficient information must be provided for the activity of operating the proposed sewage treatment work(s) to demonstrate that the performance objectives as outlined in the Environmental Protection Regulation 2019, Schedule 8, Part 3 Environmental objectives and performance outcomes, Division 1 Operational assessment are met. This information may include, but not be limited to, the following:

(d) Provide a scale site plan (preferably A4 in size and in electronic format) which shows:

  (i) location of all sewage treatment infrastructure for the various development stages for the facility, including, but not limited to, tanks, sewage pump stations, sewerage system and pipe work, disposal areas, and their relation to other on-site structures (e.g. buildings, recreational areas, etc.)

  (ii) distance (in metres) to site boundaries

  (iii) distance (in metres) from each side of the proposed sewage treatment works, sewage pump station(s) and disposal area/s to potentially impacted waters, including rivers, creeks, dams, channels, gullies, stormwater drains, etc.

  (iv) wet weather/irrigation storage structure/s (if applicable)

  (v) sensitive features within 250m of the proposed sewage treatment works

  (vi) soil monitoring locations (if applicable)

  (vii) groundwater bore locations (if applicable)

  (viii) stormwater collection/drainage system/s

  (ix) site contours

  (x) Q10 and Q100 flood lines.

(e) Provide an accurate description of the proposed sewage treatment works. This may include:

  (i) description of the composition of sewage that will be treated by the proposed sewage treatment works for the various development stages for the facility and how the volume of influent was arrived at and how influent quality will be controlled, e.g. in additional mechanisms such as grease-traps that will reduce the load placed upon the sewage treatment works if wastewater from kitchens etc. are to be treated in the proposed sewage treatment works

(ii) description of the treatment units that will comprise the treatment train associated with the proposed sewage treatment works, including any irrigation system and infrastructure (such as wet weather storage) if applicable

(iii) description of the method of disposal of “regulated wastes” associated with the sewage treatment works, such as screenings, grits, sludges, biosolids

(iv) description of the sewage treatment works disinfection method/s that will be used to disinfect treated wastewater

(v) demonstration of the suitability of the location for the proposed sewage treatment works and wet weather storage(s) and irrigation site/s if applicable

(vi) description of the alarm systems for both plant operations and any sewage pump stations necessary to indicate any plant malfunctions and overflows or unplanned wastewater releases

(vii) description of the proposed water sampling devices that will be installed to monitor wastewater generation

(viii) identification and description of all sewage pump stations, their locations, overflow storage capabilities, release locations, including alarms and telemetry if applicable

(ix) description of any emergency backup power available to the pumps and the sewage treatment works in the event of power outages

(x) information on all chemicals used in the treatment processes, including material safety data sheets

(xi) details of the storage of all chemicals on site associated with operating the sewage treatment works and treated wastewater disposal/reuse (types and volumes) and method of storage and containment

(xii) waste reuse/disposal methods for all chemicals, fuels, etc. associated with the proposed sewage treatment works

(xiii) details on security measures to prevent unauthorised public access to the sewage treatment works, sewage pumping stations, treated wastewater/wet weather storage(s) and minimise risks to public health

(xiv) details on how the proposed sewage treatment works and infrastructure will be maintained.

(f) Provide the following information on bypassing (if applicable):

(i) proposed design details of bypassing infrastructure at the proposed sewage treatment works for the various development stages for the facility

(ii) expected volume of bypassed wastewater at the proposed sewage treatment works

(iii) whether all bypassed wastewater will be contained on-site for treatment at a future time and how and where this bypassed wastewater will be contained on-site

(iv) type of wastewater treatment bypassed wastewater will receive e.g. screening, degritting, disinfection, sedimentation

(v) how the discharge of bypassed wastewater to the environment and surface waters will be managed such as not to cause environmental harm to surface waters and the environment

(vi) method of disposal of bypassed wastewater (outfall pipe, diffuser etc.).

(g) Provide details on treated wastewater storage facilities associated with the proposed sewage treatment works and their management such that environmental harm and risks

to public health are prevented. Matters to be addressed should include, but not be limited to, the following:

(i) design details associated with wet weather storage(s) and how this design was arrived at;

(ii) vector management;

(iii) odour control;

(iv) measures to prevent potential overflows to waters;

(v) measures to prevent stratification of waters within the wet weather storage;

(vi) weed management;

(vii) measures and strategies for protection of groundwater from dam/pond storages, such as pond lining;

(viii) predicted overtopping and impact of any such losses to the environment; and

(ix) algal management (including toxic algal management), including measures to reduce water quality degradation in the storage by measures such as aeration and destratification.

(h) Provide information on the expected treated wastewater quality for the following parameters (minimum, median, maximum where appropriate):

(i) 5 day Biochemical Oxygen Demand (BOD) in mg/L;

(ii) Total Suspended Solids (TSS) in mg/L;

(iii) pH;

(iv) Escheria coli (in terms of colony forming units per 100mL);

(v) Total Dissolved Salts/Solids (mg/L);

(vi) Dissolved Oxygen (mg/L, % saturation);

(vii) Total Nitrogen as Nitrogen in terms of mg/L (including speciation in the form or Nitrate-Nitrogen, Ammonia-Nitrogen and Organic-Nitrogen);

(viii) Total Phosphorus as Phosphorus in terms of mg/L;

(ix) aecal coliforms (in terms of colony forming units per 100mL);

(x) Sodium Adsorption Ratio (SAR);

(xi) Salinity.

(i) Provide details on proposed treated wastewater irrigation and the land(s) to be irrigated for the various development stages for the facility including:

(i) location of proposed irrigation area(s) in terms of a suitably-scaled map and GPS coordinates identifying the location of proposed irrigation area(s) and how this area was arrived at;

(ii) determination of the suitability of the proposed irrigation area/s for receiving treated wastewater;

(iii) existing land use;

(iv) description of topography (slope (%)) and stormwater flow paths;

(v) flood potential;

(vi) current and proposed vegetation to be grown in the irrigation area/s;

(vii) relevant soil characteristics;

(viii) the presence of groundwater in the proposed irrigation area/s, including associated monitoring data and the current and future uses of this groundwater. The monitoring data should cover parameters including but not limited to, static water level (depth to groundwater), pH, electrical conductivity, sodium, calcium, magnesium, sodium adsorption ratio, chloride, nitrate, nitrite, ammonia, total nitrogen, total phosphorous, and faecal coliforms;

(ix) a water balance model, which assesses the suitability of the irrigation area/s to receive treated wastewater. The preferred model is "Model for Effluent Disposal Using Land Irrigation" (MEDLI). (Note MEDLI "input files" and "P51"files must be provided with the application information. MEDLI assesses the hydraulic load applied to the irrigation area/s, the fate of nitrogen, phosphorous and salts, extent of effluent-induced deep drainage, and the required wet weather storage volume. The assessment must include, but not be limited to the following:

a. the required size of the irrigation area/s;

b. the required wet weather storage volume/s and frequency of overtopping events;

c. irrigation rates;

d. extent of effluent-induced deep drainage;

e. soil permeability; and

f. the protection of groundwater and vegetation being irrigated.

(j) The assessment should be carried out for the proposed and future effluent disposal rates. This must include:

(i) the maximum predicted effluent disposal and must be based on maximum site occupancy under climatic conditions and soil quality parameters relevant to the site's location.

(ii) any predicted overflows to the environment from any storages need to be justified in terms of environmental impact (impact assessment);

(iii) how irrigation rates are to be undertaken and scheduled to ensure that they do not result in an exceedance of water holding capacity of the soil or the crop uptake capacity that may result in surface runoff and how this is to be managed;

(iv) the salinity of the contaminants applied and the capacity of the vegetation and soils in the irrigation area/s to assimilate these salt loadings on a sustainable basis;

(v) method/s of treated wastewater application (surface or sub-surface irrigation);

(vi) potential for human exposure to irrigated treated wastewater and aerosols;

(vii) how the irrigation system is to be operated and maintained in a sustainable manner;

(viii) maintenance of water quality in any proposed wet weather storage(s).

(k) Provide a list of all potential odour sources associated with the proposed sewage treatment works and related infrastructure, and outline measures that will be taken to control odour impacts from sewage treatment activities and irrigation practices (if applicable) so as not to cause nuisance at odour-sensitive areas, existing and future.

(l) Provide information regarding waste-related issues associated with operation the proposed sewage works that includes, but is not limited to, the following maters:

(i) Details of waste generated (such as treated wastewater, recycled water, grit, screenings, biosolids, etc,) (by type and proposed quantity/volume);

(ii) Storage method/s;

(iii) Odour generation and controls;

(iv) Recycle/reuse or disposal method/s;

(v) Details of how waste is managed with reference to the waste management hierarchy and 'cleaner production'; and

(vi) Procedures for improving waste management practices;

(m) Provide information regarding noise-related issues associated with the operation the proposed sewage works that includes, but is not limited to, the following maters:

(i) Assessment of noise impacts from equipment and machinery;

(ii) Proximity of noise sensitive areas;

(iii) Operating times of the activities; and

(iv) Outline of measures that will be taken to control noise impacts from equipment and machinery.

12.46 Using appropriate modelling methodologies, predict the quantity, quality, location, timing and duration of all potential discharges of water and wastewater by the project, whether as point sources (such as controlled discharges) or diffuse sources (such as irrigation to land of treated sewage effluent or waste water) and including the use of the beach and ocean for horse and recreation activities. Characterise the chemical and physical properties of any waste water and predict the leachate quality from site including from waste storage and treatment areas. Quantify the wastewater characteristics at the point of any discharge and the expected loads of sediments, nutrients and contaminants to surface and ground waters. Include any potential impacts including toxicity to waters of Great Barrier Reef and flora and fauna including migratory birds. Assess wastewater and leachate quality and characteristics such as biochemical oxygen demand, pathogens, salinity, electrical conductivity, sodicity, pH, total organic carbon, oil and grease, total nitrogen, ammonia nitrogen, total phosphorus, sulphur species, metals, oil and grease and organic compounds derived from processes and impacts of direct or indirect releases to waters on downstream values.

12.47 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, nutrient nutrient balance and movement pathways, up gradient and down gradient of the site and the practices and procedures that would be used to avoid or minimise impacts. Refer to DES Receiving environment monitoring program guideline for use with environmentally relevant activities under the *Environmental Protection Act 1994* (refer Appendix 1).

12.48 Describe erosion and sedimentation characteristics at the project area and what erosion and sedimentation controls are proposed for all parts of the proposed project to avoid and/or mitigate impacts on water quality during construction and operation. Demonstrate that impacts are avoided, mitigated or appropriately managed including the use of development free buffers.

Mitigation measures

12.49 Describe the proposed management of existing and/or constructed waterbodies on the project site to maintain water quality, including any proposed exchange of tidal water.

12.50 Describe how the achievement of the water quality objectives would be monitored, audited, reported, and how corrective/preventative actions would be managed. Describe measurable criteria, standards and/or indicators that will be used to assess the condition of the ecological values and health of surface water and groundwater environments, and outline the

avoidance/mitigation strategies that comply with the management hierarchy and management intent of the EPP (Water and Wetland Biodiversity) Policy 2019 including the EPP (Water) Policy 2009 – Black River Basin and provide methods to assess and audit management practices 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, the effects of tropical cyclones and other extreme events

(d) management of acid sulfate soils (see also paragraph 12.22).

Water resources

Impact assessment

12.51 Provide details of any proposed impoundment, extraction, discharge, injection, use or loss of surface water or groundwater.

12.52 Identify any approval or allocation that would be needed under the *Water Act 2000*.

12.53 Detail any significant diversion or interception of overland flow. Include maps of suitable scale showing the location of diversions and other water-related infrastructure. Describe details of existing and proposed changes to stormwater including changes to flow regimes such as creek diversions. Assess the environmental impacts and measures to avoid, mitigate and manage potential impacts. Describe watercourse diversion design, operation and monitoring according to best practice.

12.54 Identify any waterway features requiring modification (i.e. excavation of material, or placement of fill and removal of riparian vegetation).

12.55 Identify any quantitative standards and indicators which will be used to describe the ecological values and health of surface water environments.

12.56 Develop hydrological models as necessary to describe the inputs, movements, exchanges and outputs of all significant quantities and resources of surface water and groundwater that may be affected by the project. The models should address the range of climatic conditions that may be experienced at the site, including changes to conditions (e.g. mixing zones, sea level and evaporation rates) predicted under climate change scenarios[11], and adequately assess the potential impacts of the project on water resources. The models should include a site water balance and include details on groundwater including geology, hydrogeology, stratigraphy, aquifer type, influence of sea water intrusion, flow directions, recharge/discharge, results of field tests and potential impacts to the Great Barrier Reef and other environmental values. 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 diversions, water take and discharges

(b) alterations to riparian vegetation and bank and channel morphology

(c) direct and indirect impacts arising from the development.

[11] [11] May be sourced from the Queensland Government's Future Climate Dashboard, the Australian Government's Climate Change in Australia's website, or another reputable source (with appropriate justification).

12.57 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 reuse, rainwater reuse 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.

12.58 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.

12.59 Prediction 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 storage and treatment for use by the site office during construction and operational phases.

Mitigation measures

12.60 Provide detailed designs for all infrastructure utilised in the treatment of on-site water including how any onsite 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. Demonstrate how waste avoidance and wastewater reuse using appropriate treated recycled water would be maximised and how best practice wastewater treatment would be used to avoid/prevent and/or minimise impacts. Best practice treatment should be demonstrated by comparison to industries that have similar waste streams (e.g. large resorts and animal husbandry).

12.61 Describe measures that would be used to avoid, minimise or mitigate any impacts on surface water and groundwater resources.

12.62 Provide a policy outline of compensation, mitigation and management measures where impacts are identified.

Social

Objectives

The construction and operation of the project should:

(a) avoid or mitigate adverse social impacts arising from the project

(b) enhance benefits for local and regional communities.

12.63 Prepare a social impact assessment (SIA) for the project consistent with the relevant requirements in the Coordinator-General's Social Impact Assessment Guideline (March 2018) (refer to Appendix 1).

12.64 The SIA is to be developed in consultation with the Coordinated Project Delivery Division in the Office of the Coordinator-General, Department of State Development, Manufacturing, Infrastructure and Planning.

Community and stakeholder engagement

12.65 The SIA should be informed by an inclusive and effective community and stakeholder engagement process. Community and stakeholder engagement is to be iterative throughout the SIA process and should commence at an early stage. Detail of the community and stakeholder engagement principles, process and tools used and to be adopted in the future to conduct open and transparent dialogue with all stakeholders should be provided. Such processes should include but not be limited to community reference groups.

12.66 The SIA must demonstrate evidence of engagement outcomes, as a minimum, from affected landholders, state and local government agencies, employment and training providers, public and private housing providers, local and regional commerce and industry groups, social and public services providers, local recreation and tourism businesses, Aboriginal and Torres Strait Islander peoples, and local communities.

12.67 The community and stakeholder engagement process is to be documented in the EIS report (see section 7.11). This must describe in detail:

(a) stakeholders consulted and how and when they were consulted

(b) overview of the consultation program and key events

(c) stakeholder feedback and issues raised, and how these have been or will be addressed

(d) the complaints resolution process for all stages of the project

(e) any agreements negotiated with stakeholders.

Social impact assessment and mitigation

12.68 The assessment of impacts must address and provide details on the following matters, as a minimum:

(a) potential impacts to businesses in the local and regional labour market

(b) potential impacts on the ability of local persons to participate in regional and local employment and training opportunities

(c) potential impacts on local communities including changes to capacity of social infrastructure, housing availability and affordability and access to recreational and culturally important areas.

12.69 The SIA is to include an evaluation of the potential social impacts resulting from the project and any surrounding projects, including an estimation of the overall size, significance and likelihood of those impacts.

Key social outcomes

12.70 For identified social impacts, the proponent must propose solutions to minimise potential adverse impacts and enhance the potential benefits. Solutions should be developed in consultation with stakeholders and, as a minimum, should:

(a) ensure recruitment of workers from local and regional communities is prioritised

(b) support local business procurement for the life of the project, including Aboriginal and Torres Strait Islander businesses

(c) manage any adverse effects on the local housing market

(d) ensure the level of service provided to the local community by existing social services, facilities and infrastructure is not reduced

(e) support community health and well-being in local communities

(f) align with existing local, regional or state programs, plans and initiatives.

12.71 The SIA is to describe how practical management and monitoring regimes are proposed to be implemented.

Economic

Objectives

The construction and operation of the project should aim to:

(a) avoid or mitigate adverse economic impacts arising from the project

(b) capitalise on opportunities potentially available for capable local businesses and communities

(c) create a net economic benefit to the region and State.

Existing environment

12.72 Describe the existing economic environment consistent with the Coordinator-General's *Economic impact assessment guideline* (April 2017) (refer Appendix 1).

Impact assessment

12.73 Identify the economic impacts and benefits of the project on the local and regional area and the state, ensuring the analysis is consistent with the Coordinator-General's *Economic impact assessment guideline* (April 2017).

12.74 Estimate the employment and value-added contribution of the project to the local, regional and state economies using computable general equilibrium modelling.

12.75 Provide a demand analysis for the project as justification for the scale and scope of the proposal, with emphasis on the following:

(a) evidence of demand that the international visitors in 2021 for Stage 1 are 'new' to Queensland, and are not detrimental to existing accommodation and retail sectors in the local areas which are already servicing the tourism sector.

(b) evidence of the demand by international tourists for Equestrian facilities as proposed by the North Queensland Country Club Resort and Equestrian Centre

(c) evidence of the demand and support for the 5 major new equestrian events annually

(d) indication of the transportation logistics requirement to deliver international tourists.

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 the existing and future transport infrastructure, corridors and services, their strategic function and future planning

(d) ensure upgrades to transport infrastructure are funded by the proponent.

Existing environment

12.76 Describe and map the existing transport infrastructure and corridors on which the project will depend. In particular, describe:

(a) the condition, capacity, strategic function and future planning of the identified transport infrastructure (including road, rail, public, transport services/infrastructure and active transport infrastructure).

(b) the physical characteristics (volumes, demand, intersection configurations, notable features), infrastructure condition (pavement condition, current flood levels, existing safety issues).

(c) the existing railway corridor, including the existing fencing arrangements along the railway corridor, authorised access points/racks for maintenance, and the existing safety controls and width of the roadway at the Forestry Road railway level crossing of the North Coast Line.

12.77

12.78 Identify the existing traffic flows (expressed as vehicles per day) over the Forestry Road railway level crossing (AADT), including daily (peak hour) fluctuations, and number and percentage of heavy vehicles and passenger buses.

Impact assessment

12.79 The EIS should include a clear summary of the total transport task for the project, including workforce, inputs and outputs, during the construction and operational phases. Proponents should make appropriate modal choices to ensure transport efficiency and minimise impacts on the community.

The EIS should identify the likely modal split between private vehicles travel, public passenger transport and active transport supported by appropriate justifications during construction, day to day operation and event mode for each development stage. Describe, for each stage of the construction phase, the total transport task, including:

(a) what stage and year/s the construction phase/s relates to

(b) expect volume/weight of fill/excavated material and construction materials required for each stage of the project

(c) how the identified construction materials will be moved throughout the transport network (transport mode, volume, composition, trip timing and routes)

(d) identify likely heavy and oversized/indivisible loads (volume, composition, timing and routes), highlighting any rail crossings, vulnerable bridges and structures along proposed route

(e) identify how the construction traffic will interact with the project operation and identify potential safety issues between the different transport modes

(f) identify the maximum design vehicle and the likely timeframe (construction-completion) for each development stage.

Describe, for each stage of the operational phase, the total transport task for all transport infrastructure the project is dependent on, including:

(g) expected stage details and opening years

(h) trips generated by workforce personnel and visitors (transport mode, volumes broken down into: peak hour, weekly and yearly distribution for day to day operation and event mode, composition of traffic, routes)

(i) the trip distribution at the Bruce Highway/Forestry Road intersection (provide justification of the percentage split).

12.80 Conduct transport assessments and present the transport assessments in separate sections for each project-affected mode (road, rail, air, sea, public passenger transport, walking and cycling) as appropriate for each phase of the project. Each transport assessment must provide details of the infrastructure and/or services required to meet the demand generated by each transport mode or to mitigate adverse impacts of the project on all transport modes. Identify safety issues for each mode as well as those which arise from the interaction between the different transport modes. Ensure proposed infrastructure/services are in accordance with the above objectives and analyse the impact the proposed infrastructure/services will have on state transport corridors.

12.81 For each stage of the development (pre construction, construction and operations) the information presented shall:

(a) identify the maximum design vehicle, distribution of traffic on the road network, vehicles per day (with and without the development) and the likely timeframe (start to completion)

(b) identify the interface with the rail corridor.

12.82 Provide an assessment of the development's potential impact on state transport infrastructure. As a minimum, the following information should be provided:

(a) extent of any works such filling, excavation or construction which has the potential to impact on state transport through changes in flooding or through construction traffic

(b) provide details of pavement impacts, permits required for oversized heavy vehicles or other operational impacts on construction traffic

(c) layout and design for all internal roads including any significant bridging structures which may cause a flooding impact on state transport infrastructure.

(d) number and types of vehicles to be expected for each use (permanent residents, service vehicles, event breakdown for sport and recreation precinct [sporting and non-sporting events, their frequency and likely attendance], shuttle bus, cars, taxis) number of car parking spaces, size of shuttle bus or will coached be expected. Clarify when a Transport Management Plan will be required to manage events, as well as the temporary and permanent arrangements to manage transportation impacts associated with events.

12.83 Provide an active transport impact assessment and pedestrian/cyclist movement plans demonstrating how direct, safe and convenient access within and external to the project area and to proposed public passenger transport will be achieved. Provide a public transport impact assessment identifying all public passenger transport facilities and services such as urban bus services, passenger railway services, private/chartered buses, taxis and rideshare required to support the development during on-going operation and event modes.

12.84 Provide a RPEQ certified Stormwater Management Plan (including Flood Impact Assessment) which assesses the flooding and stormwater impacts on state transport infrastructure and the

land supporting this infrastructure and recommends appropriate mitigation measures to ensure the management of stormwater and flooding post development (the project and its required infrastructure) can achieve a no worsening impacts (on the pre-development condition) for all flood and stormwater events that exist prior to development and up to a 1% Annual Exceedance Probability (AEP).

Provide a hydraulic and hydrological analysis demonstrating the design flood peak discharges for the site and surrounding area which exist in the pre and post development scenarios for at least the following flood and stormwater events: 39%, 20%, 10%, 5%, 2% and 1% AEP. The flood model needs to adequately encompass the state transport corridors. Mapping (afflux, water level/depth and velocity) should be provided to clearly illustrate the pre-development scenario, and the post development impacts for all relevant design events. The report should also demonstrate that flood storage capacity is maintained on the site with the development. Overland flow paths/hydraulic conveyance should be maintained on the site as part of the proposed development.

Demonstrate that stormwater and flooding management for the proposed development (the project and its required infrastructure) ensures no worsening or actionable nuisance to state transport corridors such as by peak discharges, flood levels, frequency/duration of flooding, flow velocities, water quality, sedimentation and scour effects.

12.85 Provide a Traffic Impact Assessment, in accordance with the Department of Transport and Main Roads *Guide to Traffic Impact Assessment*, demonstrating how the project will not adversely impact the safety, pavement condition, function and operational efficiency of the Bruce Highway/Forestry Road intersection, the wide state-controlled road network and the safety and operational integrity of the railway crossing on Forestry Road, Toolakea. Include analysis of the with and without project scenarios for each of the stages' accumulative impacts.

12.86 Include details of the adopted assessment methodology:

(a) for impacts on roads: the road impact assessment report in accordance with the Department of Transport and Main Roads Guide to Traffic Impact Assessment

(b) for impacts on rail level crossings

  (i) provide sufficient traffic data to enable the railway manager to undertake Australian Level Crossing Assessment Model (ALCAM) assessments to determine the change in safety risk and inform safety controls and mitigation measures

  (ii) identify background traffic growth (expressed as vehicles per day) over the Forestry Road railway level crossing (AADT), including daily (peak hour) fluctuations, and number and percentage of heavy vehicles and passenger buses from the commencement of construction, and each development stage to a ten-year design horizon

  (iii) identify the development generated traffic flows (expressed as vehicles per day) over the Forestry Raod railway level crossing (AADT), including daily (peak hour) fluctuations, and number and percentage of heavy vehicles and passenger buses, from the commencement of construction, and each development stage to a ten-year horizon

  (iv) demonstrate how the development generated traffic will not worsen vehicular queuing (short stacking) issues over the impacted railway level crossing/s and identify the maximum design vehicle during construction and operation.

(c) For public passenger transport impacts: Austroads Guide to Traffic Management, Parts 1-13.

Mitigation measures

12.87 Detail how identified impacts will be mitigated so as to meet the above objectives for each transport mode. Mitigation strategies may include works, contributions or management plans and are to be prepared in close consultation with relevant transport authorities (including local government), should consider those authorities' works program and forward planning, and be in accordance with the relevant transport authorities' methodologies, guidelines and design manuals in particular but not limited to: the Department of Transport and Main Roads Guide to Traffic Impact Assessment, Road Planning and Design Manual, Second Edition and Austroads guidelines, Manual Uniform of Traffic Control Devices.

12.88 Describe how proposed mitigation strategies align with the strategic function and intent of the different types of transport infrastructure which would be impacted by the project.

12.89 Outline how the delivery of mitigation measures would be staged in consideration of the staged delivery and cumulative impact of the overall project on transport infrastructure.

Waste management

Objective and performance outcomes

(a) Any waste generated, received or transported by the project is managed in a way that protects all environmental values.

(b) Waste and odour generated by livestock are appropriately managed to protect environmental values.

(c) Ensure upgrades to any waste infrastructure are funded by the proponent.

Existing environment

12.90 Detail the existing capacity of waste and recycling facilities surrounding the project.

12.91 Identify the existing routes for the transport of waste from the project site.

Impact assessment

12.92 The assessment of impacts on waste will be in accordance with DES *Application requirements for activities waste impacts* (refer Appendix 1).

12.93 For wastes besides wastewater (which is addressed in the Water section of this TOR), describe and quantify all the expected significant waste streams[12] from the proposed project activities during the construction and operational phases of the project.

12.94 Describe the predicted quantity, physical and chemical characteristics including form (liquid, solid, gas), environmental hazard rating, and toxicity of each significant waste during construction and operation, as well as any attributes that may affect its likelihood of dispersal in the environment, as well the associated risk of causing environmental harm and how waste generation and/or impacts will be avoided, minimised and/or managed.

[12] Waste includes any materials (liquid, solid or gaseous) horse urine, horse manure and horse litter generated by the project that is not product.

Mitigation measures

12.95 Define and describe the objectives and practical measures for protecting or enhancing environmental values from impacts by wastes. Take into account best practice waste management strategies and the *Waste Reduction and Recycling Act 2011,* and the Environmental Protection Regulation 2019 including regulated and trackable waste. Also comply with relevant parts of DES EIS information guideline — Waste management and DES Application requirements for activities with waste impacts (refer Appendix 1).

12.96 Assess the proposed management measures against the preferred waste management hierarchy, namely: avoid waste generation; cleaner production; recycle; reuse; reprocess and reclaim; waste to energy; treatment; disposal. This includes the generation and storage of wastes. Identify end of waste options using the relevant parts of the DES End of waste framework under the *Waste Reduction and Recycling Act 2011* and comply with relevant parts of the DES *Guideline Waste Reduction and Recycling Act 2011 End of Waste* (refer Appendix 1).

12.97 Describe how nominated quantitative standards and indicators may be achieved for waste management, and how the achievement of the waste management objectives would be monitored, audited reported and how corrective/preventative actions would be managed during all phases of the project.

12.98 Detail waste management planning for the proposed project especially how these concepts would be applied to prevent or minimise environmental impacts due to waste at each stage of the project.

12.99 Provide details on natural resource-use efficiency (such as energy and water), integrated processing design, and any co-generation of power and by-product reuse as shown in a material/energy flow analysis.

Hazards, health and safety

Objectives

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

(a) the risk of, and the adverse impacts from, natural and human-made hazards are identified, avoided, minimised or managed and mitigated to protect people and property

(b) the community's resilience to natural hazards is enhanced

(c) developments are appropriately located, designed and constructed to minimise health and safety risks to communities and individuals and adverse effects on the environment.

Impact assessment

General

12.100 Describe the potential risks to people and property that may be associated with the project in the form of a preliminary risk assessment for all components of the project and in accordance with relevant standards. 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 hazards posed by wildlife interactions, extreme weather events (e.g. cyclone, storm tide inundation, flooding, bushfire) and potential implications related to climate change[13]. When assessing potential bushfire risks refer to relevant draft State Planning Policy Guidance Material[14].

(d) how the project may potentially affect hazards away from the project site (e.g. changing flooding characteristics).

Storm tide inundation

12.101 Describe storm tide inundation risk for a range of annual exceedance probabilities for all parts of the project and assess (through hydrodynamic modelling) how the project may affect storm tide hazard vulnerability of nearby premises. Take into consideration potential sea-level rise scenarios.

12.102 The assessment should consider all infrastructure associated with the project including levees, 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 storm tide events.

Flooding

12.103 Describe flood risk from both storm surge and rainfall events for a range of annual exceedance probabilities (including Probable Maximum Flood) for the site and assess how the project may change flooding characteristics including stream flow velocities and afflux. Consider the impact of changed flooding characteristics on watercourses and wetlands. Take into consideration potential sea-level rise scenarios[15], tsunami and shoreline erosion. Include a discussion of historical events in the area, including the early 2019 event, and how the site responded to this extreme weather event. Discuss the projects resilience to coastal hazard adaptation in the medium and long term (refer to Adapting to Coastal Change in Townsville Strategy).

12.104 The assessment should consider all infrastructure associated with the project including culverts or levees, 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.

Erosion prone areas

12.105 If the project proposes permanent buildings or structures in a coastal management district, detail how coastal erosion risks are avoided or mitigated and identify any development free buffers.

Chemical Leaks and Spills

12.106 Describe the proposed procedures and safeguards built into the design and management/operational practices to:

(a) reduce the potential for chemical leaks and spills

[13] May be sourced from the Queensland Government's Future Climate Dashboard, the Australian Government's Climate Change in Australia's website, or another reputable source (with appropriate justification).
[14] *Draft State Planning Policy Guidance Material – Natural hazards, risks and resilience – Bushfire (October 2018)* and supporting technical guidance document, *draft Planning for Bushfire Resilient Communities*, can be provided by QFES upon request. As these documents are likely to be finalised during EIS preparation, they would therefore require consideration in the EIS.
[15] May be sourced from the Queensland Government's Future Climate Dashboard, the Australian Government's Climate Change in Australia's website, or another reputable source (with appropriate justification).

(b) enable the detection of spills and leaks and management measures to be implemented to rectify

(c) provide procedures for managing water in containment areas

(d) outline an inventory and describe the characteristics and management involved in the handling, storage, spill management, transport and disposal of all chemicals, products/by-products and potential contaminants as a result of construction, operation, maintenance, commissioning and decommissioning.

Include identification of buffer zones and all means that will be incorporated to ensure human health and the environment are not impacted.

Mitigation measures

12.107 Provide details on the mitigation measures that would reduce the likelihood and severity of hazards, consequences and risks to persons, within and adjacent to the project area(s), with specific reference to flood immunity required for each project component and stage. Identify the residual risk following application of mitigation measures. Present an assessment of the overall acceptability of the impacts of the project with consideration to the residual uncertainties and risk profile.

12.108 Provide an outline of the proposed integrated emergency management planning procedures (including evacuation plans, if required) for the range of situations identified in the risk assessment developed in this section.

12.109 Outline any consultation undertaken with the relevant emergency management authorities, including the Local Disaster Management Group.

12.110 Describe the preferred and alternative adaptation strategies and/or activities designed to minimise impacts from current or future climate conditions[16] on the proposed project and link to impact assessment and avoidance mitigation measures. Adaptation activities must be designed to avoid perverse outcomes, such as increased emissions of greenhouse gases or maladaptive outcomes for surrounding land uses.

Air

Objectives

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

Existing environment

12.111 Describe the existing air quality that may be affected by the project in the context of environmental values.

12.112 Describe the existing local and regional air shed environment.

Impact assessment

12.113 Describe the characteristics of contaminants or materials that may be released as a result of the construction or operation of the project, including point source and fugitive emissions (e.g.

[16] May be sourced from the Queensland Government's Future Climate Dashboard, the Australian Government's Climate Change in Australia's website, or another reputable source (with appropriate justification).

equipment and pipe leaks, storage tanks and wastewater collection, treatment and disposal systems), treatment and discharge systems. Emissions (point source and fugitive) and sources odour during construction, operations and decommissioning should be described.

12.114 Predict the impacts of the releases from the relevant activity on environmental values of the receiving environment.

12.115 The description of impacts from emissions and odour should take into consideration the practices and procedures that would be used to avoid or minimise impacts and comply with any relevant guidelines (refer Appendix 1).

12.116 Describe residual impacts on air receiving environment, with reference to the Environmental Protection (Air) Policy 2019 (EPP (Air)).

Mitigation measures

12.117 Describe the proposed mitigation measures and how the proposed activity will be consistent with best practice environmental management and relevant government plans (refer Appendix 1).

12.118 Describe any expected exceedances of air quality goals or criteria following the provisions and/or application of mitigation measures, and how any residual impacts would be addressed.

12.119 Describe how the achievement of the objectives would be monitored, audited and reported, and how corrective actions would be managed.

12.120 Provide a Greenhouse Gas Management Plan and Carbon Dioxide/Methane abatement plan and an inventory of projected annual emissions for the life of the project for each relevant greenhouse gas, with total emissions expressed in 'CO2 equivalent' terms for the following categories as per the National Greenhouse and Energy Reporting scheme:

(a) scope 1 emissions –direct emissions of greenhouse gases from sources within the boundary of the proposed project and as a result of the project's activities (including emission from vegetation clearing and horses)

(b) scope 2 emissions –emissions of greenhouse gases from the production of electricity that the proposed project will consume, but that are physically produced by another facility.

12.121 Discuss the potential for greenhouse gas abatement measures, including:

(a) the proposed measures (alternatives and preferred) to avoid and/or minimise direct greenhouse gas emissions (e.g. use of renewable energy, machinery/equipment efficiency and managing the methane released from the manure)

(b) how the preferred measures minimise emissions and achieve energy efficiency

(c) any opportunities to further offset greenhouse gas emissions including sequestration, carbon offsets and trading.

Noise and vibration

Objective and performance outcomes

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

Existing environment

12.122 Describe the existing noise and vibration environment that may be affected by the project in the context of the environmental values.

Impact assessment

12.123 Describe the characteristics of noise and vibration sources that would be emitted when carrying out construction and operation of the proposed project (point source and general emissions) including noise from equipment and machinery, location of sensitive receptors within and surrounding the site, and operating times of noise generators. Noise and vibration emissions (including fugitive sources) that may occur during construction, operation and decommissioning should be described.

12.124 Predict and map the impacts of the noise emissions from the activity on the environmental values of the receiving environment.

12.125 The description of impacts should take into consideration the practices and procedures that would be used to avoid or minimise impacts.

12.126 Describe residual impacts on air receiving environment, with reference to the Environmental Protection (Noise) Policy 2019 (EPP (Noise)).

Mitigation measures

12.127 Describe how the proposed activity 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.

12.128 Describe any expected exceedances of noise and vibration goals or criteria following the provision and/or application of mitigation measures, and how any residual impacts would be addressed.

12.129 Describe how the achievement of the objectives would be monitored and audited, and how corrective actions would be managed.

Biosecurity

Objective

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

(d) the spread of weeds, pest animals and vector agents are minimised

(e) existing weeds and pests are controlled

(f) potential equestrian centre disease outbreaks are controlled.

Existing environment

12.130 Provide information on the current distribution and abundance of animal pests, weeds and vector agents within the project area.

Impact assessment

12.131 Detail the potential impacts of project operations on

(a) spread of weeds, pest and vector agents within and adjacent to the project area

(b) controlling potential equestrian centre disease outbreaks.

Mitigation measures

12.132 Propose detailed measures to control and limit the spread of restricted matters including noxious fish, invasive plants and invasive animals on the project site and adjacent areas as per Schedule 2 of the Biosecurity Regulation 2016, and the Townsville City Council Biosecurity Plan and Draft Townsville Local Government Area Biosecurity Plan 2017-2021.

12.133 Provide detailed measures to control the spread of invasive plants and invasive animals due to outdoor activities, including horse riding, on the project site and adjacent areas.

12.134 Provide details of any proposed vertebrate pest and weed control programs to be implemented by the project.

12.135 Provide detailed measures to manage potential disease outbreaks at the equestrian centre including any quarantine arrangements.

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.

Existing environment

12.136 With reference to the *Aboriginal Cultural Heritage Act 2003* (ACH Act) and the *Queensland Heritage Act 1992* (Heritage Act) describe and identify the cultural heritage values within the project area and the adjoining tidal waterways that may be affected by the project.

Indigenous Cultural Heritage

Impact assessment and mitigation measures

12.137 Unless section 86 of the ACH Act applies, the proponent must develop a Cultural Heritage Management Plan in accordance with the requirements of Part 7 of the ACH Act. The EIS should provide details of the Cultural Heritage Management Plan, or plans, and any associated agreements that has been developed or reached or steps taken up to that point to develop or reach such a plan or agreement including:

(a) notification given to owners and occupiers of land within the plan area, Aboriginal cultural heritage bodies and Aboriginal parties within the plan area

(b) public notification and consultation processes undertaken

(c) details of the plan or agreement reached or progressed between the relevant parties including:

(i) arrangements for access to the project area(s) and surrounding areas covered by the agreement

(ii) details of working groups or committees responsible for coordination, implementation and management of Aboriginal cultural heritage

(iii) arrangements for identifying Aboriginal cultural heritage values

(iv) the way in which Aboriginal cultural heritage is to be reported and managed for the life of the project, including identified Aboriginal cultural heritage and new finds

(v) confirming the plan or agreement will address if Aboriginal cultural heritage is to be damaged, relocated or taken away, and how this is to be managed

(vi) contingency planning for disputes, unforeseen delays and other foreseeable and unforeseeable obstacles to carrying out activities under the plan or agreement

(vii) other matters reasonably necessary for successfully carrying out activities under the plan or agreement.

Non-Indigenous Cultural Heritage

Impact assessment

12.138 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 and have in place specific strategies to address unexpected archaeological discoveries pursuant to provisions in the *Queensland Heritage Act 1992.*

12.139 Any such study should be conducted by an appropriately qualified cultural heritage practitioner.

Mitigation measures

12.140 If the Heritage Act requirements are triggered, provide strategies to mitigate and manage any negative impacts on non-Indigenous cultural heritage values and enhance any positive impacts.

13. Matters of national environmental significance

13.1 On 19 June 2019, the Commonwealth Minister for the Environment determined the project (EPBC 2019/8416) is a 'controlled action' under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (Cth), due to the likely potential impacts on:

(a) World Heritage properties (sections 12 and 15A)

(b) National Heritage places (sections 15B and 15C)

(c) Great Barrier Reef Marine Park (sections 24B and 24C)

(d) listed threatened species and communities (sections 18 and 18A)

(e) listed migratory species (sections 20 and 20A).

13.2 The assessment of impact on the above controlling provisions, avoidance and mitigation measures, and environmental offsets for residual significant impacts (if required) are to be described and illustrated in a stand-alone MNES chapter in the EIS. All information relevant to the assessment of the above controlling provisions must be included in the MNES chapter and reference to other chapters in the EIS or appendices must be kept to a minimum. The requirements for the MNES chapter are set out below.

Background and context

13.3 This section should provide a stand-alone description and detailed assessment of the impacts of the project on the controlling provision for the project under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act), inclusive of any avoidance, mitigation and offset measures.

13.4 The EIS is to be prepared pursuant to the Bilateral Agreement. 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.

13.5 Once the EIS has been prepared to the satisfaction of the Coordinator-General and MNES addressed to the satisfaction of the Commonwealth Department of the Environment and Energy, the EIS would be made available for public comment.

13.6 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.

13.7 At the conclusion of the environmental assessment process, the Coordinator-General would provide a copy of the report to the Commonwealth Minister for the Environment, in accordance with Part 13, section 36(2) of the State Development and Public Works Organisation Regulation 2010 (Qld).

13.8 After receiving the evaluation report and sufficient information about the relevant impacts of the action, the Commonwealth Minister for the Environment would have 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.

13.9 The Minister's decision is separate to the approval decisions made by Queensland state agencies and other agencies with jurisdiction on state matters.

13.10 In accordance with Section 3.1 of Schedule 1 of the Bilateral Agreement, the EIS must:

(a) assess all relevant impacts that the proposed action has, will have or is likely to have;

(b) provide enough information about the proposed action and its relevant impacts to allow the Commonwealth Minister for the Environment to make an informed decision whether or not to approve the action under Part 9 of the EPBC Act; and

(c) address the matters mentioned in Division 5.2 of the Environment Protection and Biodiversity Conservation Regulations 2000 (Cth) (EPBC Regulations).

13.11 A cross-reference to the relevant sections in the MNES chapter that addresses each of the matters mentioned in Division 5.2 of the EPBC Regulations should be provided.

13.12 Consideration should be given to any relevant information, advice, policy statements and guidelines (available at **www.environment.gov.au**) including but not limited to:

(a) *Significant impact guidelines 1.1 - Matters of National Environmental Significance* (refer Appendix 1)

(b) EPBC Act

(c) EPBC Act Environmental Offsets Policy (refer Appendix 1)

(d) listing advices, recovery plans, conservation advices, threat abatement plans, draft referral guidelines and referral guidelines

(e) Species Profile and Threats (SPRAT) Database.

13.13 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.

13.14 The project is to 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.

13.15 Predictions of the extent of threat (risk), impact and the benefits of any avoidance, mitigation and management measures proposed, must be scientifically robust, supported by relevant suitably qualified experts and/or supported by technical data. Reference all sources of information relied upon and provide an estimate of the reliability of predictions.

13.16 Identify and evaluate any positive impacts on relevant MNES.

13.17 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.

13.18 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.

Environmental history

13.19 The MNES chapter is to 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 proposed to take the action

(b) for an action for which a person has applied for a permit, the person making the application.

13.20 If the person proposing to take the action is a corporation, details of the corporation's environmental policy and planning framework is to be included.

Social and economic considerations

13.21 The economic and social impacts of the action, both positive and negative, are to be analysed. 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).

13.22 Economic, social and cultural 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 should also be included.

13.23 Identification of affected parties is required, including a statement mentioning any communities that may be affected and describing their views.

Assessment requirements

Project description and alternatives

13.24 The MNES chapter is to provide background to the action and describe in detail all aspects of the action, including but not limited to, the construction, operational and (if relevant) decommissioning aspects, including:

(a) the precise location of all works to be undertaken (including associated offsite works and infrastructure), structures to be built or elements of each aspect that may have impacts on MNES, and

(b) details on how the works are to be undertaken (including stages of development and their timing) and design parameters for those parts of the structures or elements that may have relevant impacts.

13.25 The MNES chapter is to provide details on the current state of the action as well as the consequences of not proceeding with the project.

13.26 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;

(c) the short, medium and long-term advantages and disadvantages of the alternatives (including details of the relevant cost of alternatives to the action); and

(d) sufficient detail to make clear why any alternative or option is preferred to another.

13.27 The MNES chapter should include an assessment of the cumulative impacts, with respect to each controlling provision and all identified consequential actions related to the action and all known developments (of which the proponent should reasonably be aware) that have been, or are being, taken or that have been approved in the region affected by the action.

13.28 With respect to each controlling provision, describe any avoidance measures proposed to reduce the impact on MNES and the anticipated result of proposed avoidance measures. Supporting evidence should be provided to demonstrate the appropriateness of avoidance measures proposed. Where the likely success of avoidance measures cannot be supported by evidence, identify and assess contingencies in the event the avoidance is not successful.

13.29 With respect to each controlling provision, describe any mitigation measures proposed to reduce the impact on MNES and the anticipated result of proposed mitigation measures. Supporting evidence should be provided to demonstrate the appropriateness of mitigation measures proposed. Where the likely success of mitigation measured cannot be supported by evidence, identify contingencies in the event the mitigation is not successful.

13.30 With respect to each controlling provision, describe the residual significant impacts of the action after all proposed avoidance and mitigation measures are taken into account and any compensatory measures proposed.

13.31 With respect to each controlling provision for each proposed action, include maps at suitable scales showing the location of disturbance areas, estimates of disturbance for MNES likely to be impacted as a result of the project, and quantify the extent of habitat for listed threatened species and communities adjacent to the project site to provide clarity on the regional context of these habitats on the project site.

World Heritage properties

Great Barrier Reef World Heritage Area

13.32 Identify and describe the characteristics and values of the Great Barrier Reef World Heritage Area that are likely to be impacted by all stages of the proposed development.

13.33 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).**

13.34 Assess and discuss the potential direct, indirect and consequential impacts on each area, place, site or reserve, 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, threatened or migratory species or sensitive habitat

(d) the extent to which impacts can be forecasted or predicted, and management.

13.35 Analyse the impact of the action on the values at the proposed location, and how this in turn impacts on the overall values of the Great Barrier Reef World Heritage Area.

13.36 Describe any mitigation and management measures proposed to protect or enhance impacts on the Great Barrier Reef World Heritage Area.

13.37 Assess the impacts of the project against relevant reports and documents published as part of the Great Barrier Reef Region and Great Barrier Reef Coast Strategic Assessments Reports and the Reef 2050 Long-Term Sustainability Plan.

13.38 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 Area

Great Barrier Reef Heritage Area

13.39 Assess and discuss all potential and likely impacts to the National Heritage values of the Great Barrier Reef National Heritage place.

13.40 Assess and discuss the direct, indirect and consequential impacts of the action on the values of the Great Barrier Reef National Heritage place.

13.41 Describe any mitigation and management measures proposed to protect on the values of the Great Barrier Reef National Heritage place.

13.42 Demonstrate that the project will not be inconsistent with:

(a) the National Heritage management principles, or

(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 Marine Park

13.43 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) potential risk of pest species becoming established in the Great Barrier Reef Marine Park area.

13.44 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.

13.45 Assess the impacts of the project against relevant actions, targets and objectives of the *Reef 2050 Long-Term Sustainability Plan*

Listed threatened species and communities (sections 18 and 18A)

List of potential listed threatened species

13.46 The MNES chapter must provide habitat descriptions and address impacts on any listed threatened species that may be directly, indirectly, facilitated or consequentially impacted by the proposed action, including but not limited to, the following species:

Plants

(a) Cardwell Bear Orchid (*Calochilus psednus*) - Endangered;

(b) Cardwell Midge Orchid (*Genoplesium tectum*) - Endangered;

(c) Lesser Swamp-orchid (*Phaius australis*) - Endangered;

(d) *Marsdenia brevifolia* – Vulnerable;

(e) Bluegrass (*Dichanthium setosum*) - Vulnerable;

(f) *Tephrosia leveillei* – Vulnerable.

(g) Ant Plant (*Myrmecodia beccarii*) - Vulnerable;

Birds

(h) Red Knot (Caldris canutus) – Endangered;

(i) Curlew Sandpiper (Calidris ferruginea) – Critically endangered;

(j) Great Knott (Calidris tenuirostris) – Critically endangered;

(k) Greater Sand Plover (Charadrius leschenaultii) – Vulnerable;

(l) Lesser Sand Plover (Charadrius mongolus) - Endangered;

(m) Red Goshawk (Erythrotriorchis radiates) – Vulnerable;

(n) Bar-tailed Godwit (Limosa lapponica baueri) – Vulnerable;

(o) Eastern Curlew (Numenius madagascariensis) - Critically endangered;

(p) Southern Black-throated Finch (Poephila cincta cincta) – Endangered;

(q) Australian Painted Snipe (Rostratula australis) – Endangered;

(r) Masked Owl (Tyto novaehollandiae kimberli) – Vulnerable;

(s) Star Finch (eastern) (Neochmia ruficauda) - Endangered

(t) Bar-tailed Godwit (Limosa lapponica baueri) – Vulnerable

Bats

(u) Barerumped Sheathtail Bat (Saccolaimus saccolaimus nudicluniatus) – Vulnerable;

(v) Large-eared Horseshoe Bat (Rhinolophus robertsi) – Vulnerable;

Turtles

(w) Green Turtle (Chelonia mydas) – Vulnerable;

(x) Flatback Turtle (Natator depressus) – Vulnerable

(y) Leatherback Turtle (*Dermochelys coriacea*); – Endangered

(z) Olive Ridley Turtle (*Lepidochelys olivacea*). – Endangered

(aa) Hawksbill Turtle (Eretmochelys imbricate) - Vulnerable.

List of potential listed threatened ecological communities

13.47 The EIS must address impacts on any listed threatened ecological community that may be directly, indirectly or consequentially impacted by the proposed action, including but not limited to, the following community:

(a) Broad leaf tea-tree woodlands in high rainfall coastal North Queensland – endangered

(b) Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions – endangered

(c) Littoral Rainforest and Coastal Vine Thickets of Eastern Australia – Critically endangered.

Habitat assessment

13.48 Describe the listed threatened species and ecological communities identified above (including EPBC Act listing status, distribution, life history and habitat).

13.49 Provide details of the scope, methodology, timing and effort of surveys (which must be undertaken by relevant qualified species experts) for the project (including areas outside of the project site which may be impacted by the project); and include details of:

(a) the application of best practice survey guidelines; and

(b) how studies or surveys are consistent with (or a justification for divergence from) published Australian Government guidelines and policy statements.

13.50 The MNES chapter must include records identified from field surveys of the above listed threatened species and ecological communities within and/or adjacent to the project site. The records must include a description of the habitat in which the record was identified.

13.51 The MNES chapter must include known historical records of the above listed threatened species and ecological communities in the broader region. All known records must include the source (i.e. Commonwealth and State databases, published research, publicly available survey reports, etc.), the year of the record and a description of the habitat in which the record was identified.

13.52 The MNES chapter must include a detailed habitat assessment for each of the listed threatened species and ecological communities identified above within the project site. The habitat assessment must:

(a) consider habitat use requirements (e.g. denning, foraging, breeding, nesting, dispersal, etc.);

(b) be informed by desktop analysis and field surveys;

(c) consider relevant Departmental documents (e.g. approved conservation advices, recovery plans, draft referral guidelines and listing advices), the SPRAT Database;

(d) be support by relevant published research (if required); and

(e) not rely solely on the application of Queensland Regional Ecosystems and/or 'remnant' and 'non-remnant' vegetation.

13.53 The MNES chapter must include the area (in hectares) of all suitable habitats.

13.54 The MNES chapter must also include an assessment of the quality of all suitable habitats in accordance with a Departmental, State or local government habitat quality assessment methodology. This assessment, including justification for using the chosen methodology and all justifications to determine the habitat quality, must be included in an appendix to the EIS.

13.55 Detailed mapping of suitable habitat for the above listed threatened species and ecological communities must be included in the MNES chapter, and must:

(a) be specific to the habitat assessment undertaken for each listed threatened species and ecological community (Note: provision of Queensland Regional Ecosystems alone is not adequate);

(b) include an overlay of the disturbance footprint;

(c) include known records of individuals from desktop analysis and/or field surveys; and

(d) be provided separately as attachments in a JPEG format.

Impact assessment

13.56 Describe and assess the impacts (direct, indirect and consequential) on the listed threatened species and ecological communities, and their habitat, and any others that are found to be or may potentially be present in areas that may be impacted by any of the stages of the project.

13.57 The MNES chapter must identify and address cumulative impacts, where potential project impacts are in addition to existing impacts of other activities (including known potential future projects by the proponent and/or other proponents in the region and vicinity).

13.58 The impacts must be assessed in accordance with relevant Department policies and guidelines, and information provided in the SPRAT Database. Any technical data and other information used or needed to make a detailed assessment of the relevant impacts must be included as appendices to the EIS.

Avoidance, mitigation and management measures

13.59 The MNES chapter must include detailed descriptions of measures proposed to be undertaken by the proponent to avoid, mitigate and manage relevant impacts of all stages of the project on listed threatened species and communities. The proposed measures should be based on best available practices, appropriate standards and supported by scientific evidence. The MNES chapter must include:

(a) proposed measures to be undertaken to avoid and mitigate the relevant impacts of the proposed action on listed threatened species and communities, including those required by other Commonwealth, State and local government approvals;

(b) an assessment of the predicted effectiveness of the proposed measures;

(c) any statutory or policy basis for the proposed measures, including reference to the SPRAT Database and relevant approved conservation advices, and a discussion on

whether the proposed measures are not inconsistent with relevant recovery plans and threat abatement plans;

(d) details of ongoing management, including monitoring programs to support an adaptive management approach and determine the effectiveness of the proposed measures;

(e) details on measures, if any, proposed to be undertaken by State and local government, including the name of the agency responsible for approving each measure; and

(f) information on the timing, frequency and duration of the measures to be implemented.

13.60 All proposed measures should consider the 'S.M.A.R.T' principle:

(a) S – Specific (what and how)

(b) M – Measurable (baseline information, number/value, auditable)

(c) A – Achievable (timeframe, money, personnel)

(d) R – Relevant (conservation advices, recovery plans, threat abatement plans, scientific evidence)

(e) T – Time-bound (specific timeframe to complete)

13.61 An outline of an Environmental Management Plan (EMP) that sets out the framework for management, mitigation and monitoring of relevant impacts of the action, including any provisions for independent environmental auditing, may be included as an appendix to the EIS.

13.62 The draft EMP must be prepared by a suitably qualified person and in accordance with the Department's *Environmental Management Plan Guidelines (2014)*, available at: **www.environment.gov.au/epbc/publications/environmental-management-plan-guidelines**.

Listed migratory species (sections 20 and 20A)

13.63 The MNES chapter must provide habitat descriptions and address impacts on any listed migratory species that may be directly, indirectly, facilitated or consequentially impacted by the proposed action, including but not limited to, the following species:

(a) Estuarine Crocodile (*Crocodylus porosus*);

Turtles

(b) Flatback Turtle (*Natator depressus*);

(c) Loggerhead Turtle (*Caretta caretta*);

(d) Green Turtle (*Chelonia mydas*);

(e) Leatherback Turtle (*Dermochelys coriacea*);

(f) Olive Ridley Turtle (*Lepidochelys olivacea*);

Birds

(g) Flatback Rainbow Bee-eater (*Merops ornatus*);

(h) White-throated Needletail (*Hirundapus caudacutus*);

(i) Great Egret (*Ardea ibis*);

(j) Oriental Cuckoo (*Cuculus optatus*);

(k) Beach Stone-curlew (*Esacus magnirostris*);

(l) Barn Swallow (*Hirundo rustica*);

(m) Yellow Wagtail (*Motacilla flava*);

(n) Satin Flycatcher (*Myiagra cyanoleuca*);
(o) Common Sandpiper (*Actitis hypoleucos*);
(p) Ruddy Turnstone (*Arenaria interpres*);
(q) Sharptailed Sandpiper (*Calidris acuminate*);
(r) Pectoral Sandpiper (*Calidris melanotos*);
(s) Red-necked Stint (*Calidris ruficollis*);
(t) Latham's Snipe (*Gallinago hardwickii*);
(u) Whimbrel (*Numenius phaeopus*);
(v) Osprey (*Pandion haliaetus*);
(w) Greytailed Tattler (*Tringa brevipes*);
(x) Common Greenshank (*Tringa nebularia*);
(y) Magpie Goose (*Anseranas semipalmata*);
(z) Redcapped Plover (*Charadrius ruficapillus*).

Habitat assessment

13.64 Describe the listed migratory species identified above (including distribution, life history and habitat).

13.65 Provide details of the scope, methodology, timing and effort of surveys (which must be undertaken by relevant qualified species experts) for the project (including areas outside of the project site which may be impacted by the project); and include details of:

(a) the application of best practice survey guidelines; and
(b) how studies or surveys are consistent with (or a justification for divergence from) published Australian Government guidelines and policy statements.

13.66 The MNES chapter must include records identified from field surveys of the above listed migratory species within and/or adjacent to the project site. The records must include a description of the habitat in which the record was identified.

13.67 The MNES chapter must include known historical records of the above listed migratory species in the broader region. All known records must include the source (i.e. Commonwealth and State databases, published research, publicly available survey reports, etc.), the year of the record and a description of the habitat in which the record was identified.

13.68 The MNES chapter must include a detailed habitat assessment for each of the listed migratory species identified above within the project site. The habitat assessment must:

(a) consider habitat use requirements (e.g. foraging, breeding, nesting, dispersal, etc.);
(b) be informed by desktop analysis and field surveys;
(c) consider relevant Departmental documents and the SPRAT Database;
(d) be support by relevant published research (if required); and
(e) not rely solely on the application of Queensland Regional Ecosystems and/or 'remnant' and 'non-remnant' vegetation.

13.69 The MNES chapter must provide known historical records of the above listed migratory species in the broader region. All known records must include the source (i.e. Commonwealth and State databases, published research, publicly available survey reports, etc.), the year of the record and a description of the habitat in which the record was identified.

13.70 The MNES chapter must include the area (in hectares) all suitable habitats.

13.71 The MNES chapter must also include an assessment of the quality of all suitable habitats in accordance with a Departmental, State or local government habitat quality assessment methodology. This assessment, including justification for using the chosen methodology and all justifications to determine the habitat quality, must be included in an appendix to the EIS.

13.72 Detailed mapping of suitable habitat for the above listed migratory species must be included in the MNES chapter, and must:

(a) be specific to the habitat assessment undertaken for each listed migratory species (Note: provision of Queensland Regional Ecosystems alone is not adequate);

(b) include an overlay of the disturbance footprint;

(c) include known records of individuals from desktop analysis and/or field surveys; and

(d) be provided separately as attachments in a JPEG format.

Impact assessment

13.73 Describe and assess the impacts (direct, indirect and consequential) on the listed migratory species, and their habitat, and any others that are found to be or may potentially be present in areas that may be impacted by any of the stages of the project.

13.74 The MNES chapter must identify and address cumulative impacts, where potential project impacts are in addition to existing impacts of other activities (including known potential future projects by the proponent and/or other proponents in the region and vicinity).

13.75 The impacts must be assessed in accordance with relevant Department policies and guidelines, and information provided in the SPRAT Database. Any technical data and other information used or needed to make a detailed assessment of the relevant impacts must be included as appendices to the EIS.

13.76 Where relevant, demonstrate that the proposed action will not be inconsistent with:

(a) Australia's obligations under:

(i) Convention on the Conservation of Migratory Species of Wild Animals (the Bonn Convention);

(ii) China-Australia Migratory Bird Agreement (CAMBA);

(iii) Japan-Australia Migratory Bird Agreement (JAMBA); and

(iv) an international agreement approved under subsection 209(4) of the EPBC Act.

13.77 Where relevant, consider the requirements of the *Department's Draft referral guideline for 14 birds listed as migratory under the EPBC Act (2015)*, available at: **www.environment.gov.au/biodiversity/threatened/publications/epbc-act-referral-guidelines-migratory-birds**.

Avoidance, mitigation and management measures

13.78 The MNES chapter must include detailed descriptions of measures proposed to be undertaken by the proponent to avoid, mitigate and manage relevant impacts of all stages of the project on listed migratory species. The proposed measures should be based on best available practices, appropriate standards and supported by scientific evidence. The MNES chapter must include:

(a) proposed measures to be undertaken to avoid and mitigate the relevant impacts of the proposed action on listed migratory species, including those required by other Commonwealth, State and local government approvals;

(b) an assessment of the predicted effectiveness of the proposed measures;

(c) any statutory or policy basis for the proposed measures, including reference to the SPRAT Database;

(d) details of ongoing management, including monitoring programs to support an adaptive management approach and determine the effectiveness of the proposed measures;

(e) details on measures, if any, proposed to be undertaken by State and local government, including the name of the agency responsible for approving each measure; and

(f) information on the timing, frequency and duration of the measures to be implemented.

13.79 All proposed measures should consider the 'S.M.A.R.T' principle:

(a) S – Specific (what and how)

(b) M – Measurable (baseline information, number/value, auditable)

(c) A – Achievable (timeframe, money, personnel)

(d) R – Relevant (conservation advices, recovery plans, threat abatement plans, scientific evidence)

(e) T – Time-bound (specific timeframe to complete)

13.80 An outline of an Environmental Management Plan (EMP) that sets out the framework for management, mitigation and monitoring of relevant impacts of the action, including any provisions for independent environmental auditing, may be included as an appendix to the EIS.

13.81 The draft EMP must be prepared by a suitably qualified person and in accordance with the Department's *Environmental Management Plan Guidelines (2014)*, available at: **www.environment.gov.au/epbc/publications/environmental-management-plan-guidelines**.

EPBC Act Environmental Offsets

13.82 The MNES chapter must include an assessment of the likelihood of residual significant impacts occurring on listed threatened species and communities, and listed migratory species after avoidance, mitigation and management measures relating to the project have been applied. If it is determined that a residual significant impact is likely, include a draft Offset Management Strategy (as an appendix to the EIS) that provides, at a minimum:

(a) details of the environmental offset/s (in hectares) for residual significant impacts of the proposed action on relevant MNES, and/or their habitat;

(b) details of how the environmental offset/s meets the requirements of the Department's *EPBC Act Environmental Offsets Policy (2012)* (EPBC Act Offset Policy), including the Offsets Assessments Guide, available at: **www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy;**

(c) details of how the environmental offset/s meets the requirements of the relevant Reef 2050 Long-Term Sustainability Plan requirements including the Net Benefit Policy, Available at: www.environment.gov.au/marine/gbr/long-term-sustainability-plan

(d) details of a strategy for the staging of environmental offset/s for each project stage (if proposed);

(e) details of appropriate offset area/s (including a map) to compensate for the residual significant impact on relevant MNES, and/or their habitat;

(f) information about how the proposed offset/s area provides connectivity with other relevant habitats and biodiversity corridors; and

(g) details of the mechanism to legally secure the environmental offset/s (under Queensland legislation or equivalent) to provide protection for the offset area/s against development incompatible with conservation.

13.83 If available, include a draft Offsets Management Plan which also provides (where possible):

(a) a field validation survey and baseline description of the current condition (prior to any management activities) of the offset area/s, including existing vegetation, for relevant MNES, and/or their habitat;

(b) details, including justifications, of the assessment of the quality of all suitable habitats proposed as offsets in accordance with Departmental, State or local government habitat quality assessment methodology (Note: the chosen habitat quality assessment methodology must be the same as that used for the impact site)

(c) a description and map (including shapefiles) to clearly define the location and boundaries of the proposed offset area/s, accompanied by the offset attributes (e.g. physical address of the offset area/s, coordinates of the boundary points in decimal degrees, the MNES that the environmental offset/s compensates for, and the size of the environmental offset/s in hectares);

(d) a description of the management measures (including timing, frequency and duration) that will be implemented in the offset area/s;

(e) a discussion of how proposed management measures take into account relevant approved conservation advices and are consistent with the measures contained in relevant recovery plans and threat abatement plans;

(f) completion criteria and performance targets for evaluating the effectiveness of the Offset Management Plan implementation, and criteria for triggering corrective actions;

(g) a program to monitor, report on and review the effectiveness of the Offset Management Plan;

(h) a description of potential risks to the successful implementation of the environmental offset/s, and contingency measures that would be implemented to mitigate against these risks; and

(i) details of the mechanism to legally secure the environmental offset/s (under Queensland legislation or equivalent) to provide enduring protection for the offset area/s against development incompatible with conservation.

13.84 The draft Offset Management Plan must be prepared by a suitably qualified person and in accordance with the Department's *Environmental Management Plan Guidelines (2014)*, available at: **www.environment.gov.au/epbc/publications/environmental-management-plan-guidelines**.

Other approvals and conditions

13.85 The MNES chapter must include information on any other requirements for approval or conditions that apply, or that the proponent reasonably believes are likely to apply, to the proposed action. This must include:

(j) details of any local or State Government planning scheme, or plan or policy under any local or State Government planning system that deals with the proposed action, including:

(v) what environmental assessment of the proposed action has been, or is being, carried out under the scheme, plan or policy; and

(vi) how the scheme provides for the prevention, minimisation and management of any relevant impacts;

(k) a description of any approval that has been obtained from a State, Territory or Commonwealth agency or authority (other than an approval under the EPBC Act), including any conditions that apply to the action;

(l) a statement identifying any additional approval that is required; and

(m) a description of the monitoring, enforcement and review procedures that apply, or are proposed to apply, to the action.

Conclusion

13.86 The MNES chapter is to include an overall conclusion for the action as to the environmental acceptability of the project on each relevant matter protected by the EPBC Act, including:

(a) a discussion on the consideration of 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 proposed action in the manner proposed, including the acceptability of the avoidance and mitigation measures; and

(c) if relevant, a discussion of residual significant impacts and any offsets and compensatory measures proposed or required for residual significant impacts on relevant matters protected by the EPBC Act, 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

14.5 All data, modelling and input/output information used in the EIS to determine the existing environment and/or assess impacts must be made available to advisory agencies upon request in an appropriate electronic form e.g. shape files.

Part D. Acronyms and abbreviations

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

Acronym/abbreviation	Definition
AADT	Annual average daily traffic
ACH Act	*Aboriginal Cultural Heritage Act 2003*
AHD	Australian Height Datum
CAMBA	China-Australia Migratory Bird Agreement
DES	Department of Environment and Science (Qld)
DSDMIP	Department of State Development, Manufacturing, Infrastructure and Planning (Qld)
EIS	Environmental impact statement
EP Act	*Environmental Protection Act 1994*
EP Regulation	Environmental Protection Regulation 2019
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cth)
EPBC Regulation	Environment Protection and Biodiversity Conservation Regulations 2000 (Cth)
EPP	Environmental Protection Policy
EPP (Air)	Environmental Protection (Air) Policy 2019
EPP (Noise)	Environmental Protection (Noise) Policy 2019
EPP (Water and Wetland Biodiversity)	Environmental Protection (Water and Wetland Biodiversity) Policy 2019
ERA	Environmentally relevant activity
GDA94	Geocentric Datum of Australia 1994
JAMBA	Japan-Australia Migratory Bird Agreement
km	Kilometres
MNES	Matters of national environmental significance (under the EPBC Act)
MSES	Matters of state environmental significance
PO	Performance outcome
ROKAMBA	Republic of Korea-Australia Migratory Birds Agreement
SCL	Strategic cropping land
SDAP	State Development Assessment Provisions
SDPWO Act	*State Development and Public Works Organisation Act 1971*
SIA	Social impact assessment
SPP	State planning policy
TCC	Townsville City Council
The Bonn Convention	Convention on the Conservation of Migratory Species
TOR	terms of reference
VMA	*Vegetation Management Act 1999*

Appendix 1. Policies and guidelines

Australian and New Zealand Environment and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand, *The Australian and New Zealand Guidelines for Fresh and Marine Water Quality*, Australian Water Association (Artarmon) and NZ Water and Wastes Association (Auckland), 2000, viewed 25 August 2016, **www.environment.gov.au/system/files/resources/53cda9ea-7ec2-49d4-af29-d1dde09e96ef/files/nwqms-guidelines-4-vol1.pdf**

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Additional MSES references

The proposed activity may impact on Matters of State Environmental Significance (MSES).

You can confirm this through identifying the location of any MSES using the State Planning Policy Interactive Mapping at **https://spp.dsdip.esriaustraliaonline.com.au/geoviewer/map/planmaking,** and/or by requesting a free environmental report online for MSES at **https://environment.ehp.qld.gov.au/report-request/environment/.**

The following tools may also be helpful in your desktop analysis and assessment to identify environmental values and potential MSES:

- DNRM Regulated Vegetation Mapping **https://www.qld.gov.au/environment/land/vegetation/map-request/**
- DES Map of Referable Wetlands - **https://environment.des.qld.gov.au/ecosystems/wetlands/referable-wetlands-form.php**
- DES WetlandInfo **- https://wetlandinfo.des.qld.gov.au/wetlands/**
- **Protected Plants information – https://environment.des.qld.gov.au/licences-permits/plants-animals/protected-plants/index.html**
- DES Protected Plants Flora Survey Trigger Map **https://environment.des.qld.gov.au/licences-permits/plants-animals/protected-plants/map-request.php**
- DES Species List **- https://environment.ehp.qld.gov.au/report-request/species-list/**
- Queensland Wetland Buffer Guideline **https://wetlandinfo.des.qld.gov.au/resources/static/pdf/resources/reports/buffer-guide/wetland-buffer-guideline-14-04-13.pdf**

If MSES are going to be affected by the proposed activity, you will need to provide information on how these impacts have been avoided, and where they have not been avoided how any impacts to MSES have been minimised.

If it is identified that the proposed activity/development will still result in significant residual impacts upon MSES, then an offset may be required. Refer to the department's Significant Residual Impact Guideline for more information at:
https://environment.des.qld.gov.au/assets/documents/pollution/management/offsets/significant-residual-impact-guide.pdf

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