Appendix B – DAWE/DCCEEW Information Request Cross Reference Tables

B-1: DAWE Information Request Cross Reference Table (updated for Rev B)

B-2: DCCEEW matters to be addressed provided 04 August 2022

Appendix B-1 - DAWE Information Request Cross Reference Table

Information Requested	Section/s Addressed
DESCRIPTION OF THE ACTION	
In addition to the description of the proposed action provided in the referral documentation, the preliminary documentation must include additional information on the following:	
a) detail on the proposed timing, duration and frequency of the proposed water releases; and	Section 2.3 – Proposed Action Description Section 2.3.1 – Desalinated Release Duration and Frequency
b) detail of the infrastructure required to undertake the proposed water releases, including features and details of any construction works.	Section 2.2 – Figure 2-4 Section 2.2.1 – Produced Water Management and Treatment Process
HABITAT ASSESSMENT – LISTED THREATENED SPECIES AND COMMUNITIES	
From the information available to date, the department considers the proposed action is likely to have a significant impact on the following listed threatened species and their habitat: • White-throated Snapping Turtle (Elseya albagula) – Critically endangered; and • Fitzroy River Turtle (Rheodytes leukops) – Vulnerable.	
In order to undertake a robust assessment of the nature and scale of the likely impacts of the proposed action, include a detailed habitat assessment of suitable habitat for the species listed above within the project area.	Section 7.1.2 – Suitable Turtle Habitat Characteristic Section 7.1.3 – Field Habitat Assessment
The habitat assessments must be informed by desktop assessment and field surveys (in accordance with departmental survey guidelines or as defined by best practice surveys in Qld), and with reference to relevant departmental documents (e.g. approved Conservation Advices, Recovery Plans, draft referral guidelines and Listing Advices), including the Species Profile and Threats (SPRAT) Database, published research, and other relevant sources. Attach all relevant ecological surveys referenced in the referral and preliminary documentation as supporting documents to the preliminary documentation.	Section 7.1.1.1 – White-throated Snapping Turtle Desktop Review Section 7.1.1.3 – Fitzroy River Turtle Desktop Review Section 7.1.2 – Suitable Turtle Habitat Characteristics Section 7.1.3 – Field Habitat Assessment Section 7.2.4 – Threat abatement and recovery planning
Further, the preliminary documentation must identify and describe known historical records of the White-throated Snapping Turtle and Fitzroy River Turtle in the broader region.	Section 7.1.1 – Population Distribution and Site Records Figure 7.2 – Cumulative Recorded Locations for White-throated Snapping Turtle and Fitzroy River Turtle Within and in Proximity to the Proposed Action Area

Appendix B-1 - DAWE Information Request Cross Reference Table

Information Requested	Section/s Addressed
All known records must be supported by an appropriate 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.	Figure 7.1 – Known Distributions of White-throated Snapping Turtle and Fitzroy River Turtle Appendix F – REMP Annual Reports (Habitat descriptions per monitoring location) Appendix H – BOOBOOK Turtles Report
The department notes that the referral documentation provides a general description of the environment and a risk assessment for the species listed above in accordance with the EPBC Act Significant Impact Guidelines 1.1. However, further information is required in relation to the presence of suitable habitat, including breeding and foraging habitat, and site utilisation by the species.	Section 7.1.2 – Suitable Habitat Characteristics Section 7.1.3 – Field Habitat Assessment
The habitat assessment for the species listed above must include, at a minimum:	
a) discussion of aquatic and terrestrial environment composition and structure suitable to support habitat requirements (i.e. specific features such as permanent water bodies or watercourses with bank overhangs and rocky riffle areas);	Section 7.1.2 – Suitable Habitat Characteristics
b) discussion of water quality suitable to support habitat requirements (i.e. dissolved oxygen concentration, turbidity, contaminant concentrations, etc.);	Section 7.1.2 – Suitable Habitat Characteristics
c) discussion of habitat use requirements (e.g. requirements for shelter/refuge, breeding, foraging, dispersal, etc.);	Section 7.1.2 – Suitable Habitat Characteristics
d) details of site utilisation by the species, including mapped locations of all known and suitable habitat within the project area;	Section 7.1.3 – Field Habitat Assessment Figure 7.2 - Cumulative Recorded Locations, Aquatic Habitat and Nesting Habitat for White-throated Snapping Turtle and Fitzroy River Turtle within the Proposed Action area
e) details and mapped locations of species records; and	Section 7.1.3 – Field Habitat Assessment Figure 7.1 - Figure 7.1 – Known Distributions of White-throated Snapping Turtle and Fitzroy River Turtle Figure 7.2 - Cumulative Recorded Locations, Aquatic Habitat and Nesting Habitat for White-throated Snapping Turtle and Fitzroy River Turtle within the Proposed Action Area Appendix J – REMP Annual Reports Appendix H – BOOBOOK Turtle Report

Appendix B-1 - DAWE Information Request Cross Reference Table

Information Requested	Section/s Addressed
	Section 7.1.1 – Population Distribution and Site Records
f) the total area (in hectares) of each identified habitat type (e.g. shelter/refuge, breeding, foraging, etc.) within the project site.	Appendix H – BOOBOOK Turtle Report
IMPACT ASSESSMENT	
4.1 Listed threatened species and ecological communities (s18 & s18A) All impacts, including direct, indirect and consequential, on the listed threatened species identified in Section 3 above and their habitat must be assessed in accordance with relevant departmental policies and guidelines, and the SPRAT Database. For relevant listed threatened species, the preliminary documentation must demonstrate, with supporting evidence, how the proposed action will not be inconsistent with: • Australia's obligations under the Biodiversity Convention, the Convention on Conservation of Nature in the South Pacific (Apia Convention), and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES); and • a recovery plan or threat abatement plan.	Section 7.2.4 – Threat Abatement and Recovery Planning Section 7.2.4 – Threat Abatement and Recovery Planning Section 7.2.5 – Significant Residual Impact Assessment
The impact assessment for the listed threatened species below must include a discussion of the impacts in the context of the:	
White-throated Snapping Turtle: • National Recovery Plan for the White-throated Snapping Turtle (Elseya albagula) (2020). • Approved Conservation Advice for Elseya albagula (White-throated Snapping Turtle) (2014).	Section 7.2.2 – Habitat Impacts Section 7.2.3 – Water Quality Impacts Section 7.2.4 – Threat Abatement and Recovery Planning Section 7.2.5 – Significant Residual Impact Assessment
Fitzroy River Turtle: • Approved Conservation Advice for Rheodytes leukops (Fitzroy River Turtle) (2008). • Threat Abatement Plan for predation, habitat degradation, competition and disease transmission by feral pigs (Sus scrofa) (2017). • Threat Abatement Plan for predation by the European Red Fox (2008).	Section 7.2.2 – Habitat Impacts Section 7.2.3 – Water Quality Impacts Section 7.2.4 – Threat Abatement and Recovery Planning Section 7.2.5 – Significant Residual Impact Assessment
The impact assessment must be supported by the habitat assessment and site utilisation information as requested in Section 2 above, and include, but not be limited to:	

Appendix B-1 - DAWE Information Request Cross Reference Table

Information Requested	Section/s Addressed
a) detail on how the proposed action will influence flow rate, water level, riverbank stability, erosion and concentrations of fine sediment and contaminants in the Dawson River and tributary watercourses;	Section 5.2 – Baseline fluvial geomorphology and hydrology Section 5.3 – Baseline water quality Section 5.4 – Baseline sediment quality Section 5.6.2 – Changes to water quality Section 5.6.3 – Changes to hydrological characteristics
b) a detailed assessment of the potential impact on each listed threatened species and their habitat as a result of the proposed action, including but not limited to: i. erosion and/or inundation of nesting habitat; ii. sedimentation impeding cloacal respiration and foraging behaviour; and iii. physiological impacts of geogenic and anthropogenic chemicals in the co-produced water, including detail of ecotoxicology assessments.	Section 7.2.2 – Habitat Impacts Section 7.2.2 – Water Quality Impacts Section 8.0 – Chemical Risk Assessment
The preliminary documentation must include relevant diagrams, maps and hydrographs to support the impact discussion. All data used to inform the impact assessment must be included in the preliminary documentation in an easy-to-read format (i.e. in an Excel spreadsheet, tabulated or graphically presented).	Refer to specific tables and figures in respective Sections and referenced Appendices
4.2 A water resource, in relation to coal seam gas development and large coal mining development water resources (sections 24D and 24E)	
From the information available to date, the department considers the proposed action is likely to have a significant impact on a water resource. The department notes that the referral documentation provides a risk assessment for water resources. However, further information is required on the following to ensure a robust assessment of the potential impacts of the proposed action to the Dawson River and tributary watercourses.	
Please note that the section below is only considered in reference to the potential impacts from the release of water as described in the referral. References to groundwater impacts in particular should be noted in terms of potential connectivity between impacted reaches of the Dawson River and any changes to surface water and groundwater interactions.	
The impact assessment must consider all potential ecological, hydrological and water quality impacts within the project area and to downstream users. It must be supported by hydrological modelling, monitoring and chemical risk assessments and include, but not be limited to:	

Appendix B-1 - DAWE Information Request Cross Reference Table

Information Requested	Section/s Addressed
a) baseline information of the current seasonal and monthly flow regime in the Dawson River and tributary watercourses, with consideration of existing water releases, and rates of precipitation and evapotranspiration;	Section 5.2.2 – Baseline Hydrology
b) detail of the predicted volume, timing, frequency and duration of the proposed action in relation to the operational life of the GLNG GFD (EPBC 2012/6615), including the provision of expected water release curves;	Section 2.3 – Proposed Action Description
c) a discussion of the potential future seasonal and monthly flow regime in the Dawson River and tributary watercourses, with consideration of approved and proposed water releases, climate variability and change (e.g. reduction in localised rainfall events affecting the event-based release);	Section 5.5.5 – Climate Change Section 5.5.6 – Cumulative impact assessment Note: event-based releases are no longer proposed therefore not discussed in this context within the revised PD.
d) detail on existing and potential future water quality in the Dawson River and tributary watercourses in consideration of the Australian and New Zealand Guidelines for Fresh and Marine Water Quality, including detail on how evapotranspiration rates may influence contaminant concentrations; and	Section 5.3 – Baseline Water Quality Section 5.5.2 – Water Quality Impact Assessment Appendix E-1 – and Appendix E-2 – Water quality summary statistics
e) detail of chemical risk assessments undertaken for all anthropogenic and geogenic chemicals in the co-produced water, in relation to the properties and exposure pathways of each contaminant, including but not limited to ecotoxicology and water quality assessments.	Section 8.0 – Chemical Risk Assessment Appendix I-1 – Chemical risk assessment framework Appendix I-2 - Chemical Risk Assessment Updated PNEC
4.2.1 Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development	
The project will require submission to the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development (IESC). The IESC Information Guidelines for proponents preparing coal seam gas and large coal mining development proposals (Guidelines) outline the information requirements for submission to the IESC.	
As the proposed action only includes the assessment of water releases, the department notes that there will be information requested in the Guidelines which is not relevant to your project. When completing the Guidelines, please compare the requirements in the checklist and identify where they are relevant to the project and have been addressed. For example, an assessment of subsidence would not be relevant to the assessment of this project.	Appendix C-1 for IESC Checklist cross references

Appendix B-1 - DAWE Information Request Cross Reference Table

Information Requested	Section/s Addressed
The preliminary documentation and additional information will form part of the IESC submission. The checklist in the Guidelines must be completed to ensure that the information requirements for the IESC review have been addressed in the preliminary documentation. The IESC will provide advice to the department, which will be provided to the designated proponent. A copy of this advice and responses to the issues raised by the IESC must be included in the preliminary documentation that will be published for public comment.	Appendix C-1 – IESC Cross Reference Table
4.2.2 Modelling	
Modelling of water quality and hydrological regimes (including conceptual modelling) must be undertaken to provide an understanding of the potential impacts to water resources, including changes to flow regimes, surface and groundwater connectivity and predicted release curves for the proposed water releases. Models should be developed at an appropriate spatial (local vs regional) and temporal (life-of-project or longer if impacts are predicted) scale to fulfil a specific purpose. This purpose should inform the model design and assumptions which should be clearly described and justified in the preliminary documentation. Any model should be constructed in accordance with the conceptual model, and calibrated and verified with appropriate baseline data. It is also important for modelling to clearly distinguish between impacts from the proposed project, existing operations and other factors such as climate variability and existing agricultural use.	The Assessment has been based on empirical data from long term baseline and REMP monitoring. A summary of the limited modelling remaining applicable for the assessment is summarised in Section 5.1 Where remaining applicable reference of empirical data validating historical models are located in: Section 5.2 – Baseline hydrological characteristics Section 5.5.1 – Hydrology impact assessment
4.2.3 Surface Water/Groundwater assessment	
The preliminary documentation must include an assessment of the direct, indirect and consequential impacts to surface water resources. This assessment must take into account all impacts to downstream environmental values (encompasses all values and uses that are important for a healthy ecosystem or for public benefit) of the Dawson River, as a result of the proposed action, including how the Water Quality Objectives of the Dawson River Sub-Basin will be achieved.	Section 3.3 – Applicable environmental values 3.4.1 – Surface water quality objectives and guideline values Section 5.5.1 – Hydrology impact assessment Section 5.5.2 – Changes to water quality
Further, the preliminary documentation must also include an assessment of the direct, indirect and consequential impacts to groundwater resources as a result of surface-groundwater connectivity, as informed by local-scale modelling.	Section 4.4– Impact Assessment (groundwater resources)
The department notes that in the proponent's conceptual model, the local geology of the project area is comprised of low permeability Evergreen Formation overlying the	Section 4.2 – Groundwater and surface water connectivity

Appendix B-1 - DAWE Information Request Cross Reference Table

Information Requested	Section/s Addressed
Precipice Sandstone aquifer and therefore, assumes that the Dawson River and associated alluvial aquifer are geologically isolated. Further information is required to support the statement that the Evergreen formation is of a low permeability to allow a more robust assessment of the potential for surface and groundwater interactions in the project area.	Section 4.3 – Conceptual model of groundwater and surface water connectivity
4.2.4 Water Dependent Ecosystems	
The department notes that the Australian Bureau of Meteorology's Groundwater Dependent Ecosystem Atlas indicates that the project area has a high potential for terrestrial and aquatic GDEs. Further information is required to understand the potential for surface and groundwater interactions in the project area and the potential impacts to GDEs.	Section 6.2 – State Mapped GDE within the Proposed Action Area. Figure 6-1 Section 6.3 – Known or likely GDE within the Proposed Action Area. Figure 6-2
You must consider both surface water and groundwater impacts to GDEs and aquatic ecosystems within the proposed action area and beyond the project boundary, such as aquatic ecosystems that may be downstream of the proposed action but impacted by the action regardless of proximity to it.	Section 6.4.2 – Surface water quality impact on GDE Section 6.4.3 – Groundwater quality changes and impact to GDE Section 6.4.5 – Downstream impacts on GDE
4.2.5 Cumulative impacts	
The preliminary documentation must identify and address potential cumulative impacts resulting from the proposed action. Cumulative impacts include the impacts of the proposed action, where these are in addition to existing impacts of other activities in the Bowen Basin (including known potential future expansions or developments by the proponent and other proponents in the vicinity). Where relevant, a comprehensive risk assessment must be conducted and documented for all proposed and known potential future expansions or developments in the vicinity of the proposed action.	Section 4.5 – Cumulative Impact Assessment (groundwater) Section 5.5.6 – Cumulative Impact Assessment (surface water) Section 6.4.6 – Cumulative Impact Assessment (groundwater dependent ecosystems) Section 7 – Cumulative Impact Assessment (MNES)
5. PROPOSED AVOIDANCE, MITIGATION AND MANAGEMENT MEASURES	
Avoidance and mitigation measures are the primary methods of eliminating and reducing significant impacts on MNES. Where possible and practicable it is best to avoid impacts. If impacts cannot be avoided, then they should be minimised or mitigated as much as possible. Avoidance and mitigation measures must be investigated thoroughly as a part of the assessment and be supported by evidence to demonstrate likely success.	Section 5.6 - Mitigation and Management – Surface Water Section 6.5 – Mitigation and Management – Groundwater dependent ecosystems Section 7.3 – Proposed Avoidance, Mitigation and Management (MNES turtles) Section 9.0 – Monitoring, mitigation and management

Appendix B-1 - DAWE Information Request Cross Reference Table

Information Requested	Section/s Addressed
The department notes the referral documentation includes a description of the proposed avoidance, mitigation and management measures to be implemented, including those required by Queensland Environmental Authority (EA) EPPG00928713. The proposed measures must be based on best available practices, appropriate standards, evidence of success for other similar actions and supported by published scientific evidence. The preliminary documentation must include, at a minimum:	
a) detail of proposed measures to be undertaken to avoid, mitigate and manage impacts of the proposed action on listed threatened species and communities and water resources, including those required through other Commonwealth, State and local government approvals;	Section 5.6 - Mitigation and Management (surface water) Section 6.5 – Groundwater dependent ecosystems Section 7.3 – Proposed Avoidance, Mitigation and Management (MNES turtles) Section 9.0 – Monitoring, mitigation and management
b) the statutory or policy basis for the proposed measures, including reference to the SPRAT Database and relevant approved conservation advices, and a discussion on how the proposed measures are not inconsistent with relevant recovery plans and threat abatement plans;	Section 7.2.4 – Threat Abatement and Recovery Planning
c) information on the location, timing, frequency and duration of the proposed avoidance, mitigation and management and monitoring measures to be undertaken;	Section 7.3 – proposed avoidance, mitigation and management
d) an assessment of the expected or predicted effectiveness of the proposed measures, including detail of existing monitoring programs to validate the effectiveness of the proposed measures and demonstrate that the environmental outcomes will be achieved;	Section 9.0 – Monitoring, mitigation and management
e) details of tangible, on-ground corrective actions that will be implemented in the event the monitoring programs indicate that the environmental outcomes have not or will not be achieved; and	Section 9.4 – Summary of State EA and REMP management response
f) detail on how the White-throated Snapping Turtle and Fitzroy River Turtle will be incorporated into an Environmental Management Plan or the Receiving Environment Monitoring Program (REMP). Although the REMP is a state requirement, it may also address the requirements of a Commonwealth assessment, including addressing relevant conservation advices, recovery plans and threat abatement plans.	Section 9.3 – Receiving Environment Monitoring Plan
Avoidance and mitigation measures may be provided in an Environmental Management Plan (EMP). If you provide this information in an EMP then the plan must	Section 9.3 – Receiving Environment Monitoring Plan

Appendix B-1 - DAWE Information Request Cross Reference Table

Information Requested	Section/s Addressed
set out the framework for management, mitigation and monitoring of relevant impacts, including any provisions for independent environmental auditing. The plan must be prepared in accordance with the department's Environmental Management Plan Guidelines (2014) available at: http://www.environment.gov.au/epbc/publications/environmental-management-plan-guidelines. The SPRAT Database, and associated statutory documents, may provide relevant mitigation measures for listed threatened species and ecological communities. All proposed measures for MNES must consider the 'S.M.A.R.T' principle: • S – Specific (what and how) • M – Measurable (baseline information, number/value, auditable) • A – Achievable (timeframe, money, personnel) • R – Relevant (conservation advices, recovery plans, threat abatement plans) • T – Time-bound (specific timeframe to complete)	
6. ENVIRONMENTAL OFFSETS – RESIDUAL SIGNIFICANT IMPACTS	
Environmental offsets are measures that compensate for the residual significant impacts of an action on the environment. Offsets provide environmental benefits to counterbalance the impacts that remain after avoidance and mitigation measures. It is important to consider environmental offsets early in the assessment process and correspondence with the department regarding offsetting is highly encouraged. The preliminary documentation must include an assessment of the likelihood of residual significant impacts occurring on relevant MNES, after avoidance, mitigation and management measures have been applied. If it is determined that a residual significant impact is likely, include a summary of the proposed environmental offset and key commitments in the preliminary documentation that align with requirements of the department's EPBC Act Environmental Offsets Policy (2012) (Offsets Policy), available at: www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy.	No residual significant impacts have been identified
It is the department's standard practice that a draft Offset Management Strategy (OMS) or a draft Offset Area Management Plan (OAMP) are included as appendices in the preliminary documentation for assessment and approval. If an offset area has been nominated, then provide an OAMP. If not, provide an OMS. Further, the department is likely to recommend to the Minister (or delegate) that the conditions of approval require	

Appendix B-1 - DAWE Information Request Cross Reference Table

Information Requested	Section/s Addressed
the environmental offset/s or the OAMP be approved and implemented prior to the commencement of the proposed action.	
If it is determined that a residual significant impact is likely to occur on relevant MNES, the proponent should consult with the department on the information requirements of an OMS or OAMP to ensure a robust assessment of the proposed environmental offset can be undertaken.	
7. ECOLOGICALLY SUSTAINABLE DEVELOPMENT (ESD)	
The preliminary documentation must include a discussion of how the proposed action will conform to the principles of ESD, as defined in section 3A of the EPBC Act. To assist, the National Strategy for Ecologically Sustainable Development (1992) is available at: www.environment.gov.au/about-us/esd/publications/national-esd-strategy.	Section 10.0 – Ecologically Sustainable Development
8. ECONOMIC AND SOCIAL MATTERS	
The preliminary documentation must include a discussion and analysis of the social and economic impacts of the proposed action, both positive and negative. Economic and social impacts should be considered at the local, regional and national levels. Matters of interest may include: a) details of any public consultation activities undertaken, including any consultation with Indigenous stakeholders with reference to the department's Guidance for proponents on best practice Indigenous engagement for environmental assessments under the EPBC Act (2016), and their outcomes; b) projected economic costs and benefits of the project (in dollars), including the basis for their estimation through cost/benefit analysis or similar studies; and c) employment opportunities expected to be generated by the project (including construction and operational phases).	Section 1.6 – Economic and Social Matters
9. ENVIRONMENTAL RECORD OF PERSON(S) PROPOSING TO TAKE THE ACTION	
The preliminary documentation must include details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against: a) the person proposing to take the action; and b) for an action for which a person has applied for a permit, the person making the application.	Section 1.7 – Proponents Environmental Record

Appendix B-1 - DAWE Information Request Cross Reference Table

Information Requested	Section/s Addressed
If the person proposing to take the action is a corporation, details of the corporation's environmental policy and planning framework must also be included.	

Appendix B-2: DCCEEW additional matters to be addressed (04 August 2022)

Information Requested	Section/s Addressed
Provide the list of figures and tables in the PD below the table of contents.	The list of figures and tables have been included below the table of contents.
Provide the current EA approval as its own appendix item and confirm the duration of treated water release as the EA provided states “the release of contaminants to waters from ROP2 in accordance with condition (B15) must cease on or before 23 July 2026” .	Appendix D – Environmental Authority EPPG00928713
The IESC has identified multiple areas of concern regarding the proposed action and the level of information provided. As there may be the potential for the proposed action to result in a significant residual impact to listed threatened species the department considers the impact assessments and requirements for offsets be reviewed and updated as required.	Section 4.4.5 – Significant impact assessment – Groundwater Resources Section 5.5.7 – Significant impact assessment – surface water resources Section 6.4.7 – Significant impact assessment – groundwater dependent ecosystems Section 7.2.5 – Significant impact assessment – MNES Turtles
Avoidance, mitigation and management measures should be expanded upon based on the consideration of the IESC advice. This section of the PD should also summarise avoidance, mitigation and management measures discussed in the REMP or state conditions that Santos is required to comply with.	Section 7.3 has been updated Section 9 has been updated to provide a summary of monitoring requirements within the REMP to meet conditions of the State EA. The REMP will be revised to include: Additional survey methods to provide more robust population counts – refer to Section 9.4
Due to the size of the appendices, the department requests that appendix items be provided as individual documents with the updated PD, alternatively the appendices can be provided as a single document with a table of contents which is linked to the individual appendix items.	Appendices have been provided as individual PDF documents