LEICHHARDT

Preston Consulting

ERAMURRA SOLAR SALT PROJECT

ENVIRONMENTAL SCOPING DOCUMENT

30 NOVEMBER 2022

PREPARED FOR LEICHHARDT SALT PTY LTD

BY PRESTON CONSULTING PTY LTD

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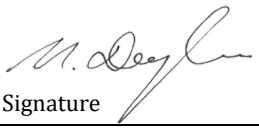
Authorisation	Nathan Douglas, CEO, Leichhardt Salt Pty Ltd	 Signature	30/11/2022

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APPENDIX

THE PROPOSAL

Leichhardt Salt Pty Ltd (Leichhardt) proposes to construct and operate the Eramurra Solar Salt Project, a solar salt project to extract up to 4.2 million tonnes per annum (Mtpa) of high-grade salt (Sodium Chloride (NaCl)) from seawater, using a series of evaporation and crystallisation ponds and processing plant, transport corridor and stockpiling (the Proposal). The evaporation and crystalliser ponds will be located on a Mining Lease.

The export of salt is proposed to be via a trestle jetty. The jetty and associated stockpiles will be located at the Cape Preston East Port approved by Ministerial Statement (MS) 949. Dredging of the proposed channel and berth pocket will be undertaken as part of this Proposal to remove high points at the Cape Preston East Port. Dredged material will either be disposed of at one or more offshore disposal locations, or onshore within the Ponds and Infrastructure Development Envelope. The Cape Preston East Port jetty and associated stockpiles are excluded from the Proposal.

Bitterns will be transported by pipeline attached to the trestle jetty structure and discharged via a diffuser located off the trestle jetty.

The Proposal is located in the western Pilbara region of Western Australia (WA), approximately 55 kilometres (km) west-south-west of Karratha. The regional location of the Proposal is shown in Figure 1 and the Development Envelope, including the indicative infrastructure of the Proposal, is delineated in Figure 2.

The Proposal includes the Former Mardie and Karratha part pastoral lease areas that are currently being managed by the Department of Biodiversity, Conservation and Attractions for the control of fire, feral animals and weeds and proposed for formal reservation under the *Conservation and Land Management Act 1984* (CALM Act).

A summary of the Proposal is provided in Table 1 and the key characteristics and proposed extent of the Proposal are detailed in Table 2. The key Proposal characteristics and extent may change as a result of the findings of studies and investigations conducted, and the application of the mitigation hierarchy by the proponent.

The Proposal covers a large area; however, the type of disturbance varies greatly between activity types. For this reason, three Development Envelopes have been proposed. These are described in Table 2 and shown in Figure 2. The shapefiles for the Development Envelopes were provided with the Section 38 referral and the Development Envelopes remain unchanged.

Table 1: Summary of the Proposal

Proposal Title	Eramurra Solar Salt Project
Proponent Name	Leichhardt Salt Pty Ltd
Short Description	Leichhardt Salt Pty Ltd (Leichhardt) is seeking to develop a solar salt project in the Cape Preston East area, approximately 55 km west-south-west of Karratha in WA (the Proposal). The Proposal will utilise seawater and evaporation to produce a concentrated salt product for export. The Proposal includes the development of a series of concentrator and crystalliser ponds and processing plant. Supporting infrastructure includes bitterns outfall, drainage channels, product dewatering facilities, desalination plant and/or groundwater bores, pumps, pipelines, power supply, access roads, administration buildings, workshops, laydown areas, landfill facility, communications facilities and other associated infrastructure. The Proposal also includes dredging at the Cape Preston East Port and either offshore disposal of dredge material or the onshore use of dredge material within the Ponds and Infrastructure Development Envelope.

Table 2: Location and proposed extent of physical and operational elements

Element	Location	Proposed Extent
Physical Elements		
Pond and Infrastructure Development Envelope – Concentrator and crystalliser ponds. Process plant, desalination plant, administration, water supply, intake, associated works (access roads, laydown, water supply and other services).	Figure 2	Disturbance of no more than 14,300 hectares (ha) within the 20,160 ha Ponds Development Envelope.
Marine Development Envelope – Seawater intake and pipeline, dredge channel, bitterns pipeline, outfall diffuser and mixing zone.		Disturbance of no more than 90 ha within the 790 ha Marine Development Envelope.
Dredge Spoil Disposal Development Envelope – Disposal location for dredge spoil.		Disturbance of no more than 320 ha within the 4,605 ha Dredge Spoil Disposal Development Envelope.
Operational Elements		
Bitterns discharge	Figure 2	Discharge of up to 8 Gigalitres per annum (GL pa) of bitterns within a dedicated offshore mixing zone within the Marine Development Envelope.
Groundwater abstraction		Abstraction of no more than 0.5 GL pa from the Ponds or Infrastructure Development Envelope.
Dredge volume		Approximately 1,100,000 m^3

The Proposal was referred to the Environmental Protection Authority (EPA) on 22 June 2021 for assessment under Part IV of the *Environmental Protection Act 1986* (EP Act). On 6 September 2021, the EPA determined that the Proposal be assessed at a Public Environmental Review level of assessment (8 week public review period) and required the preparation and submission of an Environmental Scoping Document (ESD) by the proponent (this document).

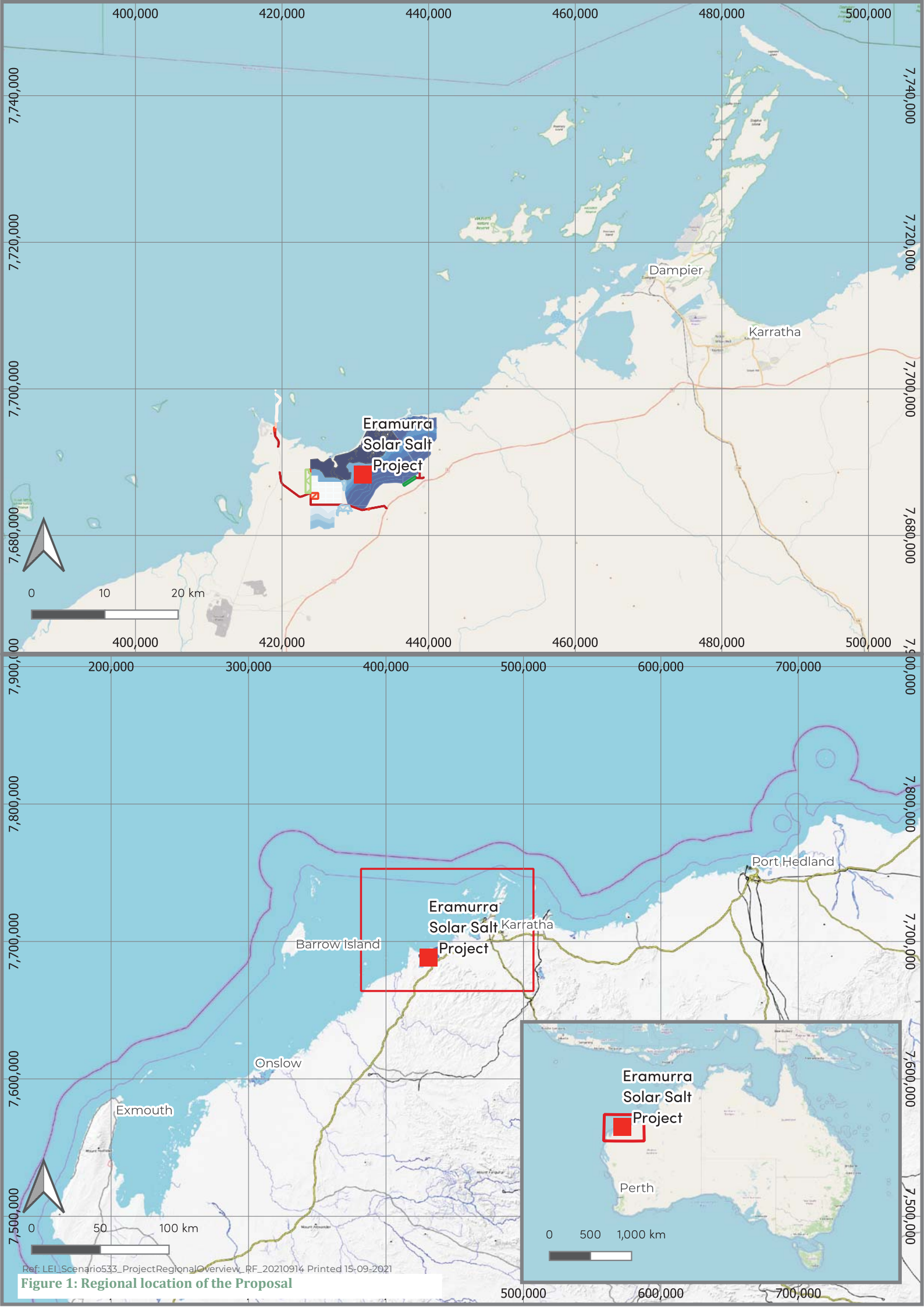

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Figure 1: Regional location of the Proposal

415,000 420,000 425,000 430,000 435,000 440,000 445,000

7,720,000 7,715,000 7,710,000 7,705,000 7,700,000 7,695,000 7,690,000 7,685,000 7,680,000

Spoil Disposal Option 1

Spoil Disposal Option 2

Spoil Disposal Options

Spoil Disposal Option 3

North East Regnard Island

South West Regnard Island

Bitterns, Dredging and Seawater Intake Options

CITIC Desal Plant

Trestle Jetty

CITIC Stockpile

Seawater Intake

Seawater Intake Option (Stage 2)

Concentrators (Stage 2)

Pond Development Area (Stage 2)

Forty Mile Beach Road

Access Corridor

Seawater and Bitterns Delivery Options

Proposed Bitterns

Concentrators

Infrastructure, Bitterns and Spoil Options

Pond Development Area

Santos Gas Plant

Karratha 55km

Proposed Access Road

Renewables

CITIC North South Road

Proposed Haul Road

Process Plant

Crystalliser's Process Plant

CITIC Sino Iron Mine 15km

Eramurra Creek

Proposed Access Road

Proposed Gate House

Onslow 245km

CITIC Cape Preston Airport

McKay Creek

CITIC Airport Road

North West Coastal Highway

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0 2 4 km

Eramurra Solar Salt Project

Scenario 5.3.2 Development Envelope

- Marine Development Envelope
- Ponds and Infrastructure Development Envelope
- Offshore Spoil Development Envelope
- Mardie Station LPL N050076
- Karratha Station LPL N050300
- Scenario 5.3.2 Disturbance Area

Scenario 5.3.2 Infrastructure

- Jetty
- Plant
- Port
- Road
- Renewables

Scenario 5.3.2 Locations

- Road
- Highway
- Airport
- Gas pipeline
- Creek

Figure 2: Proposed Development Envelopes and indicative layout

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1 INTRODUCTION

The Proposal is being assessed by the EPA under Part IV of the EP Act.

The purpose of the ESD is to define the form, content, timing and procedure of the environmental review, required by Section 40(3) of the EP Act.

Leichhardt Salt Pty Ltd (the proponent) has prepared this ESD according to the procedures in the EPA's Environmental Impact Assessment (EIA; Part IV Divisions 1 and 2) Procedures Manual (EPA, 2021a).

The EPA requires the proponent to undertake the environmental review according to the procedures in the EIA (Part IV Divisions 1 and 2) Administrative Procedures (EPA, 2021b) and the EIA (Part IV Divisions 1 and 2) Procedures Manual (EPA, 2021a), and the Instructions and Template: How to Prepare an Environmental Review Document (ERD; EPA, 2021c & d).

Proposal information is provided in Table 3.

Table 3: Proposal information

Proposal information	
Proposal name	Eramurra Solar Salt Project
Proponent	Leichhardt Salt Pty Ltd
Assessment number	2306
Local Government area	City of Karratha
Public review period	8 weeks
EPBC reference no.	2021-9027

1.1 INDICATIVE TIMING OF THE ENVIRONMENTAL REVIEW

Table 4 sets out the indicative outline of the timing of the environmental review (indicative timeline) agreed between the EPA and the proponent.

Table 4: Indicative timing of the environmental review

Key assessment milestones	Completion date
EPA approves ESD	TBA
EPA notifies proponent and publishes ESD	TBA
Proponent submits first draft ERD	2 December 2022
EPA provides comment on the first draft ERD *(6 weeks from receipt of ERD + 1 additional week for Christmas)*	20 January 2023
Proponent submits revised draft ERD	10 February 2023
EPA reviews and accepts ERD	3 March 2023
EPA authorises release of ERD for public review (assumes no additional comments) *(2 weeks from accepted ERD)*	17 March 2023
Proponent releases ERD for public review for 8 weeks	17 March 2023

Key assessment milestones	Completion date
Close of public review period	12 May 2023
EPA provides summary of submissions *(3 weeks from close of public review period)*	2 June 2023
Proponent provides Response to Submissions	23 June 2023
EPA reviews response to submissions *(4 weeks from receipt of Response to Submissions)*	21 July 2023
EPA prepares draft assessment report and completes assessment *(6 weeks from EPA accepting Response to Submissions)*	1 September 2023
EPA finalises assessment report (including two weeks consultation on draft conditions) and gives report to Minister *(6 weeks from completion of assessment)*	13 October 2023

1.2. COMMONWEALTH GOVERNMENT APPROVALS

The Proposal has been referred and determined to be a controlled action under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and is being assessed an accredited process under Section 87 of that Act. The relevant Matters of National Environmental Significance (MNES) for this Proposal are:

- Listed threatened species and communities (Sections 18 & 18A of the EPBC Act);
- Listed migratory species (Sections 20 & 20A of the EPBC Act); and
- Commonwealth marine areas (Sections 23 & 24A of the EPBC Act)

Matters to be specifically surveyed and included in the assessment documentation are provided in Appendix A. This does not limit the matters to be assessed should additional matters be identified through the course of survey and assessment. This ESD includes work required to be carried out and reported on in the ERD in relation to MNES. The ERD will also address the matters in Schedule 4 of the Environment Protection and Biodiversity Conservation Regulations 2000.

MNES that may be impacted by the Proposal will be identified and the potential impacts on these matters addressed within each relevant preliminary environmental factor identified in Section 2.1. If required, proposed offsets to address significant residual impacts on MNES will also be discussed in the ERD.

2 FORM AND CONTENT

The EPA requires that the form and content of the report on the environmental review required under Section 40 of the EP Act is in accordance with the Instructions and Template: How to Prepare an ERD (EPA, 2021c & d).

The EPA requires the ERD to address matters protected by both the State of WA and the Commonwealth of Australia and include the content outlined in Sections 2 - 6 and Appendix A.

The EPA also requires that the environmental review includes the Proposal specific additional work required for assessment of the Proposal outlined in Section 2.2.

2.1 Preliminary Key Environmental Factors

Preliminary Key Environmental Factors have been identified by the EPA in the record of the level of assessment as required under Section 39(b) of the EP Act (Chair's Determination). Preliminary Key Environmental Factors for the environmental review include:

1. Benthic communities and habitats (BCH);
2. Marine environmental quality;
3. Marine fauna;
4. Flora and vegetation;
5. Terrestrial environmental quality
6. Terrestrial fauna;
7. Inland waters; and
8. Social surroundings.

2.2 Specific Additional Work Required for Assessment of Proposal

The general form and content of the ERD will be in accordance with the Instructions and Template: How to Prepare an ERD (EPA, 2021c & d).

Table 5 outlines the Proposal-specific additional work required as it relates to Preliminary Key Environmental Factors.

Table 5: Specific additional work required

Benthic Communities and Habitats	
Required work	1. Undertake a BCH targeted presence/absence field survey within proposed disturbance areas (including offshore dredge spoil disposal areas if they are to be used) and potential indirect impact areas (including dredge and bitterns disposal areas of impact) to determine if any key BCH (seagrass, macroalgae (*Sargassum*), filter feeders and corals) exist in these areas. If key BCH are located within proposed disturbance areas, a survey extension will be undertaken to identify a more suitable alignment or area of disturbance. Survey output: high level BCH map of the surveyed areas and a health assessment to determine the current status of the BCH; 2. Undertake a detailed BCH field survey within the final proposed disturbance areas and potential indirect impact areas (including dredge and bitterns disposal areas of impact). Survey other areas (that are not directly impacted) less intensively to form the basis for potential control monitoring sites. A BCH map will be developed which depicts community composition, condition and abundance in each relevant Local Assessment Unit (LAU). Mapping in relation to dredge impacts should be in accordance with the EPA's Technical Guidance – Environmental impact assessment of marine dredging proposals (EPA, 2021e); 3. Undertake a local bathymetry survey for the bitterns outfall location; 4. Develop appropriate LAUs in consideration of: a) Existing LAUs for the Sino Iron Project and Cape Preston East ports; b) Distribution, extent and condition of subtidal and intertidal BCH; c) Management boundaries (e.g. regionally significant mangrove areas); d) Bathymetry; and e) Coastal geomorphology; 5. Undertake an intertidal BCH field survey to produce local and regional scale maps of algal mats, mangroves, samphire and bare areas, as well as a list of species found. The survey will include:

	a) Detailed mapping of key BCH boundaries such as mangroves, samphire and algal mats; b) Regional assessment of key BCH such as mangroves, samphire and algal mats to quantify the extent of the BCH impacted by the Proposal. The survey effort associated with the regional assessment is to be proportional to the predicted impacts; c) Health assessment to determine the current status of the BCH; and d) Expert advice on the significance of the BCH impacted by the Proposal from a local and regional perspective; 6. Revise the design and subsequent Development Envelope boundaries, if possible, to minimise direct impacts to key BCH; 7. Conduct detailed intertidal BCH mapping within the LAUs to ensure that any impact calculations are accurate; 8. Undertake subtidal BCH surveys including an assessment of seasonal variation in the presence/absence of seagrass communities and their role in supporting MNES, and the spatial and temporal variation of BCH (including but not limited to seagrass communities); 9. Undertake a bitterns outfall modelling study, utilising local conditions (bathymetry and metocean conditions) together with published bitterns ecotoxicity concentrations to determine an appropriate discharge regime required to minimise detrimental effects to sensitive BCH; 10. Undertake a dredge plume dispersion modelling study, utilising local conditions and proposed dredge sediment characteristics, to understand potential impacts to BCH resulting from dredge and spoil disposal activities. Model outcomes will be interpreted against the appropriate thresholds for the relevant BCH. Dredge plume modelling must consider the recommendations within Sun, Branson and Mills (2020): Guidelines on dredge plume modelling for environmental impact assessment. Prepared for Dredging Science Node, Western Australian Marine Science Institution, Perth, WA. 37 pp and EPA's Technical Guidance – Environmental impact assessment of marine dredging proposals (EPA, 2021e); 11. If the dredge plume dispersion modelling identifies potential impacts on coral BCH, then undertake a coral spawn study to determine accurate spawning times and assess the potential impacts dredging activities may have on successful coral colonisation. Discuss potential management strategies to avoid impacts during coral spawning; 12. If the dredge plume dispersion modelling identifies potential significant impacts to macroalgae (including *Sargassum*) and/or bluespotted emperor recruitment BCH, then undertake a macroalgae and bluespotted emperor reproductive study to determine accurate spawning times in the area and assess the potential impacts dredging activities may have on successful macroalgae colonisation and bluespotted emperor recruitment. Discuss potential management strategies to avoid impacts during key lifecycle events for macroalgae and bluespotted emperor; 13. Undertake a benthic light study to define baseline light conditions at marine disturbance areas and inform selection of biologically relevant impact thresholds to facilitate the assessment of dredging impacts on BCH in accordance with the EPA's Technical Guidance - Environmental impact assessment of marine dredging proposals (EPA, 2021e); 14. Assess sediments for particle size distribution in the dredge area (for modelling input) and also in the surrounding areas affected by the plume to assess the impacts post-dredging; 15. Assess sediments in the dredge area for contaminants and at the dredge spoil location (to determine potential impacts of dredge spoil dumping); 16. Assess contemporary scientific information on pressure response pathways, bio-indicators, thresholds, tolerance limits and resilience (resistance and recovery potential) of BCH that may be impacted by the dredging; 17. Prepare a Dredging Spoil and Disposal Monitoring and Management Plan (DSDMMP) which includes monitoring and management actions to minimise impacts on BCH from dredging and spoil disposal activities. The DSDMMP must be prepared in accordance with Instructions on how to prepare EP Act Part IV Environmental Management Plans (EPA, 2021f) and Environmental Management Plan Guidelines (Cth DotE, 2014). The DSDMMP will consider the results of

	dredge plume modelling, sediment quality investigation baseline water quality and BCH surveys to inform monitoring and management. It will include but not be limited to 'most likely best case' and 'most likely worst case' impacts and losses of BCH for each of the dredge timing scenarios (e.g. accounting for seasonal variation in BCH or current patterns); 18. Undertake a water level assessment of any potential intake creek; 19. Discuss the applicability and need for a permit under the *Environment Protection (Sea Dumping) Act 1981*; 20. Undertake a surface water flow and inundation study to produce a series of flood and storm surge maps for different event scenarios, with and without the Proposal (using confirmed Proposal general arrangement drawings and levels). It will incorporate weather data, accurate contour data and tidal information. The study will include the following: a) Modelling and assessment of inland surface water flows before and after the development of the Proposal, using several inflow scenarios (i.e. general creek flow events, and large storm flows through to 1 year flow events). This will determine which areas downstream of the Proposal will be starved of this water and any areas that will flood due to the development; b) Modelling and assessment of tidal flows before and after the development of the Proposal, using several scenarios (i.e. spring high tide through to storm surge events). This will determine which areas will remain inundated under a range of scenarios after these events and for how long (pre- and post-development); c) Assessment of the likely dependency of the intertidal BCH on the low salinity inland surface water flows and predict the impacts of surface water flow changes to algal mat, mangrove and other intertidal BCH and include the predicted impacts in the BCH cumulative loss assessment described in Item 28; and d) A literature review of current scientific knowledge regarding the potential changes in nutrient inputs and flow paths to coastal waters as a result of loss of mangrove and algal mat BCH. This information will be utilised to assess potential impacts to the adjacent marine ecosystem, including BCH (e.g. mangroves and seagrass meadows); 21. Assess the likely dependency of the intertidal BCH on nutrient inflows from upslope/upstream and predict the impacts of changes in nutrient loading to algal mat, mangrove, samphire and other intertidal BCH and include the predicted impacts in the BCH cumulative loss assessment described in Item 28; 22. Undertake modelling and assess the impacts of climate change on intertidal BCH based on sea level rise predictions for the next 100 years; 23. Identify any critical linkages between important marine fauna, shore and seabirds, and key BCH that are likely to be impacted; 24. Conduct permeability assessment of pond floors and walls to determine the likelihood of groundwater seepage and mounding interactions with underlying groundwater. If significant interactions are predicted, then conduct hydrostatic modelling to determine the potential for movement of hypersaline groundwater towards key BCH and assess potential impacts; 25. Obtain expert geotechnical advice on how pond-walls should be constructed on the supratidal flat to avoid breaches of the ponds caused by structural failure which could generate brine surface runoff that could rapidly flow across the supratidal flat surface into sensitive BCH; 26. Undertake an assessment of potential changes in sedimentation rates in the intertidal area downstream of the ponds and the consequent impacts to BCH; 27. Provide figures of the proposed disturbance and predicted indirect impacts to BCH; 28. Undertake a BCH cumulative loss assessment in accordance with the EPA's Technical Guidance – Protection of BCH (EPA 2016a). As a minimum, the cumulative loss assessment should include: a) Clearly defined LAUs (Refer to Item 4); b) Description and mapping of the BCH present in the LAUs (Refer to Item 4); c) Identification of any tenure, conservation, ecological or social values associated with the BCH present in the LAUs;

	d) An estimate of the spatial extent of each BCH type that was originally present within each LAU (i.e. prior to European disturbance); e) An estimate of the spatial extent of each BCH that is currently present within the LAUs; f) Identification of the area of each BCH type that would suffer 'recoverable impacts' and 'irreversible loss' if the Proposal is implemented (results to be expressed as percentages of pre-existing conditions for each BCH type); and g) Comparison of the total area of each BCH type that would suffer 'irreversible loss' against the original BCH extent within the LAUs; 29. An assessment of the functional ecological values and significance of BCH in relation to arid-tropical mangrove communities (Guidance Statement 1 – Protection of Tropical Arid Zone Mangroves along the Pilbara Coastline (EPA, 2001)); 30. Discuss proposed management, monitoring and mitigation methods to be implemented demonstrating that the design of the Proposal has addressed the mitigation hierarchy in relation to impacts on BCH. If management plans are to be developed to address specific impacts, they are to comply with the Instructions on how to prepare EP Act Part IV Environmental Management Plans (EPA, 2021f) and Environmental Management Plan Guidelines (Cth DotE, 2014); 31. Discuss management measures, outcomes/objectives sought to ensure residual impacts (direct and indirect) are not greater than predicted; 32. Evaluate the combined direct and indirect impacts to BCH after the mitigation actions have been applied. This includes: a) Aligning with the approaches and standards outlined in Technical Guidance - Protection of BCH (EPA, 2016a); b) Application of contemporary scientific information on pressure response pathways, bio-indicators, thresholds, tolerance limits and resilience (resistance and recovery potential) of BCH types in relation to dredging pressures; c) Consideration of any spatial and temporal variability of BCH types within the study area and how this effects the predicted impacts; d) Consideration of annual seasonal variability in nearshore current patterns and how this affects the predicted sediment plume and loss of BCH; e) Consideration of historic cumulative impacts to BCH within the LAUs; f) Inclusion of a description of the severity and duration of reversible impacts, and the consequences of impacts on, and risks to, biological diversity and ecological integrity at local and regional scales; g) Inclusion of an estimate of the level of confidence underpinning predictions of residual impacts; h) Consideration of plausible events with the potential to significantly impact BCH including the introduction of marine pests, breached levee walls, hydrocarbon and other spills, and extreme episodic events (e.g. tropical lows and cyclones); 33. Discuss closure and rehabilitation management measures, outcomes/objectives to be implemented. If a Mine Closure Plan is to be developed to address specific impacts then it is to be developed in accordance with Guidelines for Preparing Mine Closure Plans (DMIRS, 2020a); 34. Demonstrate and document in the ERD how the EPA objective for this factor can be met; 35. Determine and quantify any significant residual impacts by applying the Residual Impact Significance Model and the WA Offset Template both referenced in the WA Environmental Offsets Guidelines (Government of WA, 2014), the EPBC Act Environmental Offsets Policy and include reference to the Commonwealth Offsets Assessment Guide for MNES; 36. Where significant residual impacts remain, propose an appropriate offsets package that is consistent with the WA Environmental Offsets Policy and Guidelines (Government of WA, 2011 & 2014) and the EPBC Act Environmental Offsets Policy. Spatial data defining the area of significant residual impacts will be provided; 37. Where a contribution to a relevant scientific initiative or fund is proposed to offset the significant residual impacts, provide an impact reconciliation procedure prepared in accordance with the Instruction on how to prepare EP Act Part IV Reconciliation Procedures and Impact Reconciliation Reports and the

	Template for EP Act Part IV Reconciliation Procedure (EPA 2021g, or any subsequent revisions); and 38. Provide maps and spatial data which define BCH across the entire Development Envelope for the Proposal and any other areas where impacts (direct and indirect) are predicted to occur.
Marine Environmental Quality	
Required work	39. Prepare suitable hydrodynamic model to adequately represent the existing movement of marine waters within the receiving marine environment (including both extreme and normal weather conditions); 40. Undertake a dredge plume dispersion modelling study, utilising local conditions and proposed dredge sediment characteristics to understand potential impacts to marine environmental quality resulting from dredge and spoil disposal activities; 41. Prepare a DSDMMP which includes monitoring and management actions to minimise impacts on marine environmental quality resulting from dredging and spoil disposal activities; 42. Prepare an outline of the Environmental Quality Management Framework, including an Environmental Quality Plan (EQP) that identifies the Environmental Values to be protected and spatially defines the Environmental Quality Objectives to be met, including Levels of Ecological Protection applicable to the Proposal. The EQP will be based on the updated Pilbara Coastal Water Quality Consultation Outcomes – Environmental Values and Environmental Quality Objectives (DoE, 2006); 43. Describe and map the key sensitive biological receptors likely to be affected by the discharges. Provide a figure showing the receptors as an overlay on the EQP; 44. Discuss the applicability and need for a permit under the *Environment Protection (Sea Dumping) Act 1981;* 45. Undertake a baseline water quality assessment at the intake and outfall locations including physiochemical (e.g. salinity, pH, dissolved oxygen) and chemical (e.g. metals, hydrocarbons, nutrients) characteristics for a minimum of 12 months; 46. Collect adequate baseline water quality, sediment quality and benthic community data to document background marine environmental quality (including spatial and temporal variation) within the receiving marine environment. Baseline data acquisition will be adequate for the derivation of draft environmental quality criteria for indicators relevant to the discharge(s) (e.g. water, sediment and/or infauna quality indicators); 47. Undertake a baseline sediment quality assessment at the outfall location including physical (i.e. particle size), chemical (metals, hydrocarbons) and biological (benthic infauna) characteristics; 48. Undertake a study to predict the likely seepage from salt ponds and groundwater mobilisation into the receiving environment (including groundwater and surrounding tidal creeks/near shore marine waters) and potential flow-on effects to surrounding ecosystems (such as mangroves and algal mats); 49. Undertake a study to identify any Acid Sulphate Soils (ASS) or sediment that could potentially be disturbed by the Proposal; 50. Undertake additional ASS investigations wherever roads and other infrastructure are planned to cross areas closer to the coast covered by mangroves and salt-marshes which are underlain by sulfidic soil materials; 51. Conduct whole effluent toxicity (WET) testing or use results from toxicity estimates based on publicly available WET test results for waste bitterns in the Pilbara region to determine and describe the toxic effects of the bitterns discharge and predict the number of dilutions required to meet the different levels of ecological protection surrounding the outfall. Specifically utilise available information to undertake a marine biota ecotoxicology assessment of local marine indicator species for proposed marine discharges; 52. Undertake a bitterns outfall modelling study, utilising the hydrodynamic model together with published bitterns ecotoxicity concentrations to determine an appropriate discharge regime required to achieve the spatial levels of ecological protection defined in the proposed Marine Environmental Quality Monitoring and Management Plan (MEQMMP) described below. The modelling will utilise local conditions (bathymetry and tides) to determine:

	a) Dilution contours around the outfall, using several outfall designs if required; b) Dilution that can be achieved by discharge velocity alone (no underlying currents); c) Predicted mixing zones required to meet the level of ecological protection of the waters surrounding the mixing zone; 53. Utilise the findings of the bitterns outfall modelling to the extent of the zone of influence of the bitterns plume and determine whether lower levels of ecological protection are justified and if so, proposed boundaries for these alternative levels of ecological protection; 54. Prepare a MEQMMP in accordance with the EPA's Technical Guidance – Protecting the Quality of WA's Marine Environment (EPA, 2016b). The MEQMMP should include but not be limited to: a) A description and map of the key sensitive biological receptors likely to be affected by the discharges. A figure will show the receptors as an overlay on the MEQMMP; b) An outline of the Environmental Quality Management Framework, including identification of Environmental Values, Environmental Quality Objectives and Spatial Levels of Ecological Protection applicable to the Proposal; c) Clear, measurable and auditable Environmental Quality Criteria (EQC) for each indicator and the statistical methods for interpreting monitoring data against the EQC; d) Diffuser validation; e) Description of marine environmental quality monitoring; f) Management strategies in the event that environmental quality criteria are exceeded; and g) Emergency shut down procedures. 55. Assess risks of product and hydrocarbon spillages into the marine environment and provide a specific management plan designed to manage spillages; 56. Provide management measures and outcomes/objectives that will be implemented to ensure residual impacts (direct and indirect) are not greater than predicted; 57. Demonstrate and document in the ERD how the EPA objective for this factor can be met; 58. Determine and quantify any significant residual impacts by applying the Residual Impact Significance Model and the WA Offset Template both referenced in the WA Environmental Offsets Guidelines (Government of WA, 2014), the EPBC Act Environmental Offsets Policy and include reference to the Commonwealth Offsets Assessment Guide for MNES; and 59. Where significant residual impacts remain, propose an appropriate offsets package that is consistent with the WA Environmental Offsets Policy and Guidelines (Government of WA, 2011 & 2014) and the EPBC Act Environmental Offsets Policy. Spatial data defining the area of significant residual impacts will be provided.
Marine Fauna	
Required work	60. Undertake a desktop review to identify what marine fauna species would be expected to utilise marine waters surrounding the Proposal including those protected under the EPBC Act. 61. Undertake BCH field surveys as described in the BCH section. Utilise these BCH surveys to identify how the area may be utilised by species protected under the EPBC Act; 62. If the desktop review identifies that significant marine fauna (except turtles) are likely to be present within potential impact areas, undertake a marine fauna field survey or access relevant existing survey data to identify the potential significant species present and associated populations. If required, survey for relevant EPBC species listed in Appendix A in accordance with Commonwealth survey guidelines. Any deviations from these guidelines should be discussed and justified; 63. Undertake a baseline light survey to identify the current light environment and undertake a light spill study to consider the direction and intensity of the expected light sources to determine whether the Proposal will attract turtle

	hatchlings or otherwise alter their behaviour. The light spill study will consider cumulative lighting impacts on the turtle population of the North West Shelf; 64. If significant turtle nesting activity is observed on either the mainland or offshore islands, undertake a study of hatchling orientation behaviour to determine the cause of any existing or future mis-orientation or disorientation. All field studies will be in accordance with the National light pollution guidelines for wildlife (DotEE, 2020); 65. Undertake a desktop Introduced Marine Pests (IMPs) investigation for dredge vessels, including an assessment of likely risks associated with the introduction of IMPs during dredging operations. The investigation is to include a review of baseline IMPs; 66. Assess underwater noise risks that includes a sensitivity assessment of the marine fauna likely to occur in the area during construction activities such as dredging. The risk assessment is to include, but not limited to, disturbance to resting or nursing humpback whale mothers and calves; 67. Quantify and assess the potential impacts of construction and maintenance boat traffic and identify mitigation measures to avoid and minimise marine fauna collisions and noise/light related impacts; 68. Quantify and assess the potential impacts of dredging and identify mitigation measures to avoid and minimise marine fauna dredging related impacts; 69. Identify any significant marine fauna (as well as ecological 'keystone' species and species important to commercial and recreational fishers) likely to be found in the area of influence of the Proposal, including commercially important species and migratory species; 70. Identify any known critical periods for key environmental/life cycle events for marine fauna (e.g. turtle nesting, southern whale migrations, sawfish pupping); 71. Identify the likelihood of significant marine fauna species (excluding shore and seabirds) occurring near the Development Envelopes, including: a) Information on the abundance, distribution, ecology and habitat preferences of any listed species; b) Information on the conservation value of each habitat type from a local and regional perspective; c) If a population of a listed species is present, its' size and the importance of that population from a local and regional perspective; d) Baseline mapping of local occurrences; e) Discussion and determination of the significance of, potential direct, indirect (including downstream) residual and cumulative impacts to conservation significant marine fauna as a result of the Proposal at a local and regional level; and f) Description of the application of the mitigation hierarchy in the Proposal design, construction, operation and closure. This will include detailed actions undertaken to avoid, minimise and mitigate Proposal impacts and management and/or monitoring plans to be implemented pre- and post-construction to demonstrate that residual impacts (direct and indirect) are not greater than predicted. Management and/or monitoring plans are to be presented in accordance with EPA instructions. If management and/or monitoring plans for IMPs are deemed to be required they must align with the Marine Pest Plan 2018-2023: The national strategic plan for marine pest biosecurity and comply with Environmental Management Plan Guidelines (Cth DotE, 2014); 72. Identify the proposed activities and the potential scale and significance of potential direct and indirect impacts to marine fauna during construction and operation of the Proposal. Evaluate potential impacts on the behaviour of significant marine fauna (excluding shore and seabirds) including but not limited to marine turtles, dugongs, cetaceans, green sawfish and species important to commercial and recreational fisheries such as bluespotted emperor (an indicator of the broader number of species potentially impacted by the Proposal). The evaluation is to include: a) An assessment of the risk of impact to any listed threatened species as a result of the Proposal; b) For any impact identified, appropriate mitigation/management measures to reduce the level of impacts;

	c) An assessment of residual impact to each species after all avoidance and mitigation measures are undertaken; d) Due regard to any relevant EPBC Act Threat Abatement Plan, Recovery Plan or Approved Conservation advice; e) Consideration of known existing threats to any significant species, whether or not attributable to the Proposal, with reference to relevant impacts from the Proposal; 73. Prepare a DSDMMP as described in Item 17. The DSDMMP will include management actions to prevent injury and death to marine fauna; 74. Discuss management measures and outcomes/objectives sought to ensure residual impacts (direct and indirect) are not greater than predicted; 75. Demonstrate and document in the ERD how the EPA objective for this factor can be met; 76. Determine and quantify any significant residual impacts by applying the Residual Impact Significance Model and the WA Environmental Offsets Guidelines (Government of WA, 2014, or any subsequent revisions) and include reference to the Commonwealth Offsets Assessment Guide for any MNES; 77. Where significant residual impacts remain, propose an appropriate offsets package that is consistent with the WA Environmental Offsets Policy and Guidelines (Government of WA, 2011 & 2014, or any subsequent revisions) and the Commonwealth Offsets Assessment Guide for MNES; 78. Where a contribution to a relevant scientific initiative or fund is proposed to offset the significant residual impacts, provide an impact reconciliation procedure prepared in accordance with the Instruction on how to prepare EP Act Part IV Reconciliation Procedures and Impact Reconciliation Reports and the Template for EP Act Part IV Reconciliation Procedure (EPA, 2021g, or any subsequent revisions); and 79. Provide maps and spatial data which defines marine fauna across the entire Development Envelope for the Proposal and any other areas where impacts (direct and indirect) are predicted to occur including habitat for significant fauna.
Flora and Vegetation	
Required work	80. Conduct surveys to identify and characterise the flora and vegetation of areas in a local and regional context in accordance with EPA Guidance and any relevant Commonwealth guidance documents. If multiple surveys have been undertaken to support the assessment, a consolidated report should be provided including the integrated results of the surveys. If previous surveys are relied on for context, justification should be provided to demonstrate that they are relevant and consistent with EPA Guidance. Specific survey methodology appropriate to *Tecticornia* species and *Tecticornia* dominated vegetation units should be agreed in consultation with the WA Herbarium expert taxonomist and Department of Water and Environmental Regulation (DWER) specialist staff; 81. Submit all survey reports and data via the Index of Biodiversity Surveys for Assessments (IBSA) Submissions with the IBSA number provided for verification; 82. Provide a map of the survey effort applied in relation to the study area, and Development Envelope, identifying the direct and indirect impact areas; 83. Identify and describe the flora species detected by the studies and surveys. Describe significant flora and provide an analysis of local and regional context, (refer to Environmental Factor Guideline - Flora and Vegetation for definition of significant flora). Characterise the ecological values and significance of flora in the Development Envelopes and any areas that may be indirectly impacted by the Proposal; 84. Provide maps showing the recorded locations of significant flora in relation to the Proposal and species distributions; 85. Identify and describe the vegetation present in the study area. Describe significant vegetation, and provide an analysis of local and regional context, (refer to Environmental Factor Guideline – Flora and Vegetation for definition of significant vegetation). Characterise the ecological values and significance of vegetation in the Development Envelopes and any areas that may be indirectly impacted by the Proposal; 86. If groundwater abstraction is proposed for water supply then conduct an assessment to determine the presence or absence of potential or observed

	Groundwater Dependent Ecosystems (GDEs) within the potential drawdown zone. The assessment is to include reference to groundwater depths within the potential or observed GDEs. 87. Provide maps showing the extent of all vegetation, and significant vegetation, in the study area, Development Envelope, direct and indirect impact areas, and in the local and regional contexts; 88. Identify the proposed activities and describe and quantify the potential scale and significance of direct and indirect impacts to flora and vegetation. This will include an assessment of the extent of potential direct, indirect and cumulative impacts, including percentages, to all vegetation and significant flora and vegetation that may occur following implementation of the proposal during both construction and operation, in a local and regional context. Provide tables with quantitative assessments of impacts; a) For significant flora, this includes the: i. Number of individuals and populations in a local and regional context; ii. Numbers and proportions of individuals and populations directly or potentially indirectly impacted, and iii. Numbers/proportions/populations currently protected within the conservation estate (where known); b) For all vegetation units (noting Threatened and Priority Ecological Communities and significant vegetation) this includes: i. Area (in ha) and proportions directly or potentially indirectly impacted, and ii. Proportions/ha of the vegetation unit currently protected within conservation estate (where known); 89. Outline the proposed avoidance and mitigation measures to reduce the potential impacts of the Proposal. Include proposed management and/or monitoring plans that will be implemented pre- and post-construction to demonstrate and ensure residual impacts are not greater than predicted. Management and/or monitoring plans are to be presented in accordance with the EPA's instructions and comply with the Environmental Management Plan Guidelines (Cth DotE, 2014); 90. Predict the residual impacts from the Proposal on flora and vegetation after considering and applying the mitigation hierarchy; 91. Undertake a groundwater abstraction study if GDEs are identified in areas within the extent of drawdown (horizontally and vertically). This will assess the abstraction requirements from each bore location and determine whether the drawdown rate or depth could potentially cause impacts to any GDEs, based on the risk categories for phreatophytic vegetation in Froend and Loomes (2004); 92. Assess the potential direct, indirect and cumulative impacts of the Proposal on the Great Sandy Island Nature Reserve (Class B, R 33831); 93. Identify, describe and address any potential direct, indirect and cumulative impact on current and proposed CALM Act reserves and their values resulting from the implementation of the Proposal; 94. Incorporate the findings of any investigations and studies undertaken for the Mardie Project (MS 1175) as part of their marine and intertidal research offsets (if completed prior to submission of the ERD); 95. Demonstrate and document in the ERD how the EPA objective for this factor can be met; 96. Determine and quantify any significant residual impacts by applying the Residual Impact Significance Model and the WA Environmental Offsets Guidelines (Government of WA, 2014, or any subsequent revisions) and include reference to the Commonwealth Offsets Assessment Guide for any MNES; 97. Where significant residual impacts remain, propose an appropriate offsets package that is consistent with the WA Environmental Offsets Policy and Guidelines (Government of WA, 2011 & 2014, or any subsequent revisions) and the Commonwealth Offsets Assessment Guide for MNES; 98. Where a contribution to the Pilbara Environmental Offsets Fund (PEOF) is proposed to offset the significant residual impacts, provide an impact reconciliation procedure prepared in accordance with the Instruction on how to prepare EP Act Part IV Reconciliation Procedures and Impact Reconciliation

	Reports and the Template for EP Act Part IV Reconciliation Procedure (EPA, 2021g, or any subsequent revisions); 99. Provide maps and spatial data which defines flora and vegetation across the Development Envelopes for the Proposal and any other areas where impacts (direct and indirect) are predicted to occur: a) Vegetation condition (e.g. completely degraded, degraded, poor, good, very good, excellent); and b) Specific flora and vegetation values proposed to be offset; and 100. Discuss closure and rehabilitation management measures, and outcomes / objectives to be implemented. If a Mine Closure Plan is to be developed to address specific impacts then it is to be developed in accordance with Guidelines for Preparing Mine Closure Plans (DMIRS, 2020a).
Terrestrial Environmental Quality	
Required work	101. Undertake a baseline soil assessment across the potential disturbance areas associated with the Proposal including materials characterisation for soils and subsurface material. Physical (i.e. particle size) and chemical (metals, hydrocarbons) characteristics will be assessed; 102. Undertake a study to predict the quantity and quality of likely seepage of saline water from salt ponds and potential mobilization into the surrounding environment and potential for soil contamination; 103. Undertake a study to identify any ASS that could potentially be disturbed by the Proposal and if required, prepare an ASS Management Plan to prevent contamination of the terrestrial environment; 104. Identify and discuss any potential direct, indirect and cumulative impacts on the terrestrial environment as a result of vegetation clearing, changes to the surface water regime, waste disposal, hydrocarbon spills or product spills; 105. Identify and discuss the potential direct, indirect and cumulative impacts to the terrestrial environment as a result of loss of sediment during construction; 106. Discuss the proposed monitoring, management and mitigation measures to be implemented, including an assessment of their effectiveness, at the design and operations stages to demonstrate that all reasonable and practicable avoidance and mitigation measures will be taken to ensure residual impacts and risks are acceptable; 107. Document management and monitoring measures to ensure residual impacts are not greater than predicted and achieve predicted outcomes/objectives; 108. Demonstrate and document in the ERD how the EPA objective for this factor can be met; 109. Determine and quantify any significant residual impacts by applying the Residual Impact Significance Model and the WA Offset Template both referenced in the WA Environmental Offsets Guidelines (Government of WA, 2014); 110. Where significant residual impacts remain, propose an appropriate offsets package that is consistent with the WA Environmental Offsets Policy (Government of WA, 2011) and the WA Environmental Offsets Guidelines (Government of WA, 2014). Spatial data defining the area of significant residual impacts should also be provided; and 111. Discuss closure and rehabilitation management measures and outcomes/objectives to be implemented. If a Mine Closure Plan is to be developed to address specific impacts then it is to be developed in accordance with Guidelines for Preparing Mine Closure Plans (DMIRS, 2020a).
Terrestrial Fauna	
Required work	112. In accordance with EPA Guidance and Commonwealth survey guidelines conduct a desktop study to identify and characterise the vertebrate and Short Range Endemic (SRE) invertebrate fauna and fauna habitats in a local and regional context, and discuss the likely presence of listed threatened species or their habitat within/near the Proposal. Based on the results of the desktop study conduct: a) A Basic (Level 1) survey and fauna habitat assessment; and/or b) A Detailed (Level 2) survey including sampling inside and outside the impact areas that may be directly or indirectly impacted; and/or

	c) Targeted surveys for significant fauna that may be directly or indirectly impacted, including the EPBC species listed in Appendix A; Any deviations from EPA and Commonwealth guidelines will be discussed and justified. If multiple surveys have been undertaken to support the assessment, a consolidated report should be provided including the integrated results of the surveys. If previous surveys are relied on for context, justification should be provided to demonstrate that they are relevant and consistent with EPA Guidance; 113. Submit all survey reports and data via IBSA Submissions with the IBSA number provided for verification; 114. Provide a map of the survey effort applied in relation to the study area, terrestrial fauna habitats, and Development Envelope, identifying the direct and indirect impact areas; 115. Undertake a targeted migratory shorebird field survey conducted in accordance with EPBC Act Policy Statement 3.21 - Industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listing migratory shorebird species (DotEE, 2017). The survey is to provide individual counts to determine the significance of the area on a national and international scale; 116. Where the desktop study and basic survey identifies suitable habitat (roosting and breeding) for night parrot, undertake a targeted night parrot survey in accordance with Interim guideline for preliminary surveys of night parrot in WA (DPaW, 2017) and EPBC Act Survey Guidelines for Threatened Birds (DEWHA, 2010). Specialist opinion will be sought if required to confirm recordings of Night Parrot from persons with experience in this species; 117. Identify and describe the terrestrial fauna habitats identified by the studies and surveys. Describe significant fauna habitats, including but not limited to: SRE invertebrate microhabitats, refugia, breeding areas, key foraging habitat, movement corridors and linkages, areas of conservation significance and geological features, which may support unique ecosystems (refer to Environmental Factor Guideline – Terrestrial Fauna for definition of significant fauna habitat). Provide information, including maps, to differentiate habitat on the basis of use if required e.g. breeding habitat, foraging/feeding/dispersal habitat. Consider whether the remaining habitat has adequate carrying capacity; 118. Provide maps showing the extent of terrestrial fauna habitats in relation to the Proposal and species distributions; 119. Identify and describe the fauna assemblages present and likely to be present within the Development Envelope that may be impacted by the Proposal; 120. Identify significant or restricted fauna and describe in detail their known ecology, likelihood of occurrence, habitats and known threats, (refer to Environmental Factor Guideline – Terrestrial Fauna for definition of significant fauna); 121. Map the locations of significant/restricted fauna records in relation to the terrestrial fauna habitats, the study area, the Development Envelope, and direct and indirect impact areas; 122. Describe and quantify the extent of potential direct, indirect and cumulative impacts, including percentages, to habitats and significant species that may occur following implementation of the proposal during both construction and operations, in a local and regional context; 123. Provide a table of the proportional extents of each habitat within the study area and Development Envelope, and the predicted amount to be directly impacted and remaining. Consider any local or regional cumulative impacts; 124. Outline the proposed avoidance and mitigation measures to reduce the potential impacts of the Proposal. Include proposed management and/or monitoring plans that will be implemented pre- and post-construction to demonstrate and ensure residual impacts are not greater than predicted. Include a discussion of the proposed management, monitoring and mitigation methods to be implemented including an assessment of the effectiveness of the methods, any statutory or policy basis for the methods and demonstrate that the design of the Proposal has addressed the mitigation hierarchy in relation to impacts on terrestrial fauna. If management plans are to be developed to address specific impacts they are to comply with the Instructions on how to prepare EP Act Part IV Environmental Management Plans (EPA 2021f) and Environmental Management Plan Guidelines (Cth DotE 2014);

	125. Predict the residual impacts from the Proposal on terrestrial fauna after considering and applying the mitigation hierarchy; 126. Demonstrate how the EPA's objective for this factor will be met; 127. Determine and quantify any significant residual impacts by applying the Residual Impact Significance Model and the WA Environmental Offsets Guidelines (2014, or any subsequent revisions) and include reference to the Commonwealth Offsets Assessment Guide for any MNES; 128. Where significant residual impacts remain, propose an appropriate offsets package that is consistent with the WA Environmental Offsets Policy and Guidelines (Government of WA, 2011 & 2014, or any subsequent revisions) and the Commonwealth Offsets Assessment Guide for MNES; 129. Where a contribution to the PEOF is proposed to offset the significant residual impacts, provide an impact reconciliation procedure prepared in accordance with the Instruction on how to prepare EP Act Part IV Reconciliation Procedures and Impact Reconciliation Reports and the Template for EP Act Part IV Reconciliation Procedure (EPA, 2021g, or any subsequent revisions); 130. Provide maps and spatial data which defines terrestrial fauna across the entire Development Envelope for the Proposal and any other areas where impacts (direct and indirect) are predicted to occur including habitat for significant fauna; and 131. Discuss closure and rehabilitation management measures and outcomes/objectives to be implemented. If a Mine Closure Plan is to be developed to address specific impacts then it is to be developed in accordance with Guidelines for Preparing Mine Closure Plans (DMIRS, 2020a).
Inland Waters	
Required work	132. Undertake a surface water flow and inundation study to produce a series of flood, tidal inundation and storm surge maps for different event scenarios, with and without the Proposal (using confirmed Proposal general arrangement drawings and levels). It will incorporate weather data, accurate contour data and tidal information. The study will include the following: a) Modelling and assessment of inland surface water flows before and after the development of the Proposal, using several inflow scenarios (i.e. 100 year through to one year Annual Recurrence Interval flow events). This will determine which areas downstream of the Proposal will be starved of this water and any areas that will flood due to the Proposal; b) Modelling and assessment of tidal flows before and after the development of the Proposal, using several scenarios (i.e. spring high tide through to storm surge events). This will determine which areas will remain inundated under a range of scenarios after these events and for how long (pre- and post-development); c) An ecohydrological model that integrates the hydrological and ecological components to show the likely pathways by which the Proposal might impact on key resources; and d) A desktop review of the likely changes to the frequency and intensity of inland surface water flow scenarios as a result of climate change; 133. Provide a peer review of the modelling and predictions of groundwater and surface water impacts; 134. Undertake baseline surface water quality sampling of the ephemeral creeklines that run through the Development Envelopes (i.e. if surface water is present); 135. Identify and characterise any environmental receptors that may be impacted by changes to inland waters as a result of this Proposal; 136. Provide a detailed description of the Proposal aspects that have the potential to impact inland waters; 137. Undertake a desktop ASS risk assessment to determine the risk of presence of ASS. Undertake an ASS survey if results from the desktop risk assessment identify this to be necessary; 138. Undertake a hydrogeological study (including drilling and hydraulic data acquisition); 139. Undertake a groundwater model to assess the following:

	a) Impacts on the surface-groundwater interaction, groundwater flow directions and hydraulic loading by proposed structures; b) Hydraulic loading surface expressions and subsequent impacts on vegetation; c) The influence of density-driven flow induced by seepage from structures, and subsequent impacts to vegetation; d) The extent of seawater intrusion and how this may be influenced by the Proposal, with subsequent flow-on impacts; 140. Undertake a groundwater quality assessment to determine the quality of the groundwater underlying the pond areas; 141. Ensure sufficient measures are taken in design, construction and operation to limit impacts to inland waters; 142. Undertake desktop water supply assessment to identify a contingency fresh water supply source for the Proposal (if required in addition to desalination) and estimate potential yields and impacts based on the available hydrogeological information; 143. Conduct pump-testing of the proposed groundwater supply bores identified in the desktop study, and collection of baseline data. Verify impact predictions provided in the desktop study; 144. Characterise the baseline hydrological and hydrogeological regimes and water quality, both in a local and regional context, including but not limited to the water levels·, stream flows (ephemeral and flowing), climate, flood patterns, and water quantity and quality; 145. Provide a detailed description of the design and location of the Proposal aspects that have the potential to impact inland waters; 146. Assess the potential impacts and risks from construction and operation of the Landfill Facility in the context of groundwater contamination, flooding and resilience to climate change; 147. Discuss the proposed management, monitoring and mitigation to avoid and minimise impacts to inland waters, and potential flow-on effects on the surrounding environment as a result of implementing the Proposal. If management plans are to be developed to address specific impacts, they are to comply with the Instructions on how to prepare EP Act Part IV Environmental Management Plans (EPA, 2021f) and Environmental Management Plan Guidelines (Cth DotE, 2014); 148. Detail the management, monitoring and mitigation measures to be implemented to ensure residual impacts on inland waters are not greater than predicted; 149. Demonstrate in the ERD how the EPA's objective for this factor will be met; 150. Determine and quantify any significant residual impacts by applying the Residual Impact Significance Model and the WA Offset Template both referenced in the WA Environmental Offsets Guidelines (Government of WA, 2014); 151. Where significant residual impacts remain, propose an appropriate offsets package that is consistent with the WA Environmental Offsets Policy (Government of WA, 2011) and the WA Environmental Offsets Guidelines (Government of WA, 2014). Spatial data defining the area of significant residual impacts should also be provided; and 152. Discuss closure and rehabilitation management measures, outcomes/objectives to be implemented. If a Mine Closure Plan is to be developed to address specific impacts then it is to be developed in accordance with Guidelines for Preparing Mine Closure Plans (DMIRS, 2020a).
Social Surroundings	
Required work	153. Undertake a community impact study to identify what public access areas (i.e. camping and fishing areas) will have restricted access once the Proposal is implemented. If areas are identified as being impacted, then additional work is to be conducted to identify the number of people that use the area and if/how access and amenity can be maintained; 154. Undertake a desktop heritage assessment (European and Aboriginal) and ethnographic heritage survey to: a. Make an assessment of listed heritage sites in consultation with the native title holders (Yaburara & Mardudhunera People);

	b. Determine the cultural importance and value of the site from an Aboriginal perspective (i.e. bush tucker and medicine); and c. Assess the likelihood of significant European or Aboriginal heritage sites being present on site; 155. Ensure sufficient measures are taken in the design, construction and operation of the Proposal to limit impacts to social surroundings, including: a. Conduct Aboriginal heritage surveys (archaeological and ethnographic) and avoid significant sites if practicable; b. Consult with relevant stakeholders, primarily the native title holders, and seek approval under Section 18 of the *Aboriginal Heritage Act 1972* or consent under Part 6 of the *Aboriginal Cultural Heritage Act 2021*, if significant sites cannot be avoided; c. Incorporate bush tucker and medicine information to allow avoidance and minimisation of impacts; and d. Continue consultation with the Traditional Owners regarding the minimisation of impacts to traditional uses of the area; 156. Discuss the proposed monitoring, management and mitigation measures to be implemented, including an assessment of their effectiveness, at the design and operations stages to demonstrate that all reasonable and practicable avoidance and mitigation measures will be taken to ensure residual impacts and risks are acceptable; 157. Demonstrate how the EPA's objective for this factor will be met; 158. Conduct consultation with Traditional Owners during the assessment process to determine the heritage and other cultural values of the Development Envelopes; 159. Conduct community consultation to determine if there are any recreational areas that can be retained; 160. Characterise the values and significance of social surroundings in the vicinity of the Proposal; 161. Identify the potential scale and significance of direct and indirect impacts to social surroundings from proposed activities; 162. Determine and quantify any significant residual impacts by applying the Residual Impact Significance Model and the WA Offset Template both referenced in the WA Environmental Offsets Guidelines (Government of WA, 2014); 163. Where significant residual impacts remain, propose an appropriate offsets package that is consistent with the WA Environmental Offsets Policy (Government of WA, 2011) and the WA Environmental Offsets Guidelines (Government of WA, 2014). Spatial data defining the area of significant residual impacts should also be provided; and 164. Develop in consultation with the native title holders a Social, Cultural Heritage Management Plan to identify required actions to mitigate and manage impacts to social surroundings.

2.3 CUMULATIVE IMPACT ASSESSMENT

The ERD will include a cumulative impact assessment to assess the Proposal's contribution to impacts on relevant environmental values. The activities, boundaries and values relevant for the cumulative impact assessment in relation to each factor are summarised in Table 6.

Table 6: Cumulative Impact Assessment

Activities	Environmental values	Relevant factors	Boundaries
Clearing of native vegetation	Native vegetation	Flora and Vegetation	Cumulative impacts on native vegetation will be assessed by reviewing the remaining extent of each affected pre-European vegetation association and broader Interim Biogeographic Regionalisation of Australia sub-regions. In addition, the remaining native vegetation extents within various buffers from the Proposal boundary (10 km, 50 km and 100 km) will be reviewed.
	State-wide Pre-European extent	Flora and Vegetation	
	Priority flora and Significant flora habitat	Flora and Vegetation	
	Significant fauna habitat	Terrestrial Fauna	
Direct and indirect impacts to intertidal BCH	Intertidal BCH	BCH	Impacts will be considered for the western Pilbara coastline, including built, approved and planned salt and port projects. If available, the research outcomes of the Marine and Intertidal Research Offsets from the Mardie Project will be included in the cumulative impact assessment.
Direct and indirect impacts to subtidal BCH	Subtidal BCH	BCH	Cumulative impacts on subtidal BCH will incorporate the findings of subtidal BCH surveys within the LAUs. If available, the research outcomes of the Marine and Intertidal Research Offsets from the Mardie Project will be included in the cumulative impact assessment.
Direct and indirect impacts to marine fauna or their habitat	Marine fauna	Marine Fauna	Cumulative impacts will be assessed in the context of other pressures on marine fauna along the western Pilbara coastline, or the species local range, whichever is the smallest. If available, the research outcomes of the Marine and Intertidal Research Offsets from the Mardie Project will be included in the cumulative impact assessment.
Direct and indirect impacts to BCH and marine water quality	Marine water quality	Marine Environmental Quality	Cumulative impacts on marine water quality will review the information provided within the Pilbara Coastal Water Quality Consultation Outcomes (DotE, 2006, revised 2019)
Direct and indirect impacts to BCH and fishing marine species	Fishing and social/cultural values	Marine Fauna Social Surroundings BCH Marine Environmental Quality	As above for impacts to intertidal and subtidal BCH. Cumulative impacts to fishing species will be assessed in the context of other pressures on fishing activities along the western Pilbara coastline, or the local boundary of the fishery, whichever is the smallest.
Salt Production	Light	Marine Fauna, Terrestrial Fauna	If the light assessment determines that light emissions from the Proposal are deemed to be visible at any turtle nesting beaches, then the boundaries of the cumulative light assessment should extend to the turtle populations of the North West shelf.
	Amenity (Noise and Light)	Social Surroundings	If the Proposal is likely to result in significant light or noise at the nearest sensitive receptors then an assessment will be conducted to determine what other light and noise pollution and noise impacts could be affecting that receptor. The Proposal's contribution to those cumulative impacts will then be assessed.

Activities	Environmental values	Relevant factors	Boundaries
	Greenhouse Gas	Greenhouse Gas	Greenhouse gas emissions will be reviewed against the cumulative emissions within WA to determine the contribution made by the Proposal.

3 DECISION-MAKING AUTHORITIES AND OTHER LEGISLATION

The relevant Decision-making Authorities (DMAs) identified by the EPA during their assessment of the referral are listed in Table 7. Additional DMAs may be identified during the EPA's assessment of the Proposal.

Table 7: Decision-making Authorities and other legislation

DMA and department (if relevant)	Legislation or agreement regulating the activity	Approval required and relevant Proposal element	Whether and how can the statutory decision-making process mitigate impacts on the environment? (Yes/No and summary of reasons. Include a separate line item for each relevant impact, and discuss how the EPA's factor objective will be met)		
			Relevant Impact	Relevant Key Environmental Factor and Objective	Can the DMA mitigate impacts and how will the EPA's factor be met?
Minister for Environment DWER	EP Act Part V	**Works Approval and Licence -** required for solar salt manufacturing, sewage treatment and disposal, landfill, crushing and screening	Bitterns disposal	**BCH** EPA's objective: *To protect BCH so that biological diversity and ecological integrity are maintained.* **Marine Environmental Quality** EPA's objective: *To maintain the quality of water, sediment and biota so that environmental values are protected.* **Marine Fauna** EPA's objective: *To protect marine fauna so that biological diversity and ecological integrity are maintained.*	Yes. The design and operation of the bitterns outfall will be assessed under Part V of the EP Act to ensure bitterns discharge impacts are minimised and are maintained in line with ecological protection area boundaries presented in the ERD.
			Groundwater seepage from ponds	**BCH** EPA's objective: *To protect BCH so that biological diversity and ecological integrity are maintained.* **Marine Environmental Quality** EPA's objective: *To maintain the quality of water, sediment and biota so that environmental values are protected.*	Yes. The design of the ponds will be assessed under Part V of the EP Act to ensure seepage impacts are minimised and are maintained in line with predictions presented in the ERD.

DMA and department (if relevant)	Legislation or agreement regulating the activity	Approval required and relevant Proposal element	Whether and how can the statutory decision-making process mitigate impacts on the environment? (Yes/No and summary of reasons. Include a separate line item for each relevant impact, and discuss how the EPA's factor objective will be met)		
			Relevant Impact	**Relevant Key Environmental Factor and Objective**	**Can the DMA mitigate impacts and how will the EPA's factor be met?**
				Marine Fauna EPA's objective: *To protect marine fauna so that biological diversity and ecological integrity are maintained.*	
			Dust emissions	**Flora and Vegetation** EPA's objective: *To protect flora and vegetation so that biological diversity and ecological integrity are maintained.* **Social Surroundings** EPA's objective: *To protect social surroundings from significant harm*.	Yes. While not expected to be significant, a primary source of dust emissions from the Proposal is the processing facilities for solar salt manufacturing and the design of the Proposal will be assessed under Part V of the EP Act to ensure dust emissions are minimised and do not result in significant impacts to any sensitive receptors. In addition to regulation under Part V of the EP Act, dust emissions from all aspects of the site are regulated under the *Mining Act 1978* (refer below) and are not expected to be significant. These emissions are unlikely to require additional regulation under Part IV of the EP Act in order to meet the objective for this factor.
			Noise emissions	**Social Surroundings** EPA's objective: *To protect social surroundings from significant harm.*	Yes. While not expected to be significant, the primary sources of noise emissions from the Proposal will be the mobile plant and seawater intakes. The design of the plant and intakes will be assessed under Part V of the EP Act to ensure noise emissions are minimised

DMA and department (if relevant)	Legislation or agreement regulating the activity	Approval required and relevant Proposal element	Whether and how can the statutory decision-making process mitigate impacts on the environment? (Yes/No and summary of reasons. Include a separate line item for each relevant impact, and discuss how the EPA's factor objective will be met)		
			Relevant Impact	**Relevant Key Environmental Factor and Objective**	**Can the DMA mitigate impacts and how will the EPA's factor be met?**
					and do not result in significant impacts to any sensitive receptors. Noise emissions from other aspects of the site are not expected to be significant and are unlikely to require additional regulation under Part IV of the EP Act in order to meet the objective for this factor.
			Waste disposal (sewage and putrescible)	**Terrestrial Environmental Quality** EPA's objective: *To maintain the quality of land and soils so that environmental values are protected.*	Yes. The design of the wastewater treatment plant and landfill will be assessed under Part V of the EP Act to ensure waste impacts are minimised.
	Biodiversity Conservation Act 2016	Licence to take threatened fauna	Impacts to threatened fauna individuals	**Terrestrial Fauna** EPA's objective: *To protect terrestrial fauna so that biological diversity and ecological integrity are maintained.*	Partially. A Licence mitigates impacts to the individuals that need to be taken for the Proposal however it does not mitigate habitat loss or other indirect impacts to fauna or their habitat.
Minister for Mines and Petroleum Executive Director, Resource and Environmental Compliance Division (Department of Mines, Industry Regulation and Safety (DMIRS))	*Mining Act 1978* (WA) *Mine Safety and Inspection Act 1994* (WA)	**Mining Proposal and Mine Closure Plan** Required for any mining-related disturbance within tenements	Changes to the stability of the landscape	**Terrestrial Environmental Quality** EPA's objective: *To maintain the quality of land and soils so that environmental values are protected* **Inland Waters** EPA's objective: *To maintain the hydrological regimes and quality*	Yes. A Mining Proposal will be submitted to DMIRS prior to any disturbance at the Proposal and will include auditable outcomes for key DMIRS factors (Biodiversity, Water Resources, Land and Soils). These outcomes will be defined and approved by DMIRS to ensure that the impacts on the key DMIRS factors are mitigated to an acceptable level. In the context of landscape stability this will include an

DMA and department (if relevant)	Legislation or agreement regulating the activity	Approval required and relevant Proposal element	Whether and how can the statutory decision-making process mitigate impacts on the environment? (Yes/No and summary of reasons. Include a separate line item for each relevant impact, and discuss how the EPA's factor objective will be met)		
			Relevant Impact	**Relevant Key Environmental Factor and Objective**	**Can the DMA mitigate impacts and how will the EPA's factor be met?**
State Mining Engineer (DMIRS)				*of groundwater and surface water so that environmental values are protected.* **Flora and Vegetation** EPA's objective: *To protect flora and vegetation so that biological diversity and ecological integrity are maintained.* **Terrestrial Fauna** EPA's objective: *To protect terrestrial fauna so that biological diversity and ecological integrity are maintained.*	auditable outcome that the landscape will be safe and stable during operational activities to prevent slumps or collapsed walls which could have environmental impacts. A Mine Closure Plan will be submitted to DMIRS with the Mining Proposal prior to any disturbance at the Proposal and will be revised every 3 years. It will include auditable closure and rehabilitation outcomes and criteria which will be defined and approved by DMIRS to ensure that impacts on key DMIRS factors are mitigated to an acceptable level. The implementation of the Mining Proposal and Mine Closure Plan under the *Mining Act 1978* is considered suitable to mitigate this impact such that the EPA's objectives can be met. By meeting DMIRS's Factors, the Proposal will also meet the EPA's objectives for the relevant factors. Additional regulation under Part IV of the EP Act is, therefore, unlikely to be required for this potential impact.
			Clearing of native vegetation	**Flora and Vegetation** EPA's objective: *To protect flora and vegetation so that biological diversity and ecological integrity are maintained.* **Terrestrial Fauna** EPA's objective: *To protect terrestrial fauna so that*	Partially. A Mining Proposal will be submitted to DMIRS prior to any disturbance for the Proposal and will include auditable outcomes for the key DMIRS factor: Biodiversity. These outcomes will include requirements for best-practice topsoil stripping and storage, minimising the clearing footprint and taking accurate records.

DMA and department (if relevant)	Legislation or agreement regulating the activity	Approval required and relevant Proposal element	Whether and how can the statutory decision-making process mitigate impacts on the environment? (Yes/No and summary of reasons. Include a separate line item for each relevant impact, and discuss how the EPA's factor objective will be met)		
			Relevant Impact	**Relevant Key Environmental Factor and Objective**	**Can the DMA mitigate impacts and how will the EPA's factor be met?**
				biological diversity and ecological integrity are maintained.	A Mine Closure Plan will be submitted to DMIRS with the Mining Proposal prior to any disturbance for the Proposal and will be revised every 3 years. It will include auditable closure and rehabilitation outcomes and criteria which will be defined and approved by DMIRS to ensure that cleared areas are rehabilitated to an acceptable level. In the context of vegetation clearing this will include an auditable outcome that the rehabilitated areas will meet specific closure criteria designed to ensure flora, vegetation and fauna values are reinstated. The implementation of the Mining Proposal and Mine Closure Plan under the *Mining Act 1978* is considered suitable to mitigate rehabilitation and impacts during clearing however it is not considered suitable to mitigate impacts associated with the loss of vegetation. This is expected to require assessment under Part IV of the EP Act to ensure that the EPA's objectives can be met.
			Introduction and spread of weeds	**Flora and Vegetation** EPA's objective: *To protect flora and vegetation so that biological diversity and ecological integrity are maintained.*	Yes. The approved Mining Proposal and Mine Closure Plan will define outcomes to ensure that the Factors defined in DMIRS's Environmental Objectives - Policy and Mining (DMIRS, 2020b) are met for the Proposal. The DMIRS Factor: Biodiversity, is relevant to this impact: DMIRS's objective for this factor is:

DMA and department (if relevant)	Legislation or agreement regulating the activity	Approval required and relevant Proposal element	Whether and how can the statutory decision-making process mitigate impacts on the environment? (Yes/No and summary of reasons. Include a separate line item for each relevant impact, and discuss how the EPA's factor objective will be met)		
			Relevant Impact	**Relevant Key Environmental Factor and Objective**	**Can the DMA mitigate impacts and how will the EPA's factor be met?**
					Maintain representation, diversity, viability and ecological function at the species, population and community level. These outcomes will be defined and approved by DMIRS to ensure that impacts associated with weeds are mitigated to an acceptable level. This will include an auditable outcome to prevent the introduction or spread of any new weed species or populations during construction, operation or closure. By meeting these outcomes and the objective of DMIRS's Biodiversity Factor, the Mining Proposal and Mine Closure Plan will ensure that the EPA's objective for flora and vegetation is met. Therefore, further regulation for the impact of the introduction and spread of weeds is not required to be assessed by the EPA.
			Alteration to the post mining land use	**Social Surroundings** EPA's objective: *To protect social surroundings from significant harm.*	Yes. Approval of a Mining Proposal and Mine Closure Plan will ensure that the Factors defined in DMIRS's Environmental Objectives - Policy and Mining (DMIRS, 2020b) are met for the Proposal. The DMIRS Factor: Rehabilitation and Mine Closure, is relevant to this impact. DMIRS's objective for this factor is: *Mining activities are rehabilitated and closed in a manner to make them physically safe to humans and animals, geo-technically stable, geo-chemically non-polluting/non-contaminating, and capable of*

DMA and department (if relevant)	Legislation or agreement regulating the activity	Approval required and relevant Proposal element	Whether and how can the statutory decision-making process mitigate impacts on the environment? (Yes/No and summary of reasons. Include a separate line item for each relevant impact, and discuss how the EPA's factor objective will be met)		
			Relevant Impact	**Relevant Key Environmental Factor and Objective**	**Can the DMA mitigate impacts and how will the EPA's factor be met?**
					sustaining an agreed post-mining land use, and without unacceptable liability to the State. By meeting the objective of DMIRS's Rehabilitation and Mine Closure Factor, the Proposal will also meet the EPA's objectives for social surroundings that are relevant to this impact. Additional regulation under Part IV of the EP Act is, therefore, unlikely to be required for this potential impact.
		Project Management plan Required for the construction and operation of the Proposal	N/A - this approval is predominantly related to safety and therefore not expected to regulate impacts to the environment.		
Minister for Mines and Petroleum Chief Dangerous Goods Officer (DMIRS)	*Dangerous Goods Safety Act 2004 (WA)*	**Dangerous Goods (DG) Licence** May be required for the bulk storage of fuel if above specified limits	Contamination of soils, groundwater and surface water (hydrocarbon spills) Fire (combustion of stored fuel)	**Terrestrial Environmental Quality** EPA's objective: *To maintain the quality of land and soils so that environmental values are protected.* **Inland Waters** EPA's objective: *To maintain the hydrological regimes and quality of groundwater and surface water so that environmental values are protected.* **Flora and Vegetation** EPA's objective: *To protect flora and vegetation so that biological*	Yes. The storage and management of hydrocarbons will already be regulated under Part V of the EP Act and the Mining Proposal/MCP; however, the DG Licence provides additional mitigation for the design and storage of larger volumes of dangerous goods (if large volumes of hydrocarbons (>100,000 litres) are required to be stored on site). A DG Licence sets standards for the way in which DGs are stored on site. These standards are aimed at ensuring DGs are stored safely and in such a way that will not result in impacts to the environment. Having a DG Licence ensures potential spills and combustion risks from the Proposal are mitigated. A DG licence (in combination with the Part V and *Mining Act 1978* approvals) will meet the objectives of the EPA for both factors by minimising the risk of contamination

DMA and department (if relevant)	Legislation or agreement regulating the activity	Approval required and relevant Proposal element	Whether and how can the statutory decision-making process mitigate impacts on the environment? (Yes/No and summary of reasons. Include a separate line item for each relevant impact, and discuss how the EPA's factor objective will be met)		
			Relevant Impact	**Relevant Key Environmental Factor and Objective**	**Can the DMA mitigate impacts and how will the EPA's factor be met?**
				diversity and ecological integrity are maintained. **Terrestrial Fauna** EPA's objective: *To protect terrestrial fauna so that biological diversity and ecological integrity are maintained.*	of soils and water, and protecting flora and vegetation, and terrestrial fauna by minimising the risk of fire. Regulation of the potential impacts on the environment from the storage of DG is, therefore, not expected to be required under Part IV of the EP Act.
Minister for Lands Minister for Planning Chief Executive Officer (City of Irwin)	*Local Government Act 1995* (WA) *Planning and Development Act 2006* (WA)	N/A - a development application is not required as this Proposal will be approved under the *Mining Act 1978*.			
Chief Executive Officer (DWER) Minister for Water	*Rights in Water and Irrigation Act 1914* (WA)	**26D licence** Required for the construction of a bore to abstract groundwater **5C licence** Required for the abstraction of groundwater	Abstraction of groundwater	**Inland Waters** EPA's objective: *To maintain the hydrological regimes and quality of groundwater and surface water so that environmental values are protected.*	Yes. A 26D Licence ensures that bores are drilled, constructed and maintained appropriately to ensure the aquifer and the groundwater resource is not compromised. A 5C Licence regulates the taking of water and assesses the impacts of the abstraction on the environment and other users. A 5C Licence is only granted if the impacts from the abstraction are shown to be sustainable with minimal environmental impacts or impacts to other users. Licence holders are obligated to comply with their resource allocation and any conditions included in the licence. Licence holders are also required to use

DMA and department (if relevant)	Legislation or agreement regulating the activity	Approval required and relevant Proposal element	Whether and how can the statutory decision-making process mitigate impacts on the environment? (Yes/No and summary of reasons. Include a separate line item for each relevant impact, and discuss how the EPA's factor objective will be met)		
			Relevant Impact	**Relevant Key Environmental Factor and Objective**	**Can the DMA mitigate impacts and how will the EPA's factor be met?**
					water efficiently and responsibly, minimising impacts on the water resource. These Licences will ensure the Proposal meets the EPA's objective for Inland Waters by maintaining the hydrological regime of groundwater. Regulation of the potential impacts on the environment from the drilling and abstraction of groundwater is, therefore, not expected to be required under Part IV of the EP Act.
		Bed and Banks Permit	Diversion of surface water	**Inland Waters** EPA's objective: *To maintain the hydrological regimes and quality of groundwater and surface water so that environmental values are protected.*	Partially. A Bed and Banks Permit ensures that surface water diversions are designed appropriately to ensure the surface water system is not compromised. Permit holders are obligated to comply with any conditions included in the Permit. The implementation of the Bed and Banks Permits under the *Rights in Water and Irrigation Act 1914* is considered suitable to mitigate impacts to surface water systems however it is not considered suitable to mitigate impacts associated with the broad range of potential impacts that may occur. This is expected to require assessment under Part IV of the EP Act to ensure that the EPA's objectives can be met.
Commissioner for Main Roads Western Australia	*Main Roads Act 1930* (WA)	**Application to 'Undertake Works within Road Reserve'**	N/A - this approval is safety and planning based and, therefore, is not expected to regulate impacts to the environment.		

DMA and department (if relevant)	Legislation or agreement regulating the activity	Approval required and relevant Proposal element	Whether and how can the statutory decision-making process mitigate impacts on the environment? (Yes/No and summary of reasons. Include a separate line item for each relevant impact, and discuss how the EPA's factor objective will be met)		
			Relevant Impact	**Relevant Key Environmental Factor and Objective**	**Can the DMA mitigate impacts and how will the EPA's factor be met?**
		Intersection works within the Brand Highway road corridor			
Minister for Aboriginal Affairs	*Aboriginal Heritage Act 1972* (AH Act; WA); or *Aboriginal Cultural Heritage Act 2021* (WA; ACH Act) Note: A 12 month transitional period during which the regulations, statutory guidelines and operational policies of the ACH Act will be developed. During this time the AH Act will remain in force to enable proponents to seek Section 18 consent if required.	**Application for a permit under Part 6 of the ACH Act.** Required for consent to impact any Aboriginal Heritage sites (if not able to be avoided)	Disturbance of Aboriginal Heritage Sites	**Social Surroundings** EPA's objective: *To protect social surroundings from significant harm.*	Yes. An application for a permit under Part 6 of the ACH Act will assess the significance of the proposed disturbance and determine what mitigation measures are required to obtain consent for any disturbance to an Aboriginal Heritage Site. This consultation and assessment process will meet the EPA's objective for Social Surrounds by protecting registered Aboriginal Heritage sites from significant harm.
			Disturbance or indirect impacts to areas or artefacts of Aboriginal cultural value	**Social Surroundings** EPA's objective: *To protect social surroundings from significant harm.*	No (if avoidance is not possible). If disturbance or indirect impacts within these areas cannot be avoided then assessment and potential regulation under Part IV of the EP Act may be required.
Minister for Ports; Transport Pilbara Ports Authority	*Port Authorities Act 1999* and the associated Port Authorities Regulations 2001	**Port lease and Development Application**	This approval is not directly part of this Proposal as it relates to Cape Preston East, however there may be components of the Proposal that form part of the application (i.e. the bitterns pipeline).		

DMA and department (if relevant)	Legislation or agreement regulating the activity	Approval required and relevant Proposal element	Whether and how can the statutory decision-making process mitigate impacts on the environment? (Yes/No and summary of reasons. Include a separate line item for each relevant impact, and discuss how the EPA's factor objective will be met)		
			Relevant Impact	**Relevant Key Environmental Factor and Objective**	**Can the DMA mitigate impacts and how will the EPA's factor be met?**
	Marine and Harbours Act 1981 – section 12	**Seabed Lease**	This approval is not directly part of this Proposal as it relates to Cape Preston East, however there may be components of the Proposal that form part of the lease application (i.e. the bitterns pipeline and diffuser, and the dredge channel).		
City of Karratha	*Health Act 1911* and Health (Treatment of Sewage and Disposal of Effluent and Liquid waste) Regulations 1974	**Approval to construct or operate an apparatus for the treatment of sewage** Required for the construction and operation of sewage storage and treatment infrastructure on site	Management of sewage from accommodation camp and workforce toilets.	**Terrestrial Environmental Quality** EPA's objective: *To maintain the quality of land and soils so that environmental values are protected.*	
	Building Act 2011	**Building Licence** Required for the construction of accommodation camp and other public facilities	N/A – this approval is a planning approval and, therefore, is not expected to regulate impacts to the environment.		
Minister for the Environment (Cth)	*Environment Protection and Biodiversity Conservation Act 1999* (Cth)	**s.133 Approval** - required for the assessment of the Proposal's impacts on MNES	Direct impacts to Threatened Fauna (Vehicle Strike)	**Terrestrial Fauna** EPA's objective: *To protect terrestrial fauna so that biological diversity and ecological integrity are maintained.*	No While there is likely to be significant overlap in regulation, the EPBC Act is a Commonwealth Act and as such cannot be relied upon to regulate impacts under WA legislation.
			Clearing of potential Threatened Flora or Fauna habitat	**Flora and Vegetation** EPA's objective: *To protect flora and vegetation so that biological diversity and ecological integrity are maintained*	

DMA and department (if relevant)	Legislation or agreement regulating the activity	Approval required and relevant Proposal element	Whether and how can the statutory decision-making process mitigate impacts on the environment? (Yes/No and summary of reasons. Include a separate line item for each relevant impact, and discuss how the EPA's factor objective will be met)		
			Relevant Impact	Relevant Key Environmental Factor and Objective	Can the DMA mitigate impacts and how will the EPA's factor be met?
				Terrestrial Fauna EPA's objective: *To protect terrestrial fauna so that biological diversity and ecological integrity are maintained.*	

4 OTHER ENVIRONMENTAL FACTORS OR MATTERS

The EPA has identified the following other environmental factors or matters relevant to the Proposal:

- Greenhouse Gas Emissions - impacts to this factor will be addressed in the ERD under 'Other Environmental Factors' and in accordance with Environmental Factor Guideline – Greenhouse Gas Emissions (2020);
- Subterranean Fauna – in accordance with Environmental Factor Guidance – Subterranean Fauna (EPA, 2016c) the ERD will consider this factor or provide justification for any conclusions for not including this factor in the assessment. Surveys for subterranean fauna may be required, based on the outcomes of a desktop study; and
- Coastal Processes - information will be provided in the ERD that clarifies whether construction and operation of marine/coastal infrastructure such as pipelines and outfall diffusers would cause alterations to coastal processes. Beaches and other coastal habitat types in the Cape Preston area, which are known to support nesting, internesting and foraging behaviours of marine turtles, and provide habitat for other conservation significant taxa including dugongs (*Dugong dugon*, specially protected fauna), cetaceans and migratory shore and seabirds, may be impacted by this Proposal through the alteration of coastal processes during construction and operation of marine/coastal infrastructure. Leichhardt will, therefore, investigate and assess any potential alterations to coastal processes resulting from the construction and operation of the proposed marine/coastal infrastructure. Specifically, this information will address the potential impact on significant marine fauna and their habitats. The assessment is to be conducted in accordance with Environmental Factor Guidance – Coastal Processes (EPA, 2016d) and will include an assessment of impact of the Proposal on coastal processes in the context of the latest climate change science and projections.

5 STAKEHOLDER CONSULTATION

The proponent must consult with stakeholders who are affected by, or are interested in the Proposal.

This includes the DMAs (see Section 3), other relevant state (and Commonwealth) government agencies and local government authorities, the local community and environmental non-government organisations.

The Commonwealth Government's central piece of environmental legislation, the EPBC Act, recognises that Indigenous peoples have an important role in the conservation and ecologically sustainable use of Australia's biodiversity and Indigenous heritage.

The 'Engage Early – Guidance for proponents on best practice Indigenous engagement for environmental assessments under the EPBC Act' (DotEE, 2016) aims to improve how proponents engage and consult Indigenous peoples during the environmental assessment process under the EPBC Act. It provides guidance to project proponents on when Indigenous communities should be consulted (in addition to the statutory public comment periods required under Part 8 of the EPBC Act) and sets out Department of Climate Change, Energy, the Environment and Water's expectations on how Indigenous engagement should occur.

Leichhardt will document the following in the ERD:

- Identified stakeholders;
- The stakeholder consultation undertaken and the outcomes, including DMAs' specific regulatory approvals and any adjustments to the proposal as a result of consultation; and
- Any future plans for consultation.

6 GLOSSARY

Term	Definition
ACH Act	*Aboriginal Cultural Heritage Act 2021*
AH Act	*Aboriginal Heritage Act 1972*
ASS	Acid Sulphate Soil
BCH	Benthic communities and habitats
CALM Act	*Conservation and Land Management Act 1984*
Cth	Commonwealth
DG	Dangerous Goods
DEWHA	Department of the Environment, Water Heritage and the Arts
DMA	Decision Making Authorities
DMIRS	Department of Mines, Industry Regulation and Safety
DPaW	Department of Parks and Wildlife (now Department of Biodiversity, Conservation and Attractions)
DotE	Department of the Environment (now Department of Climate Change, Energy, the Environment and Water) (Cth)
DotEE	Department of the Environment and Energy (now Department of Climate Change, Energy, the Environment and Water) (Cth)
DSDMMP	Dredging and Spoil Disposal Monitoring and Management Plan
DWER	Department of Water and Environmental Regulation
EIA	Environmental Impact Assessment
EPA	Environmental Protection Authority (WA)
EP Act	*Environmental Protection Act 1986*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cth)
EQC	Environmental Quality Criteria
EQP	Environmental Quality Plan
ERD	Environmental Review Document
ESD	Environmental Scoping Document
GDE	Groundwater Dependant Ecosystem
GL pa	Gigalitres per annum
ha	Hectares
IBSA	Index of Biodiversity Surveys for Assessments
IMP	Introduced Marine Pests
km	Kilometres
LAU	Local Assessment Unit
Leichhardt	Leichhardt Salt Pty Ltd
MEQMMP	Marine Environmental Quality Monitoring and Management Plan
MNES	Matters of National Environmental Significance
MS	Ministerial Statement
Mtpa	Million tonnes per annum

Term	Definition
NaCl	Sodium Chloride
PEOF	Pilbara Environmental Offsets Fund
SRE	Short Range Endemic
The proponent	Leichhardt Salt Pty Ltd
The Proposal	Eramurra Solar Salt Project
WA	Western Australia
WET	Whole Effluent Toxicity

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APPENDICES

Appendix A: EPBC Act Matters potentially impacted by the Action

Appendix A: EPBC Act matters potentially impacted by the action

Based on the information available in the referral, the proposed action may have, or is likely to have, a significant impact on the following Matters of National Environmental Significance. The following tables outline the information that must be considered in surveying and assessing impacts to these matters.

The list of species in the tables below should be assessed as a minimum but is not considered to be exhaustive. Equivalent survey and assessment considerations should be applied to any additional *Environment Protection and Biodiversity Conservation Act 1999* listed threatened species or ecological communities or migratory species discovered or suspected to occur at the project site.

Table 1: Listed threatened species and communities (sections 18 & 18A)

Notes:
[1] The availability, currency and status of Recovery Plans, Threat Abatement Plans and Approved Conservation Advices were current at time of writing but should be reviewed up to the point of submitting assessment documentation as changes do occur.

[2] Listed references should not be relied upon as complete or exhaustive.

Listed threatened species and communities (sections 18 & 18A)	Recovery Plan[1]	Threat Abatement Plan[1]	Approved Conservation Advice (ACA)[1]	Listing advice[3]	Bioregional Plan [2]	Survey Guidelines[2]	Other references [2]
Hawksbill Turtle (*Eretmochelys imbricata*) – Vulnerable, Migratory	Department of the Environment and Energy (DotEE), 2017)	Cats, Pigs, Marine debris	None	None	Department of Sustainability, Environment, Water, Population and Communities (DSEWPAC), 2012 – North West (NW) Marine	-	Wilson *et al.,* 2018
Green Turtle (*Chelonia mydas*) – Vulnerable, Migratory	DotEE, 2017	Fox, Pigs, Marine debris	None	None	DSEWPAC, 2012 - NW Marine	-	Wilson *et al.,* 2018
Flatback Turtle (*Natator depressus*) – Vulnerable, Migratory	DotEE, 2017	Fox, Pigs, Marine debris	None	None	DSEWPAC, 2012 - NW Marine	-	Wilson *et al.,* 2018
Leatherback Turtle (*Dermochelys coriacea*) – Endangered, Migratory	DotEE, 2017	Fox, Pigs, Marine debris	Department of the Environment, Water Heritage and the Arts	Threatened Species Scientific	DSEWPAC, 2012 - NW Marine	-	Wilson *et al.,* 2018

Listed threatened species and communities (sections 18 & 18A)	Recovery Plan[1]	Threat Abatement Plan[1]	Approved Conservation Advice (ACA)[1]	Listing advice[3]	Bioregional Plan [2]	Survey Guidelines[2]	Other references [2]
			(DEWHA, now Department of Climate Change, Energy, the Environment and Water) (Cth), 2008 - LT	Committee (TSSC), 2009 - LT			
Loggerhead Turtle (*Caretta caretta*) – Endangered, Migratory	DotEE, 2017	Fox, Pigs, Marine debris	None	None	DSEWPAC, 2012 - NW Marine	-	Wilson *et al.,* 2018
Olive Python (*Liasis olivaceus barroni*) - Vulnerable	None	Cats	TSSC 2008 - OP	Within ACA	N/A	DSEWPAC, 2011 - Reptiles	-
Dwarf Sawfish (*Pristis clavata*) – Vulnerable, Migratory	Department of Environment (DoE), 2015 - sawfish and river sharks	None	DEWHA, 2008 - DS	TSSC, 2009 - DS	DSEWPAC, 2012 - NW Marine	Kyne, 2014, DSEWPAC, 2011 - Threatened fish	-
Green Sawfish (*Pristis zijsron*) – Vulnerable, Migratory	DoE, 2015 - sawfish and river sharks	None	DEWHA, 2008 - GS	TSSC, 2008 - GS	DSEWPAC, 2012 - NW Marine	Kyne, 2014, DSEWPAC, 2011 - Threatened fish	-
Whale Shark (*Rhincodon typus*) – Vulnerable, Migratory	None	None	TSSC, 2015 - WS	TSSC, 2001 - WS	DSEWPAC, 2012 - NW Marine	DSEWPAC, 2011 - Threatened fish	Whale Shark recovery plan (expired), 2005-2010
Southern Right Whale (*Eubalaena australis*) – Endangered, Migratory	None	Marine debris	None	None	DESWPAC, 2012 – NW Marine	-	-
Short-nosed Sea snake (*Aipysurus apraefrontalis*) – Critically Endangered, Migratory	None	None	DSEWPAC, 2011 - SNS	TSSC, 2011 - SNS	DSEWPAC, 2012 - NW Marine	-	-
Grey Nurse Shark (*Carcharias taurus*) – Vulnerable, Migratory	Department of the Environment (DotE), 2014 – grey nurse shark	Marine debris	None	None	DSEWPAC, 2012 - NW Marine	-	-
Great White Shark (*Carcharodon carcharias*) – Vulnerable, Migratory	DSEWPAC, 2013 – White shark	None	None	None	DSEWPAC, 2012 - NW Marine	-	-

Listed threatened species and communities (sections 18 & 18A)	Recovery Plan[1]	Threat Abatement Plan[1]	Approved Conservation Advice (ACA)[1]	Listing advice[3]	Bioregional Plan [2]	Survey Guidelines[2]	Other references [2]
Northern Siberian Bar-tailed Godwit (*Limosa lapponica menzbieri*) – Critically Endangered, Migratory	See ACA	None	TSSC, 2016 - NSBG	None	DSEWPAC, 2012 - NW Marine	DotEE, 2017 - 3.21 - Shorebirds	DotE, 2015
Western Alaskan Bar-tailed Godwit (*Limosa lapponica baueri*) – Vulnerable, Migratory	None	None	TSSC, 2016 - WABG	Within ACA	None	-	-
Bar-tailed Godwit (*Limosa lapponica*) – Vulnerable, Migratory	None	None	None	None	DSEWPAC, 2012 - NW Marine	-	-
Eastern Curlew (*Numenius madagascariensis*) – Critically Endangered, Migratory	None	None	DoE, 2015 - EC	Within ACA	None	DotEE, 2017 - 3.21 - Shorebirds	Bamford, 2008 Hansen, 2016 DotE, 2015
Curlew Sandpiper (*Calidris ferruginea*) – Critically Endangered, Migratory	None	None	DoE, 2015 - CS	Within ACA	DSEWPAC, 2012 - NW Marine	DotEE, 2017 - 3.21 - Shorebirds	Bamford, 2008, Hansen, 2016
Red Knot (*Calidris canutus*) – Endangered, Migratory	See ACA	None	TSSC, 2016 - RK	Within ACA	DSEWPAC, 2012 - NW Marine	DotEE, 2017 - 3.21 - Shorebirds	Bamford, 2008, Hansen, 2016, DotE, 2015
Great Knot (*Calidris tenuirostris*) – Critically Endangered, Migratory	See ACA	None	TSSC, 2016 - GK	Within ACA	DSEWPAC, 2012 - NW Marine	DotEE, 2017 - 3.21 - Shorebirds	Bamford, 2008, Hansen, 2016, DotE, 2015
Lesser Sand Plover (*Charadrius mongolus*) – Endangered, Migratory	See ACA	Fox	TSSC, 2016 - LSP	Within ACA	None	DotEE, 2017 - 3.21 - Shorebirds	Bamford, 2008, Hansen, 2016, DotE, 2015
Greater Sand Plover (*Charadrius leschenaultii*) – Vulnerable, Migratory	See ACA	None	TSSC, 2016 - GSP	Within ACA	DSEWPAC, 2012 - NW Marine	DotEE, 2017 - 3.21 - Shorebirds	Bamford, 2008, Hansen, 2016, DotE, 2015
Fairy Tern (*Sternula nereis*) – Vulnerable	None	Fox	None	None	DSEWPAC, 2012 - NW Marine	-	-
Night Parrot (*Pezoporus occidentalis*) – Endangered	None	Cats, Fox, Rabbits	TSSC, 2016 - NP	Within ACA	None	DEWHA, 2010 - Threatened birds	20 birds by 2020
Southern Giant Petrel (*Macronectes*	None	Incidental catch,	None	TSSC, 2001 –	DSEWPAC, 2012 -	-	-

Listed threatened species and communities (sections 18 & 18A)	Recovery Plan[1]	Threat Abatement Plan[1]	Approved Conservation Advice (ACA)[1]	Listing advice[3]	Bioregional Plan [2]	Survey Guidelines[2]	Other references [2]
giganteus) – Endangered, Migratory		Marine debris, Rodents		SGP	NW Marine		
Blue Whale (*Balaenoptera musculus*) – Endangered, Migratory	DotE, 2015 - BW	Marine debris	None	None	DSEWPAC, 2012 - NW Marine	DEWHA, 2008 - 2.1 - Seismic	-
Northern Quoll (*Dasyurus hallucatus*) - Endangered	Hill, 2010 - NQ	Cane toads, Five grasses, Cats	None	TSSC, 2005 - NQ	None	DSEWPAC, 2011 - Threatened mammals	Northern quoll referral guideline
Pilbara Leaf-nosed Bat [*Rhinoicteris aurantia* (Pilbara)] - Vulnerable	None	None	TSSC, 2016 – PLB	TSSC, 2001 – PLB	None	-	-
Ghost Bat (*Macroderma gigas*) - Vulnerable	None	Fox	TSSC, 2016 – GB	Within ACA	None	-	-
Airlie Island Ctenotus (*Ctenotus angusticeps*) – previously listed as Vulnerable	None	Rodents	None	TSSC, 2019 - AIC	None	-	-

Table 2: Listed migratory species (sections 20 & 20A)

Notes:
Listed migratory species are in addition to the threatened species identified in Table 1 (many of which are also migratory).
[1] The availability, currency and status of Recovery Plans, Threat Abatement Plans and Approved Conservation Advices was current at time of writing but should be reviewed up to the point of submitting assessment documentation as changes do occur.

[2] Listed references should not be relied upon as complete or exhaustive.

Listed migratory species (sections 20 & 20A)[2]	Recovery Plan[1]	Threat Abatement Plan[1]	Approved Conservation Advice (ACA) [1]	Listing advice[3]	Bioregional Plan [2]	Survey Guidelines [2]	Other references [2]
Streaked Shearwater (*Calonectris leucomelas*)	None	Cats	None	None	DSEWPAC, 2012 - NW Marine	-	-
Wedge-tailed Shearwater (*Puffins pacificus*)	None	Incidental catch, Marine debris,	None	None	DSEWPAC, 2012 - NW Marine	-	Commonwealth of Australia (COA), 2015 – Wildlife

Listed migratory species (sections 20 & 20A)[2]	Recovery Plan[1]	Threat Abatement Plan[1]	Approved Conservation Advice (ACA) [1]	Listing advice[3]	Bioregional Plan [2]	Survey Guidelines [2]	Other references [2]
		Cats, Fox					Conservation Plan for Migratory Shorebirds
Common Greenshank *(Tringa nebularia*)	None	None	None	None	DSEWPAC, 2012 - NW Marine	DotEE, 2017 - 3.21 - Shorebirds	Bamford, 2008, Hansen, 2016, DotE, 2015
Oriental Plover (*Charadrius veredus*)	None	None	None	None	None	DotEE, 2017 - 3.21 - Shorebirds	Bamford, 2008, Hansen, 2016, DotE, 2015
Grey Plover (*Pluvialis squatarola*)	None	None	None	None	DSEWPAC, 2012b - NW Marine	-	COA, 2015 – Wildlife Conservation Plan for Migratory Shorebirds
Common Sandpiper (*Actitis hypoleucos*)	None	None	None	None	None	DotEE, 2017 - 3.21 - Shorebirds	Bamford, 2008, Hansen, 2016, DotE, 2015
Pectoral Sandpiper (*Calidris melanotos*)	None	None	None	None	None	DotEE, 2017 - 3.21 - Shorebirds	Hansen ,2016, DotE, 2015
Sharp-tailed Sandpiper (*Calidris acuminate*)	None	None	None	None	COA, 2015 – Wildlife Conservation Plan for Migratory Shorebirds	-	Bamford, 2008, Hansen, 2016, DoE, 2015
Lesser Frigatebird (*Fregata ariel*)	None	None	None	None	DSEWPAC, 2012 - NW Marine	-	-
Oriental Pratincole (*Glareola maldivarum*)	None	None	None	None	None	DotEE, 2017 - 3.21 - Shorebirds	Bamford, 2008, Hansen, 2016, DotE, 2015
Common Noddy (*Anous stolidus*)	None	Cats	None	None	None	-	-
Ruddy Turnstone (*Arenaria interpres*)	None	None	None	None	DSEWPAC,	DotEE, 2017 -	Bamford, 2008,

Listed migratory species (sections 20 & 20A)[2]	Recovery Plan[1]	Threat Abatement Plan[1]	Approved Conservation Advice (ACA) [1]	Listing advice[3]	Bioregional Plan [2]	Survey Guidelines [2]	Other references [2]
					2012b - NW Marine	3.21 - Shorebirds	Hansen, 2016, DotE, 2015
Sanderling (*Calidris alba*)	None	None	None	None	DSEWPAC, 2012b - NW Marine	DotEE, 2017 - 3.21 - Shorebirds	Bamford, 2008, Hansen, 2016, DotE, 2015
Red-necked Stint (*Calidris ruficollis*)	None	None	None	None	DSEWPAC, 2012b - NW Marine	DotEE, 2017 - 3.21 - Shorebirds	Bamford, 2008, Hansen, 2016, DotE, 2015
Little Stint (*Calidris minuta*)	None	None	None	None	None	-	-
Long-toed Stint (*Calidris subminuta*)	None	None	None	None	COA, 2015 – Wildlife Conservation Plan for Migratory Shorebirds	-	Bamford, 2008, Hansen, 2016, DotE, 2015
White-winged Black Tern (*Chlidonias leucopterus*)	None	None	None	None	None	-	-
Gull-billed Tern (*Gelochelidon nilotica*)	None	Fox	None	None	None	-	-
Whimbrel (*Numenius phaeopus*)	None	None	None	None	DSEWPAC, 2012 - NW Marine	DotEE, 2017 - 3.21 - Shorebirds	Bamford, 2008, Hansen, 2016, DotE, 2015
Pacific Golden Plover (*Pluvialis fulva*)	None	None	None	None	DSEWPAC, 2012 - NW Marine	DotEE, 2017 - 3.21 - Shorebirds	Bamford, 2008, Hansen, 2016, DotE, 2015
White-shafted Little Tern (*Sternula albifrons*)	None	Cats, Fox	None	TSSC, 2002 - LT	DSEWPAC, 2012 - NW Marine	-	-
Caspian Tern (*Hydroprogne caspia*)	None	None	None	None	North Marine, SW Marine	-	-
Crested Tern (*Sterna bergii*)	None	None	None	None	DSEWPAC, 2012 - NW Marine	-	-
Roseate Tern (*Sterna dougallii*)	None	None	None	None	DSEWPAC, 2012	-	-

Listed migratory species (sections 20 & 20A)[2]	Recovery Plan[1]	Threat Abatement Plan[1]	Approved Conservation Advice (ACA) [1]	Listing advice[3]	Bioregional Plan [2]	Survey Guidelines [2]	Other references [2]
					- NW Marine		
Common Tern (*Sterna hirundo*)	None	None	None	None	None	-	-
Grey-tailed Tattler (*Tringa brevipes*)	None	None	None	None	DSEWPAC, 2012 - NW Marine	DotEE, 2017 - 3.21 - Shorebirds	Bamford, 2008, Hansen 2016, DotE, 2015
Terek Sandpiper (*Xenus cinereus*)	None	None	None	None	DSEWPAC, 2012 - NW Marine	DotEE, 2017 - 3.21 - Shorebirds	Bamford, 2008, Hansen, 2016, DotE, 2015
Wood Sandpiper (*Tringa glareola*)	None	None	None	None	COA, 2015 – Wildlife Conservation Plan for Migratory Shorebirds	-	Bamford, 2008, Hansen, 2016, DotE, 2015
Marsh Sandpiper (*Tringa stagnatilis*)	None	None	None	None	COA, 2015 – Wildlife Conservation Plan for Migratory Shorebirds	-	Bamford, 2008, Hansen, 2016, DotE, 2015
Grey Wagtail (*Motacilla cinerea*)	None	None	None	None	None	-	-
Yellow Wagtail (*Motacilla flava*)	None	None	None	None	None	-	-
Osprey (*Pandion haliaetus*)	None	None	None	None	None	-	-
Fork-tailed Swift (*Apus pacificus*)	None	Cats	None	None	None	-	-
Barn Swallow (*Hirundo rustica*)	None	None	None	None	None	-	-
Pin-tailed Snipe (*Gallinago stenura*)	None	None	None	None	COA, 2015 – Wildlife Conservation Plan for Migratory Shorebirds	-	Bamford, 2008, Hansen, 2016

Listed migratory species (sections 20 & 20A)[2]	Recovery Plan[1]	Threat Abatement Plan[1]	Approved Conservation Advice (ACA) [1]	Listing advice[3]	Bioregional Plan [2]	Survey Guidelines [2]	Other references [2]
Wilson's Storm Petrel (*Oceanites oceanicus*)	None	Marine debris, Rodents	None	None	DESWPAC, 2012 – E Marine	-	-
Little Curlew (*Numenius minutus*)	None	Fox	None	None	COA, 2015 – Wildlife Conservation Plan for Migratory Shorebirds	-	Bamford, 2008, Hansen, 2016
Red-necked Phalarope (*Phalaropus lobatus*)	None	None	None	None	COA, 2015 – Wildlife Conservation Plan for Migratory Shorebirds	-	Hansen, 2016
Common Redshank (*Tringa tetanus*)	None	None	None	None	COA, 2015 – Wildlife Conservation Plan for Migratory Shorebirds	-	Bamford, 2008, Hansen, 2016
Brown Booby (*Sula leucogaster*)	None	Marine debris	None	None	DSEWPAC, 2012 - NW Marine	-	-
Glossy Ibis (*Plegadis falcinellus*)	None	None	None	None	None	-	-
Osprey (*Pandion haliaetus*)	None	None	None	None	None	-	-
Narrow Sawfish, Knifetooth Sawfish (*Anoxypristis cuspidata)*	None	None	None	None	None	Kyne & Pillans, 2014	-
Humpback Whale (*Megaptera novaeangliae*) (also previously listed as Vulnerable)	None	Marine debris	TSSC, 2015 - HW	Within ACA	DSEWPAC, 2012 - NW Marine	DEWHA, 2008 - 2.1 - Seismic	-
Australian Humpback Dolphin (*Sousa sahulensis*)	None	None	None	None	DSEWPAC, 2012 - NW Marine	-	-
Australian Snubfin Dolphin (*Orcaella heinsohni*)	None	None	None	None	DSEWPAC, 2012 - NW Marine	-	-

Listed migratory species (sections 20 & 20A)[2]	Recovery Plan[1]	Threat Abatement Plan[1]	Approved Conservation Advice (ACA) [1]	Listing advice[3]	Bioregional Plan [2]	Survey Guidelines [2]	Other references [2]
Indo-pacific/spotted Bottlenose Dolphin (*Tursiops aduncus*)	None	Marine debris	None	None	DSEWPAC, 2012 - NW Marine	-	-
Dugong (*Dugong dugon*)	None	Marine debris	None	None	DSEWPAC, 2012 - NW Marine	-	-

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