

# Cultural Heritage Management Plan

## Project Ceres

Burrup Peninsula, Western Australia  
PCF-PD-EN-CHMP

Status: CONFIDENTIAL



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Proponent:

Perdaman Chemicals and Fertilisers Pty Ltd

ABN: 31 121 263 741

Date: 16 October 2023

Ministerial Statement: 1180

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2184 (WA)

2018/8383 (Commonwealth)

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## Document Information

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**Following discussion with MAC, sensitive material is therefore redacted in this public release of the Plan.**

## Document History

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The validity and comprehensiveness of supplied information has not been independently verified and, for the purposes of this report, it is assumed that the information provided to Perdaman is both complete and accurate. Whilst, to the best of our knowledge, the information contained in this report is accurate at the date of issue, changes may occur to the site conditions, the site context or the applicable planning framework. This report should not be used after any such changes without consulting the provider of the report or a suitably qualified person

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## Acknowledgement of Country

*“As the Chairman of Perdaman Chemicals and Fertilisers, I would like to acknowledge the Traditional Custodians of Murujuga, namely the Ngarluma, Yindjibarndi, Yaburara, Mardudhunera and Wong-Goo-Tt-Oo people and pay our respects to their Elders past and present”*

Vikas Rambal



## Executive Summary

<b>Project Title</b>	<b>Perdaman Urea Project</b>
<b>Proponent Name</b>	Perdaman Chemicals and Fertilisers Pty Ltd.
<b>Assessment Number</b>	2184 (WA) & 2018/8383 (Commonwealth)
<b>Ministerial Statement Number:</b>	Ministerial Statement Number 1180
<b>S.18 Consent</b>	MIN-2021-0354 ( <b>Attachment E</b> ).
<b>Proposed Construction commencement &amp; Operations commencement</b>	<p>Bulk earthworks is scheduled to commence September 2023.</p> <p>Construction is scheduled to commence June 2024.</p> <p>Operation of the facility is proposed to commence 2027.</p>
<b>Purpose of the CHMP</b>	<p>This Cultural Heritage Management Plan (CHMP) has been prepared to comply with Condition 9 set out in the Ministerial Statement (MS 1180). Condition 9-2 of MS 1180 includes the requirements to be included in the CHMP.</p> <p>Approval 2018/8383 under the Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act) provides additional conditions relating to the minimisation of impacts on the National Heritage listed – Dampier Archipelago (Burrup Peninsula). This includes the protection of Aboriginal Heritage Sites other than those permitted to be impacted, and the prevention of direct and indirect impacts to the Fish Thalu Aboriginal Heritage Site from changes in tidal water flow movements within the King Bay/Hearson Cove supratidal to intertidal flat area due to the development of the causeway.</p> <p>Condition 5 of EPBC Act Approval 2018/8383 requires Perdaman comply with Condition 9 of MS 1180; report to the Department of Climate Change, Energy, the Environment and Water where reporting is required under MS 1180 Condition 9, and report to the Federal Minister for Environment where non-achievement of a management target of management action, as set out in this CHMP is identified.</p> <p>This CHMP provides a framework which describes how Project Ceres will address, manage, monitor and mitigate impacts to Aboriginal Heritage Sites as well as potential impacts on any current access and amenity for cultural and heritage related purposes.</p> <p>In particular, the CHMP will help:</p> <ul style="list-style-type: none"> <li>▪ To the extent practicable, avoid or minimise any impact on Aboriginal Heritage archaeological and ethnographic sites and where disturbance is practicably unavoidable, minimise the impacts to archaeological and ethnographic sites;</li> <li>▪ Take into account the recommendations of heritage survey reports that detail the proposed disturbance areas;</li> <li>▪ Implementation of processes and procedures endorsed by the MAC Circle of Elders where avoidance cannot practicably be achieved, to seek necessary consents pursuant to the AHA;</li> <li>▪ Ensure that there is ongoing, meaningful dialogue with MAC, the Circle of Elders and the Traditional Custodians they represent to mitigate and manage potential risks to heritage aspects; and</li> <li>▪ Where practicable, avoid or minimise potential for impacts on Aboriginal Heritage and cultural values due to the proximity of Project Ceres to NHP areas.</li> </ul> <p>This plan supplements the Construction Environmental Management Plan 0000-ZA-E-09071 (CEMP), the PCF-PD-EN-PEMP Project Environmental Management Plan (PEMP), PCF-PD-PN-AQMP Air Quality Management Plan (AQMP) (to be prepared) and PCF-PD-PN-FMP Flora Management Plan (FMP), due to the indirect</p>

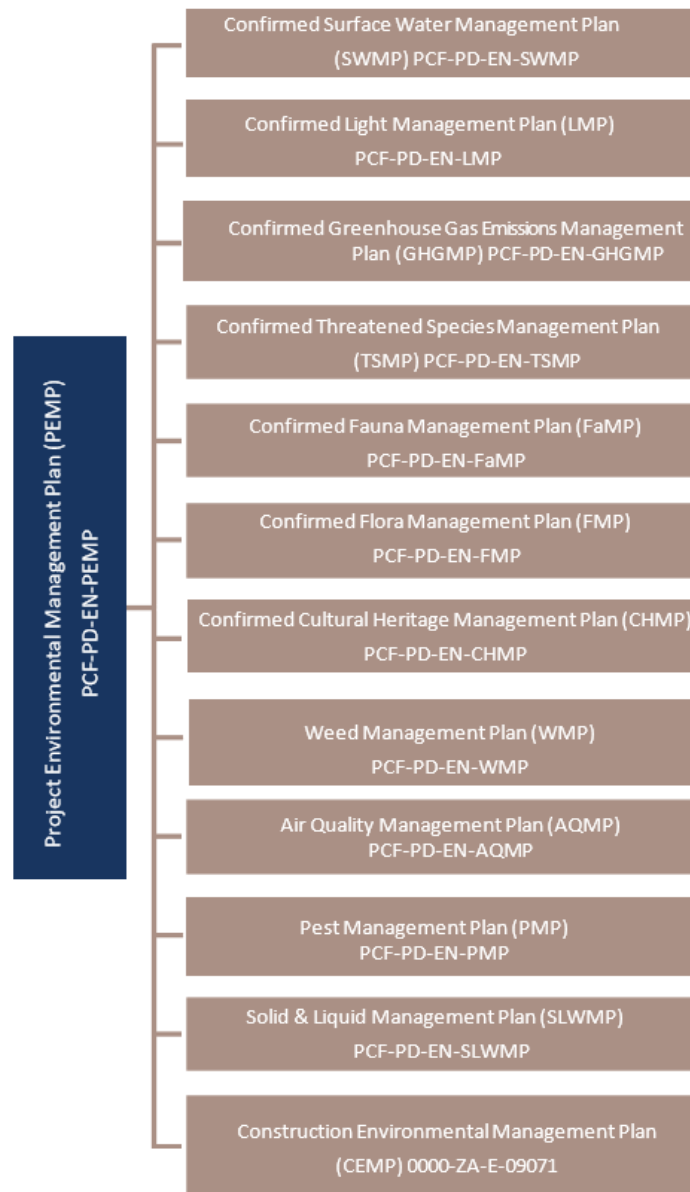
Project Title	Perdaman Urea Project
	impacts to cultural heritage that construction works, air emissions during operations, and clearing activities actors pose.
<p><b>Key Environmental Factors and Objectives</b></p>	<p>The environmental outcome for cultural heritage is associated with the EPA Social Surroundings Factor Objective: <i>To protect social surroundings from significant harm.</i></p> <p>Additionally, the environmental outcome for cultural heritage is associated with the EPA Air Quality Factor Objective: <i>To maintain air quality and minimise emissions so that environmental values are protected.</i></p> <p>Potential impacts to surrounding rock art of the Murujuga National Park by emissions caused by Project Ceres will be managed as per the Ministerial Statement Conditions (Condition 2) and the implementation of this plan in conjunction with the Confirmed Air Quality Management Plan.</p> <p>The Environmental Objectives for cultural heritage (as provided in the Ministerial Statement (Condition 9-1)) are as follows:</p> <ul style="list-style-type: none"> <li>▪ avoid, where possible, and otherwise minimise direct and indirect impacts to social, cultural, heritage, and archaeological values within and surrounding the development envelope;</li> <li>▪ allow ongoing Traditional Owner and Custodian access to enable traditional activities and connection to culturally significant areas within and surrounding the development envelope as shown in Figure Two;</li> <li>▪ allow Traditional Owner and Custodian access to the development envelope following decommissioning of the proposal as shown in Figure Two; and</li> <li>▪ avoid, where possible, and otherwise minimise direct and indirect impacts to visual and amenity impacts to social and cultural places and activities.</li> </ul> <p>The Environmental Outcome for air quality relevant to cultural heritage as provided in the Ministerial Statement Condition 2-1 (and subject to Condition 2-2) is as follows:</p> <ul style="list-style-type: none"> <li>▪ ensure that no air emissions from the proposal have an adverse impact accelerating the weathering of rock art within Murujuga beyond natural rates.</li> </ul> <p>An objective of the EPBC Act is to help to protect Matters of National Environmental Significant, including aboriginal heritage.</p>
<p><b>Condition Clauses</b></p>	<p>Condition requirements of Ministerial Statement MS 1180, the EPBC Act Approval 2018/8383, and S.18 <i>Aboriginal Heritage Act 1972</i> Consent for the management of cultural heritage have been detailed in Section 2, Appendix 1 and <b>Attachment E</b> .</p>
<p><b>Key Provisions in the Plan</b></p>	<p>The CHMP's key provisions are included in <i>Section 7 Cultural Heritage Management Provisions</i>. This Section details the management-based actions, that will be applied for the life of Project Ceres against each of the potential impacts.</p>

## Foreword

This Cultural Heritage Management Plan (CHMP) is a sub-plan of the overarching Project Environmental Management Plan (PEMP) for the Perdaman Urea Project. An overview of the structure of the PEMP and associated management plans is illustrated in Figure 0-1.

This Plan shall be reviewed and updated as necessary throughout the detailed design, construction, operation and decommissioning phases of Project Ceres. The review process is detailed in *Section 15 Review and Continual Improvement of the PEMP*.

Figure 0-1 Perdaman Environmental Management Plans Overview



# 1 Context, Scope & Rationale

## 1.1 Project Description

Perdaman Chemicals and Fertilisers Pty Ltd (Perdaman) plans to establish a state-of-the-art urea production plant within the Burrup Strategic Industrial Area (BSIA). The site is situated approximately 8 km from Dampier and 20 km north-west of Karratha on the north-west coast of Western Australia (Project Ceres). Refer to *Figure 1* and *Figure 4* of **Attachment C** and Figure 1-1 below.

The Burrup SIA is located in close proximity to the Murujuga National Park which covers an area of 4,913ha on the Burrup Peninsula and is, in part, coincident with the broader Dampier Archipelago (including Burrup Peninsula) National Heritage Place. The area is considered to host the highest concentration of ancient rock art in the world. As such, Project Ceres will apply effective management strategies that minimise or abate, actual or potential impacts on the environment, heritage and cultural values of the region.

The BSIA is subject to the Burrup and Maitland Industrial Estate Agreement (BMIEA) which establishes agreed processes and protocols in relation to how industrial development should meet statutory requirements in relation to heritage aspects of any proposed development in the BSIA. Murujuga Aboriginal Corporation (MAC) is the approved body corporate for the BMIEA representing the Traditional Custodians. MAC oversees the implementation and contractual obligations of the agreement.

MAC's website<sup>1</sup> records that as compensation for surrendering their native title rights and interests and discontinuing their Native Title Determination Applications in the Federal Court, over the land and waters of the Burrup, the three Contracting Parties (comprising the Ngarluma-Yindjibarndi, Wong-Goo-Ti-Oo, and Yaburara Mardudhunera) received land entitlements and financial benefits.

Project Ceres will transport urea product, via conveyor, for shipment from the nearby Dampier Port. The proposed location is within the Development Envelope (DE) as defined in *Figure 2* of Ministerial Statement 1180. Approximately 300m of the conveyor route passes through a portion of Dampier Archipelago and Burrup Peninsula National Heritage Listed Place (NHP) within the BSIA.

Development which may require clearing for the urea plant construction and laydown within the DE, will occur in the following areas:

- Sites C and F of the BSIA;
- a 30 m wide easement between Sites C and F to accommodate an elevated service corridor for road and infrastructure requirements;
- the previously disturbed/cleared east-west common-user infrastructure corridor connecting to the Port;
- an interconnection between Site C and the common user infrastructure corridor within Crown Reserve for Infrastructure Corridor Purposes R49121 in the BSIA that includes approximately 300m traversing the coincident part of the NHP area;
- within previously cleared/disturbed Pilbara Ports Authority land; and
- along the northern boundary of Site F where the existing public access road to Hearson Cove would be realigned into the statutory defined road reserve.

Perdaman has concluded an Agreement with MAC in relation to the Perdaman Urea Project (PUP) which covers a range of aspects of the development, including agreed management of heritage aspects.

Perdaman's goal is to construct and operate the urea production plant in a manner that will minimise:

- the industrial footprint;
- potential impacts to heritage sites within the industrial footprint;
- potential impacts to current access and amenity rights for heritage inspection purposes in the industrial footprint within the BSIA being consistent with the provisions of:
  - the BMIEA;
  - the *Aboriginal Heritage Act, 1972* (AHA); and
  - *Environment Protection Biodiversity Conservation Act, 1999* (EPBC);

<sup>1</sup> See: <https://www.murujuga.org.au/our-land/bmiea/>

- potential impact to National Heritage Values where the conveyor passes through the coincident NHP area for approximately 300m as noted above; and
- potential impacts to other NHP areas proximal to, but not coinciding with the industrial footprint, including (but not limited to) Murujuga National Park.

Figure 1-1 Regional Location of Project Ceres (from Ministerial Statement No. 1180 (Figure 1))



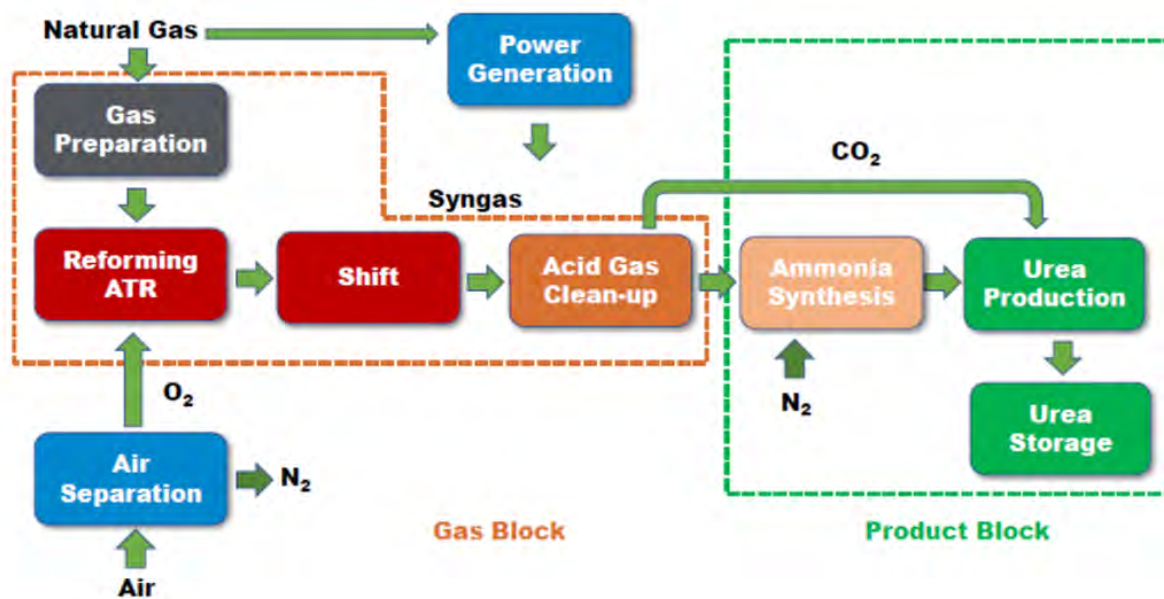
Project Ceres involves piping natural gas from the nearby Woodside operated LNG facility to Project Ceres site under a long term commercial off-take agreement. Natural gas is converted to urea and the final granulated product is transported by conveyor to the Dampier Port by closed conveyor along the East West Service route, where new facilities will include an enclosed stockpile shed and ship loading facilities.

Proven Urea production technology underpins each of the key stages of this project. The technologies being applied to the plant are equivalent to the industry best for the specific applications and successfully operate elsewhere in the world. The processing plant can be broadly considered in four sections, or Blocks, namely:

- Gas Block
- Product Block
- Utility Block
- Infrastructure and Logistics

Each of the Process Blocks is made up of a number of process units or physical sections of the plant. The major process sections are described in Figure 1-2.

Figure 1-2 Project Process Block Diagram



The Project Ceres area, including Sites C and F, the causeway, conveyor and Port storage and loading facilities, extends east-west approximately 3.4km covering approximately 105 hectares in area. As illustrated in Figure 1-2 Project Ceres area can be separated into five key areas, as follows:

### Site C

Site C is relatively undeveloped with the only visible disturbance being a few access tracks. The site is situated adjacent to the Yara Pilbara Fertilisers ammonia plant to its east, to the north are steep rocky outcrops (P1 Priority Environmental Community (PEC)) and to the south the saline coastal flat area. Drainage from the site flows in a southerly direction towards the saline coastal flat between Hearson Cove and King Bay.

Once developed Site C will include the main process plant and a 75,000-tonne urea storage shed.

### Site F

Site F is situated to the south of Site C, on the opposite side of the saline coastal flat. It includes Hearson Cove Road and a significant proportion of previously disturbed area (now rehabilitated). Drainage from this area flows primarily north into the saline coastal flat.

This area will be used as laydown for equipment and modules, and for shutdown / maintenance activities. The east portion of Site F will be developed to include Project Ceres's administration, maintenance, storage and warehousing facilities.

### Causeway

The causeway, which links Sites C and F, extends across the saline coastal flat. The causeway will be built up above the flat and will include several hydrological and fauna friendly culverts to ensure the structure does not impede natural drainage, tidal action or the movement of wildlife.

### Conveyor

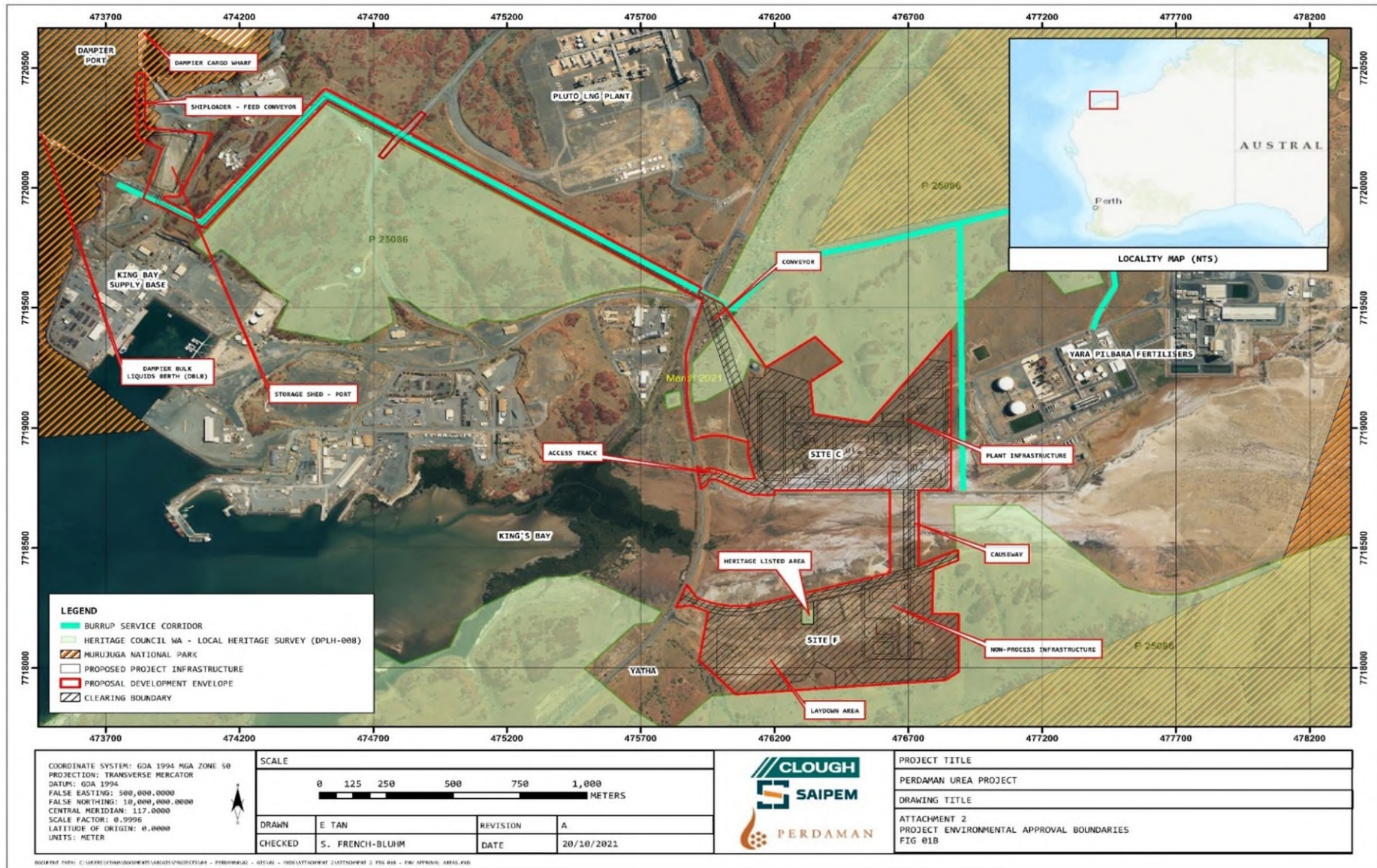
The 3.5km conveyor will transport urea from the storage shed at Site C to the Port loading shed. From Site C the conveyor will be constructed on relatively undisturbed land, to the west of the existing Water Corp pipeline corridor. It will extend north, connecting to the existing Burrup East West Services Corridor (EWSC).

The EWSC is a bitumen sealed corridor which already includes the Yara Pilbara Fertilisers ammonia pipeline which extends to the bulk liquids jetty adjacent to Project Ceres's Port facilities. Project Ceres's conveyor will be positioned within this corridor and where possible use existing culverts to avoid roads and other infrastructure. Where the conveyor crosses Woodside's Haul Road the road will be built up to allow the conveyor to pass under.

### Port Area

The Port Area includes a storage shed, covered conveyor and ship loader. The storage shed will be located within an existing highly disturbed quarry and the ship loader on a wharf which will be constructed by Pilbara Port Authority (PPA). The Conveyor will be situated on cleared area associated with the new wharf and existing quarry, and a small section of rocky ground between these two areas.

Figure 1-3 Site Layout and Development Envelope



## 1.2 Scope & Requirement for the Plan

Project Ceres's construction and operational activities will impact cultural heritage, requiring mitigation and management actions as specified in the *Environmental Protection Act 1986* (EP Act), sections 15B and 15C of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), and the *Aboriginal Heritage Act 1972* (AHA).

Consistent with the Environmental Protection Authority's (EPA) environmental objective for social surroundings, *to protect social surroundings from significant harm*, the EPA determined, in consultation with the Murujuga Aboriginal Corporation (MAC), the Department of Water and the Environment (DAWE) (now Department of Climate Change, Energy, the Environment and Water (DCCEEW)), and the Minister for Aboriginal Affairs, that Project Ceres could be undertaken under specific conditions.

The EPA Assessment Report 1705 (EPA, 2021) summarises the cultural values identified in proximity to Project Ceres and outside the development envelope:

- Deep Gorge (now known as Ngajarli), which is located about 1.5 km east of Site F and includes rock art, a boardwalk and interpretive signage to educate visitors about its cultural significance to the traditional owners
- Fish Thalu Aboriginal heritage site situated in the King Bay / Hearson Cove supratidal to intertidal flat area to the north-east of Site F, outside the development envelope
- Eight recorded Aboriginal Heritage Sites are located adjacent to the development envelope.

The sites of cultural heritage value within the development envelope are discussed in this plan.

The main actual and potential impacts on cultural heritage from Project Ceres includes impacts on:

- Aboriginal cultural heritage sites
- Fish Thalu Aboriginal heritage site from changes in tidal water flow movements within the King Bay / Hearson Cove supratidal to intertidal flat area due to the proposed causeway
- Aboriginal rock art, and
- The Murujuga Cultural Landscape World Heritage Listing

A suite of strategies and management actions will be implemented throughout the construction and operational phases of Project Ceres to minimise or abate these impacts. Strategies and management actions to protect cultural heritage during clearing works are detailed in Project Ceres Project Environmental Management Plan (PCF-PD-EN-PEMP), Confirmed Flora Management Plan (PCF-PD-EN-FMP) and the Construction Environmental Management Plan 0000-ZA-E-09071, as well as specific measures for the protection of cultural heritage during construction in the Construction Environmental Management Plan Heritage Management Protocol.

The purpose of this CHMP is to achieve the environmental outcomes and environmental objectives stated in the approval conditions under MS 1180, the EPBC Act, and the AHA. It does this by providing a framework which describes how Project Ceres will address, manage, monitor and mitigate potential impacts to Aboriginal Heritage Sites as well as potential impacts to any current access and amenity for cultural and heritage related purposes within Project Ceres and surrounding areas. This plan supplements the PCF-PD-EN-PEMP Project Environmental Management Plan (PEMP).

This CHMP includes the strategies for management and monitoring of performance against prescribed outcomes and objectives during the construction and operational activities for Project Ceres. Considering the management and mitigation measures outlined in this CHMP, impacts on cultural heritage are likely to be minimal.

In accordance with Condition 9-2 of MS 1180, the Cultural Heritage Management Plan PCF-PD-EN-CHMP-PCF6, prepared in consultation with the Murujuga Aboriginal Corporation (MAC) and the Department of Planning, Lands and Heritage (DPLH), was provided to the CEO and the Registrar of Aboriginal Sites on 11 May 2022. The CEO confirmed in writing on 22 June 2022 that the Cultural Heritage Management Plan submitted under Condition 9-2 (PCF-PD-EN-CHMP-PCF6) met the requirements of Condition 9. In accordance with Condition 5 of the EPBC Act Approval 2018/8383, the approved CHMP was provided to DAWE.

This CHMP has been prepared to meet the requirements of the EPA's "*Instructions on how to prepare Environmental Protection Act 1986 Part IV Environmental Management Plan*" (2021).

This document applies to all phases of Project Ceres including but not limited to, Planning, Design, Construction, Commissioning and Operations. It applies to all Perdaman employees, contractors and visitors.

This document will be periodically updated as new approvals are received and compliance requirements are determined. This document will be updated following construction to apply to updated operational aspects of



## Project Ceres.

This CHMP has been prepared to meet the following objectives:

- Objectives as provided in MS 1180, Condition 9-1:
  1. Avoid, where possible, and otherwise minimise direct and indirect impacts to social, cultural, heritage, and archaeological values within and surrounding the development envelope;
  2. Allow ongoing Traditional Owner and Custodian access to enable traditional activities and connection to culturally significant areas within and surrounding the development envelope;
  3. Allow Traditional Owner and Custodian access to the development envelope following decommissioning of the proposal; and
  4. Avoid, where possible, and otherwise minimise direct and indirect impacts to visual and amenity impacts to social and cultural places and activities.
- Objectives as outlined in EPBC Act Approval 2018/8383:
  - ensure no Aboriginal Cultural Heritage Sites other than the Three Aboriginal Cultural Heritage Sites within the development envelope are directly impacted;
  - ensure no direct and indirect impacts to the Fish Thalu Aboriginal Heritage Site from changes in tidal water flow movements within the King Bay / Hearson Cove supratidal to intertidal flat area due to the development and use of the causeway; and
  - not impact more than 0.97 hectares of the National Heritage listed – Dampier Archipelago (Burrup Peninsula).

The CHMP takes into account the recommendations of heritage survey reports that detail the proposed disturbance areas and includes requirements for the implementation of processes and procedures that have been endorsed by the MAC Circle of Elders where avoidance cannot practicably be achieved (and by seeking necessary consents pursuant to the AHA). The CHMP outlines methods to ensure that there is ongoing, meaningful dialogue with MAC, the Circle of Elders and the Traditional Custodians they represent to mitigate and manage potential risks to heritage aspects.

Perdaman shall initiate surveys and consult where activities are proposed within the development envelope but not covered by the s.18 AHA Consent, and design, construct and operate Project Ceres so that potential impacts to Aboriginal heritage and cultural values in proximal National Heritage Places are, where practicable, avoided or minimised.

During construction, indigenous monitors must be involved to ensure that Aboriginal heritage values within the site are protected and preserved or where disturbance is authorised and managed in accordance with all relevant approvals. All work at Project Ceres must be carried out in accordance with all relevant conditions imposed by the regulating authorities. Consultation with the MAC Circle of Elders will guide all ground disturbance protocols in accordance with Condition 9-2(3) of MS 1180, and Condition 2 of the Section 18(3) Consent issued by the Minister for Aboriginal Affairs.

In harmony with the WA Government's Murujuga Rock Art Strategy (MRAS) and in-line with the Burra Charter (a strategic philosophy which significantly informs the MRAS), Perdaman recognizes and values the richness of Aboriginal culture on Murujuga, where Indigenous communities have lived for thousands of years.

Accordingly, Perdaman, in conjunction with inputs from local and relevant Aboriginal Stakeholder groups, expert consultants and government agencies, has developed this CHMP to help avoid and/or minimise any impact to Aboriginal Heritage Sites within Project Ceres Area and to National Heritage Values of the adjacent area.

As part of the impact assessment process and pursuant to the provisions of Clause 19 of the BMIEA, an Aboriginal heritage review and Aboriginal cultural heritage survey of Project Ceres development envelope was undertaken by MAC supported by the WA Government and confidentially provided to Perdaman to identify Aboriginal Heritage Site locations for the purposes of Project Ceres. Refer to **Attachment C** for the extent of the 2019 heritage survey. This work was conducted pursuant to the requirements contained in the BMIEA (*Section 19*). **A full copy of this heritage survey is provided for regulatory assessment only as Attachment K (Note: this report must be removed prior to the public distribution of this CHMP and associated attachments).**

If there are any questions in relation to the legislation, heritage reports, agreements, procedures and protocols referred to in this document, they should be directed to Perdaman's Environment and Heritage Manager in the first instance.

### 1.3 Responsibility

The responsibility for Aboriginal Heritage management and compliance with this plan sits primarily with Perdaman.

It is the responsibility of the Engineering Procurement Construction Contractor (EPC Contractor) and personnel to understand their scope of works and how Aboriginal Heritage management applies to their activities during construction.

All personnel undertaking Project activities have the following responsibilities as they relate to cultural heritage management and Project Ceres' broader social environment requirements:

- Attending a Project Environmental Induction prior to commencing any work on site.
- Ensuring they are aware of Project Ceres' environmental and heritage requirements as stipulated in the most current version of the CHMP and supporting documents.
- Reporting any cultural heritage incidents or non-compliance and community complaints to their Supervisor.

Role specific environmental management responsibilities have also been assigned to relevant Perdaman personnel. Specific responsibilities are included in Section 3.

Contractors engaged by Perdaman will provide adequate, tertiary qualified (in environmental management or similar qualification) and experienced site-based personnel to coordinate the management of environmental issues relevant to their scope of works.

For specific roles and responsibilities related to cultural heritage management during the relevant phase of Project Ceres, refer to the PEMP, and the SCJV Construction Environmental Management Plan for responsibilities during the construction phase.

All Perdaman employees and contractors working on the construction and operation of Project Ceres and the Aboriginal Stakeholder groups whose heritage this CHMP is designed to protect, will have their responsibilities conveyed (through inductions and relevant work packs / management plans and reinforced by supervisors and the responsible contractors) to be upheld during all construction and operational activities for Project Ceres.

Perdaman is aware of its responsibilities to manage the integrity of the local environment and to observe regional heritage sensitivities. Perdaman has developed the Perdaman Urea Project Heritage Charter as an overarching position for heritage interaction and management, including rock art and Murujuga (**Attachment A**).

## 1.4 Key Environmental Factors

The EPA identified Key environmental factors concerning cultural heritage in its assessment, including Social Surroundings and Air Quality, summarised in Table 1-1.

Table 1-1 Key Environmental Factor Objectives

Key Environmental Factor	Objective
Social Surroundings	To protect social surroundings from significant harm.
Air Quality	To maintain air quality and minimise emissions so that environmental values are protected.

The potential impacts to the environmental factors are presented in Table 1-2.

Table 1-2 Project Environmental Factors and Potential Impacts

Key Environmental Factors: Social Surroundings and Air Quality		
Project Activities	Sensitive Receptors	Potential Impact
Physical disturbance and relocation of Aboriginal heritage sites	<ul style="list-style-type: none"> <li>• Site ID 18615</li> <li>• Site ID 19239</li> <li>• Site ID 19874</li> </ul>	Potential physical disturbance of Aboriginal heritage sites and rock art sites both within and external to the NHL boundary.
Construction of the causeway	<ul style="list-style-type: none"> <li>• Fish Thalu Aboriginal heritage site</li> </ul>	The impedance of tidal water flow movements within the King Bay /Hearson Cove supratidal to intertidal flat area.

## Key Environmental Factors:

### Social Surroundings and Air Quality

Project Activities	Sensitive Receptors	Potential Impact
Construction and operation of Project Ceres causing noise emissions - Noise emissions during activities such as; earthworks, clearing, drilling, blasting, crushing & screening, vehicle, plant and machinery use.	<ul style="list-style-type: none"> <li>Hearson Cove</li> <li>Deep Gorge</li> <li>Fish Thalu Aboriginal heritage site</li> <li>Yatha Aboriginal heritage site</li> <li>NHL Site ID 9439</li> </ul>	<p>Impact on the amenity of the area and the values attributable to that amenity (including the Murujuga National Park cultural and biodiversity values).</p> <p>Changes to cumulative noise levels due to the potential additional noise emissions from the construction and subsequent operation of the urea plant may impact on people, including those visiting Hearson Cove, Yatha and Deep Gorge.</p>
Construction and operation of Project Ceres causing an increase in traffic at intersections and accessed surrounding the site.	<ul style="list-style-type: none"> <li>Hearson Cove</li> <li>Deep Gorge.</li> </ul>	<p>Risk to public safety due to traffic generated by Project Ceres peaking at 200 vehicles per hour.</p> <p>Disruption to recreational activities caused by changed arrangements for access to Hearson Cove resulting from the relocation of the access road.</p>
Construction and operation of Project Ceres causing an increase in cumulative air emissions.	<ul style="list-style-type: none"> <li>Murujuga Rock Art (petroglyphs)</li> <li>Dampier</li> <li>Karratha</li> <li>Hearson Cove</li> <li>Deep Gorge</li> </ul>	<p>Threat of serious or irreversible damage from industrial air emissions accelerating natural weathering.</p> <p>Impact to human health and amenity from nitrogen dioxide (NO<sub>2</sub>), SO<sub>2</sub>, NH<sub>3</sub>, ozone (O<sub>3</sub>), and particulate (as PM<sub>10</sub> and PM<sub>2.5</sub>) emissions at sensitive receptors both in isolation and in a cumulative context with other existing and future emission sources. Increase in predicted ground level concentrations (GLCs).</p>
Viewsheds at Hearson Cove and Deep Gorge (Ngajarli)	<ul style="list-style-type: none"> <li>Burrup Road 200m north of Hearson Cove Road</li> <li>Hearson Cove Road east of the Deep Gorge access</li> <li>Deep Gorge track</li> <li>Hearson Cove Beach BBQ area</li> </ul>	<p>Burrup Road 200m north of Hearson Cove Road: Looking north-east to Site C existing industry is visible in the foreground and the proposal dominates views especially seen from ground level or from a driving experience.</p> <p>Hearson Cove Road east of the Deep Gorge access: Looking west to Site C existing industry is visible in the foreground and the proposal dominates views especially seen from ground level or from a driving experience.</p> <p>Deep Gorge track: Located approximately 1.5 km from the proposal, existing industry is visible. The rocky terrain obscures the proposal infrastructure with exception of the partially visually permeable flare stack.</p> <p>Hearson Cove Beach BBQ area: Existing industry punctuates skyline with the proposal roof line slightly visible with the partially visually</p>

<b>Key Environmental Factors:</b>		
Social Surroundings and Air Quality		
<b>Project Activities</b>	<b>Sensitive Receptors</b>	<b>Potential Impact</b>
		permeable flare stack visible.
Construction and operation of Project Ceres causing an increase in night glow.	<ul style="list-style-type: none"> <li>Hearson Cove</li> <li>Deep Gorge.</li> </ul>	<p>Potentially impact the experience of night visits at Deep Gorge (Ngajarli) and Hearson Cove from an increase of night glow.</p> <p>Negative impacts to relationship with MAC and traditional custodians.</p>

The EPA has assessed the likely residual impacts of the proposal on social surroundings (including Cultural Heritage) to be:

1. Three Aboriginal heritage sites located in Site C (Site ids 18615, 19239, and 19874) will be disturbed and relocated during construction of the proposed urea plant with the agreement of MAC.
2. Unlikely to impact on the Fish Thalu Aboriginal heritage site as the causeway will not materially impede tidal water flow movements within the King Bay / Hearson Cove supratidal to intertidal flat area
3. Noise levels are predicted to be at, or below assigned noise criteria in the EPA Noise Regulations for sensitive receptors Hearson Cove, Deep Gorge, the Fish Thalu and Yatha Aboriginal heritage sites, and NHL Site ID 9439 within Site F.
4. Noise levels are predicted to marginally exceed the relevant criteria in the EPA Noise Regulations at the eastern boundary of the development envelope in Site C.
5. Traffic generated by the proposal would peak at 200 vehicles per hour peak, with intersections and accesses surrounding the site operating at an acceptable level of service given the low traffic volumes and negligible queuing.
6. The proposal will be seen in the context of the surrounding industry by receptors travelling through the industrial estate and accessing Hearson Cove and Deep Gorge (Ngajarli). The proposal's impact on viewsheds at Hearson Cove and Deep Gorge (Ngajarli) is not expected to be significant due to the landscape obscuring the majority of the proposal infrastructure with views limited to rooftops  
And a partially visible stack structure .
7. The proposal's lighting will add to the existing night glow and may impact on Hearson Cove and Deep Gorge (Ngajarli).

The EPA considers that there may be a threat of serious or irreversible damage to rock art from industrial air emissions (in particular, urea particulates and NH<sub>3</sub>) from the proposal accelerating the natural weathering. The EPA considers that there is lack of full scientific consensus about potential residual cumulative impacts on the significant environmental values (including social surroundings values) associated with rock art within Murujuga. Therefore, after consideration of the precautionary principle and principle of intergenerational equity in particular, the EPA recommends that a cautious, preventative approach be taken and the proposal be required to ensure no air emissions from the proposal have an adverse impact accelerating the weathering of rock art within Murujuga beyond natural rates.

The EPA also recommends that the proposal, and other existing and future cumulative air emission sources, be required to meet future detailed air quality objectives and criteria which are developed for cumulative emission sources when there is adequate certainty about these (note: adequate certainty is expected to be available prior to the commencement of proposal operations, with the definition of criteria standards available from the Murujuga Rock Art Monitoring Programme, and the EPA recommends that the proposal be required to comply with these at that time, as well as continuously implement best practice technology to reduce emissions). If these recommendations are adopted, the EPA considers that the proposal (if implemented) is not expected to be inconsistent with the EPA's environmental factor objectives and principles of the *Environmental Protection Act 1986* (EP Act) which are relevant to rock art.

Through its assessment, the EPA has recommended management of these residual impacts through the following conditions and regulations.

*Table 1-3 Conditions and Regulations for Mitigation of Residual Impacts to Social Surroundings and Air Quality*

Residual Impact to Environmental Values	Condition/Regulation
<p>Direct impacts to 3 Aboriginal sites located on Site C.</p> <p>Indirect impacts to Aboriginal heritage sites and cultural values.</p>	<p>MS 1180 Condition 1 – Limits and extent of proposal.</p> <p>MS 1180 Condition 9 – Cultural Heritage, including:</p> <ul style="list-style-type: none"> <li>▪ Cultural Heritage Management Plan specifying construction, operational and reporting actions and including traditional owner cultural heritage observers during construction and operation.</li> </ul> <p>Compliance with S18 of AHA consent.</p> <p>EPBC Approval 2018/8383 Condition 4 to comply with MS 1180 Condition 1. To Ensure no direct or indirect impacts to Fish Thalu Aboriginal Heritage Site from construction of the causeway. Not impact more than 0.97 Ha of National Heritage Listed – Dampier Archipelago (Burrup Peninsula)</p> <p>EPBC Approval 2018/8383 Condition 5 to comply with MS 1180 Condition 9, to develop and implement the Cultural Heritage Management Plan.</p> <p>MS 1180 Condition 2 – Air Quality, including:</p> <ul style="list-style-type: none"> <li>▪ EPBC Approval 2018/8383 Condition 6 to comply with MS 1180 Condition 2, to prepare an Air Quality Management Plan to minimise impacts on rock art due to air emissions.</li> </ul>
<p>Potential impact to Fish Thalu Aboriginal heritage site due to changes in tidal flow movement in the King Bay/Hearson Cove supratidal to intertidal flat area,</p>	<p>MS 1180 Condition 1 – Limits and extent of proposal.</p> <p>Compliance with RIWI bed and banks permit.</p> <p>Construct causeway as designed.</p>
<p>Increase in cumulative noise levels/</p>	<p>MS 1180 Condition 9 – Cultural Heritage, including:</p> <ul style="list-style-type: none"> <li>▪ Cultural Heritage Management Plan specifying construction, operational and reporting actions and including traditional owner cultural heritage observers during construction and operation.</li> </ul> <p>Environmental Protection Act 1986 Part V Licence</p>
<p>Potential impacts to recreational activities and public safety from increased traffic movements.</p>	<p>Regulated by the City of Karratha under the Planning and Development (Local Planning Schemes) Regulations 2015 (WA).</p>
<p>Direct impacts to visual amenity.</p>	<p>MS 1180 Condition 9 – Cultural Heritage, including:</p> <ul style="list-style-type: none"> <li>▪ Cultural Heritage Management Plan specifying construction, operational and reporting actions and including traditional owner cultural heritage observers during construction and operation.</li> <li>▪ Objective for visual amenity</li> <li>▪ Visual amenity considerations in the CHMP</li> </ul> <p>Regulated by the City of Karratha under the <i>Building Act 2011</i> and the Planning and Development (Local Planning Schemes) Regulations 2015 (WA)</p>
<p>Lighting will add to the existing night glow and may impact on</p>	<p>MS 1180 Condition 10 – Lighting management, including:</p> <ul style="list-style-type: none"> <li>▪ Light Management Plan</li> </ul>

Residual Impact to Environmental Values	Condition/Regulation
Hearson Cove and Deep Gorge.	<ul style="list-style-type: none"> <li>▪ Monitoring and reporting</li> </ul>
<p>The proposal residual impact (on its own and cumulatively) on human health and amenity from NO<sub>2</sub>, SO<sub>2</sub>, NH<sub>3</sub>, O<sub>3</sub>, and PM<sub>10</sub> and PM<sub>2.5</sub> emissions is low at Dampier, Karratha, Hearson Cove and Deep Gorge (Ngajarli) with the emissions remaining below criteria. The exception to this is the levels of annual PM<sub>10</sub> and PM<sub>2.5</sub> at Hearson Cove and Deep Gorge (Ngajarli) which are expected to slightly exceed relevant annual criteria due to high levels of natural background dust.</p>	<p>MS 1180 Conditions 2-1 to 2-9 provide for air quality regulation including:</p> <ul style="list-style-type: none"> <li>▪ Seek to maintain regional air quality in accordance with NEPM air quality standards by the minimisation of air emissions from Project Ceres</li> <li>▪ Objectives to minimise emissions</li> <li>▪ Requirement to implement an Air Quality Management Plan, which is reviewed every 5 years to ensure continuous improvement and reduction in emissions in consultation with MAC.</li> <li>▪ Monitoring, contingency measures and reporting.</li> </ul> <p>Environmental Protection Act 1986 Part V Licence</p> <p>Requirement to submit the AQMP to DCCEEW to support regulation under the EPBC Act.</p>
<p>There is a lack of consensus on the science about the impacts of cumulative industrial emissions on the significant environmental values associated with the rock art in Murujuga.</p> <p>Project Ceres is likely to result in a relatively small incremental increase to baseline air emissions in the Murujuga airshed, other than for urea particulates and NH<sub>3</sub>.</p> <p>There is lack of full scientific consensus of the potential impact of proposal emissions of urea particulates and NH<sub>3</sub> on the significant environmental values associated with the rock art.</p>	<p>MS 1180 Conditions 2-1 to 2-9 provides for air quality regulation including:</p> <ul style="list-style-type: none"> <li>▪ Outcome to ensure that no air emissions from Project Ceres have an adverse impact accelerating the weathering of rock art within Murujuga beyond natural rates.</li> <li>▪ Objectives to minimise emissions.</li> <li>▪ Requirement to achieve air quality objectives and criteria (including standards derived from the results of the Murujuga Rock Art Monitoring Program) and any amendments to those standards, which are the subject of a notification to the proponent by the Minister.</li> <li>▪ Requirement to implement an Air Quality Management Plan, with 5 yearly reviews required to implement continuous improvement.</li> <li>▪ Adaptive monitoring, contingency measures and report requiring the Murujuga Aboriginal Corporation be consulted by the proponent when it submits and reviews the Air Quality Management Plan.</li> </ul> <p>Environmental Protection Act 1986 Part V Licence</p> <p>Requirement to submit the AQMP to DCCEEW to support regulation under the EPBC Act.</p>

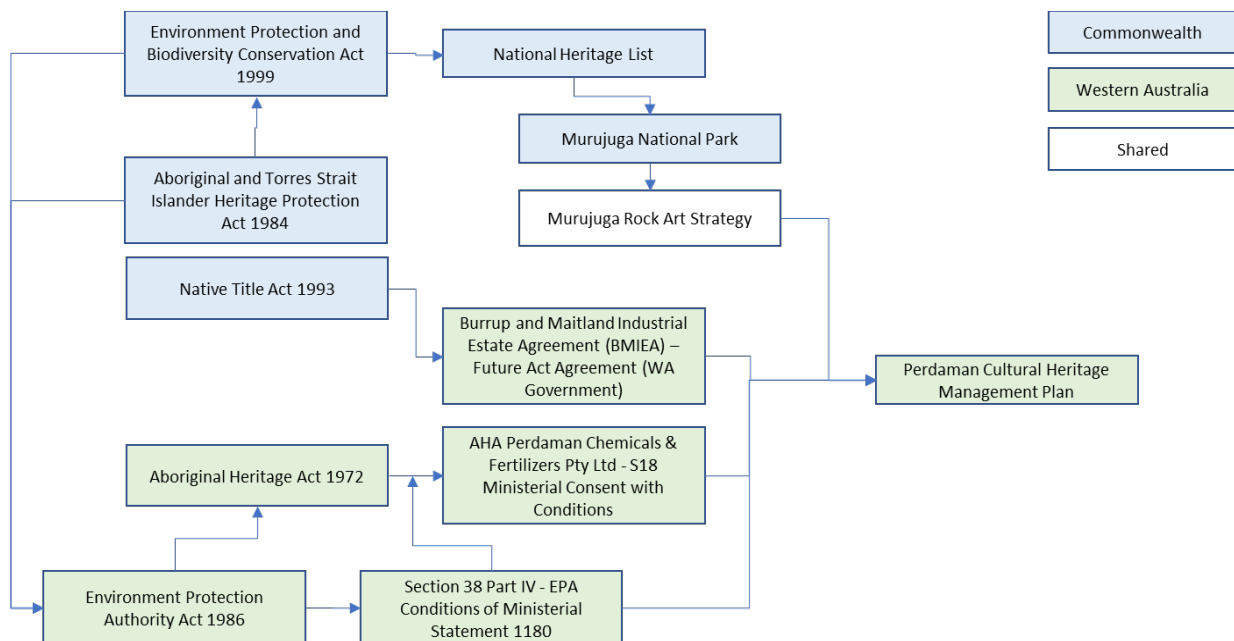
## 2 Legislative Framework

The Perdaman CHMP has been prepared to comply with Commonwealth and Western Australian heritage legislative requirements as outlined in Figure 1-4. The Perdaman Urea Project sought approvals both under State and Commonwealth legislative frameworks. The three main pieces of legislation that relate to this Project and provide the overall framework for environmental management of cultural heritage for Project Ceres are as follows:

- *Environment Protection and Biodiversity Conservation Act 1999* – Commonwealth
- *Environmental Protection Act 1986* – State
- *Aboriginal Heritage Act 1972* – State.

This CHMP will be developed and regularly reviewed to comply with the commitments and legal obligations arising from Project Ceres approvals process.

Figure 2-1 Perdaman Project Cultural Heritage Legislative Framework



### 2.1 Environmental Protection and Biodiversity Conservation Act 1999

The Australian Government's key environmental legislation is the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act). The EPBC Act protects and manages matters of national environmental significance (MNES) which include nationally and internationally important flora, fauna, ecological communities, and heritage places. The Commonwealth is responsible for protecting Indigenous heritage places that are nationally or internationally significant, or that are situated on land that is owned or managed by the Commonwealth.

The EPBC Act establishes the National Heritage List, which includes natural, Indigenous and historic places that are of outstanding heritage value to the nation. Under the *EPBC Act* there are penalties for anyone who takes an action that has or will have a significant impact on the Indigenous heritage values of a place that is recognised in the National Heritage List. In 2007, the Australian Government placed areas adjacent to Project Ceres Area on the National Heritage List (NHL), when creating the Dampier Archipelago National Heritage Place (NHP), making compliance with this legislation applicable to Project Ceres.

Project Ceres was referred to the Commonwealth Department of the Environment and Energy (DoEE) under the EPBC Act on the 21 December 2018 (Reference: 2018/8383) through the s.87 accreditation provisions. The DoEE determined on 28th March 2019 that the Proposed Action was a "Controlled Action" under s.75 of the EPBC Act. The EPBC Act referral 2018/8383 considered the relevant controlling provisions to be National Heritage Places, Listed Threatened Species and Communities; Listed Migratory Species and Commonwealth Marine Species.

On 11 February 2022, the Proposal was provided with an approval decision, as being an approved action subject to conditions. The decision was made under sections 130(1) and 133(1) of the EPBC Act. The **Approved Action** under the decision being; *To construct and operate a urea plant and associated infrastructure on the Burrup Peninsula, Western Australia [See EPBC Act referral 2018/8383, the variation accepted on 26 July 2019 and the variation request accepted on 10 February 2021].* The EPBC approval has

affect until the 24 January 2102.

EPBC Act Approval 2018/8383, Condition 4, requires the compliance with Condition 1 of the Ministerial Statement 1180 to ensure:

- (1) no Aboriginal Cultural Heritage Sites other than the Three Aboriginal Cultural Heritage Sites within the development envelope are directly impacted;
- (2) ensure there are no direct and indirect impacts to the Fish Thalu Aboriginal Heritage Site from changes in tidal water flow movements within the King Bay / Hearson Cove supratidal to intertidal flat area due to the development and use of the causeway; and
- (3) not impact more than 0.97 hectares of the National Heritage listed – Dampier Archipelago (Burrup Peninsula).

EPBC Act Approval 2018/8383, Condition 5, requires compliance with Condition 9 of the Ministerial Statement 1180 to develop and implement a Cultural Heritage Management Plan.

### 2.1.1 National Heritage Place Listing

Sections 15B and 15C of the EPBC Act are also relevant to the definition of National Heritage Places (NHP) and protection of heritage material and values at listed Places.

The *Australian Government Gazette Notice No. S127* of 3 July 2007 (**Attachment B**), describes the values of the Dampier Archipelago NHP.

Further discussion on the NHP is provided in Section 4.2

## 2.2 Environmental Protection Act 1986

The *Environmental Protection Act 1986* provides for "the prevention, control and abatement of pollution and environmental harm, for the conservation, preservation, protection, enhancement and management of the environment and for matters incidental to or connected with the foregoing".

The Perdaman Urea Project was referred to the Environmental Protection Authority (EPA) under the *Environmental Protection Act 1986* in accordance with Section 38 Part IV. Pursuant to Section 45 of the EP Act, it has been agreed that this proposal may be implemented under the Conditions of Ministerial Statement 1180 (MS 1180), as of the 24 January 2022.

MS 1180 requires Perdaman to avoid Cultural Heritage Sites IDs 9439, 26008, 9296 and MAC 004. Perdaman is to implement Project Ceres to meet the following objectives (Condition 9-1) for cultural heritage:

- (4) Avoid, where possible, and otherwise minimise direct and indirect impacts to social, cultural, heritage, and archaeological values within and surrounding the development envelope;
- (5) Allow ongoing Traditional Owner and Custodian access to enable traditional activities and connection to culturally significant areas within and surrounding the development envelope;
- (6) allow Traditional Owner and Custodian access to the development envelope following decommissioning of Project Ceres; and
- (7) avoid, where possible, and otherwise minimise direct and indirect impacts to visual and amenity impacts to social and cultural places and activities.

**Appendix 1** lists MS 1180 conditions relating to Cultural Heritage and in which Section of the CHMP each condition is addressed.

The EPA's objective for social surroundings is *to protect social surroundings from significant harm*. "Social surroundings" include aesthetic, cultural, economic and social surroundings to the extent that those surroundings directly affect or are affected by a person's physical or biological surroundings.

Condition 9-3 of MS 1180 states that Perdaman shall not commence any Ground Disturbing Activities (GDA's) until the CEO of EPA and the Registrar of Aboriginal Sites has confirmed in writing that the Confirmed Cultural Heritage Management Plan satisfies the requirements listed in Condition 9-2 of the approval. On 22 June 2022, the CEO confirmed that the Cultural Heritage Management Plan PCF-PD-EN-CHMP-PCF6, met the requirements of Condition 9-2.

Condition 9-4 of MS 1180 requires the implementation of the most recent version of the CHMP until the **CEO** has confirmed by notice in writing that the proponent has demonstrated the objectives specified in Condition 9-1 have been met.

As required under Condition 16-1 of MS 1180, this plan will be made publicly available for the life of Project Ceres. Due to the sensitive nature of certain information relating to confidential figures showing heritage and archaeological sites, this version will not be the version made publicly available. A redacted version of this Plan will be made publicly available.



The requirement of these Conditions and where they are addressed in this plan are described in **Appendix 1** of this document.

## 2.3 Aboriginal Heritage Act 1972

In Western Australia the *Aboriginal Heritage Act (1972)* (AHA) is the legislation for the protection of Indigenous heritage places and objects with the Department of Planning, Lands and Heritage (DPLH) responsible for administering the AHA. Consents, with or without conditions, are the responsibility of the State Minister for Indigenous Affairs.

### 2.3.1 Defining Aboriginal Heritage Sites

Part VI of the AHA makes provisions for the protection of Heritage Sites. For the purpose of this CHMP, a Heritage Site is a place which either meets or has the potential to meet the requirements of Section 5 of the AHA.

AHA defines an Aboriginal Site as a place to which the AHA applies by operation of Section 5:

- (a) any place of importance and significance where persons of Aboriginal descent have, or appear to have, left any object, natural or artificial, used for, or made or adapted for use for, any purpose connected with the traditional cultural life of the Aboriginal people, past or present;
- (b) any sacred, ritual or ceremonial site, which is of importance and special significance to persons of Aboriginal descent;
- (c) any place which, in the opinion of the Committee<sup>2</sup>, is or was associated with the Aboriginal people and which is of historical, anthropological, archaeological or ethnographical interest and should be preserved because of its importance and significance to the cultural heritage of the State;
- (d) any place where objects to which this Act applies are traditionally stored, or to which, under the provisions of this Act, such objects have been taken or removed.

In addition to heritage places subject to Section 5 of the AHA, the Aboriginal Cultural Materials Committee (ACMC) must evaluate Aboriginal objects meeting criteria under Section 6 of the AHA.

The role of the ACMC is to:

- evaluate on behalf of the community the importance of places and objects alleged to be associated with Aboriginal persons;
- where appropriate, to record and preserve the traditional Aboriginal lore related to such places and objects;
- recommend to the Minister for Aboriginal Affairs (Minister) places and objects which, in the opinion of the Committee, are, or have been, of special significance to persons of Aboriginal descent and should be preserved, acquired and managed by the Minister;
- advise the Minister on any question referred to the Committee, and generally on any matter related to the objects and purposes of this Act;
- perform the functions allocated to the Committee by this Act; and
- advise the Minister when requested to do so for the apportionment and application of moneys available for the administration of this Act.

Associated sacred beliefs and ritual or ceremonial usage, as far as such matters can be ascertained, shall be regarded as the primary considerations for the evaluation of any place or object for the purposes of this Act.

When evaluating heritage places the ACMC is required to consider section 39 of the AHA, particularly section 39(2).

### 2.3.2 Evaluating the Importance of Places

In evaluating the importance of places and objects the ACMC shall have regard to —

- (a) any existing use or significance attributed under relevant Aboriginal custom;
- (b) any former or reputed use or significance which may be attributed upon the basis of tradition, historical association, or Aboriginal sentiment;
- (c) any potential anthropological, archaeological or ethnographical interest; and

<sup>2</sup> The "Committee" is the Aboriginal Cultural Materials Committee (ACMC) established pursuant to Part V of the *Aboriginal Heritage Act 1972*.

(d) aesthetic values.

The matters the ACMC is required to have regard to, while not identical, embrace the core elements of the values that underpin the heritage listing consideration of the NHP.

If sites cannot be practicably avoided by development, then Section 18 of the AHA makes provisions for consents to be granted to impact such sites for specific purposes.

Beyond the above matters of relevance to the AHA, the addition of Dampier Archipelago (including Burrup Peninsula) on to the National Heritage List on 3 July 2007, under the *EPBC Act*, requires that the significance of potential impacts on the NHP, must be assessed and the proposed actions considered for approval, with or without conditions.

### 2.3.3 AHA Section 18 Consent

The AHA Section 18 Consent process was undertaken to clearly define the heritage sites Project Ceres potentially would impact and develop strategies to avoid and minimize impact and retain the inherent heritage values.

Perdaman submitted a Section 18 AHA notice to the DPLH on 8 February 2021 (s.18-21052010-885). Consultation with MAC occurred throughout the optimization of the facility design in respect to Aboriginal Sites potentially impacted by Project Ceres. A summary of the consultation process applied in the development of the AHA s.18 application is provided in Table 2-1

*Table 2-1 MAC Consultation Summary for AHA s.18 submission*

Date	Audience	Summary of Consultation
Aug 2020	MAC CEO Heritage Officer EPC Project Manager Archaeologist	Participate in a 'walk on country' (of the Development Envelope and surrounds) to gain knowledge and cultural appreciation of local heritage sites and the significance of each site.  <b>REDACTED</b>
6 Sep 2020	MAC CEO, Heritage Officer, Environment Consultant EPC Project Manager, EPC Reps, Archaeologist	A meeting was held in Karratha with MAC CEO and Perdaman representatives where a revised footprint and layout were presented. Outcomes as follows:  <b>REDACTED</b>
21 Sep 2020	MAC Chairperson, MAC representatives EPC Project Manager, EPC Reps	<b>REDACTED</b>
11 Nov 2020	MAC Board Members, MAC Circle of Elders Perdaman Rep, EPC PM, EPC Reps,	<b>REDACTED</b>

Date	Audience	Summary of Consultation
	Archaeologist	
AHA s.18 submitted and revised between December 2020 and February 2021.		

**Attachment D** is MAC's response to the Register of Aboriginal Sites which results from the above liaison and the resulting s.18 application which concludes:

*MAC recommends that the ACMC should recommend that the Minister grant consent under s.18 of the AHA, subject to the conditions listed in the Summary of Perdaman Urea Project s.18 Heritage Notice and the development of an **endorsed** CHMP that identifies a clear management strategy for the manner in which site ID 19874, ID 18615 and ID 19239 are salvaged; the protection of all remaining sites with the subject land; and the monitoring and management of sites throughout the construction and operation of the proposed Perdaman Urea facility.*

*MAC can confirm that Perdaman have undertaken consistent and respectful negotiation with MAC about the proposed development and have taken seriously our heritage, cultural and environmental concerns regarding Project Ceres.*

These requirements are reflected in the AHA s.18 conditions and represent a managed cultural heritage outcome where engagement in the design and layout of the facilities has minimized potential impacts.

The Section 18 Consent was provided with conditions under AHA from the Minister for Aboriginal Affairs (**Attachment E**). **Appendix 1** lists the s.18 conditions.

It is acknowledged and agreed that Project Ceres will impact only three heritage sites.

## 2.4 Rights in Water and Irrigation Act 1914

To address Condition 1 of MS 1180 to ensure there are no direct and indirect impacts to the Fish Thalu Aboriginal Heritage Site from changes in tidal water flow movements within the King Bay / Hearson Cove supratidal to intertidal flat area due to the development and use of the causeway, Saipem Clough Joint Venture (SCJV) commissioned hydraulic modelling of the causeway design (*Perdaman Causeway Hydraulic Modelling Technical Memo*, Santec, 29 June 2023). This modeling demonstrated that the culvert configuration is likely to maintain the hydrological regime and tidal movements within the waterway / intertidal zone. The results of the modelling shows the proposed culvert system will not impede hydrological flows.

Perdaman has been issued a Permit to Obstruct or Interfere with bed and banks under Section 17 of the *Rights in Water and Irrigation Act 1914*. This permit legislates the requirement for Perdaman to ensure the works on the causeway do not act as an artificial barrier or levee, causing water to pond upstream, which will protect the Fish Thalu Aboriginal Heritage Site.

## 2.5 Policy and Guidance

### 2.5.1 Perdaman Heritage Position

Perdaman has prepared an overarching position for heritage interaction and management, including rock art and Murujuga (Heritage Charter - Perdaman Urea Project) - **Attachment A**. MAC has endorsed this Charter.

As a living document, the Charter will be periodically reviewed with key stakeholder input sought.

### 2.5.2 Construction Environmental Management Plan

The Construction Environmental Management Plan 0000-ZA-E-09071 and the Heritage Management Sub-Plan 0000-ZA-E-09736 includes the protocols that will need to be followed should an unexpected heritage find occur, or where operational activities have the potential to impact heritage values. This includes the discovery of skeletal remains, artefacts and rock art not previously identified.

### 2.5.3 Murujuga Rock Art Strategy

The Western Australian Government has developed the Murujuga Rock Art Strategy (MRAS) which outlines a long-term framework to guide the protection of the Aboriginal rock art (petroglyphs) located on Murujuga (the Dampier Archipelago and Burrup Peninsula). Its primary goal is to deliver a scientifically rigorous approach to monitoring, analysis and management that will provide an appropriate level of protection to the rock art. The strategy provides a framework to protect Aboriginal rock art from the airborne emissions created by Industrial development, in this same location.

The MRAS is a monitoring, analysis and decision-making framework which has been designed to protect Aboriginal rock art heritage aspects on Murujuga from the potential impacts of industrial air emissions in the area. The WA Department of Water and Environmental Regulation (DWER) and Murujuga Aboriginal

Corporation (MAC) are responsible for the day-to-day implementation of the strategy, including ongoing consultation with key stakeholders.

The scope of the Strategy is to (DWER, 2019):

- Establish an Environmental Quality Management Framework (EQMF), including the derivation and implementation of environmental quality criteria.
- Develop and implement a robust program of monitoring and analysis to determine whether change is occurring to the rock art on Murujuga.
- Identify and commission scientific studies to support the implementation of the monitoring and analysis program and management.
- Establish governance arrangements to ensure that:
  - monitoring, analysis and reporting are undertaken in such a way as to provide confidence to the Traditional Owner, the community, industry, scientists and other stakeholders about the integrity, robustness, repeatability and reliability of the monitoring data and results.
  - Government is provided with accurate and appropriate recommendations regarding the protection of the rock art, consistent with legislative responsibilities.
- Develop and implement a communication strategy in consultation with stakeholders.

DWER plans to use the EQMF to provide a risk-based and robust framework for implementing the monitoring and management that is required to protect rock art from anthropogenic emissions.

The EQMF comprises of (DWER, 2019):

- Environmental values – ecosystem conditions that require protection from environmental harm.
- Environmental quality objectives – specific management goals that must be achieved to protect the environmental values.
- Environmental quality criteria – scientifically determined limits of reasonable change. These criteria are the standards against which environmental monitoring data are compared to determine the extent to which environmental quality objectives have been met.

DWER, in partnership with MAC, plan to implement a revised Murujuga Rock Art Mpetroglyphsam, based on the results from the past 15 years of scientific studies and monitoring of the petroglyphs. This monitoring program potentially includes, but is not limited to, the parameters of colour change, pH/acidity, microbiology, and sources of pollutants (DWER, 2019). The program should be able to distinguish between changes in condition of the petroglyphs attributed to anthropogenic emissions versus other unrelated causes. The program comprises cost-efficient, best-practice technologies and methods.

Monitoring and analysis results will be published on DWER's website under [Murujuga Rock Art Strategy document collection](#). The Murujuga Rock Art Strategy will be reviewed at least every five years. This will ensure it remains current, supports appropriate governance arrangements, and the best scientific knowledge and management practices are used to protect the rock art. The Murujuga Rock Art Stakeholder Reference Group (Stakeholder Reference Group) is an advisory group that was established in 2018 to facilitate engagement between key government, industry and community representatives. In 2022 the Murujuga Rock Art Reference Group will meet quarterly.

Perdaman recognises that the Murujuga Research Protocols have been developed by MAC as a set of governing principles and guidelines to ensure research is conducted in a respectful and culturally appropriate manner.

#### 2.5.4 Additional Policy and Guidance

Further policy and guidance implemented for Project Ceres delivery includes;

- EPA (2018) Statement of Environmental Principles, Factors and Objectives
- EPA (2016) Environmental Factor Guideline: Social Surroundings
- EPA (2004) Guidance Statement 41 - Assessment of Aboriginal Heritage
- *Environmental Protection (Noise) Regulations 1997*, a prescribed standard under the *EP Act 1986*. - Draft Guideline on Environmental Noise For Prescribed Premises (May 2016) from the Department of Environment Regulation;
- Statement of Environment Principles, Factors and Objectives (June 2018) from the Environmental Protection Authority.

- Department of Aboriginal Affairs & Department of the Premier and Cabinet (2013) Due Diligence Guidelines (Version 3.0)
- Department of the Environment (2016) Engage Early. Guidance for proponents on best practice Indigenous engagement for environmental assessments under the *EPBC Act* -
- Environment and Sustainability Directorate, Department for Planning and Infrastructure (2007) Visual Landscape Planning in Western Australia
- NSW EPA (2016) Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales
- DEC (2010) A guideline for managing the impacts of dust and associated contaminants from land development sites, contaminated site remediation and other related activities
- DEC (2006) Guidance Notes: Air Quality and Air Pollution Modelling
- DEC (2004) Western Australia State Greenhouse Strategy – Western Australia Greenhouse Task Force
- National Environmental Protection (Assessment of Site Contamination) Measure (NEPM) 2013
- National Environmental Protection (Ambient Air Quality) Measure (NEPM, 2021)
- DWER (2019). Murujuga Rock Art Strategy.

Perdaman have a Commercial Agreement with MAC which, subject to financial close, identifies it as a future proponent under the BMIEA. Accordingly, Perdaman will have certain prescribed financial and social obligations to MAC and the contracting parties, as a result of its activities on land within the Burrup Strategic Industrial Area (BSIA).

This CHMP may be revised to reflect final conditions of future Project approvals pursuant to the above statutes and guidelines.

## 3 Roles and Responsibilities

Role specific environmental responsibilities for the Perdaman Project team are outlined below.

Heritage management for Project Ceres development and ongoing operation involves MAC representatives, government agencies, EPC contractor including subcontractors and service providers and Perdaman owners and operators. The overarching roles and responsibilities for stakeholders and organization representatives involved in the design, construction and operation of the Perdaman facility are summarized in the following sections.

### 3.1 Perdaman CEO

Perdaman CEO is responsible for:

- Providing the resources to manage heritage requirements as defined in CHMP.
- Consultation with MAC and government agencies on heritage matters arising from the CHMP.
- Review this Management Plan for effectiveness and its performance against the objectives.

### 3.2 Perdaman Operations Manager

Perdaman Operations Manager is responsible for:

- Direct the implementation of CHMP requirements.
- Promptly respond to CHMP management action non-conformations.
- Periodic consultation with MAC representatives on CHMP management action performance and initiatives.

### 3.3 Perdaman Environment & Heritage Manager

The Perdaman Environment & Heritage Manager is responsible for directly liaising with MAC Rangers and Heritage representatives on CHMP.

### 3.4 Project Director

The EPC Contractor Project Director will be responsible for and will have the authority to:

- Provide environmental leadership and ensure adequate resources are provided to effectively implement this plan;
- Be an emergency contact for Project Ceres and provide required information to the Perdaman Board of Directors; and
- Endorse and support the Environment Policy and this plan.
- Ensuring the EPC contractor has the resources and personnel to execute this CHMP.

### 3.5 Project Manager

The EPC Contractor Project Manager is accountable for implementation of this plan on site. Responsibilities include:

- Ensuring that the requirements of this plan are implemented, maintained and communicated;
- Provide environmental leadership and ensure adequate resources are provided to effectively implement this plan;
- Participate in investigation of incidents and non-conformances and reviews of this plan; and
- Ensure work is planned and executed in compliance with environmental requirements.
- Managing the delivery of Project Ceres including overseeing the implementation of heritage control measures

### 3.6 Project Heritage Manager

- The EPC Contractor Heritage Manager is responsible for ensuring communications between Project Ceres team and relevant stakeholders.

### 3.7 Project HSE Manager

The EPC Contractor Health, Safety and Environment Manager is a site based Environmental Representative. Project Ceres Health, Safety and Environment Manager will:

- Report the implementation, compliance and effectiveness of this plan to the Management Team;
- Be an emergency contact and available to be contacted by Perdaman's other senior representatives;
- Communicate the requirements of this plan to site personnel;
- Provide documentation and support to managers and supervisors;
- Ensure project inductions are undertaken as per the this plan;
- Managing Project Ceres's environment and heritage monitoring programs;
- Review and monitor corrective and preventative actions resulting from audits, incidents and non-conformances;
- Ensure identified risks are analysed and evaluated according to agreed criteria. Regularly review identified risks and controls and maintain a risk register.
- Oversee the implementation and management of the GDP process;
- Ensure regular inspections, observations, monitoring and audits are conducted to check the effectiveness of controls and that compliance is maintained;
- Review Project performance and compliance with site environmental and heritage requirements;
- Lead investigation and reporting of environmental and heritage incidents, non-conformances and response to community complaints;
- Inform external stakeholders of any relevant non-conformances, environmental and heritage incidents or public complaints and assist with regulator liaison, if required;
- Identify and implement corrective and preventative actions after incidents and share lessons learned within Project Ceres team;
- Manage the submission and attainment of environmental and heritage approvals;
- Prepare a monthly Project environment and heritage report, presenting an update on key performance indicators, project outcomes, issues and incidents;
- Oversee review of existing and preparation of additional environmental management documentation, as required;
- Assure all Project activities are in accordance with statutory, approval and Project environmental and heritage requirements; and
- Attend and participate in regular Project meetings.

### 3.8 Environmental Lead

The EPC Contractor Environmental Lead will:

- Provide assistance and advice to all Project personnel to fulfil the requirements of this Plan;
- Ensuring appropriate training and awareness programs are developed and implemented;
- Liaising with relevant authorities and organisations as necessary.
- Conducting regular inspections and audits in accordance with this plan;
- Supporting Project Ceres HSE Manager with environmental incident investigations;
- Providing advice to the Environment and Heritage Manager about implementing, maintaining and reviewing this plan and associated documents; and
- Fulfilling the responsibilities of the Environment and Heritage Manager when they are on leave from site.

### 3.9 Construction Manager

The EPC Contractor Construction Manager is accountable for implementation of this plan on site during Project Ceres's construction phase. Their responsibilities include:

- Liaising with Project Ceres HSE Manager to ensure appropriate corrective and preventative actions are developed and implemented in accordance with this Plan whilst maintaining constructability.
- Planning construction Works in a manner that avoids or minimises impact to environment in line with

this plan;

- Ensuring a GDP application is submitted and a GDP Permit is issued in a timely manner prior to the commencement of any ground disturbing works or activities being undertaken;
- Ensuring any ground disturbing works or activities undertaken are within the limits specified in the Works specific GDP;
- Providing environmental leadership and ensuring adequate resources are allocated to effectively implement this plan;
- Stopping all work immediately if an unacceptable impact on the environment is likely to or has occurred;
- Ensuring that the appropriate level on induction and training has been provided to all site staff to minimise environmental impacts from Project works;
- Participate in investigations relating to construction related incidents resulting in breaches of environmental regulatory, licence or approval requirements; and
- Regularly liaise with the Environment and Heritage Manager regarding environmental aspects and impacts.

### 3.10 Operations Manager

The EPC Contractor Operations Manager is responsible for the implementation of this plan during the construction and operational phases of Project Ceres, including:

- Planning the commissioning and ongoing facility operations in a manner that avoids or minimises impact to environment in line with this plan;
- Providing environmental leadership and ensuring adequate resources are allocated to effectively implement this plan immediately if an unacceptable impact on the environment is likely to or has occurred;
- Ensuring that the appropriate level on induction and training has been provided to all site staff to minimise environmental impacts of Project Ceres's commissioning activities and ongoing facility operations;
- Participate in investigations relating to construction related incidents resulting in breaches of environmental regulatory, license or approval requirements; and
- Regularly liaise with Project Ceres HSE Manager regarding environmental aspects and impacts. In addition to these Perdaman personnel, Contractors engaged by Perdaman will provide adequate, tertiary qualified (in environmental management or similar qualification) and experienced site-based personnel to coordinate the management of environmental issues relevant to their scope of works.

### 3.11 Superintendent and Supervisors

- Ensuring personnel are fully briefed on the relevant heritage items and management requirements prior to work commencing.
- Managing and / or minimising impacts on heritage sensitive areas as a result of construction activities
- In the event of identified potential or actual breaches, implementing appropriate corrective or preventative actions to fulfil the requirements of this Plan.

### 3.12 Project & Site Engineer

- Ensuring that appropriate management measures are implemented and maintained on site;
- Developing Work Packs and Task Risk Assessments consultation with the Environmental Lead.

### 3.13 All Personnel

Responsible for following mitigation measures listed in the work packs when undertaking site work;

- Informing the supervisor of any heritage issues as they arise.
- Responsible to be familiar with and comply with this Management Plan



## 4 Cultural Heritage Values

### 4.1 Burrup Peninsula Heritage and Historic Context

Native Title was determined by the Federal Court of Australia not to exist over the Burrup Peninsula (refer to Section 2(a) of the Ngarluma-Yindjibarndi Determination - Federal Court Number WAD6017/1996). Where native title rights and interests were found to still exist as part of that determination, those rights are extensively defined in Section 6(a)-(k) of the determination.

Prior to this determination, the State executed the Burrup Maitland Industrial Estates Agreement (BMIEA) with the Ngarluma-Yindjibarndi, Wong-Goo-Tt-Oo, Yaburara and Mardudhunera people. Through the BMIEA the parties agreed the developable industrial sites and locations that would be subject to payments by eventual proponents developing those sites.

As noted previously, under the BMIEA, the Native Title applicant parties consented to the compulsory acquisition and extinguishment of native title rights and interests, in the BSIA in return for, among other things, the grant of freehold interests in non-industrial land on the Burrup Peninsula to relevant approved body corporate (which in this case is MAC) and financial benefits as compensation. The BMIEA for acquisition of Native Title rights and interests over the Burrup Strategic Industrial Area (BSIA) land took place under the future act provisions of the *Native Title Act 1993* (Cth).

Subsequently, in 2007 the Australian Government placed areas adjacent to Project Ceres Area on the National Heritage List (NHL), when creating the Dampier Archipelago National Heritage Place (NHP).

The NHP included some parts of LAA crown reserves for industrial/infrastructure purposes within the BSIA. While recognising the national significance of the cultural heritage material and values present in this region, the listing does not create any right of access or amenity in substitute of the native title rights and interests which as recognised by MAC, were surrendered under the BMIEA.

This acquisition of native title rights and interests is also recognised in *Section 2.2* of the MRAS. This Section of the MRAS also recognises that:

*“The Western Australian Government considers that with appropriate management, industry and tourism can successfully co-exist with the cultural heritage and environmental values of the area.”*

At the time and to the present, the Australian Government has articulated a position, noted to be consistent with the MRAS, on achieving a balance into the future, concurrent economic prosperity, alongside, and in harmony with, the enhanced conservation management afforded through the NHP to the advantage of all Australians. This position was expressed on the Government’s NHP website for Murujuga – see quote and link below. <http://www.environment.gov.au/heritage/places/national/dampier-archipelago>

#### **“Pre-history meets the industrial age”**

*The Dampier Archipelago is home to the most ancient works created by man, as well as a multi-billion-dollar resource industry.*

*The Archipelago is located near significant reserves of natural gas, petroleum and iron ore resources. Industries have already invested in excess of \$35 billion in developments, while trade to and from the Dampier Port reached 88.9 million tonnes for 2003-04, making Dampier the second largest tonnage port in the country. The area has also created thousands of jobs.*

*A balance between heritage management and economic prosperity is being achieved through a collaborative partnership involving Indigenous groups, industry, governments and the community. Careful, long-term management of the Dampier Archipelago and Burrup Peninsula will see both our heritage and economy protected into the future, to the advantage of all Australians.”*

Perdaman views that the quoted statement reflects a cornerstone requirement that future industry must embrace as a good neighbour striving for a balance between heritage management and economic prosperity that must be realised through a collaborative partnership involving indigenous groups, industry, governments and the community. This is an operating mantra that Perdaman seeks to reinforce in its various corporate values and Project EMPs.

This CHMP therefore seeks to align with this balanced approach, achieved through collaborative partnerships.

Project Ceres Area falls within the BSIA precinct set aside by the WA government for industrial development which is balanced against the broader national heritage and environmental values of the region. Specifically, the urea production plant is located on Sites C and F within the BSIA with infrastructure connection between these sites as well as between site C and the Pilbara Port, where produced urea will be loaded to ships for delivery to customers. The infrastructure connection between Site C and the Pilbara Port area, includes a N-S connection that will be within Crown Reserve for Infrastructure Corridor Purposes R46121. In 2006, part of Crown Reserve R49121 was included in the NHP area. Therefore, the conveyor in Crown Reserve R49121 will traverse approximately 300m of the coincident NHP area.

Perdaman recognises and values the richness of Aboriginal culture on Murujuga, where indigenous communities have lived for thousands of years. These National Heritage Values include an exceptionally diverse array of rock engravings (petroglyphs) comprising images of avian, marine and terrestrial fauna, schematised human figures, figures with mixed human and animal characteristics and geometric designs. The Murujuga area also contains standing stones, stone pits and other archaeological evidence of human occupation.

The implementation of the CHMP is aimed at supporting the National Heritage Values of the region.

Perdaman recognises the cultural values of Murujuga to Aboriginal people from this region. Perdaman is committed to minimising the industrial footprint of Project Ceres by following a sustainable development framework. Perdaman is also committed to ongoing consultation with the relevant Aboriginal Stakeholder groups and community members.

## 4.2 Aboriginal Heritage and Cultural Values in Proximal Areas including the Dampier Archipelago NHP

As noted in Section 2.1.1, *Australian Government Gazette Notice No. S127* of 3 July 2007 (**Attachment B**), describes the values of the NHP. This description looks to affirm the heritage value of the rock art in the NHP, with particular emphasis on the:

- weathering of the petroglyphs;
- history depicted in the petroglyph illustrations;
- diversity of the petroglyphs, including for example subject matter, spatial density, engraving techniques amongst other things;
- unique complexity of the illustrations on the petroglyphs;
- contribution that the illustrations on the petroglyphs have made to understanding Australia's cultural history; and
- contribution that the illustrations on the petroglyphs have made to understanding Australia's natural history.

As these values of the NHP are inextricably linked to the presence of the assemblage of petroglyphs across Murujuga, a risk of potential impacts to elements of that assemblage, either individually or collectively, may potentially impact the values of the NHP.

All the sites in the NHP area will continue to be available, subject to meeting appropriate usual statutory access requirements under the *LAA*, as a record to inform present and future generations in relation to the recognised relevant heritage values and knowledge as per *Gazette Notice No. 127*.

It is noted that in the assessment as part of the nomination for inclusion on the National Heritage List, it was recognised that notwithstanding a long period of industrial activity in the region, citing 2006 work of McDonald and Veth, the National Heritage List database entry indicates that notwithstanding that 16.4 square kilometers of the area was subject to high levels of impact from industrial development and activities such as construction of towns and work camps (noting that this includes substantial parts of Site F, some of Site C and parts of Crown Reserve R49121), the assessment concludes:

*“Despite this, the natural and cultural heritage in Dampier Archipelago and its surrounding waters is in good condition.”*

Through the implementation of this CHMP as a core element of Project Ceres implementation, Perdaman's objective is to ensure this good condition is maintained.

Project Ceres activities are not expected to physically impact any heritage sites in the Dampier Archipelago (including Burrup Peninsula) NHP.

There is no plan to seek AHA s.18 Consent to disturb any heritage sites within any NHP. Therefore, the following aspects of the heritage values of the NHP are unlikely to be materially impacted by Project Ceres:

- history depicted in the petroglyph illustrations;
- diversity of the petroglyphs, including for example subject matter, spatial density, engraving techniques amongst other things;
- unique complexity of the illustrations on the petroglyphs; and
- contribution that the illustrations on the petroglyphs have made to understanding Australia's cultural history.

The BSIA comprises two crown reserves that span across multiple lots – Reserve 49120 for Industrial Development Purposes, and Reserve 49121 for Infrastructure Corridor Purposes. Under the *Land*

*Administration Act 1997 (LAA)*, rights of access to such crown reserves is restricted to holders of either a granted lease (or sublease) consistent with the purpose of the reserve, or a license granted pursuant to s.91 of the *LAA*.

The addition to the NHP of parts of these two crown reserves are located:

- to the north and west of Site C; or
- within Site F associated with Heritage site ID 9439, and
- does not create any associated additional current right of third-party access or amenity in this NHP area.

Notwithstanding the constraint on access and amenity pursuant to the statutory provisions of the *LAA* and the provisions of the BMIEA, Traditional Lore connection to country remains.

In April 2018, the Minister for Environment requested that the EPA inquire into and report on the matter of changing implementation Condition 5-1: Air Quality in Ministerial Statement 870 for the Yara Pilbara Nitrates Pty Ltd TANPF on the Burrup Peninsula, to protect rock art. In response to this request the EPA undertook an inquiry under Section 46 of the *EP Act 1986* to amend MS 870. EPA Report No. 1648 (EPA, 2019) provides details of the inquiry and the EPA findings and recommendations in relation to the protection of rock art at Murujuga. As the rock art targeted for protection at Murujuga through the EPA inquiry lies proximal to the BSIA, the recommendations of the EPA are also applicable to a risk weighted precautionary principal approach by Perdaman under this CHMP.

The EPA notes

*“that there have been a number of independent scientific studies and monitoring of rock art colour change and spectral mineralogy undertaken over the past 15 years on Murujuga. The EPA also notes there has been some criticism of the methodology used and the interpretation of the findings of some of this work. The then Department of Environment Regulation commissioned independent reviews of the monitoring program and data analysis. The reviews recommended the monitoring program be redesigned using well established principles of experimental design.*

*The DWER is partnering with the MAC to oversee the development and implementation of a world best practice rock art monitoring program to determine whether the rock art on Murujuga is being subject to accelerated change.*

*The purpose of the Murujuga Rock Art Monitoring Program is to monitor, evaluate, and report on changes and trends in the integrity of the rock art, specifically to determine whether anthropogenic emissions are accelerating the natural weathering, alteration, or degradation of the rock art. This will enable timely and appropriate management responses by the state government, industry, and other stakeholders to emerging issues and risks.”*

Whilst other studies have historically been undertaken, and some continue, the State has sanctioned the Murujuga Rock Art Monitoring Program, and this is the most appropriate vehicle for Perdaman to be involved in. To ensure appropriate protection is afforded to Aboriginal heritage and cultural values in proximal areas, including the Dampier Archipelago NHP, Perdaman will be a contributing participant in the MRAS. These studies will determine any impacts to NHL areas outside the operational envelope of the Perdaman Plant. Results from this study will inform ongoing operational parameters of the Perdaman facility.

In 2020, Puliypang Pty Ltd was appointed by the WA government to develop and implement the monitoring program, which will be overseen by the DWER and MAC, in consultation with national and international subject-matter experts and stakeholders. Puliypang is a registered Aboriginal business and is a joint venture between Tocomwall and Calibre and has partnered with subject matter experts from Curtin University, Artcare and ChemCentre to deliver the monitoring program.

DWER indicates that the monitoring program will be implemented over five years, in a staged approach, and includes capacity building and training for Murujuga Rangers on the monitoring and analysis techniques. It is expected that the field work and laboratory monitoring studies element of this initial five-year program will commence before Project construction commences.

Yara Pilbara Nitrates Pty Ltd has undertaken a systematic monitoring program pursuant to Condition 10 of the *EPBC Act* approval 2008/4546 as amended on 18 December 2013. Methodology (Condition 10 (c) ii) and personnel (Condition 10 (c) i & iii) have been vetted and approved by the Federal Minister responsible for the *EPBC Act*.

Perdaman notes that while photographic monitoring of potential changes to the condition of rock art has historically been used with the objective of detecting potential detrimental impacts to rock art at Murujuga, it has been shown that this is not a reliable methodology. There is too much variability and changes to conditions cannot be sufficiently taken into consideration. The methodology is not repeatable.

The Yara EPBC 2008/4546 compliance work have provided data to indicate that changes to pH over time denote a real, measurable change to conditions and this is arguably the only reliable methodology currently known that could possibly point to a risk of damage to rock engravings. An indicator that pH is going to drop significantly is evidenced by a change in chloride levels. Perdaman is aware that DCCEEW has the full methodology and have approved it as fit-for-purpose as part of the Yara EPBC 2008/4556 compliance processes.

As noted in Perdaman's Response to Submissions, this scientific information also forms part of a presentation to the Conference of the International Council of Museums - Committee for Conservation, to be held in Beijing in May 2021. Perdaman has been advised on this matter by the paper's authors as the paper is currently in press.

It is proposed that this program be expanded to the Perdaman Project until the MRAS program is established and operational.

The Murujuga Research Protocols have been developed by MAC as a set of governing principles and guidelines to ensure research is conducted in a respectful and culturally appropriate manner. Perdaman is committed to undertaking any research and monitoring in harmony with the Murujuga Research Protocols developed by MAC as part of the MRAS.

### 4.3 Cultural Heritage Site Assessment

A large number of archaeological and ethnographic heritage surveys have been undertaken within Project Ceres area and Burrup Peninsula in the past. A recent heritage survey coordinated by Department of Jobs, Tourism, Science and Innovation (JTSI) was conducted in late 2019 within the development envelope. The number and location of these Aboriginal Heritage Sites have been confirmed during these surveys and are summarised in Table 4-1 through Table 4-6.

A summary of the heritage survey coordinated by JTSI in 2019 is provided in **Appendix 2**.

#### 4.3.1 Heritage Sites and Objects within Project Ceres Development Envelope

The following Aboriginal Heritage Sites identified from the DPLH AHIS were assessed together with information from the 2019 heritage survey report and in consultation with MAC to identify and classify the Sites into four categories:

- Recorded Aboriginal Heritage Sites impacted and identified for salvage and relocation (Table 4-1), shown in Figure 4-2, Figure 4-3, and Figure 4-4.
- Recorded Aboriginal Heritage Sites within the Development Envelope (Table 4-2), partially impacted by Project Ceres requiring protection measures
- Recorded Aboriginal Heritage Sites confirmed "Not in the Development Area" (Table 4-3)
- Recorded Aboriginal Heritage Sites considered "Not to be Sites" (sites that do not meet the criteria of an Aboriginal Heritage Site based on the assessment and in consultation with MAC representatives) (Table 4-4), no impact.

Figure 4-1 shows the locations of Aboriginal Heritage Sites within the development envelope to be preserved or relocated, in accordance with the MAC review and strategy to manage the sites provided in Table 4-1 and Table 4-2.

Confidential Figures showing Cultural Heritage and Archaeological Sites in Site C and Site F are included in Appendix D and M – **these must be redacted in any publicly available copies of this Plan.**

Figure 4-1 Heritage Sites to be Preserved or Relocated

**REDACTED**

Table 4-1 Recorded Aboriginal Heritage Sites Impacted and identified for Salvage and Relocation

Site ID Number	Description	Significance	Strategy	MAC Review & Comment
19239 – Site C	Grinding patches / grooves IHS (2019) page 145	Low	Site 19239 is situated on Site C in the middle of Urea Unit 1 processing infrastructure and will be impacted by proposed project. The site will be levelled (cut back) in preparation for preparing the Urea Unit 1 pad for the plant. Salvage and relocate: Refer to Heritage Salvage Strategy presented in Attachment F.	Consultation with MAC Elders and board recognise Site 19239 needs to be moved for Project Ceres to go ahead. AGREED: Salvage and removal as directed by MAC
19874 – Site C	Engraving IHS (2019) page 175	High	Site 19874 is situated on southwest corner Site C within the footprint of the storage building and adjacent to the start of the conveyor. This area will be backfilled to a depth of 5m which would bury the site if left in situ and therefore will be impacted by proposed project. Salvage and relocate: Refer to Heritage Salvage Strategy presented in Attachment F.	Consultation with MAC Elders and board recognise site 19874 needs to be moved for Project Ceres to go ahead. AGREED: Salvage and removal as directed by MAC
18615	<b>REDACTED</b>	High	The area will be backfilled will be part of the cut and fill required for a level site for the seawater cooling tower. Salvage and relocate: Refer to Heritage Salvage Strategy presented in Attachment F.	Multiple options for leaving the sites in-situ were explored with MAC representatives including a number of site visits to the location to discuss options. Whilst leaving the sites in situ would mean creating a wall and ‘manhole’ to protect the sites it would restrict access to the artefacts. Final agreement with MAC Elders and Board was to salvage and remove. AGREED: Salvage and removal as directed by MAC

**REDACTED – Confidential information redacted for public release**



*Figure 4-2 NHP Site 19239*

**REDACTED**

*Figure 4-3 NHP Site 19874*

**REDACTED**

*Figure 4-4 NHP Site 18615*

**REDACTED**

Table 4-2 Recorded Aboriginal Heritage Sites within the Development Envelope

Site ID Number	Description	Significance	Strategy	MAC Review & Comment
9296 – Site F	Artefacts / Scatter, Engraving – Men’s Restricted IHS (2019) page 56	High	Remain in-situ. Land to remain at natural level with buffer (including sites MAC-004, 9296, MAC-003)  <i>Site Protection strategy attachment K.1</i>	Agreed with the proposed strategy to redefine clearing boundary in order to protect the sites. Extract from S18 submission: <i>“Project area Site F also has four sites (MAC004, 26008, 9296 and MAC003) on the southern boundary which fall within the cut and fill zone of the development. Initial proposal was to salvage and remove. Following further consultations it was agreed to redesign the cut and fill to leave the sites in-situ on a plateau including a buffer zone around these sites, which still enables traditional owner access from the south side of Project Ceres.</i>  The senior men require this site to be a closed registration on the Register of Places and Objects, accessible only through written permission via the senior male MAC traditional owner representatives sitting on the Circle of Elders.
9439 – Site F	Man Made structure / engineering IHS (2019) page 62	High	Excise from development area. Fence and provide access from new Hearson Cove Road alignment.  <i>Site Protection strategy attachment K.2</i>	Agreed – these stone circles are considered by MAC to be man-made and are subject to ongoing research
9597 – Boundary Corridor	Artefacts/Scatter, Engraving, Grinding Patches/Grooves, Midden/Scatter IHS (2019) page 78	High	Remain in-situ. Road construction to avoid disturbance. Provide protection (fencing) as agreed with MAC representatives  <i>Site Protection strategy attachment K.3</i>	Agreed, with monitors during initial clearing works

Site ID Number	Description	Significance	Strategy	MAC Review & Comment
<b>9599 – Boundary Corridor</b>	Engraving, Grinding Patches, Grooves IHS (2019) page 84	High	Remain in situ – outside conveyor buffer zone. Provide protection (fencing) as agreed with MAC representatives  <i>Site Protection strategy attachment K.4</i>	Agreed, with monitors during initial clearing works
<b>9755 – Boundary Corridor</b>	Engraving IHS (2019) page 103	High	Remain in situ. No additional action >100 from conveyor  <i>Site Protection strategy attachment K.5</i>	Agreed
<b>9808 – Site C</b>	Engraving IHS (2019) page 111	High	Remain in situ. No additional action >80 from conveyor  <i>Site Protection strategy attachment K.6</i>	Agreed
<b>9809 – Boundary Corridor</b>	Engraving IHS (2019) page 118	High	Remain in situ, just outside conveyor corridor (west). Protect (fencing) as agreed with MAC representatives.  <i>Site Protection strategy attachment K.7</i>	Agreed, with monitors during initial clearing works
<b>19876 – Boundary Corridor</b>	Engraving, Grinding Patches / Grooves IHS (2019) page 179	High	Remain in-situ, just within conveyor corridor (west). Protect (fencing) as agreed with MAC representatives.  <i>Site Protection strategy attachment K.8</i>	Agreed, with monitors during initial clearing works
<b>19885 – Boundary Corridor</b>	Grinding patch IHS (2019) page 186	Low	Remain in-situ and protect as agreed with MAC representatives  <i>Site Protection strategy attachment K.9</i>	Agreed, with monitors during initial clearing works



Site ID Number	Description	Significance	Strategy	MAC Review & Comment
<b>19766 – Boundary Corridor</b>	Engravings - Men's Restricted IHS (2019) page 151	High	Remain in situ. No additional action >100 from conveyor  <i>Site Protection strategy attachment K.10</i>	Agreed
<b>20037 – Site C</b>	Engraving - isolated on a small rock IHS (2019) page 198 Figure 4-5	High	Remain in-situ conveyor moved to the North (March 2022) to avoid site and buffer zone.  <i>Site Protection strategy attachment K.11</i>	Original 20037 boundary included stone circle to the southeast. MAC considers this stone circle to be man-made and more detailed investigation would be required to determine its origin. Clough advises that the stone circle will be avoided by the proposed works (Cam Richardson phone call 8/1/21).  It is a recommendation straddle and leave in-situ with design controls.
<b>20038 – Boundary Corridor</b>	Engraving IHS (2019) page 204	High	Remain in situ. Conveyor moved to North (March 2022) to avoid site and buffer zone.  <i>Site Protection strategy attachment K.12</i>	Agreed with monitors during initial construction works in the immediate vicinity of the site.
<b>20039 – Boundary Corridor</b>	Engraving – Men's Restricted IHS (2019) page 209	High	Remain in situ, outside conveyor corridor (west). Protect (fencing) as agreed with MAC representatives.  <i>Site Protection strategy attachment K.13</i>	Agreed, with monitors during initial clearing works
<b>20040 – Boundary Corridor</b>	Engraving – Men's Restricted IHS (2019) page 214	High	Remain in situ, outside conveyor corridor (west). Protect (fencing) as agreed with MAC representatives.  <i>Site Protection strategy attachment K.14</i>	Agreed, with monitors during initial clearing works

Site ID Number	Description	Significance	Strategy	MAC Review & Comment
<b>26008 - Site F</b>	Engraving – isolated on a small rock IHS (2019) page 219	High	Remain in-situ. Land to remain at natural level with buffer (including sites MAC-004, 9296, MAC-003)  <i>Site Protection strategy attachment K.15</i>	Agreed, with monitors during initial clearing works
<b>MAC-002 – Boundary Corridor</b>	Engraving IHS (2019) page 231	High	Remain in-situ, just within conveyor corridor (west). Protect (fencing) as agreed with MAC representatives.  <i>Site Protection strategy attachment K.16</i>	Agreed, with monitors during initial clearing works
<b>MAC-003</b>	Engraving – Men’s Restricted IHS (2019) page 236	High	Remain in-situ. Land to remain at natural level with buffer (including sites MAC-004, 9296, MAC-003)  <i>Site Protection strategy attachment K.17</i>	The senior men request this site be a closed registration on the Register of Places and Objects, accessible only through written permission via the senior male MAC traditional owner representatives sitting on the Circle of Elders.  The site, although situated outside of Project Ceres Area (and in the NHL area), was required to be recorded in this report on advice from MAC representatives. It should be protected and managed should ground disturbance works occur nearby. Further, should ground disturbance works occur in this locality, the site should be monitored by senior male traditional owner representatives.
<b>MAC-004</b>	Engraving IHS (2019) page 241	High	Remain in-situ. Land to remain at natural level with buffer (including sites MAC-004, 9296, MAC-003)  <i>Site Protection strategy attachment K.18</i>	Agreed, with monitors during initial clearing works

Site ID Number	Description	Significance	Strategy	MAC Review & Comment
Thalu	Fish Thalu	High	<p>Fish Thalu - The heritage report and the subsequent discussions with senior Traditional Custodians confirm that the Fish Thalu conventionally thought to be located within the NHP area within Site F, is actually located to the north of the Hearson Cove Road on the tidal flats outside the Perdaman Project Development Envelop to the north-east of Site F. Project Ceres, including Project Ceres Causeway's designed flow regime management, will not impact on the Fish Thalu location either physically or in terms of inundation effects.</p> <p><i>Site Protection strategy attachment K.19</i></p>	NA – will not be impacted.



*Figure 4-5 NHP Site 20037*

**REDACTED**

Table 4-3 Recorded Aboriginal Heritage Sites Confirmed “Not in the Development Area”

Site ID Number	Description	Significance	Strategy	MAC Review & Comment
<b>358 – Site F</b>	Midden / Artefact Assemblage IHS (2019) page 268	Not in Project area	Site 358 buffer zone enters the southwest edge of the proposed Project area. No development is proposed for this area and IHS (2019) survey confirmed the artefacts were physically outside the proposed Project area	Agreed
<b>9435 - All</b>	Artefacts / Scatter, Grinding Patches / Groove	Not in Project area	Site 9435 buffer zone overlaps the Site C Corridor zone between the Site C boundary and Burrup Road. The physical site is not located in the proposed Project area	Agreed
<b>10558 – Site C</b>	Engraving, Grinding Patches / Grooves	Not in Project area	Located north of Site C outside of Project area.	Agreed
<b>19762 – Site C</b>	Man-made structure IHS (2019) page 272	Not in Project area	Site 19762 buffer zone intersects the proposed Project Site C area. IHS (2019) survey confirmed the location of the feature was outside Project Ceres area	Agreed
<b>16636 – Waterway</b>	Midden / Artefact Assemblage IHS (2019) page 130	Low	None – not within Project area	Agreed
<b>19836</b>	Engraving IHS (2019) page 274	Not in Project area	Site 19836 other heritage place was not located within the IHS (2019) survey. The feature described in the AHA database is not consistent with the geographical features within this area	Agreed
<b>20071 – Site C</b>	Stone Circles	Not in Project area	20071 is north of Site C associated with rocky outcrops and outside the proposed development areas.	Agreed
<b>MAC-005 – Waterway</b>	Artefact assemblage IHS (2019) page 247	Not in Project area	MAC-005 is in the intertidal area north of the Site F boundary and east of the causeway corridor and will not be impacted by the proposed development.	Agreed

Table 4-4 Recorded Aboriginal Heritage Sites Considered “Not to be Sites” – No Impact

Site ID Number	Description	Significance	Strategy	MAC Review & Comment
<b>9275 – Site F</b>	Artefact / Scatter, Midden Scatter IHS (2019) page 278	Recommended not a site	Site 9275 is within Project Ceres proposed development area of Site F. However, was subject to previous s.18 permission to disturb as part of local quarrying. IHS (2019) identified “remnants are scant, churned and in poor condition” No action – not a site	Agreed
<b>9295 – Site F</b>	Artefacts / scatter, engraving IHS (2019) page 280	Recommended not a site	Site 9295 is within Project Ceres proposed development area of Site F. However, was subject to previous s.18 permission to disturb and is within the area used as a borrow pit No action – not a site	Agreed
<b>9401 – Boundary Corridor</b>	Engraving IHS (2019) page 281	Recommended not a site	Site 9401 is within Project Ceres proposed development area in the corridor and will be subject to development for the Site C access road. However, site 9401 was subject to previous s.18 permission to disturb and is within the area used as a borrow pit. No action – not a site	Agreed
<b>9641 – Site C</b>	Artefacts / scatter; Midden / scatter IHS (2019) page 284	Recommended not a site	Site 9641 is within Project Ceres proposed development Site C area where the urea storage building will be situated. No archaeological site exists at the location in 2019 No action – not a site	Agreed
<b>9754 – Boundary Corridor</b>	Engraving, Grinding Patches, Grooves IHS (2019) page 285	Recommended not a site	Site 9754 was identified as being in Project Ceres corridor and is outside of the area of disturbance. IHS (2019) survey did not locate the artefact. No action – not a site	Agreed
<b>9756 – Boundary Corridor</b>	Artefacts / Scatter IHS (2019) page 287	Recommended not a site	Site 9756 was identified as being within Project Ceres conveyor route. IHS (2019) survey did not locate the artefact.	Agreed

Site ID Number	Description	Significance	Strategy	MAC Review & Comment
			No action – not a site	
<b>10559 / 17747 (duplicates) – Site C</b>	Artefacts / scatter; Midden / scatter IHS (2019) page 288	Recommended not a site	Site 10559 was identified as being within Site C with the urea unit plant area. IHS (2019) survey did not locate the artefact  No action – not a site	Agreed
<b>18959 – Site C</b>	Isolated artefacts IHS (2019) page 291	Recommended not a site	18959 is north of Site C associated with rocky outcrops and outside the proposed development areas. One potential location identified on edge of conveyor corridor. IHS (2019) survey confirm these locations are not a site  No action – not a site	Agreed
<b>19758 – Site C</b>	Grinding patch IHS (2019) page 293	Recommended not a site	19758 historically identified in Site C. IHS (2019) confirmed site was mis-identified and is natural occurring feature.  No action – not a site	Agreed
<b>20068 – Site C</b>	Engraving IHS (2019) page 295	Recommended not a site	20068 is in Site C and is within the clean stormwater pond location. IHS (2019) survey identified the site was due to natural features.  No action – not a site	Agreed
<b>20069 – Site C</b>	Engraving IHS (2019) page 290	Recommended not a site	Site 20069 was identified as being within Site C adjacent to the ammonia storage. IHS (2019) survey located the artefact and identified the features as being naturally occurring.  No action – not a site	Agreed
<b>20731 – Boundary Corridor</b>	Grinding Patches / Grooves IHS (2019) page 299	Recommended not a site	Site 20731 buffer zone overlaps the proposed Project boundary however will not be impacted by the development. IHS (2019) survey located the artefact and identified the features as being naturally occurring  No action – not a site	Agreed

#### 4.3.2 Heritage Sites within the portion of the Development Envelope that is coincident with the NHP

The following Aboriginal Heritage Sites, as recorded on the DPLH AHIS, are located adjacent to the development envelope. Recommendations concerning them were made in the heritage survey reports. All recommendations related to revising the Register of Places and Objects to reflect that the Sites do not intersect with Project Ceres Area.

These sites form a subset of the sites listed in Table 4-1 and Table 4-2, and pursuant to the *EPBC Act* are considered to be subject to Matters of National Environmental Significance (MNES) considerations as they are physically located within the NHP and are associated with the values underpinning the listing of that place. Table 4-5 provides details of the relevant sites within the NHP. See also **Appendix D** for confidential location plan.

*Table 4-5 Recorded Aboriginal Heritage Site within that portion of Development Envelope that is coincident with the NHP*

AHIS SiteID	Site Type	Action
9439	REDACTED	<p>Site in the NHP area surrounded by Site F (Figure 4-6)</p> <p>It is planned that the NHP area and the included Site #9439 will be excluded from the DevelopmentWA industrial lease of Site F for Project Ceres. Perdaman has committed to fencing the site and providing access from the relocated Hearson Cove Rd. This will provide physical separation of Project activities from the NHP. The installation of the boundary fence will be undertaken in consultation with MAC to ensure appropriate agreed protection is in place during the installation.</p> <p>The Industrial lease from Development WA to exclude this site and entire NHP. Access to be maintained by excluding the access connection to Hearson Cove Road from the industrial lease.</p> <p>As the NHP area is outside Project Ceres lease of Site F, the lease boundary fence will be a physical separation between the NHP area and Project Ceres on three sides.</p> <p>The noise study that forms Appendix F of the ERD (Cardno,2020) indicates that the assigned noise levels applicable at either Yatha or the National Heritage Listed Area sites within Site F would be 60 dB LA10, on the basis that these may be considered 'noise sensitive premises' but without a building associated with a sensitive use. As a worst-case scenario, the background noise levels at Yatha and the National Heritage Listed Area sites within Site F could be considered similar to that of Deep Gorge Sampling Station as it is at similar distance to the Yara plant. Therefore, background levels had a wide range with lowest being around 28-30 dB(A) and highest being 55 dB(A).</p>
9599/16775 (Duplicate)	REDACTED	<p>Site in NHP area outside of conveyor corridor (Figure 4-7).</p> <p>Protective mechanisms outlined in Section 5.1.3 must be utilized.</p>
20038	REDACTED	<p>Site to be identified and avoided (Figure 4-8) <b>REDACTED for public copy of this Plan</b></p> <p>Design is for the cyclone rated and engineered, fully enclosed conveyor system to pass above and to the east of parts of the site.</p> <p>The conveyor has been relocated during the detailed design to avoid interaction and impact to this site.</p>





*Figure 4-6 NHP Site 9439*

**REDACTED**

*Figure 4-7 NHP Sites 9599 and 16775*

**REDACTED**

*Figure 4-8 NHP Site 20038*

**REDACTED**

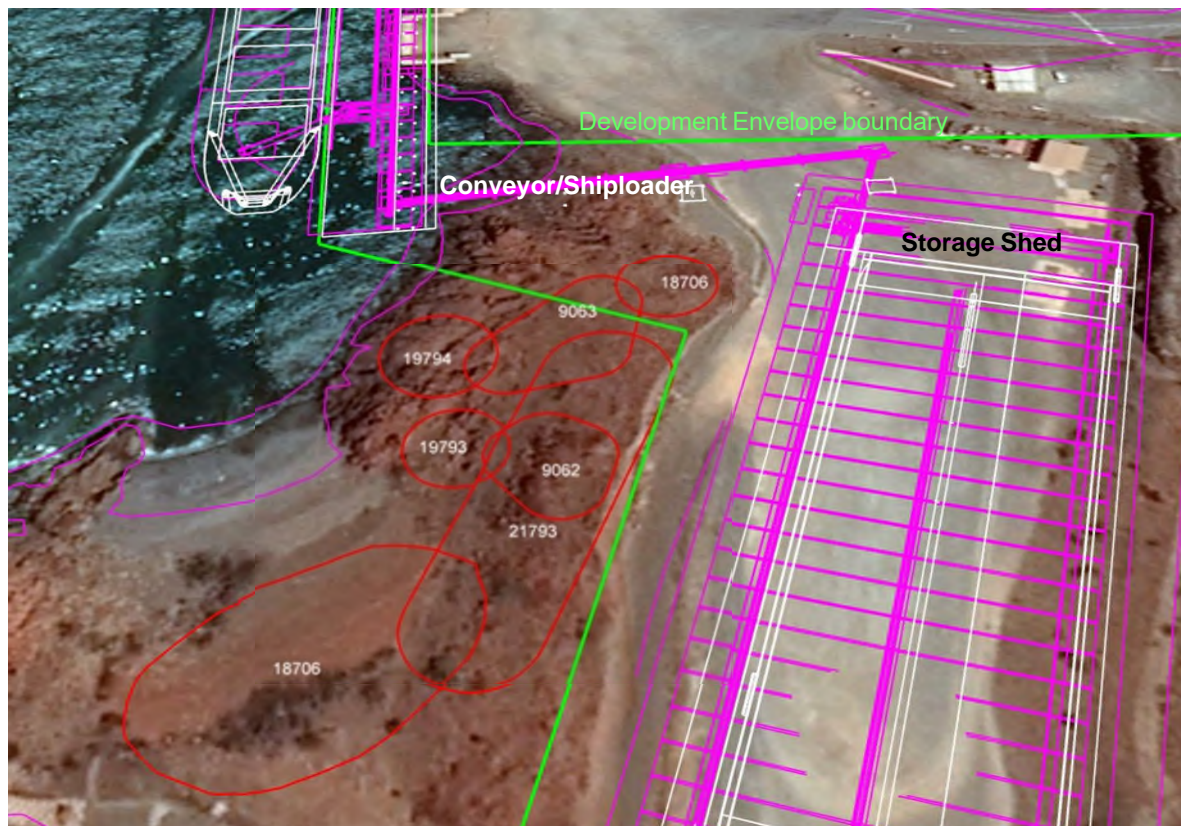
### 4.3.3 Heritage Sites Pilbara Port – Storage, Conveyor & Berth

The majority of Project Ceres footprint in the Pilbara Port area is disturbed land, previously used as a quarry. As part of preparation for further liaison with the MAC and in response to the MAC’s public review submission on the ERD, Perdaman consulted with Pilbara Ports and reviewed the DPLH AHIS covering undisturbed land in and adjacent to the UPDE in the Pilbara Port. This review identified seven (7) sites recorded on the DPLH AHIS as detailed in Table 4-6 and Figure 4-9.

Table 4-6 Recorded Aboriginal Heritage Sites in and adjacent to development envelope at Pilbara Port

Site ID Number	Description	Significance	Action
18706	Philip Point engraving 2	High	Preserve in situ avoid
9063	Artefacts / scatter, engraving, quarry	High	Largely outside DE, where overlaps DE, preserve in situ avoid
19794	Grinding patches / grooves	High	Outside DE avoid
19793	Engraving	High	Outside DE avoid
9062	Artefacts / scatter, engraving	High	Outside DE avoid
10303	Artefacts / Scatter, Quarry	High	Outside DE avoid
21793 (Unregistered, lodged)	Coastal Set down Relocation 1 (relocated OMP03 Feb 2004)	Relocated material	Outside DE avoid

Figure 4-9 Pilbara Port - Storage, Conveyor & Berth DPLH AHIS Sites



#### 4.4 Potential Impacts to Heritage Values

In early 2011, the Australian Government asked the Australian Heritage Council (AHC) to undertake an assessment of the Outstanding Universal Values of the Dampier Archipelago site and any threats to that site. The second part of the report documents the threats to the heritage values of the Dampier Archipelago and undertakes a risk analysis of those threats.

The AHC report (AHC, 2012) identified a number of potential threats to the heritage values of the Dampier Archipelago, of which industrial development and the knowledge, management and engagement of the Ngarda-Ngarli people presented the highest risk to the heritage values.

The AHC report (AHC, 2012) concludes that although the area surrounding the site has been heavily impacted by industrial development, the site itself maintains high integrity and is in a stable condition.

The AHC Dampier Archipelago Risk Assessment Matrix (AHC, 2012) included as part of the assessment, shows that the risks from recreation, tourism and vandalism (high risk with incomplete control rating) and lack of knowledge management and engagement (severe risk with weak control rating) were ranked higher than industrial development, blasting and vibration or emission impacts.

This data was utilised to inform preparation of the Environmental Scoping Document (ESD) and the identification of potential impacts from Project Ceres in relation to NHP listing values.

The EPA's assessment (EPA Report 1705) identified Key environmental factors concerning cultural heritage in its assessment, including Social Surroundings and Air Quality. These factors are summarised in Table 1-1.

The potential impacts to the environmental factors as assessed by the EPA are presented in Table 1-2.

A risk assessment with associated **mitigation measures** has been provided in **Appendix 3** of this CHMP. The potential impacts from associated construction activities and the mitigation measures within **Appendix 3** aid to satisfy the requirements of Condition 9-2 (3) and (4).

## 5 Rationale and Approach

The management approach of this CHMP has been informed by best practice and the expectations within the environmental Conditions stated within MS 1180 and s.18 Consent conditions (REF: MIN-2021-0354). The first approach taken focusses on avoiding potential impacts through design and planning mechanisms. Perdaman has applied a hierarchy of controls to reduce risk to heritage sites and heritage listing values in the NHP area, forming part of Project Ceres footprint, proximally to ALARP. Where these sites cannot be avoided by iterative design processes as described in Section 5.1.1, mitigation measures are outlined as management actions and targets (Section 7). A risk assessment is presented in **Appendix 3** of this Plan.

Due to engagement of MAC representative during the design optimization, and modifications to Project Ceres footprint to avoid sites, Perdaman considers that the risk of impacts to heritage sites in Project Ceres Footprint are not likely to be material, other than in relation to the three sites in Site C where consent for salvage and relocation pursuant to the application for s.18 approval that has been sought and obtained from MAC and its Circle of Elders.

No heritage sites in NHP areas will be directly impacted, and the commitment to rock art monitoring as a contributing participant to the MRAS monitoring program has the objective of mitigating risk to rock art and the heritage values inextricably linked to rock art in the proximal NHP areas. Thus, heritage values associated with NHP areas within and adjacent the development envelope are unlikely to be impacted by Project Ceres.

Additionally, implementation of an Environmental Management System (EMS) Framework provides a structure for achieving the key environmental objectives during the construction and operational phases of Project Ceres. Implementation of the EMS Framework ensures environmental performance is achieved through environmental management practices that are consistent with the Perdaman Environmental Policy and Objectives. Management measures and actions are specifically detailed within this Plan (Section 7) and then reiterated within the Cultural Heritage Management Protocol within the PEMP. The Perdaman Environmental Management Protocols have been developed to address the environmental risks posed by Project Ceres and its associated construction and operational based activities.

A summary of the management approach for this CHMP includes:

- Avoid impacts to heritage Sites and values identified and protect Sites as defined within this CHMP.
- Risk Assessment and the internal use of early response indicators and criteria with performance indicators to track impacts.
- The establishment of spatially defined management areas showing the defined culturally significant areas (i.e., Site C, F, conveyor etc).
- Regular and continuing consultation with MAC and traditional owners.
- Regular review and update of the monitoring program based on changes to Project Ceres, timings of construction and operations, consultation with MAC, traditional owners, outcome of baseline ambient air quality monitoring and the results from the MRAS monitoring program etc.
- Review of contingency measures to be implemented in the event of management actions not being met.
- Measurement and review of effectiveness of implemented management actions and or contingency measures.

The actions required to meet the objectives are listed below in Section 7.

### 5.1 Strategies to Determine Heritage (Environmental) Outcomes and Management Objectives

Perdaman in the initial planning for the proposed development identified the following strategies to understand potential impacts but also the management and monitoring strategies to avoid, minimize or mitigate impacts and promoting local business development, employment and education in Aboriginal heritage.

The strategies include:

1. Heritage studies to identify Aboriginal Sites and understand local heritage values
2. Design reviews in consultation with MAC to avoid, minimize or mitigate potential impacts to Aboriginal Sites
3. Obtain AHA Section 18 Consent for partial or whole impacts as agreed with MAC

4. Design features to minimize emissions, noise and / or loss of product during transfer from the plant to the port and loading on vessels
5. Conduct Aboriginal site salvage as agreed with MAC representatives which retains the integrity of the petroglyph
6. Protection of Aboriginal Sites as agreed with MAC representatives, whilst still providing access to the sites for MAC as required
7. Participation in Aboriginal Awareness programs for all construction and operational personnel
8. Establishing and maintaining MAC consultation processes in the planning, construction, and operational phases of the Perdaman facility
9. Comprehensive environmental monitoring program to develop a baseline and conduct periodical monitoring as defined in Project Ceres Environmental Management Plan (PEMP) and supporting EMPs

The following Sections detail the approach taken for each of the strategies, heritage (environmental) outcomes with details on supporting procedures provided in Section 7.

Management outcomes are described below with Managed Environmental Objectives provided in Table 7-1.

### 5.1.1 Design Review and Heritage Sites

An evaluation of the identified sites within and adjacent to the development envelope was undertaken with GPS data uploaded into the design model to assess which sites were potentially impacted by the proposed Project and where practicable adjust the design and / or site layout of the plant and supporting infrastructure to avoid impacting those sites.

The approach used was to design infrastructure to avoid heritage sites where possible. Various design iterations were produced with the final design being the one with least heritage impacts. This includes the following:

- Minimise disturbance to the northern section of Site C as reasonably practicable from development. This area is significant to Aboriginal people and contains numerous heritage values.
- Re-align the product conveyor system in order to avoid the National Heritage Listed area as well as groupings of significant engravings to the north.
- Design numerous options for protecting in situ Site 18625.

A collaborative approach has been undertaken with MAC representatives to understand the location and significance of the sites in question and shape the layout and / or design of the plant and construction facilities to minimise impacts. The EPC Contractor representatives met and discussed with MAC on multiple occasions details on the design elements and potential options.

One of the challenges of the development is the significant change in land heights across Project Ceres, particularly Site C where there will be up to 10m fill required to elevate the plant area above the flood zone. Sites which potentially could have been left in-situ and fenced will now need to be filled.

Perdaman will apply a similar approach to future changes to Project Ceres during operations to consult and collaborate with MAC on optimizing changes through the design to avoid, minimize or mitigate impacts.

The following changes occurred to the design of Project Ceres to protect specific Aboriginal Heritage Sites.

#### 5.1.1.1 NHP Site 9439

NHP Site 9439 is shown in Figure 4-6. The proposed Site F boundary was amended to 'excise' the Site from the development envelope. The site will be fenced as directed by MAC and accessible outside of Project Ceres operational areas. Project clearing boundaries are set inside the 'new boundary' with a buffer zone to avoid impact during earth moving activities.

#### 5.1.1.2 NHP Sites 20037, 20038 and 9559

The conveyor design and route were changed to limit impact to Sites within the boundary services corridor resulting in only three sites being partially impacted (Figure 5-1).

- NHP Site 20037 (Figure 4-5) - conveyor elevated and will straddle site.
- NHP Site 20038 (Figure 4-8) – conveyor moved to north to avoid site and buffer zone.

- NHP Site 9559 - east most element within conveyor corridor with conveyor span designed to avoid ground disturbance from support footings.

With regards to Sites 20037 and 20038, truss foundations to be constructed for the conveyor system are estimated to span 22m in length from Site C to the Port. These Heritage Sites will be clearly flagged during site establishment works using an early warning flag and threshold flag at 3m and 5m offsets from the artifact. During a presentation to MAC in October 2021, it was noted that there is a preference to adopting a flagging methodology over hard temporary fencing (predominantly to avoid creating an area of interest that may cause impact by inquisitive members of the public).

The truss foundations will not be located within the 5m boundary (buffer) and the EPC Contractor will minimise disturbance between the truss foundations by avoiding clearing and using cranes to lift the conveyor into place. This methodology will reduce the overall clearing and impact to heritage sites in the conveyor corridor.

*Figure 5-1 Conveyor route and changes in elevation to minimise impacts to Sites.*

**REDACTED**

#### **5.1.1.3 NHP Site 9597**

Site 9597 is a panel of different heritage material on a small stony ridge which the access road to Project Ceres from Burrup Road had been designed to go through the site. The road has now been moved to the south of the site with the road base width (12m) now not impacting the heritage material (Figure 5-2). Construction of the road will be controlled to avoid disturbance to the site with monitoring by MAC during ground disturbance activities.

*Figure 5-2 Changes to Site Access Road*

**REDACTED**

#### **5.1.1.4 NHP Sites 26008, MAC-003 and MAC-004**

The main workshops, administration and support services will be located on Site F for operations with other portions of Site being used for laydown of plant and material during construction. Three sites on the southern boundary, ID 26008, MAC-004 and MAC-003 are within Project Ceres development envelope and initially designated for use during the construction phase. During liaison with MAC, it was agreed to 'excise' these sites and move the boundary with a buffer to avoid disturbance. The other factor is Site F will be used for fill material required on Site C, so the cut and fill plan had been modified to retain the Sites in a plateau above the operational level of Project Ceres providing additional protection and buffer (Figure 5-3). MAC will monitor ground disturbance activities.

*Figure 5-3 Site F Southern Boundary Changes*

**REDACTED**

#### **5.1.1.5 NHP Sites 19874, 19239, and 18615**

Three sites were identified as being located within the plant footprint and given the constraints of the site (small overall footprint, facilities to be installed with process safety margins, backfill of Site C), the three sites were identified for salvage and relocation:

- ID 19239 – Grinding patches / grooves (Figure 4-2)
- ID 19874 – Engraving (Figure 4-3)
- ID 18615 – panel of three petroglyphs designated as having significance as a men's site, located in part in the cooling tower footprint and in part on the eastern boundary access (Figure 4-4)

Table 4-1 provides a summary of the significance of the sites.

Multiple scenarios were considered to retain the men's site (ID 18615) in situ given the significance to the people with the most feasible being to retain but bury one of the three panels and then create access below ground in a pit (Figure 5-4). The decision was taken by MAC elders and board to retain the integrity of the site would be to have it relocated.

To retain the integrity of the petroglyph and the inherent heritage value of the Site, a series of studies of each of the sites is being undertaken to support the planning for salvage and relocation including:

- Site survey - location, size, dimension, foundation rock orientations and layout.
- Geotechnical evaluation – rock and soil type, condition of the foundation rocks (need for stabilisation) to support excavation and / or extraction requirements and crane stability.

- Lifting study – weight, slinging methodology, crane orientation, pad clearance, lift orientation for both extracting from in-situ location and placement on receiving location.
- Transport – method, stabilisation and protection.
- Receiving site preparation – foundations, stabilisation methodology.

These studies are being undertaken in consultation with MAC Rangers and Heritage team in preparation for the salvage activities in accordance with AHA s.18 ministerial condition MN-2021-0354-1.

Details on the process for the implementation of a salvage strategy for sites 18615, 19239 and 19874 is explained in Section 7.5 with an example of the Aboriginal Site salvage work pack provided in **Attachment F**.

During March and April 2022, Perdaman and its EPC Contractors, held several consultation meetings with the Circle of Elders and the MAC Board at the Lotteries House in Karratha (refer to **Attachment G**).

As part of the consultation process, the Circle of Elders recognised that there are suitable sites for relocation. To maintain cultural safety, the Circle of Elders endorsed and approved the relocation of Heritage sites ID18615 (including all petroglyphs related to this site), ID19239 and ID19874 to the Reserve 43195, a compound where other free sites are now located.

The Circle of Elders were asked in an in-camera session to endorse the relocation and salvage of sites as described by Perdaman over the previous days of consultation. The women deferred this discussion about site ID 18615 to the men.

As a result of this discussion, MAC have requested that Perdaman engage the services of a Maban man, to oversee the relocation of site ID18615 to ensure the cultural safety of everybody involved in the relocation process.

*Figure 5-4 Site 18615 Relative Depth / Location of Site Post Earthworks*

**REDACTED**

## 5.1.2 Design to mitigate emissions, noise, loss of product

### 5.1.2.1 Emissions

**Oxides of Nitrogen (NO<sub>x</sub>):** Consisting of nitric oxide (NO) and nitrogen dioxide (NO<sub>2</sub>), these emissions come from combustion, both from the high temperature combustion where nitrogen in the air is oxidised and from nitrogen in the fuel, and from the production of urea. Of relevance from an air quality perspective, no nitrous oxide (N<sub>2</sub>O) is produced or emitted by Project Ceres.

**Urea Particulates:** Particulate Matter (PM) comprised of urea dust within the PM<sub>10</sub> (particulate matter with an aerodynamic diameter of less than 10 microns) and PM<sub>2.5</sub> (particulate matter with an aerodynamic diameter of less than 2.5 microns) size ranges, is released to atmosphere from the urea manufacturing process. Particulate scrubbing equipment is incorporated into Project Ceres design to collect urea particulate present in exhaust gases prior to discharge to atmosphere. The final product is granulated where the physical properties reduce the propensity for dust formation and release of fugitive dust during conveying and product handling compared to the alternative of prills.

**Ammonia (NH<sub>3</sub>):** Traces of ammonia are released from the urea manufacturing process. Acid gas scrubbing equipment is incorporated into Project Ceres design to reduce ammonia present in exhaust gases prior to discharge to atmosphere.

Given the use of best practice pollution control technology within the plant (i.e. the scrubbing system in the plant will remove approximately 99.5% of the entrained urea dust, and approximately 80% of the ammonia) and the use of an enclosed conveyor system, it is unlikely that areas surrounding Project Ceres would be significantly impacted by urea dust.

### 5.1.2.2 Noise

Noise and vibration emissions produced during the construction of Project Ceres will be caused by the operation of mobile equipment and vehicles, the installation of plant equipment, blasting activities, and impulsive and vibratory equipment.

Due to the distance of the closest sensitive receptors (Hearson Cove, >2 km; Ngajarli, 1.5 km) and these locations being 'day use' areas, noise impact from construction noise are considered negligible.

Blasting will occur as part of the construction activities. Blasting estimations were carried out by Lloyd George Acoustics (2019) as part of the noise assessment for Project Ceres. The accurate estimation of airblast levels

is a complex task, the blasting process is highly non-linear, and the variability of most rock types also contributes to the difficulty in accurate predictions of the environmental outcomes. In the absence of either field data or the opportunity to conduct blasting trials in the region of interest, it is possible to estimate likely airblast levels using simple charge weight scaling laws.

It has been estimated that compliance with airblast limits would be achieved at Hearson Cove with a charge mass per delay up to 60kg.

The operation of Project Ceres has the potential to impact upon the ambient noise levels of the surrounding environment. Cumulative noise levels due to the additional noise emissions from Project Ceres may impact on people visiting Hearson Cove.

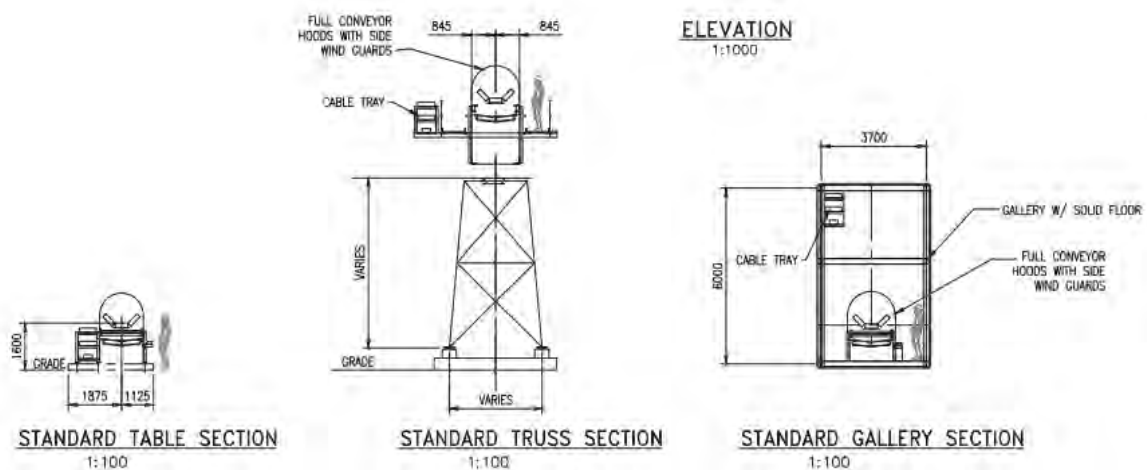
### 5.1.2.3 Loss of product during transfer for shipping

Following synthesis of the urea product, the product will be cooled and granulated where the physical properties reduce the propensity for dust formation and release of fugitive dust during conveying and product handling compared to the alternative of prills. The product is then stored within an enclosed storage shed in Site C. The product will lastly be transferred from Site C to the Port in a fully enclosed conveyor system that prevents the ingress of water and disturbance by wind.

Figure 5-5 provides the design elements showing an enclosed conveyor system and truss section.

It is also worthwhile noting that the product should not come into contact with water as it will damage the integrity of the product and its value.

Figure 5-5 Conveyor System Design Elements



### 5.1.3 Protection of Aboriginal Heritage Sites

Aboriginal Heritage Sites that will remain within the development envelope are to be protected from impacts. These sites include:

- NHP Site 9296 – Site F, Engraving, scatter, artefact, High significance. MAC identified as culturally significant and recommended to leave in situ with design controls and fencing.
- MAC-001 – Midden, artefact scatter, Unknown significance. MAC recommended to leave in situ with design controls and fencing.



## 6 Mitigation and Management Actions

### 6.1 Management Approach

Perdaman has taken a 'hierarchical approach' to the mitigation of potential impacts associated with Project Ceres, and in the first instance, has sought to avoid areas of cultural significance through design refinement. Where impacts cannot be avoided, Perdaman has designed Project Ceres to reduce the intensity and / or extent of impacts on cultural heritage.

To ensure that management provisions are comparable to the risks, Perdaman has adopted an objective based approach to achieve the desired outcomes for cultural heritage. Objective-based management includes the development and implementation of management actions, management targets, monitoring and reporting.

A suite of strategies in the form of management actions will be implemented throughout the construction and operational phases of Project Ceres to minimise or abate these impacts. These management actions were specifically developed to ensure that impacts are minimised as far as practicable during the final design, construction and operation of Project Ceres.

In addition, implementation of an Environmental Management System (EMS) Framework provides a structure for achieving the key environmental objectives during the construction and operational phases of Project Ceres. Implementation of the EMS Framework ensures environmental performance is achieved through environmental management practices that are consistent with the Perdaman Environmental Policy and Objectives. In addition, a Cultural Heritage Management Protocol has been developed to address the environmental risks posed by construction activities of Project Ceres are presented within the EPC Construction Environmental Management Plan 0000-ZA-E-09071 and the Heritage Management Sub-Plan 0000-ZA-E-09736.

### 6.2 Monitoring Approach

The purpose of cultural heritage monitoring is to inform if the specified outcomes are being achieved and if required, to determine when management targets are not being met. Section 7.2 outlines how Perdaman will undertake monitoring to determine performance against the management targets outlined in the objective (management)-based provisions.

Monitoring approach will include (however is not limited to);

- Monitoring of Ground Disturbance Permits to ensure all protections in place for heritage items to be affected by works are adequate and effective.
- Weekly environmental inspections.
- Incident management reports.
- Additional monitoring by a qualified and experienced archaeologist., if deemed necessary
- Monitoring of potentially impacted heritage sites during relevant works.

### 6.3 Risk Assessment

Perdaman applied a standard risk assessment matrix to its operations, whereby the 'likelihood' and 'consequence' of events is considered, with management and mitigation actions identified to control the level of risk.

Perdaman completed a risk assessment for cultural heritage in preparation of this CHMP. The risk assessment, with the resulting 'risk outcome', has been based upon the residual risk levels (as indicated by the risk matrix and HSSE Consequence severity table in **Appendix 3**) after management and mitigation activities are implemented. The assessments have applied the definitions for both likelihood and consequence as prescribed within DOE (2014) and are presented in **Appendix 3**.

### 6.4 Rationale for Choice of Provisions

Based on the above assessment of management approach and conditions relating to cultural heritage and as the nature of potential impacts from Project Ceres on social surroundings do not directly relate to aspects of the environment that can be quantitatively measured, a management-based approach has been taken to manage the cultural heritage values of the Burrup Peninsula.

The rationale for the choice of management including the management actions, targets, monitoring and reporting has been made partly on the basis of the MS Condition 9 requirements and additionally on the consultation with MAC. The EPA report (EPA Report 1705) also provides recommendations pertaining to management actions in alignment with s.44 of the *Environmental Protection Act 1986* (WA). Additionally, the ERD and associated surveys and investigations for Project Ceres have informed the specific cultural heritage objectives stated in Condition 9-1 of MS 1180. The objectives relating to cultural heritage management are presented and detailed in Section 6.4.1.

Some potential impacts managed under this CHMP, namely the accelerated weathering of Murujuga Rock Art, are subject to further scientific monitoring and results. Therefore, the understanding of how these impacts are best managed during Project Ceres implementation may change. To address the uncertainty associated with these potential impacts, an adaptive management approach (Section 9) will be implemented for Project Ceres, together with Project Ceres Air Quality Management Plan (PCF-PD-EN-AQMP).

### 6.4.1 Objective-based Management Actions

Management actions target the identified potential impacts and key threats to cultural heritage within and adjacent to Project Ceres site. The potential impacts have been outlined in Section 4.4 of this Plan. The EPA has required Perdaman to meet the Cultural Heritage objectives for Project Ceres presented in Table 6-1.

Table 6-1 Ministerial Statement No 1180 Cultural Heritage Management Objectives

Condition	Objective
9-1 (1)	Avoid, where possible, and otherwise minimise direct and indirect impacts to social, cultural, heritage, and archaeological values within and surrounding the development envelope.
9-1(2)	Allow ongoing Traditional Owner and Custodian access to enable traditional activities and connection to culturally significant areas within and surrounding the development envelope as shown in <i>Figure Two</i> . (NB: see Figure 6-1)
9-1(3)	Allow Traditional Owner and Custodian access to the development envelope following decommissioning of the proposal as shown in <i>Figure Two</i> . (NB: see Figure 6-1)
9-1(4)	Avoid, where possible, and otherwise minimise direct and indirect impacts to visual and amenity impacts to social and cultural places and activities.

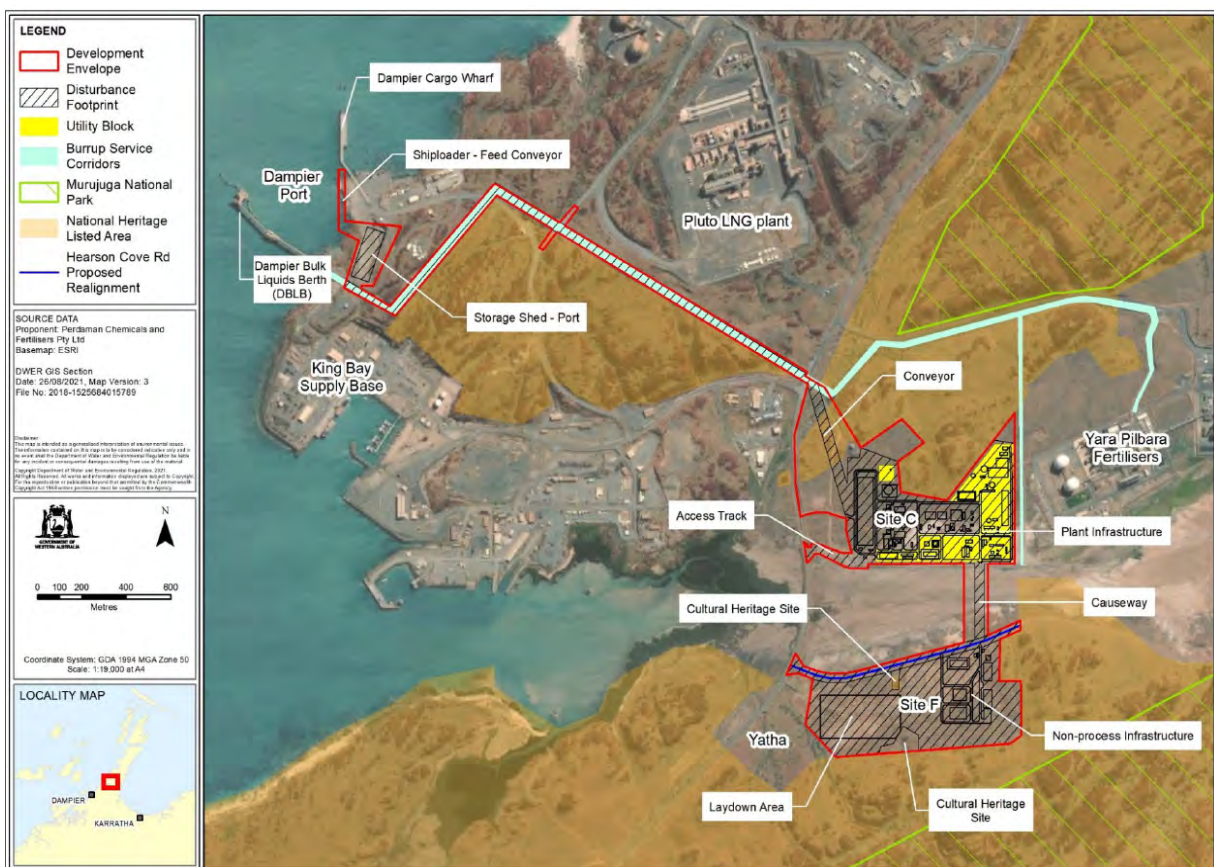


Figure 6-1 Ministerial Statement 1180 Figure 2 – Development envelope and disturbance footprint

These objectives will be achieved through specific measures ensuring appropriate environmental

management measures (in addition to monitoring) are implemented during the construction, commissioning and operation phases of Project Ceres (life of Project Ceres).

In addition to the Ministerial Statement No 1180 Cultural Heritage Management Objectives, the EPA advised (EPA Report 1705) that the following additional measures should be implemented, to reduce the potential for inconsistency with the EPA Social Surroundings Factor Objective: *To protect social surroundings from significant harm:*

- A management plan objective to avoid, where possible, and minimise impacts to Aboriginal heritage sites and cultural values (translated into Condition 9-1(1) of Ministerial Statement No 1180).
- Management actions to be undertaken where Aboriginal heritage sites or cultural values are identified.
- Contingency actions to be implemented in the event management actions have not been implemented.
- A framework for consultation with traditional owners and custodians via MAC and other relevant stakeholders during the life of Project Ceres.
- Measures to facilitate ongoing traditional owner and custodian access and connection to culturally significant heritage sites within the development envelope.
- Measures to re-establish traditional owner and custodian access to the development envelope following decommissioning of Project Ceres.

The specific targets and management actions associated with the cultural heritage objectives stated above (Table 6-1), and additional measures recommended by the EPA are detailed in Section 7 of this Plan.

## 6.5 Key Assumptions & Uncertainties

Key assumptions and uncertainties in relation to Cultural Heritage for Project Ceres are as follows:

- All surveys, assessments and investigations to date have captured the full extent of cultural values within and adjacent to the PDE, including the wider Burrup Peninsula.
- Consultation with MAC, Traditional Owners and the local community to date have provided a complete capture of all concerns and recommendations in relation to heritage values and sites likely to be impacted from Project Ceres Activities.
- Lack of scientific data in relation to future air emissions from the Urea Plant including urea dust and ammonia and its long term and short-term impacts on Murujuga rock art (pending MRAS Monitoring Program results).
- Significant archaeological components, comprised mostly of petroglyphs, are throughout the site boundary as it extends north along the ridge line.
- Mitigation requirements to comply with *Environmental Protection (Noise) Regulations 1997* were assessed based on preliminary plant design and indicative sound power levels. These assumptions should be confirmed through subsequent noise modelling as the detailed plant design progresses (noise reduction measures will be investigated during the detailed design phase to ensure that noise emissions are kept as low as is reasonably practicable).
- Sites are primarily recorded as polygons through GIS. In rare cases, a single point may constitute a site, whereby a buffer of 1m is applied to account for potential positional uncertainty relating to the DGPS accuracy. A 1m buffer around every point and polygon (area) ensures there is 100% certainty that the site or object exists in that delineated boundary.

## 7 Cultural Heritage Management Plan Provisions

This Section of the CHMP sets out the provisions that will be implemented for Project Ceres. This Plan outlines objective-based provisions. All requirements will be carried out during construction and operations and until Project Ceres is decommissioned and closed.

This CHMP will be implemented in conjunction with the PEMP (PCF-PD-EN-PEMP), AQMP (PCF-PD-EN-AQMP), Light Management Plan (PCF-PD-EN-LMP) and the Construction Environmental Management Plan 0000-ZA-E-09071 and the Heritage Management Sub-Plan 0000-ZA-E-09736.

### 7.1 Objective (Management) – Based Provisions

An objective is Project Ceres-specific desired state for an environmental factor to be achieved from the implementation of management actions and must relate to the EPA's environmental objective for a particular factor.

This section of the CHMP provides details of the objective based provisions to implement on Project Ceres. Objective-based provisions relate to management actions. Management actions are the actions implemented to achieve the environmental objective which generally relate to the 'minimise' and 'rehabilitate' steps of the mitigation hierarchy, while management targets are a type of indicator defined to demonstrate that the objective is being met.

The management actions presented in Table 7-1 have been prioritized using a risk-based approach (see risk assessment **Appendix 3**), so that the greatest effort will be placed on Project Ceres activities that have the highest likelihood of causing environmental impacts to heritage values where the consequence of the impact is likely to be severe and irreversible. Additionally, this risk-based approach ensures compliance with MS 1189 Condition 9-2 (5).

Project Ceres has included management targets and management actions that will aid Project Ceres in achieving the objectives stated within Condition 9-1 (1) through to 9-1 (4) of MS 1180 (Table 6-1).

The overarching performance target is to mitigate impact to heritage values associated with the Perdaman Project, specifically the following:

- Undertake works in consultation with MAC, Circle of Elders and Traditional Custodians they represent in accordance with Table 7-1.
- Ensure 100% of Perdaman Project staff and contractors operating on site complete MAC cultural awareness training.
- Salvage and relocate 100% of the approved heritage material in accordance with s.18 AHA conditions and in consultation with MAC.
- Ensure no impact to heritage sites in the NHP.
- Ensure all heritage places outside the NHP that do not have current s.18 AHA approval are protected in accordance with this CHMP.
- Audit performance against this CHMP at intervals no greater than 12 months, and
- Include audit results in Project Ceres Compliance Assessment Report.

Table 7-1 Objective Based Management Actions & Targets.

<b>EPA Factors and Objectives</b>	Social Surroundings - “To protect social surroundings from significant harm”
<b>Conditional Objectives</b>	Avoid, where possible, and otherwise minimise direct and indirect impacts to social, cultural, heritage, and archaeological values within and surrounding the development envelope.
	Allow ongoing Traditional Owner and Custodian access to enable traditional activities and connection to culturally significant areas within and surrounding the development envelope as shown in Figure Two. (NB: see Figure 6-1)
	Allow Traditional Owner and Custodian access to the development envelope following decommissioning of Project Ceres as shown in Figure Two. (NB: see Figure 6-1)
	Avoid, where possible, and otherwise minimise direct and indirect impacts to visual and amenity impacts to social and cultural places and activities.
<b>Key Heritage / Environmental Values</b>	As described in Section 1.4 of this CHMP.
<b>Key Impacts and Risks</b>	As described in Section 1.4 and <b>Appendix 3</b> of this CHMP.

MANAGEMENT ACTIONS	MANAGEMENT TARGETS	MONITORING	REPORTING
<p><b>MANAGEMENT ACTION 1</b></p> <p>No later than two (2) months prior to commencement of civil works, update this CHMP to protect and report all places and Objects on the Land to which the AHA applies. Once approved by the Registrar, the updated CHMP is to be implemented.</p>	<p><b>CHM TARGET 1</b></p> <p>CHMP submitted to the Register and approved prior to construction commencing.</p>	<p>Environment and Heritage Management responsible for monitoring and update, review of this CHMP.</p> <p><b>Responsibility</b></p> <p>Environment and Heritage Management responsible.</p> <p>Project Director accountable.</p>	<p>Reporting to Project Director in monthly report.</p> <p>Reporting to the Department of Climate Change, Energy, the Environment and Water (DCCEE) in the EPBC Act approval 2018/8383 Annual Compliance Report (ACR).</p> <p>Reporting to the CEO of EPA in the annual Ministerial Statement 1180 Compliance Assessment Report (CAR).</p> <p>Reporting to the Registrar of Aboriginal Sites annually (s.18 Report).</p> <p>Reporting in the Ministerial Statement 1180 Environmental Performance Report (5-yearly) (EPR).</p>
<p><b>MANAGEMENT ACTION 2</b></p> <p>Establish an Aboriginal Heritage Liaison and Dispute Resolution Committee (the Liaison Committee) between MAC and Perdaman for regular meetings, to establish and maintain processes and accountability between the separate parties, and as a reference group for any cultural or development issues that may arise during Project Ceres development and ongoing operations.</p> <p>The Liaison Committee will have representatives from MAC and Perdaman formed prior to the commencement of civil works.</p>	<p><b>CHM TARGET 2</b></p> <p>Development of procedures/processes, and reporting/accountability for the operation of the Committee.</p>	<p>Meeting Meetings.</p> <p>Monitor, review procedures and process.</p> <p>Environment and Heritage Management responsible.</p> <p><b>Responsibility</b></p> <p>Environment and Heritage Management responsible.</p> <p>Project Director accountable.</p>	<p>Reporting to Project Director in monthly report.</p> <p>Reporting as per procedure and process developed.</p> <p>Reporting in the ACR.</p> <p>Reporting in the CAR.</p> <p>Reporting in the s.18 Report.</p> <p>Reporting EPR.</p>
<p><b>MANAGEMENT ACTION 3</b></p> <p>The membership, terms of reference, agreed procedures/processes, and reporting/accountability for the operation of the Liaison Committee must be</p>	<p><b>CHM TARGET 3</b></p> <p>Provide these, including MAC's written concurrence, to the EPA and the Minister with responsibility for the</p>	<p>Meeting minutes.</p> <p>EPA and Minister agreement and approval notifications.</p>	<p>Minutes from regular committee meetings must be appended to the annual environmental compliance report.</p>

MANAGEMENT ACTIONS	MANAGEMENT TARGETS	MONITORING	REPORTING
provided, including written confirmation of MAC's concurrence with these, to the EPA and for matters relating to Matters of National Environmental Significance, the Minister with responsibility for the EPBC Act, no later than 6 months before the commencement of Project civil works for consideration and approval.	<i>EPBC Act</i> no later than 6 months before the commencement of Project civil works for consideration and approval subject to the agreement of MAC on a case-by-case basis.	<p><b>Responsibility</b></p> <p>Environment and Heritage Management responsible.</p> <p>Project Director accountable.</p>	<p>Reporting to Project Director in monthly report.</p> <p>Reporting in the ACR.</p> <p>Reporting in the CAR.</p> <p>Reporting in the s.18 Report.</p> <p>Reporting EPR.</p> <p><i>(Note: these may include confidential material that will not be made publicly available for cultural or commercial reasons).</i></p>
<p><b>MANAGEMENT ACTION 4</b></p> <p>Educate Personnel - Engage MAC to provide cultural awareness training on an ongoing basis for all Perdaman employees and contractors, to accompany site inductions for all managers and workers.</p> <p>Where inductions are to be delivered online, engage with MAC to develop an online delivery module, and agree to the commercial arrangements for use of this module.</p>	<p><b>CHM TARGET 4</b></p> <p>Completion of cultural awareness induction by all employees and contractors – 100% completion rate of cultural awareness training by employees and contractors.</p>	<p>Monitor employee and contractor cultural awareness training through: Induction module / Training slides and competency assessment.</p> <p>Attendance registers.</p> <p><b>Responsibility</b></p> <p>Environment and Heritage Management responsible.</p> <p>Project Director accountable.</p>	<p>Reporting to Project Director in monthly report.</p> <p>Reporting in the ACR.</p> <p>Reporting in the CAR.</p> <p>Reporting in the s.18 Report.</p> <p>Reporting EPR.</p>
<p><b>MANAGEMENT ACTION 5</b></p> <p>During detailed design and construction planning, undertake further assessment of risks to refine the ERD level of risk understanding and ensure that risks are managed during the design process and construction planning to levels that are as low as reasonably practical (ALARP).</p>	<p><b>CHM TARGET 5</b></p> <p>Risk register demonstrating management of risks to levels that are ALARP.</p>	<p>Monitoring of risks identified in the risk assessment and effectiveness of risk avoidance and minimisation measures.</p> <p>Monitor for potential risks not identified in the current risk assessment.</p> <p><b>Responsibility</b></p> <p>Project Management responsible.</p> <p>Project Director accountable.</p>	<p>Reporting to Project Director Monthly report.</p> <p>Approval from Project Director Risk Assessment.</p> <p>Reporting in the ACR.</p> <p>Reporting in the CAR.</p> <p>Reporting in the s.18 Report.</p> <p>Reporting EPR.</p>
<p><b>MANAGEMENT ACTION 6</b></p> <p>Obtain necessary consents pursuant to the AHA to undertake unavoidable salvage.</p>	<p><b>CHM TARGET 6</b></p> <p>Prepare statutory applications to inform and support applications pursuant to</p>	<p>S.18 Submission document.</p> <p>Correspondence.</p>	<p>Reporting in the ACR.</p> <p>Reporting in the CAR.</p>

MANAGEMENT ACTIONS	MANAGEMENT TARGETS	MONITORING	REPORTING
	<p>s.18 and/or s.16 of the AHA.</p> <p>Salvage and relocate 100% of the approved heritage material in accordance with s.18 Ministerial Conditions and consents and in consultation with MAC.</p>	<p>Consultation.</p> <p>Consent.</p> <p><b>Responsibility</b></p> <p>Environment and Heritage Management responsible.</p> <p>Project Director accountable.</p>	<p>Reporting in the s.18 Report.</p> <p>Reporting EPR.</p>
<p><b>MANAGEMENT ACTION 7</b></p> <p>Before undertaking any work that involves ground disturbance, a <b>Ground Disturbance Permit (GDP)</b> will be obtained and include procedures for salvage that allow for the following:</p> <p>Procedures must be included in the GDP to deal with objects within the meaning of Section 6 of the AHA (“Objects”) that will be affected by works associated with the Purpose.</p> <p>Assessment of the potential for Project Ceres works to impact on cultural heritage aspects, including the potential unearthing of buried archaeological sites, objects or burials, and to shift surface isolated artefacts from probable impact by the works.</p> <p>Provisions requiring salvage assessment to be undertaken to produce a plan for each physical component of Sites which require salvage. This will be undertaken in conjunction with senior traditional custodian monitors (male for restricted men’s sites), and a qualified and experienced archaeologist.</p> <p>Include actions for additional monitoring by a qualified and experienced archaeologist, for the moderate and high-risk areas and all areas within proximity of extant cultural heritage sites. Salvage works will be undertaken under the guidance of senior traditional custodian monitors and a qualified and experienced archaeologist.</p> <p>Where material is salvaged pursuant to an AHA s.18 Ministerial Consent, relevant Conditions relating to</p>	<p><b>CHM TARGET 7</b></p> <p>GDP to include all provisions for heritage salvage in accordance with approval conditions and s.18 of the AHA.</p> <p>Salvage and relocate 100% of the approved heritage material in accordance with s.18 Ministerial Conditions and consents in consultation with MAC.</p>	<p>Completion of the Perdaman Heritage Salvage Strategy (<b>Attachment F</b>).</p> <p>Environmental Inspections.</p> <p>Invitations / engagement of monitors.</p> <p>Engagement letters to experienced archaeologist.</p> <p>Salvage assessment.</p> <p>Traditional custodian monitors and aboriginal stakeholder groups consultation and engagement.</p> <p>Ground Disturbance Permits (GDPs).</p> <p>Monitoring provisions to ensure all ‘Objects’ to be affected by works are included in the GDP and procedures provided therein are adequate and effective.</p> <p>Weekly Environmental Inspections.</p> <p>Incident management reports</p> <p>Actions to consider additional monitoring by a qualified and experience archaeologist.</p> <p>Risk Register reviews.</p> <p><b>Responsibility</b></p> <p>Environment and Heritage Management responsible.</p>	<p>Report on salvage and relocation to be provided to Registrar.</p> <p>Reporting to Project Director Monthly report.</p> <p>Reporting in the ACR.</p> <p>Reporting in the CAR.</p> <p>Reporting in the s.18 Report.</p> <p>Reporting EPR.</p>



MANAGEMENT ACTIONS	MANAGEMENT TARGETS	MONITORING	REPORTING
<p>engaging Aboriginal Heritage Monitors through MAC from the Aboriginal stakeholder groups to undertake the monitoring of all initial ground disturbing works and salvage of heritage material must be complied with.</p> <p>All GDAs are to be monitored by MAC representatives and Perdaman will provide Aboriginal Stakeholder groups with an opportunity to perform a ceremony prior to the commencement of salvage and relocation.</p> <p>Before and after photos are to be taken of all disturbed heritage material and the location it was salvaged to be included in a report at completion of Project Ceres Purpose.</p>		<p>Construction Management accountable.</p> <p>Project Director accountable.</p>	
<p><b>MANAGEMENT ACTION 8</b></p> <p>Where material is salvaged pursuant to an AHA s.18 Ministerial Consent, relevant Conditions relating to provision of a salvage report to the Registrar, must be complied with.</p>	<p><b>CHM TARGET 8</b></p> <p>Relevant Salvage Report accurately completed and submitted.</p>	<p>AHA s.18 Ministerial Consent Conditions.</p> <p>Review / monitor salvage reports, assessments, objects found.</p> <p><b>Responsibility</b></p> <p>Environment and Heritage Management responsible.</p> <p>Project Director accountable.</p>	<p>Salvage Report to Registrar as required.</p> <p>Reporting to Project Director Monthly report.</p> <p>Reporting in the ACR.</p> <p>Reporting in the CAR.</p> <p>Reporting in the s.18 Report.</p> <p>Reporting EPR.</p>
<p><b>MANAGEMENT ACTION 9</b></p> <p>Ensure access to culturally significant areas within and surrounding the development envelope is not hindered or made difficult to Traditional Owners and Custodians and continue to make accessible traditional activities and connections with culturally significant areas for traditional Owners and custodians.</p> <p>Ensure all Men's Restricted sites are accessible only through written permission either by the Circle of Elders, the CEO, the Chairperson or the Cultural Advisor.</p>	<p><b>CHM TARGET 9</b></p> <p>Access <b>will not</b> be restricted to Traditional Owners and Custodians for their traditional activities and connections with culturally significant areas.</p> <p>The Heritage Access register must be maintained including written approvals.</p>	<p>Letters of permission either by the Circle of Elders, the CEO, the Chairperson or the Cultural Advisor.</p> <p>Heritage Access register.</p> <p>Monitor through incident reports.</p> <p><b>Responsibility</b></p> <p>Environment and Heritage Management responsible.</p> <p>Project Director accountable.</p>	<p>Reporting in the ACR.</p> <p>Reporting in the CAR.</p> <p>Reporting in the s.18 Report.</p> <p>Reporting EPR.</p>

MANAGEMENT ACTIONS	MANAGEMENT TARGETS	MONITORING	REPORTING
<p>Review of Restricted sites limitation of access measures at notice of an unauthorised / uncontrolled entry.</p>			
<p><b>MANAGEMENT ACTION 10</b></p> <p>Deposition monitoring is proposed under Section 5.4 of the MRAS. Perdaman is committed to being a contributing participant in the MRAS including supporting the proposed deposition monitoring.</p> <p>In harmony with the objectives of the Murujuga Rock Art Strategy (MRAS), and as a contributing participant in the MRAS, enable ongoing assessment of airborne pollutants to monitor their impact on the petroglyphs located on Murujuga and report on these results.</p> <p>Identify the key air pollutants of potential concern and characterise the emissions from Project Ceres and other existing and proposed future industrial emission sources and both existing and proposed future shipping activities within the Murujuga airshed, within the context of the current air emissions inventory for the region.</p> <p>Contribute to the development of an Environmental Quality Management Framework as detailed in the MRAS.</p>	<p><b>CHM TARGET 10</b></p> <p>Compliance with Confirmed Air Quality Management Plan.</p> <p><b>Compliance with</b> objectives of the Murujuga Rock Art Strategy (MRAS).</p>	<p>Confirmed Air Quality Management Plan reviews.</p> <p>Monitoring results and assessment reports.</p> <p>Contribution correspondence.</p> <p><b>Responsibility</b></p> <p>Environment and Heritage Management responsible.</p> <p>Project Director accountable.</p>	<p>Required reporting within the Confirmed Air Quality Management Plan.</p> <p>Reporting required MRAS – results of airborne pollutants to monitor their impact on the petroglyphs.</p> <p>Reporting to Project Director Monthly report.</p> <p>Reporting in the ACR.</p> <p>Reporting in the CAR.</p> <p>Reporting in the s.18 Report.</p> <p>Reporting EPR.</p>
<p><b>MANAGEMENT ACTION 11</b></p> <p>Perdaman to consult with MAC about the Risk Register as an input to the GDP, and the risk mitigation strategies applied to the management of risk related cultural and heritage impacts.</p>	<p><b>CHM TARGET 11</b></p> <p>MAC endorses the Risk Register as an input to the GDP, and the risk mitigation strategies applied to the management of risk related cultural and heritage impacts.</p>	<p>Monitoring of risks identified in the risk assessment and effectiveness of risk avoidance and minimisation measures.</p> <p>Monitor for potential risks not identified in the current risk assessment.</p> <p>Risk Register review.</p> <p>Mitigation strategies review.</p> <p>Endorsement letter.</p>	<p>Reporting to Project Director Monthly report.</p> <p>Reporting in the ACR.</p> <p>Reporting in the CAR.</p> <p>Reporting in the s.18 Report.</p> <p>Reporting EPR.</p>

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		Consultation notes.  <b>Responsibility</b> Environment and Heritage Management responsible.  Project Director accountable.	
<p><b>MANAGEMENT ACTION 12</b></p> <p>Project development activities that cause impact on heritage sites that are not approved by the s.18 consent, MS 1180 or the EPBC approval, to be reported in accordance with the statutory requirements of the regulatory authorities.</p> <p>These may include (but not limited to) impacts caused by: Blasting activity; construction and operations and spillage of potentially corrosive materials.</p>	<p><b>CHM TARGET 12</b></p> <p>A copy of any incident reports to be provided to the appropriate regulatory authorities.</p>	<p>Monitoring of potentially impacted heritage sites during relevant works.</p> <p>Incident Reporting system.</p> <p>Complaints register.</p> <p>Weekly environmental inspections.</p> <p>Aboriginal Monitors.</p> <p><b>Responsibility</b></p> <p>Environment and Heritage Management responsible.</p> <p>Project Director accountable.</p>	<p>Incident reporting.</p> <p>Reporting of the non-achievement of a management target specified in the CHMP to the CEO of the EPA, MAC, the DPLH and the Registrar of Aboriginal Sites in accordance with Condition 9-5 of MS 1180.</p> <p>Reporting to DCCEEW of any incident (any event which has the potential to, or does, impact on one or more protected matter(s) other than as authorised by the EPBC approval) in accordance with Condition 18 of the EPBC approval.</p> <p>Submission of a revised version of the CHMP that addresses the findings of any report provided under Conditions 9-5 and 9-6 of MS 1180, for approval by the Minister.</p> <p>Reporting to Project Director Monthly report.</p> <p>Reporting in the ACR.</p> <p>Reporting in the CAR.</p> <p>Reporting in the s.18 Report.</p> <p>Reporting EPR.</p>
<p><b>MANAGEMENT ACTION 13</b></p> <p>Submission of revised management plan and/or the monitoring program in accordance with the statutory</p>	<p><b>CHM TARGET 13</b></p> <p>All amendments to management or monitoring plans are submitted in</p>	<p>Heritage Monitoring Programs applied.</p> <p>Weekly environmental Inspections.</p>	<p>Provide the revised version of the CHMP to the CEO of the EPA in accordance with Condition 9-8 of</p>

MANAGEMENT ACTIONS	MANAGEMENT TARGETS	MONITORING	REPORTING
<p>requirements of the regulatory authorities.</p> <p>Ensure commencement of any revised activities do not take place until receipt of written approvals, as required in accordance with the statutory requirements of the regulatory authorities.</p> <p>Replacement of original management plan and monitoring program with the relevant revised plan(s) that have been approved in accordance with the statutory requirements of the regulatory authorities.</p>	<p>accordance with the statutory requirements of the regulatory authorities prior to taking effect.</p>	<p>Revision of plans and monitoring.</p> <p>Monitoring receipts of approvals.</p> <p><b>Responsibility</b></p> <p>Environment and Heritage Management responsible.</p> <p>Project Director accountable.</p>	<p>MS 1180.</p> <p>Where the revised CHMP is a result of a non-achievement of a management target or management action (Condition 5(c) of the EPBC approval), submission of the revised version of the CHMP for approval by the Minister.</p> <p>Reporting to Project Director Monthly report.</p> <p>Reporting in the ACR.</p> <p>Reporting in the CAR.</p> <p>Reporting in the s.18 Report.</p> <p>Reporting EPR.</p>
<p><b>MANAGEMENT ACTION 14</b></p> <p>Publication of management plan(s) and or monitoring program/s on the Perdaman website within 1 month of being approved unless otherwise agreed in writing by the Federal Minister.</p>	<p><b>CHM TARGET 14</b></p> <p>Plans published on Perdaman website within 1 month of approval.</p>	<p>Monitor via a Management Plan and Program review schedule to ensure appropriate timing of public availability provision.</p> <p>Implementation of monitoring program.</p> <p><b>Responsibility</b></p> <p>Environment and Heritage Management responsible.</p> <p>Project Director accountable.</p>	<p>Reporting in the ACR.</p> <p>Reporting in the CAR.</p> <p>Reporting in the s.18 Report.</p> <p>Reporting EPR.</p>
<p><b>MANAGEMENT ACTION 15</b></p> <p>Install fencing around the perimeter of Project Ceres Area prior to construction.</p> <p>Perdaman notes the high-risk rating assigned to Recreation, tourism and vandalism by the AHC (AHC, 2012). As indicated by MAC during liaison, there is a desire to avoid prominent identification and demarcation of individual heritage sites, including installation of fencing, that may attract attention and exacerbate the identified risk</p>	<p><b>CHM TARGET 15</b></p> <p>Chain mesh and wire fence 2.2m in height installed around the perimeter of Project Ceres Area before construction commences.</p>	<p>Weekly environmental inspections of the fencing at Project Ceres boundary.</p> <p>Incident Reporting System.</p> <p>Environmental Audits.</p> <p><b>Responsibility</b></p> <p>EPC Contractor Responsible.</p> <p>Construction Manager Accountable.</p>	<p>Reporting to Project Director Monthly report.</p> <p>Reporting in the ACR.</p> <p>Reporting in the CAR.</p> <p>Reporting in the s.18 Report.</p> <p>Reporting EPR.</p>

MANAGEMENT ACTIONS	MANAGEMENT TARGETS	MONITORING	REPORTING
<p>associated with recreation, tourism and vandalism. Physical barriers to protect sites pursuant to the provisions of the GDP will be agreed with MAC with the objective of managing any temporary risk arising from Project Ceres being balanced with attracting attention that could increase the likelihood of these other risks.</p>			
<p><b>MANAGEMENT ACTION 16</b></p> <p>Signs are installed.</p> <p>The signs will state that no construction and operation staff are permitted to enter areas surrounding Project Ceres Area that contain manmade structures of a type mentioned in the NHP Gazette notice (<b>Attachment B</b>) and/or engravings and/or standing stones and/or archaeological material associated with any of the aforementioned items.</p> <p>If their work specifically requires them to do so, they must obtain a GDP for the proposed work.</p> <p>Ensure all heritage places outside the NHP that do not have current s.18 Ministerial Approval are protected in accordance with this plan.</p>	<p><b>CHM TARGET 16</b></p> <p>Signage will be at least 1m<sup>2</sup> in size and attached to fencing at the entrance to Project Ceres Area at no less than 50m intervals along the fence. prior to construction commencing.</p>	<p>Weekly environmental inspections at Project Ceres boundary.</p> <p>Incident Reporting System.</p> <p>Environmental Audits.</p> <p>Review of identified heritage sites and associated management strategies.</p> <p>Heritage Access Register.</p> <p><b>Responsibility</b></p> <p>EPC Contractor Responsible.</p> <p>Construction Manager Accountable.</p>	<p>Reporting to Project Director Monthly report.</p> <p>Reporting in the ACR.</p> <p>Reporting in the CAR.</p> <p>Reporting in the s.18 Report.</p> <p>Reporting EPR.</p>
<p><b>MANAGEMENT ACTION 17</b></p> <p>Immediately cease carrying out the Purpose if human skeletal remains ("Remains") are found and report the matter to the Western Australian Police and the Registrar. Advice from the Western Australian Police and Registrar will then be followed regarding management of the issue.</p> <p>MAC Rangers / representatives present during clearing activities to identify additional items of heritage value (i.e. artifacts, scatter, engraving, grinding patches)</p>	<p><b>CHM TARGET 17</b></p> <p>The WA Police will be informed of any discovery of human remains. If the Police suspect the remains to be of Aboriginal origin, the Registrar and MAC will also be informed.</p> <p>Contractor to temporarily cease work in the vicinity of the area of concern and address the unexpected find through consultation with MAC).</p>	<p>Monitoring for unexpected heritage finds during GDA's.</p> <p>Unexpected Finds reported and managed in consultation with MAC representative.</p> <p><b>Responsibility</b></p> <p>EPC Contractor Responsible.</p> <p>Construction Manager Accountable.</p>	<p>Reporting as per advice of the Western Australian Police and the Registrar.</p> <p>Internal incident reporting (not considered an 'incident' under the EPBC approval. No reporting required under MS 1180, or s.18 AHA consent)</p> <p>Only if human remains are suspected by the Police / Coroner's office to be Aboriginal, the Registrar as well as the Federal Minister for Aboriginal Affairs and MAC are to be informed.</p> <p>Reporting to Project Director Monthly report.</p>

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			Reporting in the ACR. Reporting in the CAR. Reporting in the s.18 Report. Reporting EPR.
<p><b>MANAGEMENT ACTION 18</b></p> <p>To protect national heritage values within the Dampier Archipelago NHP:</p> <ol style="list-style-type: none"> <li>At least 6 months prior to Ground Disturbing Activities, Perdaman shall, in consultation with MAC and the DPLH, revise and submit to the CEO of the EPA and the Registrar of Aboriginal Sites a further version of the Aboriginal Heritage Management Plan, Status: Confidential, Perdaman Urea Project Burrup Peninsula, Western Australia (Version PCF 2, 26 March, 2021) in accordance with Condition 9-2 of MS 1180.</li> <li>Perdaman shall provide a complete copy of the revised Management Plan as required by Condition 9-2 of MS 1180, to the Department of Climate Change, Energy, the Environment and Water, within 10 business days of the approval of the revised version by the CEO of the EPA, in accordance with Condition 5 of the EPBC approval.</li> </ol>	<p><b>CHM TARGET 18</b></p> <p>If update required, CHMP submitted to the Federal Minister that has responsibility for the <i>EPBC Act</i> and approved prior to the Action commencing.</p> <p>Ensure all heritage places outside the NHP that do not have current s.18 Ministerial Approval are protected in accordance with this plan.</p>	<p>Monitoring of management provision effectiveness prior to CHMP review.</p> <p>Monitoring of all heritage places within and adjacent the UPDE.</p> <p><b>Responsibility</b></p> <p>Environment and Heritage Management responsible.</p> <p>Project Director accountable.</p>	<p>Provide the revised version of the CHMP to the CEO of the EPA in accordance with Condition 9-2 of MS 1180, and to the Department of Climate Change, Energy, the Environment and Water in accordance with Condition 5 of EPBC approval.</p> <p>Reporting in the ACR.</p> <p>Reporting in the CAR.</p> <p>Reporting in the s.18 Report.</p> <p>Reporting EPR.</p>
<p><b>MANAGEMENT ACTION 19</b></p> <p>Support the efforts and aspirations of MAC to achieve World Heritage Listing of Murujuga.</p>	<p><b>CHM TARGET 19</b></p> <p>Support for this purpose is identified in the November 2019 Commercial Agreement between Perdaman and MAC is provided to the agreed (confidential) requirements.</p>	<p>Monitoring through environmental performance reports.</p> <p>Environmental audits.</p> <p><b>Responsibility</b></p> <p>Environment and Heritage Management responsible.</p> <p>Project Director accountable.</p>	<p>Reporting in the ACR.</p> <p>Reporting in the CAR.</p> <p>Reporting in the s.18 Report.</p> <p>Reporting EPR.</p>
<p><b>MANAGEMENT ACTION 20</b></p> <p>Engage as a contributing participant in the MRAS, which provides the framework for monitoring,</p>	<p><b>CHM TARGET 20</b></p> <p>Participation in the MRAS, including the EQMF and implementing agreed</p>	<p>Analysis of Murujuga Rock Art monitoring results.</p> <p>Monitoring of Project emissions as per</p>	<p>Reporting, if required by the MRAS.</p> <p>Reporting in the ACR.</p>

MANAGEMENT ACTIONS	MANAGEMENT TARGETS	MONITORING	REPORTING
<p>analysing and responding to changes in the rock art.</p> <p>It is recognized that this data will play an important role in informing the World Heritage nomination process.</p>	<p>responses to exceedances of the environmental quality criteria (guidelines and standards) to be developed pursuant to the MRAS where the cause is reasonably identified as industrial emissions of the type emitted by Perdaman.</p>	<p>the Confirmed Air Quality and Management Plan.</p> <p><b>Responsibility</b></p> <p>Environment and Heritage Management responsible.</p> <p>Project Director accountable.</p>	<p>Reporting in the CAR.</p> <p>Reporting in the s.18 Report.</p> <p>Reporting EPR.</p>
<p><b>MANAGEMENT ACTION 21</b></p> <p>The GDP is to include the following provisions and detailed procedures for the protection of heritage sites:</p> <ul style="list-style-type: none"> <li>• Details for a pre-ground disturbance inspection of the required boundary demarcations.</li> <li>• Undertake ground disturbing works in consultation with MAC, Circle of Elders and Traditional Custodians, and facilitate the observation of those activities by those persons.</li> <li>• Two MAC representatives from each of the following groups are to be invited by notice in writing within 30 days of GDAs; Ngarluma, Yinjibarndi, Mardudhunera, Wong-Goo-Tt-Oo and Yaburara.</li> <li>• Where a Project lease from Development WA (Lease) overlies or abuts the NHP, a 5 m buffer (No-go zone) must be established around the NHP heritage site location (as recorded in the IHS Heritage Report, <i>Table 5</i>) that is located within 50m of the ground disturbing activity throughout the construction phase.</li> <li>• Where ground disturbance, including clearing activities, are conducted either within the NHP or within 50m where the Lease abuts the NHP, post clearing (and blasting) surveys must be undertaken to confirm no disturbance occurred to any heritage sites within the NHP.</li> <li>• Where the Lease overlies or abuts the NHP,</li> </ul>	<p><b>CHM TARGET 21</b></p> <p>GDP includes provisions to ensure no impact to heritage sites in the NHP occurs, and compliance with provisions (and approval conditions) is demonstrated in GDP procedures.</p>	<p>Daily visual inspections of heritage sites (MAC heritage monitors and rangers) during ground disturbance.</p> <p>Ad hoc inspections of heritage sites (MAC heritage monitors and rangers) during Project construction.</p> <p>Weekly inspections of the boundary demarcation.</p> <p>MAC to monitor all GDA's (including blasting).</p> <p>Monitoring for unexpected heritage finds during GDA's.</p> <p>Track GDP procedures against provisions during ground disturbing works.</p> <p>Monitoring of sites post disturbance.</p> <p>Monitoring of dust generation by ground disturbing activities.</p> <p><b>Responsibility</b></p> <p>Environment and Heritage Management responsible.</p> <p>Project Director accountable.</p>	<p>Reporting to Project Director Monthly report.</p> <p>Reporting in the ACR.</p> <p>Reporting in the CAR.</p> <p>Reporting in the s.18 Report.</p> <p>Reporting EPR.</p>

MANAGEMENT ACTIONS	MANAGEMENT TARGETS	MONITORING	REPORTING
<p>clearing boundaries in proximity (&lt;50m separation) to heritage sites within the NHP must be demarcated and hard barricaded (bunting) prior to any disturbance.</p> <ul style="list-style-type: none"> <li>• Where a Lease overlies or abuts the NHP, MAC rangers must be provided the opportunity to be present prior to and during any ground disturbance and present during any clearing operations (including blasting) conducted either within the NHP or where NHP heritage sites that is located within 50m of the ground disturbing activity.</li> <li>• where ground disturbance, including clearing activities are conducted either within the NHP or within 50m where the Lease abuts the NHP, ground preparation works in proximity to the NHP must be managed using water carts (to decrease dust) and blast mats (to prevent flying rock).</li> <li>• If blasting is required, low percussion explosives will be utilised by a licensed shotfirer to minimise fly rock and ground vibration.</li> <li>• If the MAC ranger considers that the work is being conducted in a manner that creates a potential risk to a NHP site, the ground disturbing activity must stop, and the ranger must advise the MAC CEO of this potential risk.<sup>5</sup></li> <li>• The GDP must include a provision whereby the ‘stop work notification” for the immediate area initiates a risk review and task redesign to achieve an ALARP outcome before the ground disturbing activity can be restarted.</li> <li>• The GDP required review must be conducted by the Liaison Committee in accordance with Liaison Committee’s operational requirements and approved by the Minister having responsibility for the EPBC Act.</li> </ul>			



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<p><sup>5</sup> Note: This is comparable to a safety stop work authority that when exercised, invokes a risk review process intended to redesign the task methodology so that it can be restarted in a manner that addresses the risk to ALARP.</p>			
<p><b>MANAGEMENT ACTION 22</b></p> <p>Rock Art Condition Monitoring</p> <p>If the MRAS rock art and emissions monitoring program is not initiated and/or Perdaman is not a contribution participant to the MRAS before commencement of the Action, Perdaman will submit to DCCEEW an alternative monitoring program based on EPBC 2008/4546 Condition 10 (c) as amended on 18 December 2013.</p> <p>This Monitoring Program must:</p> <ul style="list-style-type: none"> <li>• implement the same techniques approved by MAC for these purposes and by the Minister having responsibility for the <i>EPBC Act</i> pursuant to EPBC 2008/4546,</li> <li>• be conducted by accredited technical professionals also approved by the Minister having responsibility for the <i>EPBC Act</i>,</li> <li>• be conducted at the same frequency (at least once annually), and</li> <li>• Engage with MAC in the same manner as required by Condition 10 (c) vi of EPBC 2008/4546.</li> <li>• Implement MRAS rock art monitoring from a period of no less than five (5) years from the beginning of construction, or until twelve (12) months after the WA State Government MRAS monitoring program is initiated, whichever is reached first.</li> </ul>	<p><b>CHM TARGET 22</b></p> <p>Approval of the alternative monitoring program by the Minister having responsibility for the EPBC Act.</p> <p>Implementation of the approved monitoring program.</p> <p>Results must be reported in annual environmental report and provided to MAC and the MRAS Reference Group at that time.</p>	<p>Consultation with MAC concerning MRAS monitoring program initiation (to determine potential requirement to develop an alternative monitoring program).</p> <p>Monitoring of rock art by allocated technical professional/s.</p> <p>Monitoring of procedures implemented (by the Monitoring Program) to ensure monitoring occurs in alignment with MAC MRAS requirements.</p> <p><b>Responsibility</b></p> <p>Environment and Heritage Management responsible.</p> <p>Project Director accountable.</p>	<p>Submit to DCCEEW an alternative monitoring program based on EPBC 2008/4546 Condition 10 (c) as amended on 18 December 2013.</p> <p>Reporting in the ACR.</p> <p>Reporting in the CAR.</p> <p>Reporting in the s.18 Report.</p> <p>Reporting EPR.</p>
<p><b>MANAGEMENT ACTION 23</b></p>	<p><b>CHM TARGET 23</b></p>	<p>Monitoring of incident reports.</p>	<p>Incident reporting.</p>

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<p>Project development activities that impact on National Heritage Values of the NHP, to be reported in accordance with the statutory requirements of the regulatory authorities..</p> <p>These may include (but not limited to) impacts caused by: Blasting activity; construction and operations and spillage of potentially corrosive materials.</p>	<p>Impacts to National Heritage Values of the NHP to be reported in accordance with the statutory requirements of the regulatory authorities.</p>	<p>Track GDP procedures against provisions during ground disturbing works.</p> <p>All GDA's to be monitored by delegated MAC representative.</p> <p><b>Responsibility</b></p> <p>Environment and Heritage Management responsible.</p> <p>Project Director accountable.</p>	<p>Reporting of the non-achievement of a management target specified in the CHMP to the CEO of the EPA, MAC, the DPLH and the Registrar of Aboriginal Sites in accordance with Condition 9-5 of MS 1180.</p> <p>Reporting to DCCEEW of any incident (any event which has the potential to, or does, impact on one or more protected matter(s) other than as authorised by the EPBC approval) in accordance with Condition 18 of the EPBC approval.</p> <p>Submission of a revised version of the CHMP that addresses the findings of any report provided under Conditions 9-5 and 9-6 of MS 1180, for approval by the Minister.</p> <p>Reporting to Project Director Monthly report.</p> <p>Reporting in the ACR.</p> <p>Reporting in the CAR.</p> <p>Reporting in the s.18 Report.</p> <p>Reporting EPR.</p>
<p><b>MANAGEMENT ACTION 24</b></p> <p>Characterise existing (baseline) air quality and local and regional meteorology within the Murujuga airshed, drawing on the findings of relevant studies and publicly available monitoring datasets. This would be undertaken either separately by Perdaman, or collaboratively with other industry data custodians.</p> <p>Identify the key sensitive receptors in terms of potential health and amenity impacts and heritage values within the Murujuga airshed.</p>	<p><b>CHM TARGET 24</b></p> <p>Collate an appropriate baseline dataset of local meteorological conditions and existing air quality conditions prior to Project operations.</p> <p>Support the MRAS.</p> <p>Details of existing baseline data will be determined to assist with monitoring and management targets implemented to conserve sensitive receptors surrounding Project Ceres area. The details / results of such will be included</p>	<p>Monitoring of emissions associated with Project Ceres works and operations as per the <b>Confirmed Air Quality Management Plan</b>.</p> <p>Monitoring of regional airshed and meteorological conditions.</p> <p>Monitoring the condition of sensitive receptors in relation to particle deposition and potentially toxic/irritable air constituents.</p> <p>Monitoring of rock art by allocated technical professional/s.</p>	<p>Reporting as per the Confirmed Air Quality Management Plan.</p> <p>Reporting in alignment with the requirements of the MRAS (or alternative monitoring program) reporting.</p> <p>Reporting in the ACR.</p> <p>Reporting in the CAR.</p> <p>Reporting in the s.18 Report.</p>

MANAGEMENT ACTIONS	MANAGEMENT TARGETS	MONITORING	REPORTING
	<p>as provisions in the <b>Confirmed Air Quality Management Plan</b>.</p>	<p>Monitoring of procedures implemented (by the Monitoring Program) to ensure monitoring occurs in alignment with MAC MRAS requirements.</p> <p><b>Responsibility</b></p> <p>Environment and Heritage Management responsible.</p> <p>Project Director accountable.</p>	<p>Reporting EPR.</p>
<p><b>MANAGEMENT ACTION 25</b></p> <p>Evaluate the potential incremental impact of air emissions from Project Ceres on key receptors in the vicinity of the site.</p> <p>Undertake air dispersion modelling. To predict the potential ambient air quality impacts of Project Ceres. This will include scenarios considering the emissions from Project Ceres (in isolation), the increased emissions that would be generated during start-up, upset conditions, and shutdown; and the incremental cumulative impact of Project Ceres considering other industry currently operating (or approved to operate but yet to be built) and proposed future industrial facilities such as Coogee Chemicals Pty Ltd Downstream Processing Chemical Production Facility<sup>3</sup> in Project Ceres area. Emissions from existing and proposed future shipping activities will also be included in the cumulative air quality modelling scenarios<sup>4</sup>. Contour plots and tables listing the modelled ambient ground level concentrations for the air pollutants of concern for the relevant modelling scenarios will be included.</p> <p>Evaluate the potential incremental risk of impact upon rock art by assessing predicted pollutant deposition rates at key sensitive receptors. This assessment will be done within the context of the Murujuga Rock Art Strategy (released on 15 February 2019), which provides a monitoring, analysis and decision-making framework to protect</p>	<p><b>CHM TARGET 25</b></p> <p>Collaborate with other operating entities in the Burrup Industrial Area to categorise and determine emission estimates from Project Ceres (and surrounding projects), to inform cumulative emission constituents regarding surrounding industry operations.</p> <p>Use emission estimates and modelling of collated data to assist in informing monitoring and management strategies for the MRAS.</p> <p>Support the MRAS through monitoring of pollutant deposition on local rock art.</p> <p><sup>3</sup>In relation to proposed future industrial facilities it is noted that as these facilities are only proposals and not yet approved, relevant primary emissions data may not be accessible in the public domain. While best endeavours will be used to access relevant primary data, where this cannot be sourced the modelling will include generic surrogate information for a comparable plant and sited in the proposed development location.</p> <p><sup>4</sup> In relation to emissions from shipping it is noted that primary data recording</p>	<p>Monitoring of pollutant deposition on rock art and surrounding sensitive receptors.</p> <p>Monitoring for baseline air quality conditions of the Murujuga airshed (including meteorological conditions) prior to commencement of operations.</p> <p>Monitoring of air emissions during Project operations.</p> <p>Monitoring of cumulative air emissions and communicating results to appropriate stakeholders of the Burrup Industrial Area.</p> <p><b>Responsibility</b></p> <p>Environment and Heritage Management responsible.</p> <p>Project Director accountable.</p>	<p>Reporting as per the Confirmed Air Quality Management Plan.</p> <p>Reporting in alignment with the requirements of the MRAS (or alternative monitoring program) reporting.</p> <p>Reporting in the ACR.</p> <p>Reporting in the CAR.</p> <p>Reporting in the s.18 Report.</p> <p>Reporting EPR.</p>

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Aboriginal rock art located on the Dampier Archipelago and Burrup Peninsula.	emissions from actual individual or aggregate shipping movements in the Port of Dampier is not available. Therefore, an appropriate surrogate dataset as agreed with the Air Quality Branch and WA EPA will be incorporated in the model to account for this source of emissions into the Murujuga airshed.		
<b>MANAGEMENT ACTION 26</b> Audit performance against this plan.	<b>CHM TARGET 26</b> Audit at intervals no greater than 12 months apart. Include Audit results in Project Ceres Annual Report.	Weekly monitoring. Quarterly Project Audit results. <b>Responsibility</b> Environment and Heritage Management responsible. Project Director accountable.	Reporting in the ACR. Reporting in the CAR. Reporting in the s.18 Report. Reporting EPR.
<b>MANAGEMENT ACTION 27</b> Provide for relevant traditional owners to observe the activities (as reasonably required) related to operational activities that cause noise, traffic changes and impacts to visual amenity.	<b>CHM TARGET 27</b> 100% compliance with Condition 9-2 (4) of MS 1180.	Non-compliance registers. Complaints registers. Consultation. Incident management system. <b>Responsibility</b> Environment and Heritage Management responsible. Project Director accountable.	Reporting in the ACR. Reporting in the CAR. Reporting in the s.18 Report. Reporting EPR.
<b>MANAGEMENT ACTION 28</b> Following the decommissioning of Project Ceres, access for Traditional Owner and Custodians to the sites as shown in Figure 4-1 must be maintained.	<b>CHM TARGET 28</b> Ensure access is not limited, altered or restricted to those sites shown in Figure 4-1 upon decommissioning of Project Ceres.	Non-compliance registers. Complaints registers. Consultation. Incident management system. <b>Responsibility</b> Environment and Heritage	Reporting in the ACR. Reporting in the CAR. Reporting to the Registrar of Aboriginal Sites in accordance with Condition 4 of s.18 AHA consent. Reporting in accordance with the Decommissioning and Rehabilitation Plan in accordance

MANAGEMENT ACTIONS	MANAGEMENT TARGETS	MONITORING	REPORTING
		Management responsible. Project Director accountable.	with Condition 13 of MS 1180.
<p><b>MANAGEMENT ACTION 29</b></p> <p>Identify and justify all reasonable and practicable emission reduction equipment and proposed technologies and demonstrate the use of industry best practice pollution control technology and plant processes including benchmarking against world's best practice for urea production plants.</p>	<p><b>CHM TARGET 29</b></p> <p>Continual revision of current technology use and seek for opportunities to implement best practice pollution control technology throughout the life of Project Ceres.</p> <p>Emissions benchmarking and continual improvements will be addressed in detail in the <b>Confirmed Air Quality Management Plan</b>.</p>	<p>Monitoring of best industry practice technology as it becomes available.</p> <p>Monitoring of emission target achievement.</p> <p><b>Responsibility</b></p> <p>Environment and Heritage Management responsible.</p>	<p>Emission reduction equipment and technologies are approved through the EP Act Part V licence for the operation of Project Ceres.</p> <p>Reporting in the ACR.</p> <p>Reporting in the CAR.</p> <p>Reporting in the s.18 Report.</p> <p>Reporting EPR.</p> <p>Annual Reporting.</p> <p>Reporting as per the Confirmed Air Quality Management Plan.</p>
<p><b>MANAGEMENT ACTION 30</b></p> <p>At completion of Project Ceres Purpose, a final report detailing the extent of impacts to aboriginal sites will include:</p> <ul style="list-style-type: none"> <li>what extent the Purpose has impacted any Aboriginal site on the Land;</li> <li>where any Aboriginal site has been impacted, whether such site has been partially or wholly impacted by the Purpose, and the level, effect and type of any such impact – preferably by the provision of photographs taken before and after the impact;</li> <li>where any Aboriginal site has been subject to archaeological or cultural salvage, when and how such salvage took place, who was present at the salvage and where the material was re-located, the results of the salvage and any subsequent analysis conducted;</li> </ul>	<p><b>CHM TARGET 30</b></p> <p>Provides a written report to the Registrar of Aboriginal Sites within 60 days of the completion of the Purpose, advising whether and to what extent the Purpose has impacted on all or any sites located on the Land.</p>	<p>Monitoring of all site disturbance (salvage and relocation) and any other impacts to aboriginal heritage sites.</p> <p>Monitoring remediation efforts.</p> <p>Salvage reports.</p> <p>Annual written report.</p> <p><b>Responsibility</b></p> <p>Environment and Heritage Management responsible.</p> <p>Project Director accountable.</p>	<p>Reporting in the ACR.</p> <p>Reporting in the CAR.</p> <p>Reporting to the Registrar of Aboriginal Sites in accordance with Condition 4 of s.18 AHA consent.</p> <p>Reporting in accordance with the Decommissioning and Rehabilitation Plan in accordance with Condition 13 of MS 1180.</p>

MANAGEMENT ACTIONS	MANAGEMENT TARGETS	MONITORING	REPORTING
<ul style="list-style-type: none"> <li>the results and findings of any monitoring of ground disturbing works associated with the Purpose; and</li> <li>what extent the site has been remediated.</li> </ul>			
<p><b>MANAGEMENT ACTION 31</b></p> <p>Heritage areas, including Project Ceres's construction limits, shall be demarcated with survey markers prior to installing temporary fencing before clearing works. The following measures relating to temporary fencing and early warning survey markers for heritage site boundaries will be implemented:</p> <ul style="list-style-type: none"> <li>Temporary fencing location will be initially surveyed and identified using pink and black flagging (specific flag colours for heritage site boundaries).</li> <li>Temporary fencing will be installed along the pink and black flagged boundary and consist of star pickets driven into the ground marking the edge of the boundary. Where possible, pink and black flagging shall remain.</li> <li>Yellow safety caps will be placed on the top of the star pickets.</li> <li>Two strands of non-barbed wire will connect the star pickets to present a visual barrier.</li> <li>Star pickets should be installed 5m apart.</li> <li>Star pickets must be installed at each directional change.</li> <li>An early warning survey marker (denoted by white flagging) will be installed a minimum of 0.5m <b>from the clearing boundary</b> (location of temporary fence) (See FMP).</li> <li>Survey markers to be set out by a qualified surveyor, including a 5m buffer (pink and black flagging) and 3m early warning marker (white flagging) <b>from the perimeter of the</b></li> </ul>	<p><b>CHM TARGET 31</b></p> <p>Avoid direct impacts to heritage areas during ground disturbing works by ensuring a <b>suitably qualified</b> surveyor sets out the construction battery limits for the erection of temporary fencing prior to construction.</p>	<p>Survey markers to be inspected daily by site supervisors and weekly by the PER.</p> <p>Inspections to confirm presence of all early warning survey markers denoted by white flagging, pink and black 5m buffer markers and pink and black heritage markers).</p> <p>Temporary fences are to be checked on a weekly basis as part of routine site inspections to ensure they remain in place and effective during construction.</p> <p>All survey markers and temporary fencing shall be maintained throughout construction and commissioning or until replaced by permanent fencing.</p> <p>The correct location of boundary markers is to be checked and confirmed onsite by a suitably qualified surveyor prior to commencement of GDAs.</p> <p>Any identified damage to temporary fences is to be repaired immediately upon discovery.</p> <p>GPS Mapping on surveyed boundaries to check clearing progress daily.</p> <p>Quarterly inspections during operations.</p> <p><b>Responsibility</b> Environment and Heritage</p>	<p>Incident reporting for clearing inconsistent with the GDP, and damage to fencing.</p> <p>Reporting of the non-achievement of a management target specified in the CHMP to the CEO of the EPA, MAC, the DPLH and the Registrar of Aboriginal Sites in accordance with Condition 9-5 of MS 1180.</p> <p>Reporting to DCCEEW of any incident (any event which has the potential to, or does, impact on one or more protected matter(s) other than as authorised by the EPBC approval) in accordance with Condition 18 of the EPBC approval.</p> <p>Submission of a revised version of the CHMP that addresses the findings of any report provided under Conditions 9-5 and 9-6 of MS 1180, for approval by the Minister.</p> <p>Reporting to Project Director Monthly report.</p> <p>Reporting in the ACR.</p> <p>Reporting in the CAR.</p> <p>Reporting in the s.18 Report.</p> <p>Reporting EPR.</p>

MANAGEMENT ACTIONS	MANAGEMENT TARGETS	MONITORING	REPORTING
<p><b>heritage area</b> temporary fencing.</p> <ul style="list-style-type: none"> <li>The correct location of temporary fencing and survey markers is to be confirmed onsite by a suitably qualified surveyor and data provided to PER.</li> <li>The requirement for temporary fencing and survey markers shall be included in the Ground Disturbance Permit (GDP) issued for those particular works, with onsite verification by the Contractor's Environmental Representative prior to the commencement of clearing Works.</li> </ul> <p>See Figure 7-1 for a visual representation of the Heritage boundary markers, the early warning markers and the fencing design.</p>		<p>Management responsible. EPC Contractor Environmental Representative Responsible. Construction Manager Accountable.</p>	

## 7.2 Cultural Heritage Monitoring

Perdaman shall conduct regular inspections and audits of Project Ceres's work sites and undertake monitoring of specific environmental aspects and impacts. Additionally, Perdaman shall conduct monitoring to assess whether the management actions are effective against the objectives for cultural heritage.

All non-conformances identified will be managed through Project Ceres's non-conformance management process outlined in Section 8.

The guiding objectives of Project Ceres monitoring program include:

- Measure adverse impacts of activities during construction and operations on cultural heritage within the sites and areas under Perdaman's control.
- Monitor and measure success of the management measures implemented to ensure objectives specified in Section 1.2 are achieved.
- Monitor and measure the success of management actions.
- Determine if impacts to cultural heritage within the areas and sites Perdaman has control over are as a direct or indirect result of Perdaman activities during construction and operations.

Operational monitoring will be informed by findings of the monitoring program implemented by Perdaman as the data becomes available and any non-achievement of management targets or incidents. These findings may lead to ongoing changes and refinements of this CHMP and its associated management actions and measures to ensure adaptive management is applied. The following Sections detail the monitoring activities and reporting requirements for Project Ceres.

### 7.2.1 Monitoring Cultural Heritage Management Targets

The magnitude of change for management-based provisions is assessed via management targets. Management Targets are focused on the protection of cultural heritage and minimising the direct and indirect impacts cultural heritage and are outlined in Table 7-1.

### 7.2.2 Monitoring Cultural Heritage Management Actions

In the event a management action for cultural heritage is not implemented and or met, the Perdaman Environment & Heritage Management will be notified immediately with all relevant information. All reasonable actions to implement the management action will be undertaken to rectify the non-compliance.

If a management action requires adjustment following evaluation of monitoring data, review of assumptions and uncertainties, re-evaluation of risk assessment, increased understanding of the environmental setting, or changes to the proposal scope or technology, Perdaman must consult with MAC and seek formal approval of the revised CHMP from the CEO of the EPA in accordance with Condition 9-8 of MS 1180.

Where the revised CHMP is a result of a non-achievement of a management target or management action (Condition 5(c) of the EPBC approval), submission of the revised version of the CHMP for approval by the Minister.

Mitigation and management measures for potential impacts have been specified in Table 7-1.

## 7.3 Principles of the Relationship between Perdaman and MAC

Perdaman recognizes and respect the continuing relationship of MAC communities to the Burrup region and the history of Murujuga lands. Perdaman is committed to continuing to work in partnership with MAC in the spirit of cooperation, mutual understanding, respect and compliance with this CHMP. Consultations between Perdaman and MAC have been recorded in Table 10-1 of Section 10 in this Plan, with additional correspondences included in **Attachment G**.

### 7.3.1 Cultural Protocols

Incorporation of Aboriginal cultural protocols into Project Ceres and throughout operation of Project Ceres has been a key outcome of consultation with MAC representatives. Cultural protocols describe a set of guidelines about the way people work together and communicate which reflect the traditions and lore of the Aboriginal people involved. Adoption of MAC cultural protocols are based on recognition and respect for Aboriginal people, their cultures and their heritage and aims to communicate Aboriginal cultural practices to the broader community. The following sections describe the cultural heritage processes which have been developed with MAC and incorporation of cultural practice throughout the life of the Perdaman operations.

#### 7.3.1.1 Welcome to Country

'Welcome to country' is traditional speech made by MAC custodians of the land to welcome visitors to the



Murujuga country. For Perdaman Project and throughout operations, all public meetings, key events and cultural heritage sessions, should begin with the opportunity for MAC custodians to provide a Welcome to Country. In the planning for these, Perdaman will liaise with MAC to invite a representative to undertake the ceremony before the meeting or event begins.

### **7.3.1.2 Acknowledging Traditional Aboriginal Custodians**

An acknowledgement statement at the beginning of meetings shows respect for Aboriginal culture and heritage by recognizing the Traditional Aboriginal Custodians of the area in which they are meeting. Any party participating in key meetings or events could make an acknowledgement statement. For public meetings or key events where a MAC custodian is not available the most senior Perdaman person will make an Acknowledgement of Country.

### **7.3.1.3 Cultural Awareness Training**

Perdaman recognise the value of ensuring all personnel associated with Project Ceres are informed about the heritage values of the Murujuga lands, Murujuga National Park and the significance of local Aboriginal Heritage Sites to ensure the sites are valued and protected.

MAC has developed a comprehensive Murujuga heritage awareness programs which senior managers have already participated and expect all personnel to complete the session as part of Project Ceres induction process and has set this as a Management Action, (refer to Table 7-1 Management Action 4).

All Perdaman employees and contractors working within Project Ceres Area will complete cultural awareness and heritage protection training as part of their site induction. This training will include information about the National Heritage Values of the area adjacent to Project Ceres Area, the CHMP and CHMP Procedures.

Through ongoing consultation with MAC opportunities to participate in programs which promote the heritage values of the region will be identified and appropriate levels of participation agreed between MAC and Perdaman (Refer to Consultation Processes – Section 10).

## **7.3.2 Ongoing Involvement of MAC**

Involvement of MAC in all stages of cultural heritage assessment and management is fundamental to the process. The following details how Perdaman will involve MAC representatives in ongoing cultural heritage management for Project Ceres and life of the operations.

### **7.3.2.1 Project Update Meetings**

Project update meetings will be held monthly during the construction phase of Project Ceres and as agreed between MAC and Perdaman upon commencement of operations.

### **7.3.2.2 Aboriginal Heritage Liaison and Dispute Resolution Committee (Liaison Committee)**

Perdaman in partnership with MAC will formalize the ongoing consultation on Aboriginal Cultural Heritage matters through a structured Aboriginal Heritage Liaison and Dispute Resolution Committee to:

- Establish and maintain processes and accountability between the separate parties.
- Act as a reference group for any cultural or development issues that may arising during Project Ceres development and ongoing operations.
- Provide opportunity to comment on the performance of the CHMP.
- Act to resolve concerns or issues which arise regarding the ACHM outcomes as per the dispute resolution process.

Membership of the Liaison Committee will include:

- MAC representatives as nominated by MAC Circle of Elders.
- MAC Heritage Officer.
- Perdaman CEO (or delegate), Project/Operation Environment and Heritage Manager.
- EPC Contractor Project Manager during construction phase of Project Ceres.
- An on call suitably qualified archaeologist (responsible for the management of archaeological recording and reporting) or other specialists with knowledge of the Murujuga Lands. (A member by invitation when required).

The representatives on Liaison Committee may change over the life of the operation and the selection of representatives will align to the nominations outlined above. If members are unable to attend meetings or activities, they are able to nominate a delegate.

The Liaison Committee will meet quarterly with the first responsibilities of the Liaison Committee is to agree the charter and protocols.

MAC, Perdaman or EPC Contractor will be able to call an extraordinary Liaison Committee meeting by providing notice in writing 7 days prior to the extraordinary meeting date.

Refer to *Table 7-1 Management Actions 2 and 3*.

### **7.3.2.3 Dispute Resolution**

Should disputes arise during Project Ceres or life of the operation regarding appropriate Aboriginal cultural heritage management outcomes, either within MAC representative organizations or between MAC and Perdaman (including EPC Contractor) the following process will be followed:

- Wherever possible, issues will be negotiated and resolved directly with MAC, Perdaman or EPC Contractor.
- Should a meeting be formally requested (in writing) to discuss a dispute, all parties involved (inclusive of Liaison Committee) are to meet within 10 working days. Where required parties may include support persons to attend the meeting if requested.
- If it is a compliance issue and the issue continues to be unresolved, a dispute will be deemed to exist and Perdaman will seek concurrent advice from governing regulatory agency (e.g., DPLH, EPA, DMIRs) regarding the appropriate cultural heritage management outcome.
- All parties may refer the dispute to the Minister of Aboriginal Affairs (WA) for consideration and advice from the ACMC pursuant to matters relevant to the *AHA 1972* and consents provided under the *AHA*.

Throughout the dispute resolution process, professional mediation may be used to facilitate discussion between parties and resolve the issue.

### **7.3.2.4 Intellectual Property Rights**

In the event Perdaman and MAC co-develop any materials (e.g., videos, education material), then such materials shall be jointly owned, and each party shall be able to use such materials while referencing the other. The exclusion to this will be any information developed in relation to culturally sensitive material which may be identified by MAC for 'non-disclosure' and the party retain copyright.

The intellectual property, however, of any information regarding MAC cultural heritage provided by MAC representatives will not pass to Perdaman and / or its contractors and will remain the property of the owner.

### **7.3.2.5 Confidentiality**

MAC and Perdaman agree to use reasonable efforts to protect each Party's Confidential Information from unauthorized disclosure, use dissemination or publication. The following information is confidential:

- Any commercial information regarding the Perdaman Project.
- Any information provided between Party's that is not available on the public record and is identified as being 'confidential' or for 'non-disclosure'.
- Any material identified as sacred knowledge.

Other than with written agreement between MAC and Perdaman, no Confidential Information will be provided to any persons for any purpose other than required by law, or persons to carry out work on Project Ceres or when written permission is provided.

Occasionally MAC personnel will provide information in relation to a site / artefact / area that is of a culturally sensitive nature. This type of information is generally only shared when it becomes necessary to do so to ensure appropriate management of the site / artefact / area. Information of this nature will not be for public disclosure. Perdaman will commit to and acknowledge the rights of MAC to keep such information confidential.

### **7.3.2.6 Contract Arrangements / Terms of Engagement**

Perdaman will provide clear contractual arrangements with MAC for the ongoing participation in Perdaman Project and Operational works and services. The details of the contract and terms will set out the roles and responsibilities of each of the signatory parties and will be subject to consultation between MAC and Perdaman or their EPC Contractor.

Any commercial arrangements will be protected under common law and procurement arrangements will be subject to mutually agreed payment terms.

## 7.4 Ground Disturbing Activities

In accordance with Condition 5-3 (4) of MS 1180, traditional owners must be invited to observe any ground disturbing activities during construction, and Perdaman must take reasonable steps to facilitate the observation of those activities by those persons.

The process by which Perdaman shall ensure this requirement is met is provided in the following sections.

### 7.4.1 Planning for Works

Prior to any ground disturbance works on Project Ceres a Ground Disturbance Permit (GDP) application will be developed, reviewed and if all conditions are met, issued. Planning for ground disturbance activities within or near sensitive sites requires the following activities prior to a Ground Disturbance Permit being issued and work commencing:

- Heritage clearance assessment (based on GIS data – see below).
- Environmental clearance assessment (where and area to be cleared).
- Requirement for site inspection by authorizing persons – Project Heritage Liaison Officer, MAC Ranger, Project Environmental Advisor, Area Manager.
- Written notification of works to each of the five MAC groups (Ngarluma, Yinjibarndi, Mardudhunera, Wong-Goo-Tt-Oo, Yaburara), inviting monitors to attend.
- Risk assessment and control measures to be implemented prior to commencing the work and maintained throughout the works.
- Sign off by authorized persons including MAC Heritage review and sign off if in proximity to heritage sites.
- Pre-work inspection of the ground disturbance area confirming control measures have been implemented.

Protocols for pre-clearance surveys to be undertaken before ground disturbing works are described in detail in the Confirmed Flora Management Plan (PCF-PD-EN-FMP) and Confirmed Fauna Management Plan (PCF-PD-EN-FaMP).

### 7.4.2 Heritage and Environmental GIS Data Management

Project Ceres has a comprehensive GIS database with layers showing the approved Development Envelope, sensitive environmental habitats and Aboriginal Heritage Sites as registered on the AHIS database and identified by MAC as requiring further research. Each site or area is tagged with heritage / environmental survey information.

***HOLD POINT: No ground disturbance work can be conducted where a current heritage survey (in accordance with BMIEA), has not been completed.***

All sensitive areas will be marked on the database delineating the boundaries of the sites and specific control measures required including:

- Blasting or clearing within NHP or less than 50m of NHP boundary: use of dust control, blast mats and post activity survey to assess if sites were impacted
- In proximity of Aboriginal site: site survey, installation of protection measures (refer to Section 5.1.3) prior to commencement of works.

The environment and heritage controls are recorded on the GDP.

### 7.4.3 Ground Disturbance Permit and Procedure

The Ground Disturbance Permit (GDP) must include any or all relevant provisions identified in this CHMP and the applicant for a GDP shall not be issued unless all such provision requirements are addressed in the application for the GDP.

No ground disturbing activity is to be conducted within Project Ceres Area unless a GDP has been obtained for that activity. GDP can only be issued by the Environmental and Heritage Manager.

The Ground Disturbance Procedure shall ensure the GDP records the outcome of the following activities in accordance with MS 1180 and s.18 AHA consent:

1. Pre-disturbance inspection by MAC nominated representatives (e.g., Rangers) of ground disturbance activities, including clearing and blasting where:
  - A Lease overlies or abuts the NHP or
  - Activities occur within 50m of a Site or the NHP boundary
2. Confirming the buffer and / or signage / fencing (including hard barricade with bunting) as the approved protection measure including the footprint required boundary demarcation.
3. Control measures to prevent impact to the NHP or Site are implemented including dust suppression e.g., water cart.
4. Blasting is conducted by a qualified shotfirer and blast mats are used for blasting activities to control fly rock.
5. Provision for 'Stop Work' (in the immediate area) due to heritage requirements enacted by MAC representatives (e.g., Rangers) and the suspension / cancellation of the GDP until a risk review, task redesign and controls are implemented and inspected, and the risk review has been authorized by the Liaison Committee
6. Record post clearing survey of Sites within the NHP where ground disturbance activity is conducted within the NHP or within 50m of where the Lease abuts the NHP.
7. Provision for ground disturbance monitors from each of the five MAC groups to sign onto the GDP (if present).

The Environment and Heritage Manager is responsible for Ground Disturbance procedures and maintaining a record of all Ground Disturbance Permits that are issued.

An example of the GDP has been prepared as part of the planned salvage works and is provided in **Attachment F**.

#### 7.4.4 Conducting & Monitoring Ground Disturbance Works / Stop Work

The work team undertaking the work will receive a pre-start briefing on the work scope and all the controls on the GDP and are required to sign onto the JHA and permit confirming they understand the requirements which include "Stop Work" in the immediate area under the following circumstances:

- if they identify Aboriginal artefacts or material (refer to Section 7.4.7).
- Potential discovery of skeletal remains (refer to Section 7.4.7).
- Changes in work method, environment or controls occur which potential impacts the integrity of the heritage protection measures.
- MAC nominated heritage monitors and / or Rangers identify the risk of potential impact to Site(s) or NHP values is considered unacceptable.

Where a Stop Work is applied (in the immediate vicinity of Works applicable to the 'Stop Work' order) the GDP is suspended and / or cancelled until appropriate level of controls are agreed to be As Low As Reasonably Practicable (ALARP) and the GDP is reactivated or reissued with the new controls.

**NOTE: Where controls are required to change, these changes must be risk reviewed through a risk assessment process, and endorsed by the Liaison Committee.**

#### 7.4.5 Heritage Monitors

Perdaman will engage two heritage monitors from MAC to oversee initial ground disturbance and to participate in salvage and relocation activities. The Environment and Heritage Manager will be the point of contact for the engagement of heritage monitors and will keep records of their engagement. Perdaman will reach agreement with MAC in regard to the payments that will be made to the heritage monitors in accordance with the principles outlined in Section 7.3.2.6.

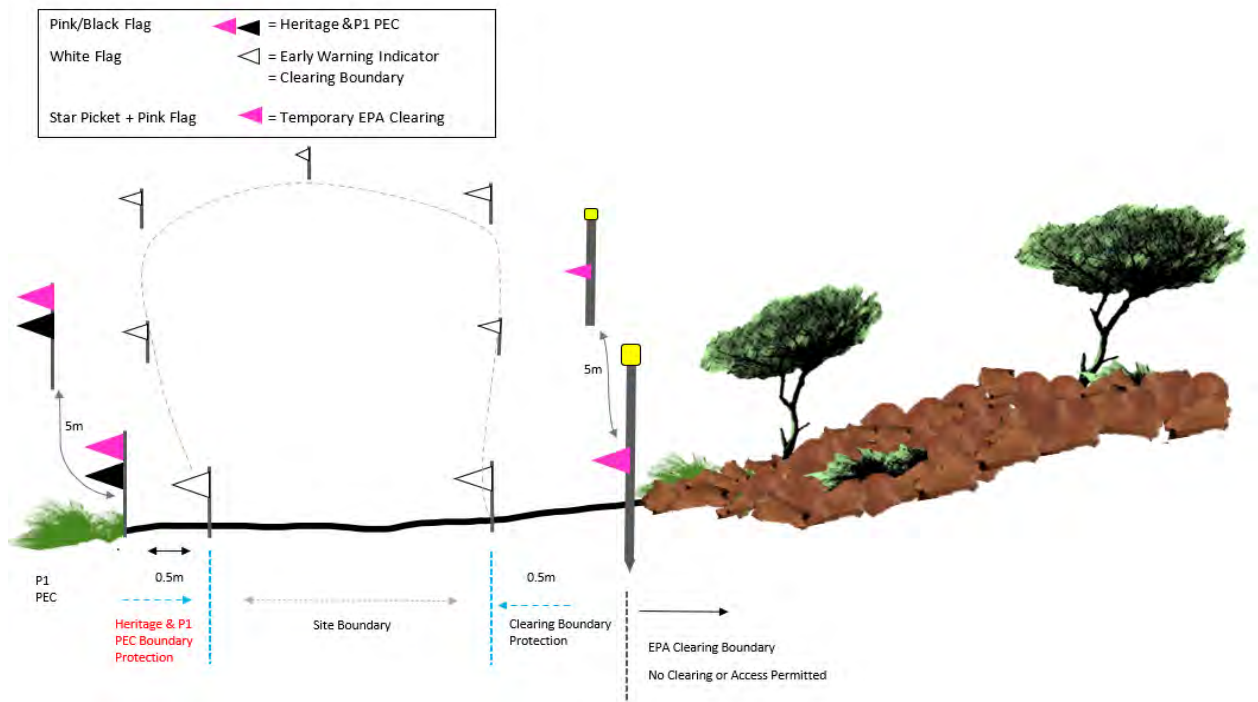
#### 7.4.6 Pre-Clearance Surveys and Site Protection Measures

Protocols for pre-clearance surveys to be undertaken before ground disturbing works are described in detail in the Confirmed Flora Management Plan (PCF-PD-EN-FMP), and the Confirmed Fauna Management Plan (PCF-PD-EN-FaMP). The requirements to survey and set out boundary markers to erect temporary fencing as detailed in the FMP also applies for heritage sites to be avoided as detailed in Section 5.

The implementation of the Management Action 31 will assist in the avoidance of direct impacts to heritage sites by clearing and construction works. Figure 7-1 below provides a diagram of the surveying methodology to be

implemented when surveying location for temporary fencing instalments.

Figure 7-1 Methodology for Clearing Boundary Identification during Pre-Clearance Surveys



#### 7.4.6.1 Designated Partially Impacted Sites

All Sites designated as partially impacted will be fenced with a buffer and designated with heritage flags.

Site ID 20037 is under the conveyor, which has been designed to avoid direct impact to the Site by raising the conveyor elevation and designing the span between the conveyor legs to avoid the site (refer to Section 5.1.1.2). During construction and placement of the conveyor the site will be fenced and if required will have a protective structure installed over and around the site as agreed with MAC. Upon completion the conveyor is covered to prevent spillage of material onto the Site.

During construction activities in the vicinity of Sites identified in Table 4-2, the works will be monitored by MAC representatives to assist in the prevention of potential impacts to the Sites and have full authorisation to Stop Work in the immediate area if required.

#### 7.4.6.2 Sites Within Development Area – Not within Project footprint

Perdaman construction activities outside of Project Ceres footprint will be limited to accessing work areas particularly during the preparation and construction of the conveyor. In general, the areas will be designated as restricted (not to be accessed) unless authorised and demarcated by boundary fence along the west boundary of Project Ceres. Details on restricted areas will be communicated during Project Ceres induction.

The site pre-clearance survey will identify the Sites potentially impacted by the conveyor / services works which require to be protected and will be secured with fencing.

#### 7.4.6.3 Sites External to Development Area

The areas will be designated as Restricted not to be accessed unless authorized and demarcated by boundary fence along the west and northern boundary of Project Ceres. Details on restricted areas will be communicated during Project Ceres induction.

The exception will be where pre and post surveys are required due to earthmoving or blasting within Project Ceres footprint and have the potential to impact Sites not in the development area (e.g., Murujuga National Park to the north).

#### 7.4.7 Discovery of Possible New Heritage Site

There is the possibility that unknown archaeological material may be discovered during excavation and construction activity. If it is suspected that new archaeological material has been discovered, the following

procedure must be adopted:

- Work is immediately stopped in the area of the suspected object and the area is to be cordoned off to a distance of 5 meters around the object. The Environment and Heritage Manager is to be immediately notified.
- Perdaman will consult with MAC and engage the services of an archaeologist to assess the archaeological material and provide a report for Perdaman.
- Perdaman will form a view of what course of action is to be followed. The Environment and Heritage Manager (or delegate representative) will advise Perdaman staff and contractors when the above process has been completed and if work can continue on the area.

#### 7.4.8 Discovery of Skeletal Remains

There is the possibility that skeletal remains may be uncovered during excavation and construction activity. The discovery of human remains brings into play the following legislation:

- *Coroners Act 1996 (WA)* – all human remains.
- *Aboriginal Heritage Act 1972 (WA)* – Aboriginal burials, and
- *Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cth)* – Aboriginal burials.

Should human remains be found during construction:

- a) Work is immediately stopped in the area of the suspected object and the area is to be cordoned off to a distance of 5 meters around the object. The Environment and Heritage Manager is to be immediately notified.
- b) The Environment and Heritage Manager is to notify the relevant person(s) as set out below:
  - i. Under Section 17 of the *Coroners Act 1996* the local Police / Coroner's office must be notified.
  - ii. Only if human remains are suspected by the Police / Coroner's office to be Aboriginal, the Registrar as well as the Federal Minister for Aboriginal Affairs needs to be informed.
- c) Only if human remains are suspected by the Police / Coroner's office to be Aboriginal, at the same time as other individuals and agencies are contracted Perdaman will notify MAC. MAC will be consulted as to the management of the material once Aboriginal origin has been determined. Appropriate arrangements are to be made for nominated Aboriginal people to attend the site, if not already present.
- d) A suitable keeping place or re-interment location should be agreed between Perdaman, MAC and the Department of Aboriginal Affairs.

The remains must remain in situ and undisturbed until of the Registrar or WA Police makes the decision about how to proceed in respect of the remains. Perdaman will, at its expense, manage the remains in accordance with the Registrar's decision and notify the whereabouts of the remains to the Registrar.

#### 7.5 Salvage and Relocation of s.18 Sites

The salvage strategy for sites ID 19239, ID 198874, and ID 18615 has been independently developed based on the studies detailed in Section 5.1.1.5. The salvage procedure as shown in Figure 7-2) commences with the site assessment to determine the details required to excavate / extricate the petroglyphs, stabilize the material during lifting and transport and new location site preparation.

The protocol includes HOLD points requiring MAC authorisation prior to continuing the process which include:

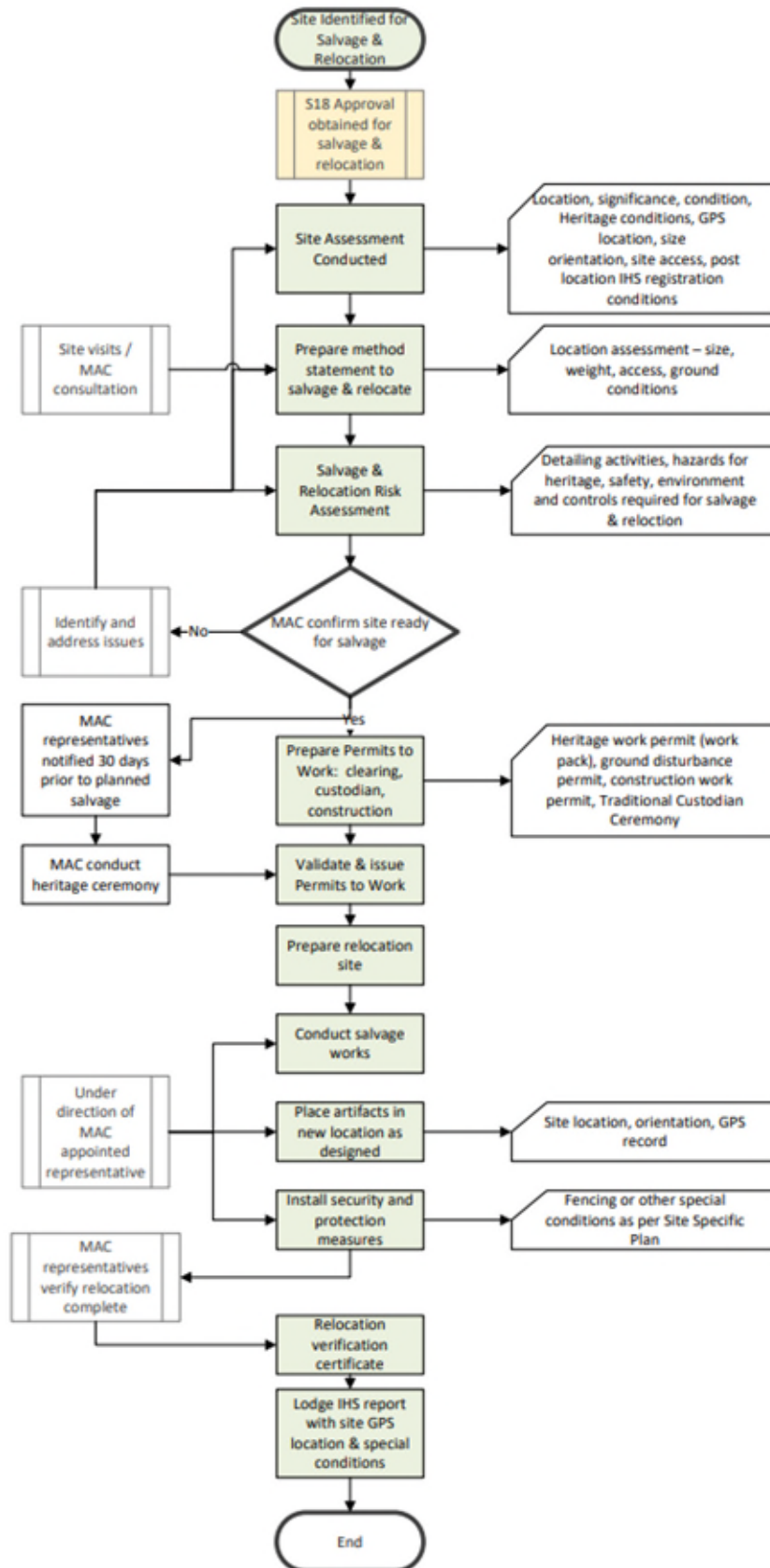
- Participation in the risk assessment, review, and authorisation of the work pack and
- Completion of the heritage ceremony and authorisation of the salvage permit

MAC are also required to authorise all work has been completed once the petroglyph has been installed and secured at the new location.

Throughout the process MAC has nominated representatives involved in the preparation, review and authorisation of each work pack and physically in the field monitoring the salvage and relocation activities.

The MAC approved Salvage and Relocation Work Packs are provided in **Attachment F** and the MAC endorsement provided in **Attachment G**.

Figure 7-2 Salvage & Relocation Protocol



## 7.6 Collection of Artefact Scatters

During ground clearing and earthmoving Perdaman heritage monitors shall monitor the works to identify scattered artefacts, collect and remove them to the site nominated by MAC. Should the Heritage Monitors

identify artefacts or sites of potentially greater heritage value the procedures outlined in Section 7.4.7 shall be implemented.

### **7.7 Access to Project Area by Aboriginal Stakeholder Groups**

If Aboriginal Stakeholder wish to access Aboriginal Heritage Sites within Project Ceres Area this will be directed through MAC and coordinated by the Environment and Heritage Manager. All group members participating in site visits must comply with occupational health and safety requirements and will be accompanied by an appropriate Perdaman employee, except in the NHP area with Site F (ID 9439) which is external to, but surrounded by Site F.

### **7.8 Records**

The Environment and Heritage Manager is responsible for recording all breaches of the CHMP or and the subsequent investigation. Records will support reporting in accordance with the regulatory requirements of the regulatory authorities.



## 8 Environmental Reporting and Compliance Requirements

Perdaman is responsible for the preparation of overall Project related environmental reports including compiling data from monitoring programs.

Perdaman will compile monitoring data and relevant environmental information on a monthly basis.

Perdaman will report on the implementation of this CHMP to the CEO of the EPA, DCCEEW, and the of Aboriginal Sites annually in annual compliance reports, and to the CEO of the EPA 5-yearly in the Environmental Performance Report.

Where compliance audits undertaken by Perdaman, or incidents identify that the management actions, management targets, and / or the objectives are not being achieved, Perdaman carry out reporting to the appropriate regulatory authority as outlined in the following sections.

Consistent with standard document control procedures, Perdaman will maintain copies of all reports submitted to the regulatory authorities.

### 8.1 Incident Reporting and Investigation

An incident is defined by the EPBC approval meaning *any event which has the potential to, or does, impact on one or more protected matter(s) other than as authorised by [the EPBC] approval*. Incidents under this CHMP are also clearing inconsistent with the GDP, and damage to fencing.

All breaches of the CHMP, specifically Aboriginal Heritage Site disturbance and or disturbance outside the development envelope will be documented in the Incident Register by the Environment and Heritage Manager.

If Perdaman employees, contractors or visitors damage, trespass or otherwise interfere with an Aboriginal Heritage Site identified for protection, then the following shall occur:

- Work is immediately stopped in the vicinity of the area of the suspected breach and the area is to be cordoned off with a 5m surrounding buffer.
- When an incident occurs, the Environment and Heritage Manager (or their representative) is to be notified of the incident as soon as possible.
- The Environment and Heritage Manager will inform Project Ceres Director of the incident within 24 hours. Project Ceres Director shall inform the Perdaman Chairman.
- The incident and response will be recorded in Perdaman's incident reporting system, within 24 hours of occurrence.
- For all incidents, root cause(s) must be established using the IncidentCause Analysis Methodology (ICAM). The final incident investigation report must be submitted within 14 days, or as stipulated by Project Director, depending on the level of investigation required.
- The site supervisor responsible for the area in which the incident occurred is to complete an incident report form and provide it to the Environment and Heritage Manager as soon as practicable after the incident.

### 8.2 Non-Conformance Management

#### 8.2.1 Non-Achievement of Management Actions

In the event that monitoring, tests, surveys or investigations indicate that one or more management actions specified in the **Confirmed** Cultural Heritage Management Plan have not been implemented, Perdaman must:

- MS 1180 Condition 9-6:
  1. report the failure to implement the management action(s) in writing to the CEO, the Murujuga Aboriginal Corporation, the DPLH, and the Registrar of Aboriginal Sites within seven days of identification
  2. investigate to determine the cause of the management action(s) not being implemented
  3. investigate to determine potential environmental harm or alteration of the environment that occurred due to the failure to implement management action(s)
  4. provide a further report to the CEO, the Murujuga Aboriginal Corporation, the DPLH, and the Registrar of Aboriginal Sites within 28 days of the non-compliance being identified, which must include:
    - a. cause for failure to implement management action(s)

- b. the findings of the investigation required by Condition 9-6(2)
  - c. relevant changes to Project activities; and
  - d. measures to prevent, control or abate the environmental harm which may have occurred.
- EPBC approval Condition 5:
    - b. provide any reports required to be prepared under conditions [9-5 and] 9-6 of the Western Australian Approval to the Department for review within the same timeframes specified in those conditions; and
    - c. if a non-achievement of a [management target] or management action, as set out in Cultural Heritage Management Plan, is identified:
      - i. submit to the Department for the Minister's approval a version of the Cultural Heritage Management Plan revised to address the findings of any report provided under conditions 9-5 and 9-6 of the Western Australian Approval; and
      - ii. if the Minister has approved a revised Cultural Heritage Management Plan, implement the Cultural Heritage Management Plan.

### 8.2.2 Non-Achievement of Management Targets

In the event that monitoring, tests, surveys or investigations indicate non-achievement of management targets specified in the **Confirmed** Cultural Heritage Management Plan, Perdaman must implement the following:

- MS 1180 Condition 9-5:
  1. report the non-achievement in writing to the CEO, the Murujuga Aboriginal Corporation, DPLH, and the Registrar of Aboriginal Sites within 21 days of the non-achievement being identified
  2. investigate to determine the cause of the management target(s) not being achieved
  3. provide a further report to the CEO, the Murujuga Aboriginal Corporation, the DPLH, and the Registrar of Aboriginal Sites within 90 days of the non-achievement being reported as required by Condition 9-5(1) which must include:
    - a. a description of the cause of management target(s) being exceeded if known, or analysis of likely causes if not known;
    - b. the findings of the investigation required by Condition 9-5(2);
    - c. details of revised and/or additional management actions to be implemented to prevent non-achievement of the management target(s); and
    - d. relevant changes to Project activities.
- EPBC approval Condition 5:
  - b. provide any reports required to be prepared under conditions 9-5 [and 9-6] of the Western Australian Approval to the Department for review within the same timeframes specified in those conditions; and
  - c. if a non-achievement of a management target [or management action], as set out in Cultural Heritage Management Plan, is identified:
    - i. submit to the Department for the Minister's approval a version of the Cultural Heritage Management Plan revised to address the findings of any report provided under conditions 9-5 and 9-6 of the Western Australian Approval; and
    - ii. if the Minister has approved a revised Cultural Heritage Management Plan, implement the Cultural Heritage Management Plan.

### 8.2.3 Non-Compliance with Ministerial Statement 1180

Without limiting Condition 9-4 (implementation of the plan) and notwithstanding compliance with Condition 9-6 (response to exceedance), Perdaman must not cause or allow:

1. a failure to implement one or more management actions specified in the Confirmed Cultural Heritage Management Plan, and/or

2. failure to comply with the requirements of the Confirmed Cultural Heritage Management Plan.

### 8.3 EPBC Act Approval 2018/8383 Annual Compliance Report

The Annual Compliance Report (ACR) required under Condition 17 of the *EPBC Act 1999* Approval must be prepared by Perdaman for each 12-month period following the date of commencement of the action, or otherwise agreed in writing by the Minister. The action commenced on 11 July 2023 with the clearing of vegetation as part of the Main Roads WA Hearson Cove Road realignment works. Therefore, the ACRs are due 11 July each year.

The ACR should include:

- List of all conditions of the EPBC approval, including any variations to those conditions, noting if compliance or non-compliance with each condition has been achieved.
- Findings of non-compliance should be accompanied by a summary detailing any corrective measures taken
- The compliance report should discuss any new environmental risks that have become apparent during the reporting period.
- If a management plan is required under an approval condition:
  - the specifics in a management plan that support an approval condition should be detailed in the compliance report
  - material should be provided demonstrating that the requirements of that plan have been implemented.

### 8.4 Ministerial Statement 1180 Compliance Assessment Report

Perdaman is to submit to the CEO of the EPA a Compliance Assessment Report (CAR) annually in accordance with Condition 15 of MS 1180. The CAR is to be prepared in accordance with the Confirmed Compliance Assessment Plan (PCF-PD-EN-CAP).

The first CAR is to be submitted fifteen months from the date of issue of MS 1180. The Statement was issued on 24 January 2022. Therefore, the first CAR was due 24 June 2023. CAR's are required annually from the date of submission of the first CAR, therefore, by 24 June, each year.

The CAR demonstrates Perdaman's compliance with MS 1180 through reporting the monitoring results in comparison to the established trigger and threshold criteria in each Confirmed management plan. This will help to identify non-compliances and describe the corrective and preventative actions to be taken to maintain compliance.

In accordance with Condition 15-7 of MS 1180, each CAR shall:

1. be endorsed by the Perdaman's Chief Executive Officer or a person delegated to sign on the Chief Executive Officer's behalf;
2. include a statement as to whether Perdaman has complied with the Conditions;
3. identify all potential non-compliances and describe corrective and preventative actions taken;
4. be made publicly available in accordance with the approved Compliance Assessment Plan; and
5. indicate any proposed changes to the Compliance Assessment Plan required by Condition 15-2.

Where the outcome of objective is not met and the trigger / threshold criteria are exceeded during the reporting period, the CAR shall include a description of revised management actions / contingency actions to be implemented to achieve the outcome and objectives during the next reporting period. All changes to management actions will require review and approval by the CEO.

### 8.5 Section 18 AHA Consent Annual Report

An annual report is required under Consent **Condition 3** of the s. 18 notice (REF: MIN-2021-0354), which states that Perdaman is to;

- Provide an annual written report to the Registrar of Aboriginal sites advising to what extent the Purpose has impacted on all or any sites located on the Land.

The impacts reported annually will include before and after photos of sites to be disturbed / salvaged / relocated, including the details of the extent of impact or disturbance to such sites. All sites that are disturbed over the life of Project Ceres are to be detailed in an annual report.

### 8.6 Ministerial Statement 1180 Environmental Performance Report

Perdaman is to submit an Environmental Performance Report (EPR) to the Western Australian Minister for Environment and MAC every five years in accordance with Condition 12 of MS 1180.

The first report is to be submitted within three months of the expiry of the five-year period commencing from the first date of Ground Disturbing Activities or another time approved by the CEO. Ground Disturbing Activities commenced on 11 July 2023 by Main Roads WA for the development of Hearson Cove Road. Therefore, the first report is due no later than 11 October 2028.

Relative cultural heritage, the EPR shall report on the following:

- State of rock art.
- State of amenity affected by air emissions.
- State of social surroundings including cultural heritage.

The report shall include a comparison of those values mentioned above at the end of the five-year period against the state of each value at the beginning of the five-year period. Also, a comparison of the environmental values identified above at the end of the five-year period; against the state of the environmental values identified in first EPR submitted in accordance with Condition 12-2. In addition, the report will include the proposed Adaptive Management and continuous improvement strategies.

## 8.7 Section 18 AHA Consent Final Report

A final report required under **Condition 4** of the s.18 Consent notice (REF: MIN-2021-0354), which states that Perdaman is to provide a written report to the Registrar of Aboriginal Sites within 60 days of the completion of the Purpose, advising whether and to what extent the Purpose has impacted on all or any sites located on the Land. The final report should include a detailed description of:

- what extent the Purpose has impacted any Aboriginal site on the Land;
- where any Aboriginal site has been impacted, whether such site has been partially or wholly impacted by the Purpose, and the level, effect and type of any such impact - preferably by the provision of photographs taken before and after the impact;
- where any Aboriginal site has been subject to archaeological or cultural salvage, when and how such salvage took place, who was present at the salvage and where the material was re-located, the results of the salvage and any subsequent analysis conducted;
- the results and findings of any monitoring of ground disturbing works associated with the Purpose; and
- what extent the site has been remediated.

## 8.8 Submission and Publication of Management Plan

In accordance with Condition 16 of MS 1180, and subject to condition 16-2, for the remainder of the life of the proposal, Perdaman shall make publicly available, in a manner approved by the CEO, all validated environmental data (including sampling design, sampling methodologies, empirical data and derived information products (e.g. maps), management plans and reports relevant to the assessment of this proposal and implementation of this Statement.

If any data referred to in condition 16-1 contains particulars of:

1. a secret formula or process; or
2. confidential commercially sensitive information.

Perdaman may submit a request for approval from the CEO to not make these data publicly available. In making such a request Perdaman shall provide the CEO with an explanation and reasons why the data should not be made publicly available.

## 8.9 Environmental Audits

Perdaman shall conduct environmental audits of the EPC Contractors activities via an integrated audit schedule. This will be undertaken to ensure all project activities and environmental management processes conform with the planned arrangements and whether the PEMP and its associated sub-plans (i.e. this CHMP) has been properly implemented. The key requirements to be reviewed may include:

- Performance against licensing and approvals conditions, project targets, objectives and policy statements.
- Exceedances of triggers & threshold criterion.
- Adequacy of resources and training.

- Complaints and non-conformance management.

The audit schedule will be developed in consultation with relevant EPC Contractor personnel. Results of all audits will be communicated and discussed at management review meetings.

## 9 Adaptive Management and CHMP Review

Ongoing monitoring of this CHMP and its commitments will ensure risks associated with cultural heritage are identified, monitored and addressed in a timely manner. This includes monitoring the key characteristics of all Project activities that may have significant environmental impacts, such as operational controls, conformance with objectives and periodic evaluation of compliance with legislation and regulations.

Findings of monitoring and measurement processes will be reviewed periodically and reported through monthly reports and a management review twice a year. The monthly reports will provide information to satisfy approval conditions while the management review will be a self-evaluation audit of conformity to Perdaman's corporate environmental management system requirements.

Regular environmental inspections conducted by Perdaman's Environmental Representatives will provide assurance that all personnel and operating processes are continually addressing environmental issues through a process of continual improvement.

### 9.1 Cultural Heritage Management Plan Review

This CHMP will be reviewed and updated upon meeting the following conditions:

- At least annually throughout the life of Project Ceres.
- As a result of significant incidents that have directly impacted cultural heritage.
- A non-achievement of a management action and/or target occurs.
- When performance improvements are identified for the protection of cultural heritage.
- When changes to operational processes pose a risk to cultural heritage.
- Outcomes of monitoring programs are received.
- Implementation and effectiveness of management measures and monitoring programs.
- Changes to relevant legislation, policy, guidelines, management plans and industry practices.
- The identification of a cultural heritage site not previously confirmed within Project Ceres area.
- Specialist advice is received.
- Stakeholder consultation occurs, e.g. Traditional Owners request that a review is undertaken due to a relevant concern
- Complaints of odour or visual amenity / access to Murujuga National Park, National Heritage Places and other culturally significant areas.
- Review will also include a gap analysis of current management actions and management targets to identify non-compliances and where necessary any additional actions that may be required to minimise risk of further exceedance.

Any revisions or amendments of this CHMP must be in consultation with MAC and provided to the CEO of the EPA in accordance with Condition 9-8 of MS 1180.

Where the revised CHMP is a result of a non-achievement of a management target or management action (Condition 5(c) of the EPBC approval), submission of the revised version of the CHMP for approval by the Minister.

### 9.2 Corrective Management

There are several factors which lend to the adaptive management approach that Perdaman has adopted for this Project. The ability to respond to monitoring data from the MRAS monitoring program and the continuous consultation that will be carried out on Project Ceres with MAC and Traditional Owners, mean that management actions may change and require additions based upon further understanding of impacts of air emissions on petroglyphs and issues or requirements communicated by MAC.

In line with adaptive management, the management actions and associated targets presented within Table 7-1 will be monitored, reviewed, evaluated and updated as required and while considering the following factors:

- Outcomes of review and evaluation of monitoring data from the MRAS Monitoring Program.
- Outcomes from technical review and evaluation of emissions and ambient air quality programs as per the Confirmed Air Quality Management Plan (PCF-PD-EN-AQMP).

- New scientific information published as part of the MRAS about the potential impacts of air emissions to Aboriginal rock art on the Burrup Peninsula, particularly where updated or additional provisions within Table 7-1 should be included.
- Additional or new relevant information gained during the implementation of this CHMP or through consultation framework.
- Changes to state, federal legislation and policy.

Relevant changes to the management actions and targets will comply with the Objectives for cultural heritage management stated within the MS 1180 (Condition 9-1), the EPBC Act and the s.18 Consent.

The Environment and Heritage Manager will conduct annual reviews of compliance with this CHMP during construction, and the outcome of these reviews will be reported to the Project Director. The first annual review be conducted 12 months after the commencement of construction. Personnel involved with implementing this CHMP should send feedback to the Environment and Heritage Manager. Subsequently, this CHMP will be reviewed annually during operations.

## 10 Stakeholder Consultation

### 10.1 Framework for Consultation with MAC

In accordance with Ministerial Conditions 9-2 (2), Perdaman has provided a framework for consultation with Traditional Owners and Custodians via MAC and other relevant Stakeholders during the life of Project Ceres.

The framework allows for the following provisions:

- This CHMP has been prepared in consultation with MAC in accordance with Condition 9-2 of Ministerial Statement 1180.
- Reviews and updates to this CHMP will always be carried out in consultation with MAC and DPLH, with submissions to be sent to the CEO and the Registrar of Aboriginal Sites as directed by the CEO.
- Perdaman shall provide for the relevant Traditional Owners to be invited to observe any Ground Disturbing Activities and during construction activities and take reasonable steps to facilitate the observation of those activities by those persons.
- Monthly Project meetings will be held with MAC, Perdaman and the SCJV management team during construction.

Section 10.2 summarises the consultation between key stakeholders. The most recent consultations with the Murujuga Aboriginal Corporation are included as **Attachment G** of this plan.

Consultation records shall be maintained throughout the life of Project Ceres. This Plan will be reviewed and updated where consultation with MAC or Traditional Owners identifies key changes to Aboriginal Heritage Sites, significance, or Artifacts within the development envelope that may be impacted by Project construction or operational works. In addition, the ongoing consultation and results from the MRAS monitoring will inform potential changes and reviews to this Plan.

### 10.2 Consultation Summary

Perdaman has carried out stakeholder consultation with other key stakeholders, additional to MAC and Traditional Owners.

The consultation register in Table 10-1 summarises the consultation and Perdaman responses.



Table 10-1 Stakeholder Consultation Register

Date	Stakeholder	Consultation Type	Issues, Topic Raised	Perdaman Response
April 2022 (various follow up meetings during this period) <b>Refer to Attachment G.</b>	Murujuga Aboriginal Corporation (MAC) and Circle of Elders	Site visit / Presentation / Endorsement of salvage and relocation methodology	Presentation on the proposed salvage and relocation methodology for sites ID18615, ID19239 and ID19874, and the process for detailed salvage assessments. Addition of Cultural Significance and Cultural Risk sections to the detailed salvage assessments. Endorsement of the detailed salvage assessments and methodology for salvage and relocation by MAC and the Circle of Elders.	MAC endorsed and approved proposed relocation strategy of sites to Reserve 43195.  MAC request that Perdaman engage the services of a Marban man to oversee relocation of site ID18615 to ensure cultural safety of those involved in the relocation process.  Perdaman to engage MAC to monitor all salvage and relocation activities.
30 Mar 2022	Murujuga Aboriginal Corporation (MAC) and Circle of Elders	Presentation / Meeting	Presentations on design modifications applied to avoid Cultural Heritage Sites in the PDE.	Commitment by Perdaman to engage in further meetings held on country to gain a further understanding of sites endorsed for salvage and relocation.
31 Jan 2022	Murujuga Aboriginal Corporation (MAC) and Circle of Elders	Presentation / Meeting / Endorsement of CHMP	Presentation of the salvage and relocation proposal for the CHMP (Cultural Heritage Management Plan).	Endorsement of the amended CHMP and of the salvage and relocation methodology.
24 Jan 2022	Murujuga Aboriginal Corporation (MAC)	Site visit/ Presentation	MAC Board  Presentation of key aspects of this amended Surface Water Management Plan for discussion.  Opportunities  Potential challenges and solutions.	None Required.
2019 & 2020 (Various times during this period)	Hon. Alannah MacTiernan	Presentation / Meeting	Project update including: - Community stakeholder consultation & feedback - Environmental Impact Assessment - Common-user infrastructure - Social benefits - Employment opportunities	Details discussed including potential social and economic benefits  Commercial arrangements with Pilbara Ports Authority and the Water Corporation

Date	Stakeholder	Consultation Type	Issues, Topic Raised	Perdaman Response
			- Training opportunities	
January 2020	MAC	In principle Endorsement of Heritage Charter	Perdaman Urea Project Overarching Position for Heritage Interaction and management, including Rock Art and Murujuga.	In principle (subject to final Part IV approval of Project) endorsement of Proponent commitment to its overarching position which will underpin Aboriginal Heritage Management Plans, protocols and actions for life of Project Ceres
November & December 2019	Hon. Mark McGowen, Premier	Presentation / Meeting	Project update including <ul style="list-style-type: none"> <li>- Community stakeholder consultation &amp; feedback</li> <li>- Social benefits</li> <li>- Employment opportunities</li> <li>- Training opportunities</li> <li>- Environmental Impact Assessment</li> <li>- Common-user Infrastructure</li> </ul>	Details discussed including potential social and economic benefits Commercial arrangements with the Pilbara Ports Authority and the Water Corporation
November 2019	Hon. Ben Morton, Assistant Minister to the Prime Minister and Cabinet	Presentation / Meeting	Project update including <ul style="list-style-type: none"> <li>- Community stakeholder consultation &amp; feedback</li> <li>- Social benefits</li> <li>- Employment opportunities</li> <li>- Training opportunities</li> <li>- Environmental Impact Assessment</li> <li>- Common-user Infrastructure</li> </ul>	Details discussed including potential social and economic benefits Commercial arrangements with State GTEs and common-user infrastructure requirements
27 November 2019	MAC	Agreement Signing	Signing of Commercial Agreement, transformative opportunities	Agreement on mutual support for future aspirations of both parties
14 October 2019	Kevin Michel MLA, Karratha	Briefing	Update on the Environmental Impact Assessment Update on liaison with other community stakeholders	Details discussed
14 October 2019	City of Karratha, PDC	Meeting	Update on the Environmental Impact Assessment Discussions about the housing strategy, City of Karratha is supportive of a strategy that will provide long-term benefits to the community	Details discussed Accommodations for Project Ceres will be integrated to the local community rather than building isolated camps

Date	Stakeholder	Consultation Type	Issues, Topic Raised	Perdaman Response
14 October 2019	Circle of Elders	Presentation / Meeting	Access to the meeting site in the south-west corner to Site F Location of the proposed infrastructure on site Transformative opportunities	The fence that will be installed aims at preventing site workers to access the cultural site and will not block access for the Traditional Owners (TO) Refer to Figures in Appendix A of the ERD Commercial Agreement to be signed with MAC
14 October 2019	MAC	Workshop	Commercial Agreement, transformative opportunities	Further discussions to be held between MAC and the Proponent
September 2019	Hon. Ben Wyatt, Treasure	Presentation / Meeting	Update on Project including the Environmental Impact Assessment	Details discussed including potential social and economic benefits
20 September 2019	MAC & Advisors	Meeting	Commercial Agreement, transformative opportunities	Further discussions to be held between MAC and the Proponent
4 September 2019	MAC & Advisors	Meeting	Commercial Agreement, transformative opportunities	Further discussions to be held between MAC and the Proponent
June-August 2019	Pilbara Ports Authority (PPS)	Online form, letter	Panamax size vessels Capacity of the shed at the Port	The Proponent will be using high tides to access the berth Storage capacity at the port changed to 65,000 tonnes
05 July 2019	MAC	Presentation / Meeting	Assessment timeline clarification Plant design	The Proponent provided clarification regarding the environmental approval processes The Proponent provided an update on the plant design MAC advised that they support the draft ESD and confirmed Project Ceres aligns with their core objectives (ref. email to the EPA of the 8 <sup>th</sup> July 2019).
June 2019	Karratha, Roebourne, Dampier and	Information booths, online	Project timeline Employment opportunities	Refer to Section 2.3.7 of the ERD.

Date	Stakeholder	Consultation Type	Issues, Topic Raised	Perdaman Response
	Wickham Community	form		
16 May 2019	Pilbara Development Corporation (PDC)	Meeting	PDC indicated a preference for flexible working hours for employees so they can pursue activities/sports Visual amenity	The Proponent is committing to give the opportunity to all employees to request flexibility to pursue nominated activities / hobbies / sports.  Refer to Section 4.9.5 (ERD)
16 May 2019	NYFL	Presentation / workshop	Approach to monitoring and detriment to rock art NYFL Chairman requested information about continuous access for Aboriginal people to NHL area thought to be associated with “Fish Thalu” site within the boundary of site F.  Any changes to access into Ngajarli as a result of Hearson Cove Road realignment.  Access to the meeting site in the south-west corner of site F.  Visual aspects and opportunities.	The Proponent worked with Woodside to obtain a comprehensive regional airshed model (Section 4.8.5 and Appendix D (ERD)). An Air Quality Management Plan and Heritage Management Plan have been developed (Appendix K (ERD)).  The Proponent will make access arrangements whereby those with connection to the NHL site would be met at the gate and escorted to the sacred site. The sacred “Fish Thalu” site is outside the operational site boundary (refer to plan layout, Figure 3, Appendix A of the ERD).  Hearson Cove Road will be realigned to its official gazetted alignment. Access to Ngajarli will be maintained.  The construction-phase boundary has been modified to ensure this cultural site is outside of the fenced area and its use is not impaired.  Discussed opportunities to use the wall surfaces of Project buildings and facilities as a medium for Aboriginal artworks and as a visual medium to communicate heritage stories.
April 2019	Woodside	Meeting	Air Quality modelling	Data share agreement
February 2019	Senator Michaelia Cash, Federal Minister for Employment, Skills,	Meeting	Update on Project including –Potential social benefits –Potential employment & training opportunities	Details discussed

Date	Stakeholder	Consultation Type	Issues, Topic Raised	Perdaman Response
	Small and Family		–Potential economic opportunities	
25 February 2019	Water Corporation	Letter	Discharge in the MUBRL and seawater intake	Appendix J of the ERD
12 February 2019	Murujuga Aboriginal Corporation (MAC) City of Karratha	Site visit / Presentation	<p>MAC:</p> <ul style="list-style-type: none"> <li>Construction phase, Site preparation, Plant erection</li> <li>Potential Heritage issues</li> <li>Plant emissions / impacts on Burrup Rock Art</li> <li>General processing plant understanding</li> <li>Employment, training and business opportunities</li> <li>MAC could benefit from</li> <li>Work undertaken to evaluate a Project location at Maitland</li> </ul> <p>City of Karratha:</p> <p>The City of Karratha would prefer that the Dampier public wharf be used, and the shed located north of proposed options A &amp; B.</p>	<p>Section 2.3.3 of the ERD</p> <p>Section 2.2.4 of the ERD</p> <p>Third option 'C' added to the Port infrastructure location options.</p> <p>Refer to Section 2.2.6 of the ERD</p>

### **10.3 Internal and External Communication**

Regular updates of environmental issues and related matters will be communicated to all Project personnel. This communication will include the induction process, through regular team meetings and toolbox talks, and via written communications including emails and newsletters disseminated electronically or in hard copy.

All external communications will be managed by Project Ceres Director. No other Project personnel or Contractors are to provide comment or information to external organisations or individuals without the consent of Project Ceres Director.

### **10.4 External Incident Notification**

Only the Environment and Heritage Manager, in consultation with Project Ceres Director, is authorised to notify external regulatory agencies of any Project related environmental incidents.

This communication will be in accordance with individual agencies' reporting and notification requirements.

## 11 Changes to the CHMP

This plan has been amended from the previous version PCF-PD-EN-AHMP-PCF4 to ensure that all commitments and conditions required in accordance with regulatory approvals are captured and addressed.

All changes to this CHMP post-assessment must be provided separate to compliance reports and submitted to the appropriate regulatory authority in accordance with Section 9.1.

Table 11-1 Changes to CHMP

<b>Complexity of changes</b>		Minor revisions <input type="checkbox"/>	Moderate revisions <input type="checkbox"/>	Major revisions <input checked="" type="checkbox"/>
<b>Number of Key Environmental Factors</b>		One <input type="checkbox"/>	2-3 <input checked="" type="checkbox"/>	> 3 <input type="checkbox"/>
<b>Date revision submitted to EPA:</b>				
<b>Proponent's operational requirement timeframe for approval of revision. Reason for Timeframe:</b>		< One Mth <input checked="" type="checkbox"/>	< Six Months <input type="checkbox"/>	> Six Months <input type="checkbox"/>
None <input type="checkbox"/>				
Item no.	EMP Section no.	EMP page no.	Summary of change	Reason for change
1	ES	x	Proposed Construction commencement & Operations commencement	Updated to reflect schedule for construction and operation.
2	ES	x	Purpose of the CHMP	Updated to include reference to the MS 1180 Approval and the EPBC Approval.
3	ES	xi	Key Environmental Factors and Objectives	Addition of Environmental Outcome of Condition 2 of MS 1180 and the objective of the EPBC Act.
4	ES	xi	Condition Clauses	Amended to include reference to S.18 Conditions of Consent
5	Foreword	xii	Figure 0-1	Update to reflect current management framework
6	1.1	1	Project Description	Reformatting and additional information on site layout
7	1.2	5	Scope & Requirement for the Plan	Update to reflect legislative approvals and the EPA Assessment Report (1705). Addition of Objectives of the Plan.
8	1.3	6	Responsibility	Updating accuracy of information.
9	1.4	7	Key Environmental Factors	Updating accuracy of information. Inclusion of summary of EPA assessment findings.
10	2	12	Legislative Framework	Updating accuracy of information.
11	2.1	12	Environmental Protection and Biodiversity Conservation Act	Addition of information relative to EPBC Approval, and NHP listing.

			1999	
12	2.2	13	Environmental Protection Act 1986	Updating accuracy of information.
13	2.3	14	Aboriginal Heritage Act 1972	Addition of information relative to <i>Aboriginal Heritage Act 1972</i> . Reformatting to include Defining Aboriginal Heritage Sites, Evaluating the Importance of Places and S.18 AHA Consent.
14	2.4	16	Rights in Water and Irrigation Act 1914	Addition of <i>Rights in Water and Irrigation Act 1914</i> as it relates to the protection of Fish Thalu site.
15	2.5	16	Policy and Guidance	Addition of section to include Perdaman Heritage Position, Construction Environmental Management Plan and MRAS.
16	3	19	Roles and Responsibilities	Updating accuracy of information. Further detail for specific roles.
17	4	22	Cultural Heritage Values	Reformatting to include Burrup Peninsula Heritage and Historic Context, Aboriginal Heritage and Cultural Values in Proximal Areas including the Dampier Archipelago NHP, Cultural Heritage Site Assessment.
18	4.3.1	25	Table 4-1 Recorded Aboriginal Heritage Sites Impacted and identified for Salvage and Relocation	Update Significance of 19874 – Site C to “High”, fixing error. Figures 4-2, 4-3, 4-4 added showing locations of sites to be salvaged and relocated.
19	4.3.1	26	Recorded Aboriginal Heritage Sites within the Development Envelope	Figure 4-5 added showing location of NHP Site 20037.
20	4.3.2	37	Heritage Sites within the portion of the Development Envelope that is coincident with the NHP	Updating accuracy of information. Figure 4-7 added showing location of NHP Sites 9599 and 16775
21	4.4	40	Potential Impacts to Heritage Values	Updating accuracy of information.
22	5.1.1	42	Design Review and Heritage Sites	Updating accuracy of information.
23	5.1.2	44	Design to mitigate emissions, noise, loss of product	Addition of section to include emissions, noise and loss of product.
24	5.1.3	45	Protection of Aboriginal Heritage Sites	Addition of section to include protected sites.
25	6	46	Mitigation and Management Actions	Addition of section to include discussion on Management Approach, Monitoring Approach, Risk Assessment, Rationale for Choice of Provisions, Objective-Based Management Actions, Key Assumptions and Uncertainties.
26	7	49	Cultural Heritage Management Plan Provisions	Addition of section to specify the Objective-Based Management Provisions.
27	7	50	Table 7-1 Objective-Based	Updated accuracy of all reporting



			Management Actions and Targets	<p>requirements.</p> <p><b>Updated Management Action 12</b> to reflect current regulatory approvals. No increase in risk to cultural heritage.</p> <p><b>Updated Management Action 13</b> to reflect current regulatory approvals. No increase in risk to cultural heritage.</p> <p><b>Updated Management Action 15</b> to reflect current fencing strategy. No increase in risk to cultural heritage.</p> <p><b>Updated Management Action 18</b> to reflect current regulatory approvals. No increase in risk to cultural heritage.</p> <p><b>Updated Management Action 23</b> to reflect current regulatory approvals. No increase in risk to cultural heritage.</p>
28	7.2	69	Cultural Heritage Monitoring	Addition of section to include Monitoring of Management Targets and Management Actions.
29	7.4	72	Ground Disturbing Activities	Addition of section to include Planning for Works, Heritage and Environmental GIS Data Management, Ground Disturbance Permit and Procedure, Conducting & Monitoring Ground Disturbance Works / Stop Work, Heritage Monitors, Pre-Clearance Surveys and Site Protection Measures, Discovery of Possible New Heritage Site, and Discovery of Skeletal Remains.
30	8	78	Environmental Reporting and Compliance Requirements	Addition of section to include updated information on Incident Reporting and Investigation, Non-Conformance Management, to include requirements as specified in MS 1180 and EPBC Approval.
31	8.3	80	EPBC Act Approval 2018/8383 Annual Compliance Report	Addition if section to discuss EPBC reporting requirements.
32	8.4	80	Ministerial Statement 1180 Compliance Assessment Report	Updating accuracy of information.
33	8.6	81	Ministerial Statement 1180 Environmental Performance Report	Updating accuracy of information.
34	8.8	81	Submission and Publication of Management Plan	Addition of section.
35	8.9	81	Environmental Audits	Addition of section.
36	9	83	Adaptive Management and CHMP Review	Updating of section to include Cultural Heritage Management Plan Review and Corrective Management
37	10.3	91	Internal and External Communication	Addition of section.
38	10.4	91	External Incident Notification	Addition of section.
39	App 1	101	Ministerial Statement MS	Updated to reflect correct referencing.

			1180 Conditions & s.18 AHA Consent Conditions Compliance	
40	App 3	105	Table 3A – Cultural Heritage Risk Assessment	Addition of relevant management plans to Mitigation Measures.

## 12 Reference Documents

Document Number/Reference	Document Title
EPA 2019, Report #1648, Environmental Protection Authority, Perth, WA. September 2019	Technical Ammonium Nitrate Production Facility, Burrup Peninsula – inquiry under Section 46 of the <i>Environmental Protection Act 1986</i> to amend Ministerial Statement 870. Yara Pilbara Nitrates Pty Ltd
Survey Report for Murujuga Aboriginal Corporation (Confidential), Integrated Heritage Services Pty Ltd, Adelaide. November 2019 (Attachment K).	Aboriginal Cultural Heritage Survey of Industrial Sites C, F and Other Areas, Murujuga, Burrup Peninsula, Western Australia  Confidential Report by David Mott, Martin Wimmer & Christopher Medlin
The Potential Outstanding Universal Value of the Dampier Archipelago Site and Threats to that Site. Australian Heritage Council, Canberra. May 2012	The Potential Outstanding Universal Value of the Dampier Archipelago Site and Threats to that Site  A report by the Australian Heritage Council to the Minister for Sustainability, Environment, Water, Population and Communities  Available at: <a href="https://www.environment.gov.au/system/files/pages/5b14f51b-b7e1-432f-8049-1e653713607d/files/outstanding-universal-values-may2012.pdf">https://www.environment.gov.au/system/files/pages/5b14f51b-b7e1-432f-8049-1e653713607d/files/outstanding-universal-values-may2012.pdf</a>  Including Attachment A – Dampier Archipelago Risk Assessment Matrix.  Available at <a href="https://www.environment.gov.au/system/files/pages/5b14f51b-b7e1-432f-8049-1e653713607d/files/attachment-risk-assessment.pdf">https://www.environment.gov.au/system/files/pages/5b14f51b-b7e1-432f-8049-1e653713607d/files/attachment-risk-assessment.pdf</a>
Indigenous Heritage Laws, Department of Agriculture, Water and the Environment. November 2021.	Indigenous Heritage Laws,  Available at: <a href="https://www.awe.gov.au/parks-heritage/heritage/laws/indigenous">https://www.awe.gov.au/parks-heritage/heritage/laws/indigenous</a>
Cardno 2021, ERD – Assessment No. 2184 (WA) – 2018/8383 (Commonwealth)	Environmental Review Document – Response to Submissions – Perdaman Urea Project.
PCF-PD-EN-PEMP-PCF1 - Assessment No. 2184.	Project Environmental Management Plan, Perdaman Chemical Fertilisers Pty Ltd. January 2021.
Recreation, tourism and vandalism by the AHC (AHC, 2012)	The Potential Outstanding Universal Value of the Dampier Archipelago Site and Threats to that Site.
Cardno 2020, ERD - Assessment No. 2184 (WA) – 2018/8383 (Commonwealth).	Perdaman Urea Project Environmental Review Document – Rev 3.1. Perth, WA, March 2020.
MRAS Annual Report, Department of Water and Environmental Regulation, Perth, WA. November 2019.	Murujuga Rock Art Strategy Annual Report: 2019 - Annual Report on the Implementation of the Strategy.
BMIEA 2003, Western Australian Land Authority, Perth, WA.	Burrup and Maitland Industrial Estates Agreement.
MS 1180	EPA – Ministerial Statement 1180

<sup>1</sup> See: <https://www.murujuga.org.au/our-land/bmiea/>

## 13 Definitions

### **Aboriginal Heritage Site**

A site identified as an archaeological or ethnographic site under the *Aboriginal Heritage Act 1972 (WA)*.

### **Aboriginal Stakeholders**

The identified Aboriginal groups with cultural interests in the area including MAC, NAC and NYFL.

### **Aboriginal Heritage Act 1972 (WA)**

The relevant Act for the purpose of dealing with Aboriginal heritage matters.

### **Burrup Maitland Industrial Estate Agreement (BMIEA)**

The 2003 Burrup and Maitland Industrial Estates Agreement between the Western Australian Government and the three native title claimant groups The BMIEA enabled the State Government to acquire native title rights and interests on the Burrup Peninsula and Maitland Estates industrial land, as well as the land required by the State for residential and commercial purposes in Karratha.

### **Development Envelope**

Project Ceres Development Envelope to which the Part IV of the *EP Act* and *EPBC Act* assessments relate shown in Figure 2-1 of the ERD.

### **Disturbance Area**

The area within the Development Envelope (DE) covered by the urea production plant that will be cleared for plant construction and laydown areas

### **Environment and Heritage Manager**

Person employed by Perdaman to manage environment and heritage issues. In regard to heritage, this includes overseeing heritage work on site, monitor compliance with this CHMP and to record activities associated with Aboriginal heritage.

### **Ground Disturbance Permit**

A Ground Disturbance Permit (GDP) is a permit issued to a Subcontractor, by the Contractor, enabling Works within defined battery limits to manage any impacts on native vegetation, heritage or other environmentally sensitive values. It includes the key approval commitments and obligations obtained by or issued to the Contractor or Owner by regulators, tenure holders and other third parties.

### **Infrastructure zone**

East West Service Corridor is the common-user corridor disturbed / cleared by WA government and Project Ceres footprint in Dampier Port.

### **Murujuga Aboriginal Corporation (MAC)**

Murujuga Aboriginal Corporation, the body corporate which was established under the BMIEA to represent the Traditional Custodians of Murujuga.

### **Murujuga Rock Art Strategy (MRAS)**

Murujuga Rock Art Strategy released by the WA Government in February 2019 and administered by the Department of Water and Environmental Regulation in association with MAC.

### **National Heritage Values**

As defined by Section 324D of the *Environment Protection and Biodiversity Conservation Act 1999* - Section 528 (Cth).

### **National Heritage Place**

The Dampier Archipelago (including Burrup Peninsula) National Heritage Place, particularly the rock art sites.

### **Registrar**

Registrar of Aboriginal Heritage Sites, Western Australia Department of Planning, Lands and Heritage.

### **Site Disturbance**

Ground activity that may result in the disturbance of any Aboriginal Heritage Site.

### **Urea Plant Development Envelope (UPDE)**

Comprises all seven Project Areas shown with coloured shading on the General Locality Map in **Attachment C** of the CHMP.

## 14 Abbreviations

Abbreviation	Description
ACMC	Aboriginal Cultural Materials Committee
AHA	<i>Aboriginal Heritage Act 1972 (WA)</i> , or such other law passed in substitution thereof for the purpose of dealing with Aboriginal heritage matters.
AHMP	Aboriginal Heritage Management Plan (superseded by this Plan)
CAR	Compliance Assessment Report
CEO	CEO of the Environmental Protection Authority
CHMP	Cultural Heritage Management Plan (this Plan)
BMIEA	Burrup & Maitland Industrial Estates Agreements
BSIA	Burrup Strategic Industrial Area
DAWE	Department of Agriculture, Water and the Environment
DCCEEW	Department of Climate Change, the Environment, Energy and Water
DE	Development Envelope
DEE	The Federal Department of Environment and Energy.
DPLH	Department of Planning, Lands and Heritage
DPLH AHIS	Department of Planning, Lands and Heritage Aboriginal Heritage Information System
EPA	Environmental Protection Authority
EP Act	<i>Environmental Protection Act 1986</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPC	Engineering Procurement Construction
ERD	Perdaman Urea Project, Environmental Review Document. Assessment No.2184(WA) – 2018/8383 (Commonwealth)
GDP	Ground Disturbance Permit
LAA	<i>Land Administration Act, 1997 (WA)</i>
MAC	Murujuga Aboriginal Corporation
NAC	Ngarluma Aboriginal Corporation
NYFL	Ngarluma and Yindjibarndi Foundation Limited
OEMP	Operational Environmental Management Plan
PUP	Perdaman Urea Project

UPDE

Urea Plant Development Envelope (UPDE): Comprises all seven Project Areas shown with coloured shading on the General Locality Map in **Attachment C** of the CHMP

## Appendix 1 – Ministerial Statement MS 1180 Conditions & s.18 AHA Consent Conditions Compliance

Condition No.	Condition	Section of this Plan
9-1	<p>The proponent must implement the proposal to meet the following objectives:</p> <p>(1) avoid, where possible, and otherwise minimise direct and indirect impacts to social, cultural, heritage, and archaeological values within and surrounding the development envelope;</p> <p>(2) allow ongoing Traditional Owner and Custodian access to enable traditional activities and connection to culturally significant areas within and surrounding the development envelope as shown in Figure 2;</p> <p>(3) allow Traditional Owner and Custodian access to the development envelope following decommissioning of the proposal as shown in Figure Two; and</p> <p>(4) avoid, where possible, and otherwise minimise direct and indirect impacts to visual and amenity impacts to social and cultural places and activities.</p>	<p>Section 5.1 Section 5.1.2 Section 5.1.3 Section 7.1 Section 7.4.5</p>
9-2	<p>At least six months prior to Ground Disturbing Activities, the proponent shall, in consultation with the Murujuga Aboriginal Corporation and the DPLH, revise and submit to the CEO and the Registrar of Aboriginal Sites a further version of the Aboriginal Heritage Management Plan, Status: Confidential (Version PCF 2, 26 March 2021) to meet the objectives specified in condition 9-1 and this plan shall:</p> <p>(1) specify the objectives to be achieved, as specified in condition 9-1;</p> <p>(2) include a framework for consultation with Traditional Owners and Custodians via the Murujuga Aboriginal Corporation and other relevant stakeholders during the life of the proposal;</p> <p>(3) specify construction environmental management activities relevant to cultural heritage, not limited to and including noise (not limited to and including at Yatha), construction emissions and air quality, traffic management and visual amenity and provide for relevant traditional owners to be invited to observe any Ground Disturbing Activities and during construction, and take reasonable steps to facilitate the observation of those activities by those persons;</p> <p>(4) specify operational environmental management activities relevant to cultural heritage, not limited to and including noise (not limited to and including at Yatha), construction emissions and air quality, traffic management and visual amenity and the provision for relevant traditional owners to observe the activities (as reasonably required);</p> <p>(5) specify risk-based management actions that will be implemented to demonstrate compliance with the objectives specified in condition 9-1;</p> <p>(6) specify measurable management target(s) to determine the effectiveness of the risk-based management actions;</p> <p>(7) specify monitoring to measure the effectiveness of management actions against management targets;</p> <p>(8) specify a process for revision of management actions and changes to proposal activities, in the event that the management targets are not achieved, and such process must include an investigation to determine the cause of the management target(s) not being met;</p> <p>(9) provide the format and timing to demonstrate that condition 9-1 has been met for the reporting period in the Compliance Assessment Report required by condition 15-7 including, but not limited to:</p> <p>(a) verification of the implementation of management actions; and</p> <p>(b) reporting on the effectiveness of management actions against management target(s).</p>	<p>Section 1.2 Section 7.3.2 Section 7.1 Section 7.4.5 Section 7.2 Section 9 Section 8.4</p>
9-3	<p>The proponent must not commence Ground Disturbing Activities until the CEO confirmed in writing that the plan submitted under condition</p>	<p>Section 1.2</p>



Condition No.	Condition	Section of this Plan
	9-2 satisfies the requirements of condition 9-2.	
9-4	The proponent must implement the most recent version of the Confirmed Cultural Heritage Management Plan until the CEO has confirmed by notice in writing that the proponent has demonstrated the objectives specified in condition 9-1 have been met.	Section 1.2
9-5	In the event that monitoring, tests, surveys or investigations indicate non-achievement of management target(s) specified in the Confirmed Cultural Heritage Management Plan, the proponent must: <ul style="list-style-type: none"> <li>(1) report the non-achievement in writing to the CEO, the Murujuga Aboriginal Corporation, DPLH, and the Registrar of Aboriginal Sites within 21 days of the non-achievement being identified;</li> <li>(2) investigate to determine the cause of the management target(s) not being achieved;</li> <li>(3) provide a further report to the CEO, the Murujuga Aboriginal Corporation, the DPLH, and the Registrar of Aboriginal Sites within 90 days of the non-achievement being reported as required by condition 9-5(1) which must include: <ul style="list-style-type: none"> <li>(a) a description of the cause of management target(s) being exceeded if known, or analysis of likely causes if not known;</li> <li>(b) the findings of the investigation required by condition 9-5(2);</li> <li>(c) details of revised and/or additional management actions to be implemented to prevent non-achievement of the management target(s); and</li> <li>(d) relevant changes to proposal activities.</li> </ul> </li> </ul>	Section 8.2.2
9-6	In the event that monitoring, tests, surveys or investigations indicate that one or more management action(s) specified in the Confirmed Cultural Heritage Management Plan have not been implemented, the proponent must: <ul style="list-style-type: none"> <li>(1) report the failure to implement the management action(s) in writing to the CEO, the Murujuga Aboriginal Corporation, the DPLH, and the Registrar of Aboriginal Sites within seven days of identification;</li> <li>(2) investigate to determine the cause of the management action(s) not being implemented;</li> <li>(3) investigate to determine potential environmental harm or alteration of the environment that occurred due to the failure to implement management action(s);</li> <li>(4) provide a further report to the CEO, the Murujuga Aboriginal Corporation, the DPLH, and the Registrar of Aboriginal Sites within 28 days of the non-compliance being identified, which must include: <ul style="list-style-type: none"> <li>(a) cause for failure to implement management action(s);</li> <li>(b) the findings of the investigation required by condition 9-6(2);</li> <li>(c) relevant changes to proposal activities; and</li> <li>(d) measures to prevent, control or abate the environmental harm which may have occurred.</li> </ul> </li> </ul>	Section 8.2.1
9-7	Without limiting condition 9-4 (implementation of the plan) and notwithstanding compliance with condition 9-6 (response to exceedance), the proponent must not cause or allow: <ul style="list-style-type: none"> <li>(1) a failure to implement one or more management actions specified in the Confirmed Cultural Heritage Management Plan, and/or</li> <li>(2) failure to comply with the requirements of the Confirmed Cultural Heritage Management Plan.</li> </ul>	Section 8.2.3
9-8	The proponent, in consultation with the Murujuga Aboriginal Corporation:	Section 9.1

Condition No.	Condition	Section of this Plan
	(1) may review and revise the Confirmed Cultural Heritage Management Plan and submit it to the CEO; and (2) shall review and revise the Confirmed Cultural Heritage Management Plan and submit it to the CEO as and when directed by the CEO.	
<b>s.18 Conditions of Consent</b>		
<i>That the consent holder:</i>		
1	Develop, in consultation with Murujuga Aboriginal Corporation (MAC), including the MAC Circle of Elders, a Cultural Heritage Management Plan (CHMP) prior to the commencement of ground disturbance works, identifying a clear management strategy for the salvage of Aboriginal sites ID 18615 (DRD 136), ID 19239 (DRD 144), and ID 19874 (Burrup Service Corridor 2), which is to include protection of Aboriginal sites on the Land and monitoring and management of the Aboriginal heritage places and sites during the construction and operation of the Perdaman Urea facility.	Attachment G of this Plan.
2	Invites in writing, giving 30 days' notice, for two Murujuga Aboriginal Corporation (MAC) representatives from each of the five groups, Ngarluma, Yindjibarndi, Mardudhunera, Wong-Goo-Tt-Oo and Yaburara, to be present for ground disturbing works on the Land where it intersects with Aboriginal sites.	Table 7-1 Section 7.4.5
3	Provides an annual written report to the Registrar of Aboriginal sites advising to what extent the Purpose has impacted on all or any sites located on the Land.	Section 8.5
4	Provides a written report to the Registrar of Aboriginal Sites within 60 days of the completion of the Purpose, advising whether and to what extent the Purpose has impacted on all, or any sites located on the Land. The final report should include a detailed description of: what extent the Purpose has impacted any Aboriginal site on the Land; (a) where any Aboriginal site has been impacted, whether such site has been partially or wholly impacted by the Purpose, and the level, effect and type of any such impact - preferably by the provision of photographs taken before and after the impact; (b) where any Aboriginal site has been subject to archaeological or cultural salvage, when and how such salvage took place, who was present at the salvage and where the material was re-located, the results of the salvage and any subsequent analysis conducted; (c) the results and findings of any monitoring of ground disturbing works associated with the Purpose; and (d) what extent the site has been remediated.	Section 8.7
<b>Additional requirements of the S18. Consent</b>		
In accordance with the approval letter from the Minister for Aboriginal Affairs:		
<b>MN-2021-0354-A</b>	MAC Circle of Elders has directed that for the process of removal and relocation of petroglyphs that cannot be avoided in the design of the proposed development must be undertaken under the guidance and with appropriate ceremony to be written into the Cultural Heritage Management Plan (CHMP).	Section 7.5 Attachment D <b>REDACTED</b>
<b>MN-2021-0354-B</b>	The CHMP is to include: <ul style="list-style-type: none"> <li>▪ Detailed salvage assessment and methodology</li> <li>▪ Delineate appropriate area to receive relocated material</li> <li>▪ Salvage and relocation works to be undertaken under the supervision of appropriate Traditional Owner monitors and a qualified archaeologist</li> </ul>	Section 7.5 Attachment F Attachment G Attachment H

Condition No.	Condition	Section of this Plan
<b>MN-2021-0354-C</b>	The CHMP to be developed in consultation with its Heritage and Ranger team and be endorsed by the MAC Chief Executive Officer and Circle of Elders.	Section 7.3.2 Section 10.1
<b>MN-2021-0354-D</b>	The CHMP will address MAC's remaining concerns about the protection of heritage values and must be in place prior to the commencement of any ground disturbance activities.	Section 1.2

## Appendix 2 – Key Surveys & Findings Summary

Key Environmental Factor	Report	Key Findings
Social Surroundings (Noise)	Lloyd George Acoustics, 2019. Environmental Noise Assessment - Perdaman Urea Project, Burrup Peninsula. Prepared for Cardno Pty Ltd. WA.	<p>Environmental noise monitoring and modelling of the proposed urea plant to be located within the Burrup Strategic Industrial Area has been undertaken to predict the potential noise impacts at several key locations, including around the proposed plant boundaries.</p> <p>Based on the predicted air blast noise and vibration levels associated with construction activities, and the mitigation measures proposed, adverse impacts on sensitive receivers such as Hearson Cove, and rock-art formations in the vicinity of the proposed site are not considered likely.</p> <p>NOTE: Predicted noise levels in this study are based on preliminary plant design and indicative sound power levels. These assumptions should be confirmed through subsequent noise modelling as the detailed plant design progresses. Noise reduction measures will be investigated during the detailed design phase to ensure that noise emissions are kept as low as is reasonably practicable.</p>
Social Surroundings	D.Mott, M. Wimmer and C. Medlin. 2019. Aboriginal Cultural Heritage Survey of Industrial Sites C, F and Other Areas, Murujuga, Burrup Peninsula, Western Australia.	<b>REDACTED</b>
Social Surroundings (Rock Art)	DWER, 2019. Murujuga Rock Art Strategy. Department of Water and Environmental Regulation. Perth, WA.	<p>This strategy outlines a long-term framework to guide the protection of the Aboriginal rock art (petroglyphs) located on Murujuga (the Dampier Archipelago and Burrup Peninsula).</p> <p>BRAMMC (Burrup Rock Art Monitoring Management Committee) recommended that colour contrast and spectral mineralogy monitoring be continued on an annual basis for 10 years and be reviewed after five years; and that a technical working group be established to consider the results of monitoring and other studies. BRAMMC also recommended that the monitoring of ambient air quality and rock microbiology be suspended and only recommenced if warranted by a major increase in emissions or if evidence became available indicating further monitoring was required.</p> <p>Continual review of the MRAS will occur to identify the most appropriate methods to determine if deposition of air-bourne constituents resulting from the industrial emissions on the Burrup Peninsula accelerate the weathering of rock art.</p>
Social Surroundings (Aesthetics)	Cardno, 2020. Landscape and Visual Impact Assessment. Perdaman Pty Ltd. Fortitude Valley, QLD.	<p>Characterises the visual sensitivity of the Burrup Viewshed.</p> <p>Although the proposal will intensify the industrial use on the Peninsula, its operational requirements will not result in significant visual impacts or changes to landscape character as seen from most viewpoints, and the lighting at night and movement of vehicles will not be unduly dissimilar to the existing light sources and movement of vehicles along Burrup Road and Dampier Highway, servicing the industrial areas of the BSIA and the Port.</p> <p>Although the cumulative effect of industrial development may impact on the long-term aspirations for the World Heritage listing of the Burrup Peninsula with respect to its aesthetic values (criterion vii), the proposed Project is generally outside of the NHL areas, and the existing industry is already likely to affect the ability of the Peninsula to meet this criteria</p>

Key Environmental Factor	Report	Key Findings
Air Quality	EPA, 2021. Perdaman Urea Project – Report 1705, Assessment No. 2184. Environmental Protection Authority, WA.	<p>The residual impacts on human health and amenity are expected to be consistent with the EPA's objective for air quality and social surroundings if the proponent is required to maintain regional air quality in accordance with NEPM standards, and to implement an AQMP including the progressive reduction of air emissions.</p> <p>The predicted residual impacts of the proposal on human health and amenity are not significant considered in the context of background air quality and air quality standards for NO<sub>2</sub>, SO<sub>2</sub>, NH<sub>3</sub> and O<sub>3</sub>. The proposal's predicted contribution to PM<sub>10</sub> and PM<sub>2.5</sub> is not considered to be significant in the context of the high levels of natural background dust.</p> <p>There is lack of full scientific consensus of the potential impact of proposal emissions of urea particulates and NH<sub>3</sub> on the significant environmental values associated with the rock art.</p>
Social Surroundings	EPA, 2021. Perdaman Urea Project – Report 1705, Assessment No. 2184. Environmental Protection Authority, WA	The EPA has assessed the residual direct impacts to cultural heritage values from the proposal in consultation with MAC and advises that (provided appropriate management measures are implemented) are not likely to be inconsistent with the EPA's objective to protect social surroundings from significant harm.
Social Surroundings (Traffic)	Cardno, 2019. Traffic Impact Assessment. Perdaman Pty Ltd. West Perth, WA.	<p>The proponent has avoided impacts to traffic (public safety) by using the causeway as a heavy vehicle transport route between the laydown area in Site F and the Site C plant construction site to avoid impacting traffic on Burrup Road.</p> <p>The predicted peak traffic impacts during construction and operation are 169 and 200 vehicles per hour on Burrup Road, respectively, equating to a less than 10% increase in traffic volumes when compared to volumes on Burrup Road in 2017/2018.</p>

## Appendix 3 – Social Surrounding Risk Assessment – Impacts & Mitigation

### HSSE Risk Matrix



Descriptor		Actual / Potential Consequence				
		Insignificant (5)	Minor (4)	Moderate (3)	Major (2)	Catastrophic (1)
Probability	Has Occurred /Almost Certain	9	16	18	23	25
	Likely	4	11	17	20	24
	Possible	3	10	13	19	22
	Unlikely	2	6	12	14	21
	Rare	1	5	7	8	15

Key			HSSE Risk Response Guide
Risk Level	Rating Range		
Low	1	8	Confirm no further control measures are required to demonstrate the risk ALARP. Responsible Supervisor to ensure all identified control measures are in place prior to the work progressing.
Moderate	9	15	Action is required to identify control measures to reduce the risk to ALARP. Work can only progress at this risk level with approval of Project Management.
High	16	22	Immediate action is required to identify control measures to reduce the risk to ALARP. Risk must be added to Project Risk Register for monitoring. Work can only progress at this risk level with approval of the Project Manager or Clough Senior Management.
Very High	23	25	This denotes unacceptable event or level of risk. Immediate action is required to identify control measures to reduce the risk to ALARP. Risk must be added to Project Risk Register for monitoring.

\*The HSSE Risk Matrix and Guidelines DO NOT replace the requirements for risk assessment and treatment carried out in accordance with the Risk Management and Assurance Operating Standard (CORP-RA-OS-G-0003) and should only be used when performing HSSE Risk Assessment at a Project Level.

\*\*The HSSE Risk Matrix shall be used to determine the level and timing of incident notification, classification and investigation. Events rated 19 or above (highlighted by shading and bold border) are considered High Potential Incidents and shall be reported accordingly.

Consequence and Probability Table for Heritage Risk Assessment

Category	Description
Catastrophic (1)	<p>Large-scale land clearing. Material extraction. Mechanical earthmoving, blasting. Major construction works. Large-scale changes to waterways. Permanent loss of or damage to heritage aspects.</p>
Major (2)	<p>Creation of new roads, borrow pits or tracks. New public access ways, bridges, culverts, flood remediation and erosion levies. Intensive soil/core sampling. New pipelines. Significant reclamation works. Major landscaping/contouring.</p>
Moderate (3)	<p>Maintenance of bridges that disturb riverbed and/or banks. Sampling using handheld rig or rig mounted on a light vehicle. New fire breaks. Road widening within existing corridor. Re-vegetation. Temporary power lines, material stockpiles and camps. Surface vegetation clearing.</p>
Minor (4)	<p>Cultivation/grazing in areas previously cultivated/grazed. Maintenance of existing paths, walls, roads, tracks, bridges, public infrastructure and community utilities within the existing footprint and adjacent service areas. Feral animal control, weed, vermin and pest control, vegetation control and fire control. Light vehicular access and camping.</p>

Probability	Description
Almost certain	This event is expected to occur or known to have occurred frequently in similar situations.
Likely	This event may occur or is known to have occurred in similar situations.
Possible	This event might occur or is known to have occurred in additional circumstances.
Unlikely	This event could occur or is known to have occurred in the industry.
Rare	This event may only occur in exceptional circumstances or is not known to have occurred in the industry.

<p>Insignificant</p> <p>(5)</p>	<p>Walking, photography, and filming for assessing project scope, vegetation and heritage.</p> <p>Magnetic surveys.</p> <p>Environmental monitoring.</p> <p>Water and soil sampling using handheld instruments.</p> <p>Fossicking using handheld instruments.</p> <p>Spatial measurement.</p> <p>Scientific research (using hand-held tools).</p>
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Table 3A - Cultural Heritage Risk Assessment

Project Activity & Potential Impact	Mitigation Measures	Likelihood	Consequence	Residual Risk
EPA OBJECTIVE: To protect social surroundings from significant harm.				
<p>Noise - construction and operational noise.</p> <p>Construction activities including but not limited to blasting, drilling, concrete batching, crushing and screening, plant, equipment and vehicle noise emissions, particularly when occurring adjacent to the Yatha site and other heritage sites visited by MAC and traditional owners.</p> <p>Operational activities including but not limited to equipment, vehicle, plant, generator noise emissions, noise generated from running of plant, conveyors and movement of heavy vehicles, particularly when occurring adjacent to the Yatha site and other heritage sites visited by MAC and traditional owners.</p>	<p>Minimise</p> <ul style="list-style-type: none"> <li>• Comply with the Construction Environmental Management Plan and Noise Management Protocol 0000-ZA-E-09071.</li> <li>• Comply with Out-of-Hours Noise Management Plan, if required.</li> <li>• Construction equipment will be checked to ensure they are in good condition.</li> <li>• Machines will be operated at low speed where practical and will be switched off when not being used rather than left idling for prolonged period.</li> <li>• Machines found to produce excessive noise compared to industry best practice will be removed from the site or stood down until repairs or modification can be made.</li> </ul>	Likely	Minor	11

Project Activity & Potential Impact	Mitigation Measures	Likelihood	Consequence	Residual Risk
EPA OBJECTIVE: To protect social surroundings from significant harm.				
<p>Reduction of amenity</p> <p>Construction of the urea plant and associated infrastructure and export facilities, disrupting visual amenity and cultural experience at the Yatha site and other heritage sites visited by traditional owners and MAC.</p> <p>Operations / Plant and infrastructure reducing the amenity for the life of Project Ceres until decommissioning.</p> <p>Permanent Infrastructure adjacent to the Yatha Site and other heritage places, impeding amenity during cultural awareness talks, on country visits and inductions.</p>	<p>Avoid</p> <ul style="list-style-type: none"> <li>Use of fully enclosed conveyor for the transport of product to ensure no urea dust issues arise.</li> <li>Loss of amenity can be associated with FIFO operations, during operation Perdaman is committed to a local workforce. This will avoid the potential impacts associated with FIFO during operations and will enhance social amenity in the region.</li> </ul> <p>Minimise</p> <ul style="list-style-type: none"> <li>Comply with the Construction Environmental Management Plan, Noise Management Protocol, Air Quality Management Protocol, Light Management Protocol 0000-ZA-E-09071.</li> <li>Comply with Out-of-Hours Noise Management Plan, if required.</li> <li>Comply with the Confirmed Light Management Plan (PCF-PD-EN_LMP)</li> <li>Vehicle speeds on and around work sites shall be reduced where necessary to minimise dust emissions.</li> <li>Lighting will be designed to reduce light spill.</li> <li>Natural coloured materials/finishes for buildings and roof forms which are non-reflective will be used to reduce visual contrast.</li> <li>Where suitable local species can practicably be used, fast growing trees and shrubs will be established along the property boundary (where safe to do so) and/or along Hearson Cove Road reserve to provide a vegetative screening.</li> <li>Commence rehabilitation as soon as possible after construction in areas no longer required for Project activities.</li> </ul>	Possible	Minor	10
<p>Degradation of heritage values.</p> <p>During construction activities, increased traffic movements, unauthorised off-road driving, personnel movements, unauthorised access to heritage sites, construction of laydowns and temporary facilities,</p>	<p>Avoid</p> <ul style="list-style-type: none"> <li>Area of known Aboriginal sites (including recorded sites and areas with potential for subsurface features) on- and at proximity of Project Ceres) will be clearly communicated to construction personnel prior to construction activity to avoid accidental damage.</li> <li>A Project wide ground disturbance permit system will be implemented to avoid accidental damage.</li> <li>Best practicable effort will be made at Project Ceres design stage to ensure all Aboriginal cultural heritage sites (especially petroglyph sites) are protected in situ and not moved or disturbed.</li> </ul>	Unlikely	Major	14

Project Activity & Potential Impact	Mitigation Measures	Likelihood	Consequence	Residual Risk
EPA OBJECTIVE: To protect social surroundings from significant harm.				
<p>changes to drainage and surface water flows may cause damages to heritage values.</p> <p>During operations, increased traffic flow and heavy haulage vehicles, unauthorised off-road driving, personnel movements, unauthorized access to heritage sites, and air emissions from Urea Plant may cause damages to heritage values.</p>	<ul style="list-style-type: none"> <li>Product selection avoids a range of potential degradation pathways that could impact heritage values, particularly rock art integrity (Dr Ian MacLeod, pers. Comm). The production of urea instead of ammonium nitrate as Project Ceres output avoids potential degradation issues associated with nitrates in the nitrogen cycle.</li> <li>While Project Ceres will be a significant regional source of ammonia emissions to air, ammonia is alkaline so does not contribute potential degradation of heritage values, particularly rock art integrity that is commonly suggested as being associated with acid emissions.</li> </ul> <p>Minimise Potential impact on heritage values by project emissions to air are minimised by:</p> <ul style="list-style-type: none"> <li>Comply with the Construction Environmental Management Plan and Air Quality Management Protocol 0000-ZA-E-09071.</li> <li>Comply with the Confirmed Air Quality Management Plan (PCF-PD-EN-AQMP).</li> <li>Utilising best applicable technology in design to minimise emissions.</li> <li>Using Woodside gas feed for power generation. This is a light (clean burning) gas with &gt;85% desulfurized before dispatch to downstream users. Thus the emission of SO<sub>2</sub> as a product of combustion is minimised.</li> <li>Utilising DLN burners for the CGT power station to minimise Project Ceres NOx emissions</li> <li>Capture and reuse of CO<sub>2</sub> from the syngas process which reduces GHG emissions by ~1.5mtpa CO<sub>2</sub>-e</li> <li>As an alkaline gas, ammonia has a capacity to buffer acid air emission in much the same manner as wind-borne sea salt have been noted to buffer these acidic emissions (Dr Ian MacLeod, pers comm).</li> </ul> <p>Potential impact on heritage values by construction activities are minimised by:</p> <ul style="list-style-type: none"> <li>Comply with the Construction Environmental Management Plan 0000-ZA-E-09071 and Heritage Management Sub-Plan 0000-ZA-E-09736.</li> </ul> <p>Agreement in place for support which will be provided by Perdaman to assist MACs application for World Heritage Listing in relation to Murujuga.</p> <p>All Project's employees and contractors to undertake a cultural awareness training provided by MAC. This has been implemented for Project personnel engaged in preliminary studies across Project Ceres site.</p>			

Project Activity & Potential Impact	Mitigation Measures	Likelihood	Consequence	Residual Risk
EPA OBJECTIVE: To protect social surroundings from significant harm.				
	<p>If future disturbance or damage to the site is practicably unavoidable, then Section 18 Consent under the AHA will be sought under the recommendations agreed with MAC that:</p> <ul style="list-style-type: none"> <li>• A detailed salvage assessment be undertaken to produce a plan for each physical component of the site requiring salvage;</li> <li>• Consultation and agreement be made with MAC to delineate a suitable area for relocated heritage items;</li> <li>• The salvage works are undertaken pursuant to S.18 Consent conditions and will be under the guidance of appropriate senior traditional owner monitors and a qualified and experienced archaeologist.</li> </ul> <p>Monitoring in accordance with this CHMP.</p> <p>MAC traditional owners will be consulted and involved by Perdaman for the monitoring of ground disturbance works, especially in the high and moderate risk areas, in order to avoid and minimise any impacts to potential subsurface artefacts.</p> <p>Regular meetings and open communication between MAC and Perdaman will continue throughout the life of Project Ceres.</p>			
<p>Access to tourist and cultural areas.</p> <p>During construction and operational activities, access to tourist and cultural areas (i.e. Rock Art, Yatha access etc) may be impeded through improper traffic management, movement of vehicles, plant, heavy equipment etc. Additionally the final infrastructure and buildings and operational activities may impede access.</p>	<p>Avoid</p> <ul style="list-style-type: none"> <li>• Access to tourist and cultural areas will not be restricted or interrupted by Project Ceres.</li> <li>• The southwest corner of Site F will not be used for Project Ceres to preserve access to the known cultural meeting place at this location.</li> <li>• The location of cultural site 9439 within Site F will be avoided and fencing during the construction phase, which will remain for the operational phase, will be placed in a way that access to these areas is not impeded.</li> <li>• Ensure that MAC members and traditional custodians are still able to utilise the Yatha structure for cultural inductions and when on-country.</li> <li>• NB: the Yatha site has been excluded from the DE at the request of MAC</li> </ul>	Unlikely	Moderate	12

Project Activity & Potential Impact	Mitigation Measures	Likelihood	Consequence	Residual Risk
EPA OBJECTIVE: To protect social surroundings from significant harm.				
<p>Traffic Increased road traffic.</p> <p>During construction increased personnel traffic and thoroughfare.</p> <p>Construction of and then operational use of new causeway between sites C and F.</p> <p>Potential movements between different areas within the PDE, i.e. site F and Site C.</p> <p>Increased traffic movements during operations from haulage vehicles, personnel, deliveries etc.</p>	<p>Avoid</p> <ul style="list-style-type: none"> <li>The causeway will be used as a heavy vehicle transport route between the laydown area in Site F and the Site C plant construction site. This will include the movement of large modules and heavy materials on slow moving vehicles which will avoid impacting traffic on the areas main thoroughfare, Burrup Road. Traffic management personnel will be used to safely control the movement of these vehicles across the Hearson Cove Road / causeway / Site F intersection eliminating interactions between causeway construction traffic and the general public using Hearson Cove Road.</li> </ul> <p>Minimise</p> <ul style="list-style-type: none"> <li>Construction workers will be transported to and from site via shuttle bus service thereby significantly reducing the number of private vehicle trips.</li> <li>Site C and Site F will be established with their own office and crib facilities for workers in those areas. This will minimise personnel movement (in LVs and buses) throughout the day between the two sites.</li> <li>A gatehouse and boom gates will be positioned on the causeway and Site F entry points with the new Hearson Cove Road maintaining right of way traffic at all times during both construction and operations.</li> </ul>	Unlikely	Moderate	12
<p>Construction emissions (Dust) and air quality</p> <p>Urea dust emissions generated during product transportation along the conveyor.</p> <p>Dust generated during ground disturbing activities and vehicle movement on site.</p>	<p>Avoid</p> <p>Use of fully enclosed conveyor for the transport of product to ensure no urea dust issues arise.</p> <ul style="list-style-type: none"> <li>Comply with the Confirmed Air Quality Management Plan (PCF-PD-EN-AQMP).</li> </ul> <p>Minimise</p> <ul style="list-style-type: none"> <li>Comply with the Construction Environmental Management Plan and Air Quality Management Protocol 0000-ZA-E-09071.</li> <li>Vehicle speeds on and around work sites shall be reduced where necessary to minimise dust emissions.</li> <li>Dust suppression techniques (e.g. water trucks) shall be used on unsealed roads and access tracks, cleared areas and at locations of high dust risk.</li> </ul>	Possible	Minor	10

Project Activity & Potential Impact	Mitigation Measures	Likelihood	Consequence	Residual Risk
EPA OBJECTIVE: To protect social surroundings from significant harm.				
	<ul style="list-style-type: none"> <li>● Dust suppression measures shall be implemented where dust is visible, except during topsoil stripping.</li> <li>● Vegetation clearing and exposed surfaces shall be kept to a minimum wherever practicable.</li> <li>● Vegetation clearing, grubbing and earthworks during high winds (&gt;40 km/hr) should be avoided. Where these works are required to be conducted during high winds, additional management measures must be implemented to minimise and control dust emissions.</li> <li>● Where community complaints are received regarding dust emissions Perdaman may install dust monitors.</li> <li>● Dust emissions from the conveyor, product storage sheds and shiploading operations will be monitored and minimised throughout the life of Project Ceres. Should emissions exceed Project Ceres's approval conditions, corrective actions must be implemented, as soon as practicable, to reduce emissions to the permitted level.</li> <li>● The granular urea product is much harder than prilled urea, therefore creating less fines and dust when handled and transported which minimizes the urea fines and dust that could be accidentally released during conveying and ship loading activities.</li> <li>● Air emissions during operation of process plant and equipment will be within Project Ceres's approved thresholds. Where monitoring results indicate higher emissions than those stated in Project Ceres's approval conditions, corrective actions must be implemented as soon as practicable to reduce emissions below the permitted level.</li> </ul>			
<p>Construction emissions and air quality impacts to rock art</p> <p>Deposition of Urea (as PM<sub>2.5</sub> and PM<sub>10</sub>) and NH<sub>3</sub> pose a threat to the acidification of rock engravings which may potentially accelerate the weathering of these artefacts.</p>	<p>Minimise</p> <ul style="list-style-type: none"> <li>● Comply with the Construction Environmental Management Plan and Air Quality Management Protocol 0000-ZA-E-09071.</li> <li>● Contribute to the development of an Environmental Quality Management Framework as detailed in the Murujuga Rock Art Strategy (MRAS)</li> <li>● Undertake ongoing assessments of airborne pollutants to monitor their impact on the petroglyphs located on Murujuga and report on these results in harmony with the objectives of the MRAS.</li> <li>● Compliance with MS 1180 Condition 2-1 requiring Perdaman to ensure that no air emissions from Project Ceres have an adverse impact accelerating the weathering of rock art within Murujuga beyond natural rates, and compliance with Condition 2-3(1)(a) where Perdaman is required to specify the measures to achieve the outcome of Condition 2-1.</li> </ul>	Possible	Moderate	13

Project Activity & Potential Impact	Mitigation Measures	Likelihood	Consequence	Residual Risk
EPA OBJECTIVE: To protect social surroundings from significant harm.				
Impacts caused by other air-borne constituents such as NO <sub>2</sub> and SO <sub>2</sub> .	<ul style="list-style-type: none"> <li>Undertake monitoring during construction and before commissioning to establish a robust baseline against which to compare its contribution to the regional airshed, and impacts from its contribution which may impact rock art (ERD section 4.8.5.2)</li> <li>Implement an Air Quality Management Plan (PCF-PD-EN-AQMP), which is reviewed every 5 years to ensure continuous improvement and reduction in emissions in consultation with MAC</li> <li>Seek to maintain regional air quality in accordance with NEPM air quality standards by the minimisation of air emissions from Project Ceres.</li> <li>Seek opportunities to implement best practice technology as it becomes available to further minimise emissions.</li> <li>Adopt environmental air quality objectives and standards derived from the results of the MRAMP.</li> </ul>			
<p>Heritage Site disturbance and salvage efforts</p> <p>Improper heritage material salvage efforts may cause damage to materials or impact the associated heritage values of such sites.</p> <p>Ground disturbing activities.</p>	<p>Minimise</p> <ul style="list-style-type: none"> <li>Comply with the Construction Environmental Management Plan 0000-ZA-E-09071 and Heritage Management Sub-Plan 0000-ZA-E-09736.</li> <li>Obtain necessary consents pursuant to the AHA to undertake unavoidable salvage.</li> <li>Where material is salvaged pursuant to an AHA s.18 Ministerial Consent, relevant conditions relating to engaging Aboriginal Heritage Monitors through MAC from the Aboriginal stakeholder groups to undertake the monitoring of all initial ground disturbing works and salvage of heritage material must be complied with.</li> <li>The salvage works are to be undertaken under the guidance of senior traditional custodian monitors and a qualified and experienced archaeologist.</li> <li>Where material is salvaged pursuant to an AHA s.18 Ministerial Consent, relevant conditions relating to detailed salvage assessment will be undertaken to produce a plan for each physical component of Sites which require salvage.</li> <li>Where material is salvaged pursuant to an AHA s.18 Ministerial Consent, relevant conditions relating to provision of a salvage report to the Registrar, must be complied with.</li> <li>Before undertaking any work that involves ground disturbance, a Ground Disturbance Permit (GDP) will be obtained.</li> </ul>	Possible	Moderate	13

Project Activity & Potential Impact	Mitigation Measures	Likelihood	Consequence	Residual Risk
EPA OBJECTIVE: To protect social surroundings from significant harm.				
	<ul style="list-style-type: none"> <li>Procedures must be included in the GDP to deal with objects within the meaning of section 6 of the AHA (“Objects”) that will be affected by works associated with the Purpose.</li> <li>The request for a GDP will include assessment of the potential for the works to impact on aboriginal heritage aspects, including the potential unearthing of buried archaeological sites, objects or burials, and to shift surface isolated artefacts from probable impact by the works. It will also include actions to consider additional monitoring by a qualified and experience archaeologist, for the moderate and high-risk areas and all areas within proximity of extant Aboriginal cultural heritage sites.</li> <li>Ensure MAC endorses the Risk Register as an input to the GDP, and the risk mitigation strategies applied to the management of risk related cultural and heritage impacts.</li> </ul>			



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## Attachment A – Perdaman & MAC Heritage Charter

## Attachment A - Heritage Charter, Perdaman Urea Project



### HERITAGE CHARTER- PERDAMAN UREA PROJECT

#### PERDAMAN UREA PROJECT OVERARCHING POSITION FOR HERITAGE INTERACTION AND MANAGEMENT, INCLUDING ROCK ART AND MURUJUGA.

##### Acknowledgement of Country

The Burrup Peninsula is known to its Aboriginal custodians as Murujuga (meaning 'hipbone sticking out'). These days the Dampier Archipelago, Burrup Peninsula and its art province more widely are becoming known as Murujuga.

Perdaman Chemicals and Fertilisers Pty Ltd (Perdaman), acknowledges the Ngarluma, Yindjibarndi, Yaburara, Mardudhunera and Wong-Goo-Tt-Oo people as the Traditional Custodians of Murujuga and pays respects to their Elders past, present and aspiring.

Perdaman also acknowledges Murujuga Aboriginal Corporation (MAC) as the representative of the Traditional Custodians.

##### The Murujuga Rock Art Strategy

Murujuga is an internationally recognised region and acclaimed collection of Aboriginal sites.

The Murujuga Rock Art Strategy (MRAS) outlines a long-term framework to guide the protection of the Aboriginal rock art (petroglyphs) located on Murujuga. Its primary goal is to deliver a scientifically rigorous approach to monitoring, analysis and management that will provide an appropriate level of protection to the rock art. The strategy provides a framework to detect changes, assess causes of changes, where detected, and appropriately protect Aboriginal rock art from the airborne emissions created by Industrial development, in this same location.

Recognising the significance of Murujuga, the MRAS section 2.5 provides relevant background in relation to World Heritage nomination for Murujuga.

World Heritage listing is the highest global recognition of the importance of a place. With this acknowledgement at an international level comes a commitment at the local, state and national levels to manage the property for present and future generations. There has been sustained and ongoing advocacy for the World Heritage listing of Murujuga because of its significant Aboriginal rock art.

Beyond this background Perdaman acknowledges and supports the formal lodgement of a World Heritage Tentative List submission to have Murujuga added to Australia's World Heritage List in January 2020.

The MRAS is a monitoring, analysis and decision making framework devised by the WA State Government which has been designed to protect Aboriginal rock art at Murujuga ([https://www.der.wa.gov.au/images/documents/ourwork/programs/burru/ Murujuga\\_Rock\\_Art\\_Strategy](https://www.der.wa.gov.au/images/documents/ourwork/programs/burru/ Murujuga_Rock_Art_Strategy)).

The MRAS recognises that the petroglyphs are of immense cultural and spiritual significance to Aboriginal people, and of significant state, national and international heritage value. It also recognises that Murujuga is host to industry that contributes to the national, state and local economy and provides employment in the area. The WA Government entered into the Burrup and Maitland Industrial Estates Agreement Implementation Deed (the Burrup Agreement) with three Aboriginal groups in January 2003. The Burrup Agreement enabled the State Government to compulsorily acquire Native Title rights and interests in the area of the Burrup Peninsula and certain parcels of land near Karratha. The Burrup Agreement allows for industrial development to progress in parts of the Burrup Peninsula as well as providing for the development of a conservation estate and ensuring the ongoing protection of Aboriginal heritage values.

The scope of the Rock Art Strategy is to:

1. Establish an Environmental Quality Management Framework, including the derivation and implementation of environmental quality criteria (see MRAS Section 4.2);
2. Develop and implement a robust program of monitoring and analysis to determine whether change is occurring to the rock art on Murujuga (see MRAS Section 5.3);
3. Identify and commission scientific studies to support the implementation of the monitoring and analysis program and management;
4. Establish governance arrangements to ensure that:
  - > monitoring, analysis and reporting are undertaken in such a way as to provide confidence to the Traditional Owners, the community, industry, scientists and other stakeholders about the integrity, robustness, repeatability and reliability of the monitoring data and results; and
  - > government is provided with accurate and appropriate recommendations regarding the protection of the rock art, consistent with legislative responsibilities.
5. Develop and implement a communication strategy in consultation with stakeholders.

In terms of future (i.e. current) development proposal(s) on Murujuga, particularly those proposed for the BMIEA industrial parcels, and those which are located within close proximity to the National Heritage Listed area, the Environmental Quality Management framework is the most relevant component of the MRAS. When the project application is successful, then the other components of the MRAS would become more relevant.

The MRAS (section 2.3) identifies the environmental and heritage legislative frameworks which are in place to provide for the management and protection of cultural, archaeological and natural values of Murujuga.

The Environmental Quality Management Framework (EQMF) for protecting the rock art on Murujuga (*source: MRAS, Figure 3*) is shown below.

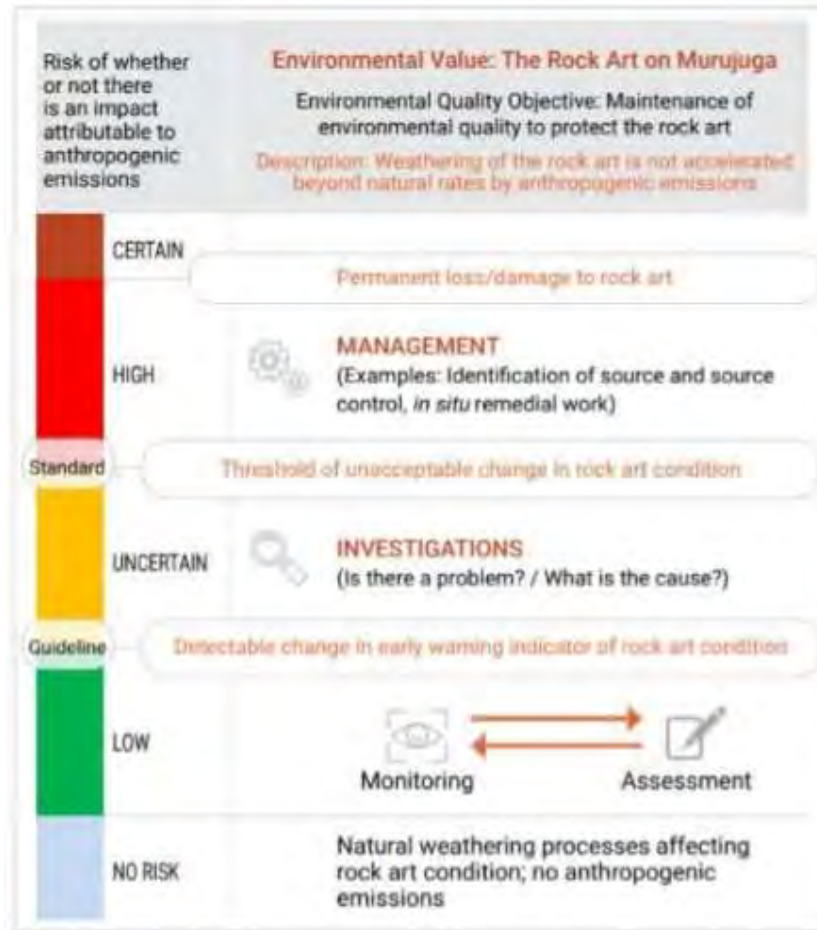


Figure 1 The Environmental Quality Management Framework (EQMF) for Protecting Rock Art on Murujuga

It is recognised that the MRAS, which as noted earlier provides the framework for monitoring, analysing and responding to changes in the rock art, will play an important role in informing the World Heritage nomination process. As a core element of the implementation of the Urea Project, Perdaman is therefore committed to be a contributing participant in the MRAS and shares the objective that underpin the strategy, including the EQMF. Perdaman is also committed to supporting MAC in its endeavours to attain World heritage Listing at Murujuga.

**Background to the Project Position for heritage interaction and management.**

The Dampier Archipelago (including the Burrup Peninsula) contains an internationally recognised region and acclaimed collection of Aboriginal sites. In 2007, the information from more than 3,000 individual rock art and stone feature sites (JMcD CHM 2005, 200Gb) was used to assess the scientific values of this place before it was added to Australia's National Heritage List (NHL: <https://www.environment.gov.au/heritage/places/national/dampierarchipelago>).

These records were listed in the (then) DIA Site Register (Lorblanchet 1983, 1992; McDonald and Veth 2009; Mulvaney 2015; Vinnicombe 2002).

The Burrup Peninsula is known to its Aboriginal custodians as Murujuga (meaning 'hipbone sticking out'). These days the Archipelago and its art province more widely are becoming known as Murujuga.

When the NHL Listing was made, a large proportion of the Burrup (86%) had not been disturbed, and the boundaries of the NHL listed place were based largely on an assessment of previous levels of disturbance. Disturbed landscapes were excluded from the listing. Of the National Heritage Listed land on the Burrup Peninsula, c. 50% has been designated as the Murujuga National Park. The remaining National Heritage Listed lands are outside the conservation estate.

This listing made under the EPBC Act, protects the art and stone features. The listing identified a number of criteria under which significance values can be attributed to individual sites and or motifs. The listed area is large and a relatively small proportion of the art has been systematically documented. There is still an evolving understanding of this important heritage asset. The current level of public knowledge and appreciation for this rock art is largely aligned with this evolving understanding.

The boundaries of Site F are not based solely on disturbance mapping. Systematic recording work undertaken as part of the UWA rock art field schools has recorded rock art in these areas. There are thus some lands within the proposed development area potentially worthy of listing on the National Heritage Estate. These have not been considered to date in any formal listing process.

In addition, it is noted that the **MRAS** advises:

*"Various other agreements also influence the protection and management of rock art on Murujuga. For example, Australia is a participant in the International Council on Monuments and Sites (ICOMOS), a non-governmental professional organisation closely linked to UNESCO (the United Nations Educational, Scientific and Cultural Organization), particularly in its role as UNESCO's principal adviser on cultural matters related to World Heritage. The Burra Charter, first adopted by the Australian National Committee of ICOMOS (Australia ICOMOS) in 1979 and updated in 2013, provides guidance on the conservation and management of all types of places of cultural significance in Australia."*

Perdaman therefore considers that the Burra Charter appropriately guides steps in planning and managing places of cultural significance (see below) that will be applied for developing, then operationalising, project policies, procedures and actions that will harmonise with the West Australian government's MRAS.

From the MRAS, best practice guidelines are provided by the ICOMOS Burra Charter as summarised below.



The Burra Charter Process: flow chart from the Australia ICOMOS Burra Charter, 2013, p10.  
© Australia ICOMOS Incorporated 2017. This may be reproduced, but only in its entirety.

Figure 2 The Burra Charter Process: steps in planning and managing places of cultural significance.

## PERDAMAN UREA PROJECT OVERARCHING POSITION FOR HERITAGE INTERACTION AND MANAGEMENT

During and as a core element of the implementation and operation of Perdaman Urea Project, Perdaman:

- Is committed to implementing for the Project, policies, procedures and actions that accord with the Burra Charter steps in planning and managing places of cultural significance and to harmonise with the West Australian government's MRAS.
- Will engage with MAC and relevant stakeholder to
  - o enhance its understanding of the heritage and cultural history, use and fabric of Murujuga;
  - o identify and understand obligations relevant to its use of land at Murujuga;
  - o identify and understand future needs and resources;
  - o identify and understand constraints, including the potential to practicably ameliorate these;
  - o identify and understand opportunities, including the potential to practicably avail of these;
  - o support endeavours to attain World Heritage Listing at Murujuga.
- Will develop and implement Heritage Management plans, procedures and actions that are consistent with the above. In the development and implementation of these plans, procedures and actions,
  - o Recognises the Department of Water and Environmental Regulation as a relevant stakeholder, being the WA government nominated custodian of the MRAS;
  - o Recognises the Australian government as a relevant stakeholder to understand the National Heritage values, the National Heritage management principles and understand relevant responsibilities and obligations under the EPBC Act when operating within, near or adjacent to NHL areas.
- Will monitor the outcomes to review and revise these plans, procedures and actions where practicable to enhance heritage outcomes.

Mr Vikas Rambal

Chairman

Perdaman Chemicals and Fertilisers Pty Ltd

Mr Peter Jeffries

Chief Executive

Murujuga Aboriginal Corporation

Date:

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## Attachment B – NHP Gazette Notice



## Attachment B. National Heritage Place Gazette Notice No. S127



*Environment Protection and Biodiversity Conservation Act 1999*

**INCLUSION OF A PLACE IN THE NATIONAL HERITAGE LIST**

I, Malcolm Bligh Turnbull, Minister for the Environment and Water Resources, having considered, in relation to the place listed in the Schedule of this instrument -

- (a) the Australian Heritage Council's assessment whether the place meets any of the National Heritage criteria; and
- (b) the comments determined to have been given to the Council under section 324JH of the *Environment Protection and Biodiversity Conservation Act 1999*; and

being satisfied that the place specified in the Schedule has the National Heritage value or values specified in the Schedule include, pursuant to section 324JJ of the *Environment Protection and Biodiversity Conservation Act 1999*, the place listed in the Schedule in the National Heritage List.

Dated 3rd day of July 2007

Malcolm Bligh Turnbull  
Minister for the Environment  
and Water Resources

## SCHEDULE

### STATE

#### Local Government Areas

Name

Location / Boundary

Criteria / Values

## WESTERN AUSTRALIA

### Roebourne Shire

#### **Dampier Archipelago (including Burrup Peninsula):**

About 36,860ha, at Dampier, comprising the following parts of Burrup Peninsula and surrounding islands:

#### **Burrup Peninsula Areas**

##### ***Area A***

Comprises an area commencing at northern most point of Lot 588 P028526, then northerly, easterly and southerly via the western, northern and eastern boundary of Lot 587 P028526 to its intersection with Lot 594 P028526 (also included is all Unallocated Crown Land that adjoins Lot 587), then southerly via the eastern boundary of Lot 594 P028526 to its intersection with Lot 595 P028526, then southerly via the eastern boundary of Lot 595 to its intersection with Lot 596 P028526, then southerly via the eastern boundary of Lot 596 to its intersection with Lot 595, then southerly via the eastern boundary of Lot 595 to its intersection with Lot 594, then southerly via the eastern boundary of Lot 594 to its intersection with Lot 479 P220555, then southerly via the eastern boundary of Lot 479 to its intersection with MGA easting 479093E (approximate MGA point 479093E 7719091N), then via straight lines joining the following MGA points consecutively: 479045E 7719106N, 478796E 7719564N, 478819E 7719629N, 478952E 7720034N, 478613E 7720034N, 478857E 7720443N, 478978E 7720661N, 478998E 7720835N, 478485E 7720835N, 478202E 7720611N, 478318E 7720531N, 478309E 7720459N, 478293E 7720408N, 478240E 7720409N, 478085E 7720518N, 477912E 7720380N, 477837E 7720410N, 477784E 7720404N, 477761E 7720386N, 477771E 7720357N, 477829E 7720360N, 477854E 7720371N, 477883E 7720355N, 477752E 7720257N, 477743E 7720133N, 477318E 7719935N, 477317E 7719744N, 477383E 7719735N, 477434E 7719603N, 477282E 7719557N, 477182E 7719691N, 477044E 7719646N, 476945E 7719543N, 476908E 7719533N, 476911E 7719477N, 476553E 7719023N, 476345E 7719060N, 476333E 7719193N, 476451E 7719276N, 476351E 7719380N, 476167E 7719254N, 476112E 7719287N, 476083E 7719199N, 475938E 7719111N, 475893E 7719105N, 475891E 7719133N, 475889E 7719175N, 475892E 7719271N, 476059E 7719482N, then north westerly to the intersection of MGA northing 7719516N with the western boundary of Lot 598 P028526 (approximate MGA point 475978E 7719516N), then northerly via the western boundary of Lot 598 to its north west corner, then northerly to the south west corner of Lot 597 P028526, then northerly via the western boundary of Lot 597 to its intersection with MGA northing 7721386N (approximate MGA point 477048E 7721386N), then north westerly to the intersection of MGA northing 7721564N with the eastern boundary of Lot 155 P185700 (approximate MGA point 477007E 7721564N), then northerly via the eastern boundary of Lot 155 to its intersection with Lot 197 P0030713, then northerly via the eastern boundary of Lot 197 to the southern most point of Lot 473 P194623, then northerly via the western boundary of Lot 473 to its intersection with MGA northing 7722901N (approximate MGA point 477632E 7722901N), then westerly to the intersection of MGA northing 7722834N with the western boundary of Lot 197 P030713 (approximate MGA point 477338E 7722834N), then northerly via the western boundary of Lot 197 to its intersection with MGA northing 7723381N (approximate MGA point 477338E 7723381N), then via straight lines



joining the following MGA points consecutively: 477233E 7723406N, 477230E 7723449N, 477241E 7723479N, 477271E 7723495N, 477270E 7723477N, then directly to the intersection of MGA easting 477290E with the northern boundary of Lot 199 P216680 (approximate MGA point 477290E 7723456N), then easterly via the northern boundary of Lot 199 to its intersection with the northern boundary of Lot 197 P030713, then easterly via the northern boundary of Lot 197 to its intersection with Lot 588 P028526, then northerly and westerly via the western boundary of Lot 588 to its intersection with Lot 589 P028526, then south westerly and north easterly via the south eastern and north western boundary of Lot 589 to its intersection with Lot 588 (included is UCL that adjoins the south eastern boundary of Lot 589), then north easterly via the north western boundary of Lot 588 to the point of commencement.

**Excluded from within Area A** is that part of Lot 196 P216682 bounded by a line commencing at the intersection of MGA easting 480046E with the southern boundary of Lot 196 (approximate MGA point 480046E 7724087N), then via straight lines joining the following MGA points consecutively: 480045E 7724166N, 480070E 7724233N, 480077E 7724270N, 480081E 7724373N, 480058E 7724373N, 480058E 7724438N, then easterly to the intersection of MGA northing 7724439N with the eastern boundary of Lot 196 (approximate MGA point 480156E 7724439N), then northerly, westerly, southerly and easterly via the eastern, northern, western and southern boundary of Lot 196 to the point of commencement.

**Area B**

Comprises an area bounded by a line commencing at MGA point 475838E 7719582N, then via straight lines joining the following MGA points consecutively: 475836E 7719564N, 475711E 7719589N, 475612E 7719577N, 475526E 7719555N, 475232E 7719447N, 475154E 7719445N, 475110E 7719455N, 475057E 7719433N, 475043E 7719414N, 474978E 7719434N, 474884E 7719483N, 474837E 7719525N, 474757E 7719546N, 474776E 7719440N, 474649E 7719361N, 474573E 7719363N, 474334E 7719414N, 474383E 7719530N, 474321E 7719571N, 474169E 7719713N, 474132E 7719743N, 474087E 7719713N, 474025E 7719764N, 474522E 7720350N, then directly to the point of commencement.

**Area C**

Comprises an area bounded by a line commencing at MGA point 475796E 7719076N, then via straight lines joining the following MGA points consecutively: 475788E 7719143N, 475847E 7719157N, 475854E 7719095N, then directly to the point of commencement.

**Area D**

Comprises an area bounded by a line commencing at the intersection of the eastern boundary of Lot 442 P220555 with MGA northing 7715020N (approximate MGA point 476257E 7715020N), then via straight lines joining the following MGA points consecutively: 476117E 7714816N, 475938E 7714509N, 475528E 7714208N, 475341E 7714113N, 474861E 7713792N, 474777E 7713929N, 474684E 7713920N, 474437E 7713923N, 474419E 7714139N, 474696E 7714327N, 474323E 7714587N, 474277E 7714536N, 474149E 7714653N, 473584E 7714305N, 473260E 7714094N, 473208E 7713959N, 473032E 7713863N, 472926E 7713806N, 472832E 7713980N, 472844E 7714002N, 472923E 7714016N, 472950E 7714025N, 473034E 7714067N, 473101E 7714127N, 473168E 7714180N, 473203E 7714231N, 473326E 7714363N, 473393E 7714454N, 473511E 7714542N, 473519E 7714573N, 473516E 7714617N, 473495E 7714673N, 473465E 7714688N, 473437E 7714685N, 473418E 7714671N, 473290E 7714526N, 473276E 7714496N, 473278E 7714468N, 473265E 7714446N, 472989E 7714296N, 472958E 7714278N, 472900E 7714234N, 472797E 7714180N, 472756E 7714215N, 472657E 7714189N, 472651E 7714066N, 472465E 7713965N, 472498E 7713904N, 472461E 7713898N, 472398E 7713899N, 472356E 7713882N, 472296E 7713846N, 472294E 7713783N, 472337E 7713708N, 472600E 7713716N, 472616E 7713687N, 472449E 7713608N, 472487E 7713525N, 472224E 7713428N, 472228E 7713221N, 472116E

7713161N, 471661E 7713060N, 471548E 7713120N, 471450E 7713293N, 471177E  
7713096N, 471127E 7713102N, 471019E 7713030N, 470814E 7713042N, 470648E  
7713160N, 470418E 7713040N, 470116E 7713149N, 470055E 7713241N, 470031E  
7713345N, 470037E 7713517N, 470163E 7713806N, 470498E 7714239N, 470530E  
7714245N, 470574E 7714297N, 470558E 7714323N, 470620E 7714393N, 470682E  
7714502N, 470943E 7714536N, 471219E 7714586N, 471412E 7714596N, 471564E  
7714598N, 471657E 7714512N, 471825E 7714331N, 471889E 7714235N, 471893E  
7714087N, 471973E 7713974N, 472029E 7713958N, 472066E 7714108N, 472155E  
7714236N, 472289E 7714697N, 472284E 7714756N, 472370E 7714926N, 472487E  
7715069N, 472558E 7715142N, 472601E 7715147N, 472898E 7715487N, 472950E  
7715576N, 473235E 7716062N, 473689E 7716157N, 473945E 7716366N, 474190E  
7716689N, 474174E 7717068N, 473670E 7716878N, 473541E 7716793N, 473296E  
7716617N, 473187E 7716688N, 473173E 7716706N, 473172E 7716748N, 473154E  
7716747N, 473154E 7716746N, 472847E 7716397N, 472706E 7716531N, 472695E  
7716628N, 472700E 7716648N, 472728E 7716689N, 472778E 7716791N, 472742E  
7716924N, 472805E 7716992N, 472835E 7717070N, 473058E 7717250N, 473045E  
7717321N, 473013E 7717394N, 472904E 7717423N, 472910E 7717519N, 472991E  
7717567N, 473080E 7717581N, 473068E 7717624N, 473116E 7717649N, 473448E  
7717756N, 473798E 7718002N, 474045E 7718118N, 474199E 7718235N, 474517E  
7718294N, 474518E 7718201N, 474808E 7718018N, 474985E 7718087N, 475033E  
7718203N, 475110E 7718261N, 475329E 7718377N, 475480E 7718388N, 475779E  
7718236N, 475748E 7718190N, 475677E 7718182N, 475490E 7717998N, 475671E  
7717827N, 475805E 7717736N, 475966E 7717886N, 476838E 7717951N, 476888E  
7717986N, 476886E 7718226N, 476789E 7718226N, 476792E 7718415N, 476879E  
7718466N, 476869E 7718680N, 477115E 7718679N, then south easterly to the intersection of  
MGA easting 477507E with the northern boundary of Lot 442 (approximate MGA point  
477507E 7718337N), then easterly via the northern boundary of Lot 442 to its intersection with  
Lot 479 P220555, then via straight lines joining the following MGA points consecutively:  
478847E 7718340N, 478914E 7718348N, 478926E 7718267N, 478965E 7718266N, 478989E  
7718280N, then northerly to the intersection of MGA easting 479007E with the eastern  
boundary of Lot 479 P220555 (approximate MGA point 479007E 7718332N), then south  
easterly via the eastern boundary of Lot 479 to its intersection with Lot 442, then south westerly  
via the eastern boundary of Lot 442 to the point of commencement.

**Area E**

Comprises an area bounded by a line commencing at MGA point 472174E 7716446N, then via  
straight lines joining the following MGA points consecutively: 472190E 7716425N, 472207E  
7716411N, 472210E 7716405N, 472197E 7716388N, 472158E 7716438N, 472167E  
7716451N, then directly to the point of commencement.

**Area F**

Comprises an area bounded by a line commencing at MGA point 476301E 7718246N, then via  
straight lines joining the following MGA points consecutively: 476346E 7718246N, 476346E  
7718184N, 476301E 7718184N, then directly to the point of commencement.

**Area G**

Comprises an area bounded by a line commencing at MGA point 472536E 7716689 N, then  
via straight lines joining the following MGA points consecutively: 472574 E 7716717 N,  
472610 E 7716720 N, 472609 E 7716662 N, 472640 E 7716554 N, 472623 E 7716536 N,  
472600 E 7716513 N, 472583 E 7716492 N, 472488 E 7716338 N, 472486 E 7716312 N,  
472470 E 7716302 N, 472445 E 7716301 N, 472435E 7716331 N, 472443 E 7716352 N,  
472437 E 7716362 N, 472322 E 7716278 N, 472293 E 7716293 N, 472294 E 7716294 N,  
472280 E 7716304 N, 472247 E 7716280 N, 472182 E 7716165 N, 472160 E 7716152 N,  
472138 E 7716145 N, 472124 E 7716141 N, 472114 E 7716134 N, 472106 E 7716128 N,

472088 E 7716114 N, 472059 E 7716061 N, 472027 E 7716041 N, 471980 E 7716001 N, 471975 E 7716017 N, 471971 E 7716030 N, 471965 E 7716047 N, 471968 E 7716071 N, 471948 E 7716076 N, 471933 E 7716049 N, 471878 E 7715991 N, 471849 E 7715948 N, 471815 E 7715916 N, 471792 E 7715916 N, 471796 E 7715936 N, 471801 E 7715959 N, 471782 E 7715965 N, 471769 E 7715950 N, 471745 E 7715950 N, 471728 E 7715950 N, 471705 E 7715950 N, 471703 E 7715952 N, 471689 E 7715963 N, 471700 E 7715980 N, 471700 E 7715996 N, 471676 E 7715987 N, 471666 E 7716013 N, 471658 E 7716023 N, 471646 E 7716037 N, 471608 E 7716032 N, 471584 E 7715998 N, 471599 E 7715977 N, 471596 E 7715967 N, 471593 E 7715950 N, 471605 E 7715931 N, 471611 E 7715918 N, 471628 E 7715918 N, 471656 E 7715904 N, 471661 E 7715878 N, 471704 E 7715796 N, 471608 E 7715689 N, 471521 E 7715572 N, 471432 E 7715554 N, 471410 E 7715560 N, 471410 E 7715561 N, 471399 E 7715564 N, 471379 E 7715468 N, 471352 E 7715478 N, 471294 E 7715576 N, 471195 E 7715595 N, 471092 E 7715649 N, 471046 E 7715706 N, 471070 E 7715800 N, 471145 E 7715893 N, 471132 E 7715929 N, 471143 E 7715980 N, 471170 E 7716019 N, 471198 E 7716076 N, 471200 E 7716123 N, 471224 E 7716184 N, 471280 E 7716225 N, 471295 E 7716184 N, 471302 E 7716152 N, 471259 E 7716100 N, 471253 E 7716054 N, 471241 E 7716015 N, 471256 E 7715988 N, 471270 E 7715970 N, 471293 E 7715965 N, 471302 E 7715927 N, 471366 E 7715922 N, 471364 E 7716026 N, 471398 E 7716078 N, 471404 E 7716095 N, 471408 E 7716109 N, 471394 E 7716140 N, 471386 E 7716167 N, 471396 E 7716181 N, 471426 E 7716175 N, 471506 E 7716165 N, 471520 E 7716157 N, 471523 E 7716128 N, 471512 E 7716052 N, 471525 E 7716051 N, 471526 E 7716054 N, 471625 E 7716201 N, 471681 E 7716290 N, 471722 E 7716319 N, 471810 E 7716393 N, 471907 E 7716367 N, 472014 E 7716361 N, 472045 E 7716278 N, 472086 E 7716278 N, 472148 E 7716285 N, 472151 E 7716288 N, 472168 E 7716321 N, 472220 E 7716372 N, 472244 E 7716405 N, 472265 E 7716432 N, 472293 E 7716453 N, 472324 E 7716469 N, 472327 E 7716485 N, 472323 E 7716505 N, 472332 E 7716532 N, 472353 E 7716550 N, 472372 E 7716600 N, 472377 E 7716626 N, 472363 E 7716666 N, 472395 E 7716730 N, 472414 E 7716746 N, 472498 E 7716796 N, 472517 E 7716784 N, 472514 E 7716767 N, 472539 E 7716762 N, 472521 E 7716696 N, then directly to the point of commencement.

**Excluded is an area located within Area G** that is bounded by a line commencing at MGA point 471458 E 7715837 N, then via straight lines joining the following MGA points consecutively: 471468 E 7715853 N, 471465 E 7715887 N, 471447 E 7715883 N, 471437 E 7715859 N, 471441 E 7715841 N, then directly to the point of commencement.

#### **Area H**

Comprises an area commencing at the intersection of the northern boundary of UCL with MGA easting 465066E (approximate MGA point 465066E 7712521N), then via straight lines joining the following MGA points consecutively: 465408E 7712135N, 465707E 7712216N, 465926E 7712331N, 465799E 7712072N, 465563E 7711561N, 465799E 7711528N, 465865E 7711609N, 465903E 7712097N, 466016E 7712316N, 465988E 7712406N, 465982E 7712474N, 466191E 7712486N, 466223E 7712461N, 466219 E 7712406 N, 466231 E 7712328 N, 466327 E 7712289 N, 466377 E 7712298 N, 466395 E 7712404 N, 466384 E 7712463 N, 466409 E 7712506 N, 466396 E 7712583 N, 466352 E 7712583 N, 466325 E 7712629 N, 466402 E 7712696 N, 466493 E 7712719 N, 466556 E 7712717 N, 466574 E 7712703 N, 467314 E 7712709 N, 467342 E 7712717 N, 467378 E 7712719 N, 467413 E 7712712 N, 467484 E 7712711 N, 467755 E 7712752 N, 467934 E 7712748 N, 467997 E 7712751 N, 468119 E 7712767 N, 468357 E 7712775 N, 468396 E 7712805 N, 468443 E 7712813 N, 468514 E 7712793 N, 468776 E 7712834 N, 468885 E 7712789 N, 469057 E 7712721 N, 469181 E 7712693 N, 469320 E 7712694 N, 469614 E 7712782 N, 469648 E 7712772 N, 469679 E 7712681 N, 469719 E 7712770 N, 469789 E 7712856 N, 469839 E 7712868 N, 469954 E 7712824 N, 470422 E 7712672 N, 470912 E 7712621 N, 470966 E 7712511 N, 471008 E 7712478 N, 471156 E 7712557 N, 471271 E 7712542 N,

471410 E 7712514 N, 471554 E 7712471 N, 471622 E 7712311 N, 471640 E 7712240 N, 471650 E 7712154 N, 471640 E 7711885 N, 471162 E 7711871 N, 471082 E 7711877 N, 471012 E 7711910 N, 470953 E 7712038 N, 470902 E 7712088 N, 470738 E 7712165 N, 470646 E 7712113 N, 470566 E 7712022 N, 470529 E 7712003 N, 470440 E 7711985 N, 470363 E 7711980 N, 470305 E 7711980 N, 470230 E 7711972 N, 470173 E 7711958 N, 470130 E 7711934 N, 470037 E 7711903 N, 469998 E 7711842 N, 469947 E 7711811 N, 469860 E 7711790 N, 469770 E 7711797 N, 469737 E 7711789 N, 469686 E 7711730 N, 469635 E 7711699 N, 469591 E 7711706 N, 469548 E 7711676 N, 469529 E 7711649 N, 469476 E 7711603 N, 469307 E 7711422 N, 469128 E 7711345 N, 469077 E 7711335 N, 469022 E 7711341 N, 468864 E 7711344 N, 468786 E 7711385 N, 468768 E 7711413 N, 468694 E 7711411 N, 468676 E 7711494 N, 468636 E 7711553 N, 468611 E 7711569 N, 468584 E 7711559 N, 468554 E 7711567 N, 468531 E 7711553 N, 468494 E 7711517 N, 468491 E 7711493 N, 468418 E 7711465 N, 468387 E 7711411 N, 468338 E 7711352 N, 468244 E 7711264 N, 468310 E 7711231 N, 468283 E 7711222 N, 468158 E 7711170 N, 468065 E 7711183 N, 468022 E 7711135 N, 467967 E 7711121 N, 467846 E 7711167 N, 467811 E 7711102 N, 467799 E 7711054 N, 467706 E 7710974 N, 467603 E 7710969 N, 467566 E 7711010 N, 467481 E 7710938 N, 467360 E 7710959 N, 467243 E 7710949 N, 467206 E 7710965 N, 467162 E 7710961 N, 467122 E 7710923 N, 467080 E 7710862 N, 467093 E 7710845 N, 467123 E 7710865 N, 467183 E 7710920 N, 467214 E 7710904 N, 467229 E 7710861 N, 467173 E 7710815 N, 467124 E 7710784 N, 467084 E 7710752 N, 467046 E 7710711 N, 466954 E 7710607 N, 466897 E 7710588 N, 466801 E 7710568 N, 466507 E 7710521 N, 466420 E 7710514 N, 466316 E 7710520 N, 466247 E 7710538 N, 465981 E 7710678 N, 465861 E 7710803 N, 465833 E 7710895 N, 465838 E 7710977 N, 465752 E 7710970 N, 465734 E 7710794 N, 465711 E 7710755 N, 465671 E 7710734 N, 465602 E 7710721 N, 465555 E 7710679 N, 465534 E 7710627 N, 465373 E 7710665 N, 465309 E 7710672 N, 465250 E 7710662 N, 465133 E 7710672 N, 464859 E 7710646 N, 464810 E 7710628 N, 464654 E 7710616 N, 464437 E 7710549 N, 464273 E 7710485 N, 464223 E 7710475 N, 464153 E 7710432 N, 463928 E 7710365 N, 463711 E 7710299 N, 463502 E 7710224 N, 463350 E 7710223 N, 463306 E 7710275 N, 463263 E 7710240 N, 463219 E 7710240 N, 463174 E 7710225 N, 463122 E 7710259 N, 462974 E 7710233 N, 462846 E 7710187 N, 462741 E 7710161 N, 462687E 7710154N, then directly to the intersection of MGA easting 462671E with the northern boundary of UCL (approximate MGA point 462671E 7710158N), then north easterly via the northern boundary of UCL to the point of commencement.

#### **Area J**

Comprises an area bounded by a line commencing at MGA point 452364E 7701191N, then via straight lines joining the following MGA points consecutively: 450513E 7700412N, 450182E 7700512N, 451347E 7701819N, 452278E 7701988N, then directly to the point of commencement.

#### **Island Areas**

**West Intercourse Island Area** comprising the following Lots: Lot 457 P220574; Lot 458 P220574; Lot 459 P220574; Lot 461 P220574; Lot 466 P220574; all that part of Lot 467 P220574 to the west of MGA easting 459800E; all Unallocated Crown Land (UCL) adjoining the listed Lots.

**West Mid Intercourse Island Area** being Lot 456 P220574 and all adjoining UCL.

**Enderby Island Area** comprising Lot 301 P091521.

**Goodwin Island Area** comprising Lot 304 P240237.

**West Lewis Island and East Lewis Island Area** comprising Nature Reserves R36909 and R36907.





***Rosemary Island, Brigadier Island, Miller Rocks, Lady Nora Island and Elphick Nab Area***, comprising Nature Reserve R36915, Lot 307 P240237, Lot 22 P093417, Lot 46 P176228 and Lot 219 P187702.

***Malus Islands Area*** comprising Lot 311 P240237, DEWIT Location 121 and DEWIT Location 142.

***Angel Island, Gidley Island, Cohen Island, Keast Island and Collier Rocks Area***, comprising Lot 321 P091561, UCL just south of Lot 321, and all that part of Lot 314 P240237 to the south of a line connecting the following MGA points: 479864E 7747389N, 483248E 7747053N, 484632E 7745303N, 487549E 7743394N.

***Tuger Island Area*** comprising Lot 315 P240237.

***Dolphin Island Nature Reserve*** comprising the whole of Lot 322 P240057.

***Unnamed Island***, comprising Unallocated Crown Land, centred on MGA point 484570E 7731240N.

Criterion	Values
(a) the place has outstanding heritage value to the nation because of the place's importance in the course, or pattern, of Australia's natural or cultural history.	The engravings on the Dampier Archipelago include finely executed images of a wide range of terrestrial, avian and marine fauna many of which can be identified to genus or species level (Yinnicome 2002; McDonald and Veth 2005). Most of the engravings, particularly the images of marine fauna, are slightly or moderately weathered and were produced following the rise of sea levels about 8,000 years ago. There are a number of deeply weathered images of terrestrial fauna, particularly kangaroo, which date to the time when the sea was much lower (Lorblanchet 1992). The different degrees of weathering of particular types of faunal engravings on the Dampier Archipelago provide an outstanding visual record of the course of Australia's cultural history through the Aboriginal responses to the rise of sea levels at the end of the last Ice Age. There are a large number of deeply weathered, engraved 'Archaic Faces' in the Dampier Archipelago including some images that are unique to the area (McDonald and Veth 2005). 'Archaic faces' are widely distributed through arid Australia and are found in the Calvert ranges, the Cleland Hills, the Victoria River District, South Australia and Queensland (McDonald and Veth 2005). The 'Archaic Faces' on the Dampier Archipelago demonstrate the long history of contact and shared visual narratives between Aboriginal societies in the Dampier Archipelago and inland arid Australia and are exceptional in the course of Australia's cultural history.
(b) the place has outstanding heritage value to the nation because of the place's possession of uncommon, rare or endangered aspects of Australia's natural or cultural history.	The Pilbara has been described as '... without doubt the richest and most exciting region of rock engravings in Australia' McCarthy (1968: vi). It is the diversity of representations of the human form (anthropomorphs), many of which are in dynamic attitudes, and the way in which they are sometimes arranged in complex scenes that makes the Aboriginal engravings in the Pilbara exceptional. Although there are a number of distinct regional engraving styles in the Pilbara (Wright 1968), the greatest diversity in depictions of the human form, which also include representatives of human figures characteristic of the other Pilbara style provinces, occurs in the Dampier Archipelago (McDonald and Veth 2005: section 4.6). There are a number of complex panels showing



(b) continued

groups of people engaged in both mundane and sacred activities, including hunting scenes, ceremonial activity and images of human figures climbing or hanging from lines. At a national level, the Dampier Archipelago is outstanding for its diversity of engraved human forms and the antiquity of depictions of complex scenes showing human activity, which are rare at the national level.

There is a very high density of rock engraving sites on the Dampier Archipelago. Although the majority of these sites contain relatively few engravings (Vinnicombe 1987a; Veth *et al* 1993;) there are some sites with hundreds (Virili 1977; Vinnicombe 1987a: Fig 6; Veth *et al* 1993: Fig 7.1), thousands (Dix 1977; Virili 1977; Vinnicombe 1987a) or tens of thousands of engravings (Lorblanchet 1992; Veth *et al* 1993). An analysis of site locations demonstrates that large concentrations of engravings in the Dampier Archipelago are found on inland plateaus, steep valley inclines bordering watercourses and on rock platforms next to the ocean (Vinnicombe 2002; McDonald and Veth 2005). The Dampier Archipelago contains concentrations of rock engravings, which when compared with other similar sites in Australia are rare (McNickel 1985; Wright 1968; Stanbury and Clegg 1990).

There is a high density of standing stones, stone pits and circular stone arrangements on the Burrup Peninsula (Veth *et al* 1993). The stone pits on the Burrup Peninsula have been interpreted as hunting hides and the standing stones may be either ceremonial sites (*thala* sites), or markers for resources such as potable water. There is also a high diversity in the standing stones and stone arrangements across the Dampier Archipelago, including some with unusual components (Vinnicombe 1987a). The density of standing stones, stone pits and circular stone arrangements on the Burrup Peninsula, and the diversity of these stone features across the Dampier Archipelago are rare at the national level (Vinnicombe 1987a).

(c) the place has outstanding heritage value to the nation because of the place's potential to yield information that will contribute to an understanding of Australia's natural or cultural history.

The distribution of engraved motifs across the Dampier Archipelago reflects economic and cultural variability (Green 1982; Vinnicombe 2002; Veth *et al* 1993). Previous work on the Dampier Archipelago provides an outstanding demonstration of the way in which a detailed analysis of archaeological remains (middens, grinding patches, quarries) and associated rock engravings can contribute to an understanding of the cultural and economic meaning of the rock engravings (Lorblanchet 1992). The analysis demonstrated a close association between animal motifs and midden contents in one area of Skew Valley and the way in which some motifs (tracks) are placed in inconspicuous positions while other motifs (anthropomorphs) are publicly displayed. This work demonstrates that on the Dampier Archipelago, areas where archaeological remains are associated with large numbers of engravings have outstanding potential to yield information that will contribute to an understanding of the nation's cultural history.

Archaic Faces' occur on the Dampier Archipelago and are found in many parts of arid Australia (McDonald and Veth 2005; Dix 1977). The distribution of these engravings indicates there were shared representations across the area in the deep past. There is evidence that at

(e) continued the time of European contact Western Desert peoples were actively moving towards the coast (Tindale 1987). The 'Archaic Faces' in the Dampier Archipelago have outstanding potential to yield information contributing to an understanding of the long history of connections between the coast and the Western Desert.

The Dampier Archipelago contains engravings of human figures (anthropomorphs) characteristic of most of the major art provinces in the Pilbara as well as a number of forms unique to the area (McDonald and Veth 2005). It has the potential to become a key site for establishing the sequence of engraved motifs in the Pilbara, an area described as without doubt the richest and most exciting region of rock engravings in Australia (McCarthy 1968: vi). The different degrees of weathering and the large number of super-positioned engravings provides an outstanding opportunity to establish a relative chronology for motifs characteristic of the major style provinces in the Pilbara (Lorblanchet 1992; Vinnicombe 2002; McDonald and Veth 2005).

(d) the place has outstanding heritage value to the nation because of the place's importance in demonstrating the principal characteristics of:

- (i) a class of Australia's natural or cultural places; or
- (ii) a class of Australia's natural or cultural environments.

The rock engravings on the Dampier Archipelago include an extraordinarily diverse range of animal and human figures which are characteristic of regional styles that occur elsewhere in the Pilbara. Images of terrestrial and marine animals and birds in the Dampier Archipelago are similar to the range of images found at other coastal sites in the Pilbara such as Depuch Island and Port Hedland while the range of land animals is similar to those depicted in inland areas (cf Wright 1968; Ride *et al* 1964). A slightly simpler version of *Kurungara* figures, characteristic of the Upper Yule, is found in the Dampier Archipelago, only differing in the exaggeration of genitalia and intricacy of headdresses (McDonald and Veth 2005: Section 4.6). Similarly, a type of *Minjiburu* figure characteristic of Port Hedland also occurs in the Dampier Archipelago. Large birds or macropods with spears in their backs, images of turtles and hunting scenes characteristic of Sherlock Station and Depuch Island are found in the Dampier Archipelago, as are examples of stylised figures with exaggerated hands and feet, stylised stick figures with small human figures positioned under both arms. There are a number of images central to the style found on the Dampier Archipelago (McDonald and Veth 2005). They include: solid-bodied human figures with disconnected circular infilled heads and sinuous arm positions; profile figures with solid bodies and thin arms (often with an erect penis), occasionally positioned in rows; profile figures with the disconnected heads, grouped with each other or around a central line (as if climbing); groups of figures positioned beneath lines, as if hanging; the use of infilled circles to indicate joints (elbows, knees) or body parts (genitalia, stomachs, hands, feet); and therianthropes with various mixed human and animal characteristics, particularly lizard and bird. The Dampier Archipelago is outstanding as a place where engravings of human forms representative of all of the style provinces in the Pilbara, the richest and most exciting region of rock engravings in Australia, are found (McDonald and Veth 2005: Section 4; McCarthy 1968: vi).



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(a) *continued*

Standing stones on the Dampier Archipelago range from single monoliths through to extensive alignments comprising at least three or four hundred standing stones (Vinnicombe 2002). While some standing stones are associated with increase ceremonies, *thala*, others were used to mark particular places with scarce resources, such as seasonal rock pools, and were also used to mark sites of traditional significance. The standing stones in the Dampier Archipelago are outstanding in a national context for the number of purposes they are known to have served.

(f) *the place has outstanding heritage value to the nation because of the place's importance in demonstrating a high degree of creative or technical achievement at a particular period.*

The rock engravings in the Dampier Archipelago show exceptional creative diversity when compared with the other art provinces in the Pilbara or rock engravings elsewhere in Australia (McDonald and Veth 2005: Section 4.6). They include examples of the types of human figures characteristic of the other art provinces in the Pilbara as well as having unique human forms and figures indicating activity. The engravings on the Dampier Archipelago include detailed and finely executed examples of water birds, crabs, crayfish, kangaroos, turtles and fish, some of which, because of their detail, can be identified to species level. The finely executed animals identified to species level, the diversity of human forms and the panels of engravings showing scenes of human activity exhibit a high degree of creativity, particularly during the Holocene, that is unusual in Australian rock engravings.

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For a description of any references quoted above, and more information on each of the places please search the Australian Heritage Database at <http://www.deh.gov.au/cgi-bin/ahdb/search.pl> using the name of the place.

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## **Attachment C – Aboriginal Heritage Survey Areas & NHP Survey Sites**

## Attachment C. 2019 Heritage Survey Areas and Cultural Heritage and Archaeological Sites in Site C & Site F

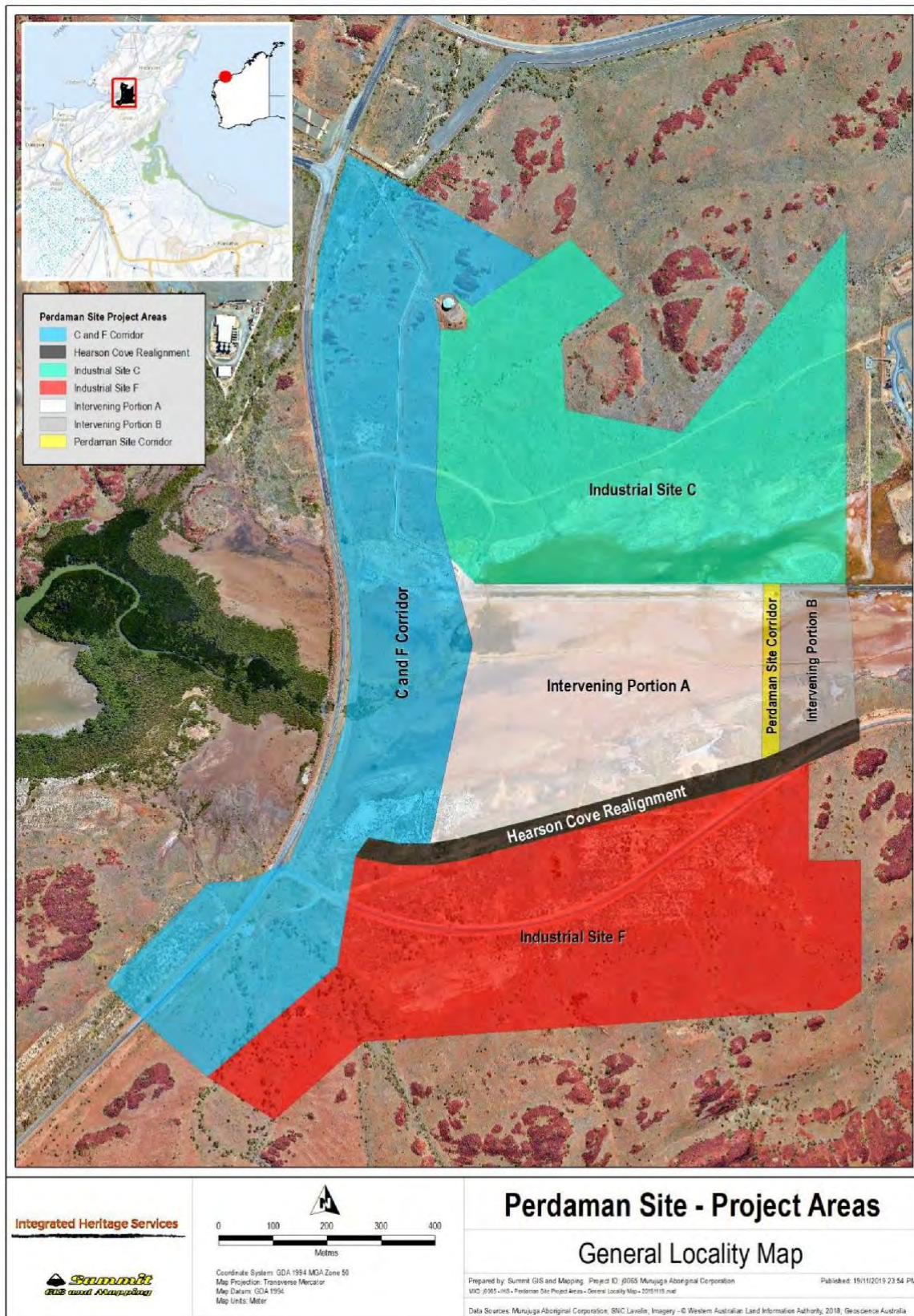


Figure 1: Location map showing the Project Area referred to in this report





**Figure 4: Regional Location of the Project (from Ministerial Statement No. 1180 (Figure 1))**

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## Attachment D – MAC Response to S.18 Submission

**REDACTED**

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## Attachment E – s.18 AHA Minister Consent Notice



**Hon Dr Tony Buti MLA**  
**Minister for Finance; Aboriginal Affairs; Racing & Gaming;**  
**Citizenship & Multicultural Interests**

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Our Ref: 80-03704

Chairman  
Perdaman Chemicals and Fertilisers Pty Ltd

Via Email: [tony.but@parliament.wa.gov.au](mailto:tony.but@parliament.wa.gov.au)

Dear Sir,

**SECTION 18(3) ABORIGINAL HERITAGE ACT 1972 – PERDAMAN CHEMICALS AND FERTILISERS PTY LTD – STATE OF WESTERN AUSTRALIA – PERDAMAN UREA PROJECT, BURRUP**

I refer to the Notice submitted under section 18(2) of the *Aboriginal Heritage Act 1972*, dated 11 March 2021 by Perdaman Chemicals and Fertilisers Pty Ltd (Perdaman) (Notice).

The Notice advised that Perdaman wishes to use the land described as:

Reserve 49120, Portion of Lots 3012, 3013, 3015 and 3016 on Plan 42282, portion of Lot 556 and Lot 557 on Plan 406755, Reserve 52836, Lot 553 on Plan 406755, CT 3167/958 Hearson Cove Road, City of Karratha (Land).

for the Purpose being:

**Perdaman Urea Project**

Establish a state of the art urea production plant using natural gas as feedstock within the Burrup Strategic Industrial Area (BSIA), on the Burrup Peninsula. The urea plant will have a production capacity of approximately 2 million tonnes per annum (Mtpa) on Sites C and F within the BSIA, with a causeway linking the two sites.

The Project proposes to utilise common-user infrastructure and corridors to transfer urea for product export through the Port of Dampier.

The Project involves piping natural gas from the nearby Woodside LNG plant to the Project site under a long term commercial off-take agreement (Purpose).

I am advised that the intended use will impact upon twenty Aboriginal sites within the meaning of section 5 of the *Aboriginal Heritage Act 1972*, being:

ID 358 (Methanol Scatter),	ID 9275 (Borrow Pit 5)	ID 9295 (Borrow Pit 5)
ID 9296 (Borrow Pit 5 – South)	ID 9401 (Snake Rock)	ID 9435 (Dampier King Bay South)
ID 9439 (King Bay South East)	ID 9641 (Driving Lesson Site)	ID 16775 (Burrup Pipeline Project Site 22)
ID 18615 (DRD 136)	ID 19758 (DN-01 Grinding Patch)	ID 19762 (DN-05 Circular Stone)
ID 19766 (DN-09 Engraving)	ID 20068 (W1 – Engraving),	ID 20069 (Engraving)
ID 19239 (DRD 144)	ID 19874 (Burrup Service Corridor 2)	ID 20037 (Desalination Plant Engraving 3)
ID 20038 (Desalination Plant Engraving 4)	ID 26008 (Hearson Engraving)	

It will also impact Aboriginal heritage place ID 23323 (Burrup Peninsula, Murujuga).

Pursuant to section 18(3) of the *Aboriginal Heritage Act 1972*, and having considered the recommendation of the Aboriginal Cultural Material Committee (ACMC) and having regard to the general interest of the community, I have decided to grant consent with conditions to the Notice. The form of consent is enclosed.

I take this opportunity to acknowledge the consultation Perdaman has undertaken with those consulted as specified in the Notice, including the Circle of Elders of Murujuga Aboriginal Corporation (MAC), that MAC has stated it has no objection to the Purpose and that MAC recommended that the ACMC should recommend consent be granted subject to the conditions referred to below. I support the agreements that have been reached with those consulted.

I note that the Circle of Elders has directed that the process for the removal and relocation of petroglyphs that cannot be avoided in the design of the proposed development must be undertaken under their direct guidance and with appropriate ceremony to be written into a Cultural Heritage Management Plan (CHMP). The CHMP is to include:

- detailed salvage assessment and methodology
- delineate appropriate area to received relocated material
- salvage and relocation works to be undertaken under the supervision of appropriate Traditional Owner monitors and a qualified archaeologist.

I also note that MAC has requested the CHMP be developed in consultation with its Heritage and Ranger team and be endorsed by the MAC Chief Executive Officer and Circle of Elders. The CHMP will address MAC's remaining concerns about the protection of heritage values and must be in place prior to the commencement of any ground disturbance activities. I understand that Perdaman has agreed to the above.

I also draw your attention to the additional information attached, which is provided for your assistance.

If you have any queries in relation to this matter, please contact Ms Bojana de Garis, Team Leader, Aboriginal Heritage Operations, Department of Planning, Lands and Heritage, on (08) 6551 7921 or [bojana.degaris@dplh.wa.gov.au](mailto:bojana.degaris@dplh.wa.gov.au).

Yours sincerely



**MINISTER FOR ABORIGINAL AFFAIRS**

27 JAN 2022

Enc.

## **ABORIGINAL HERITAGE ACT 1972**

### **CONSENT PURSUANT TO SECTION 18(3)**

<b>CONSENT GRANTED TO:</b>	Perdaman Chemicals and Fertilisers Pty Ltd.
<b>IN RESPECT OF THE LAND:</b>	Reserve 49120, Portion of Lots 3012, 3013, 3015 and 3016 on Plan 42282, portion of Lot 556 and Lot 557 on Plan 406755, Reserve 52836, Lot 553 on Plan 406755, CT 3167/958 Hearson Cove Road, City of Karratha.
<b>PURPOSE:</b>	<p>Perdaman Urea Project</p> <p>Establish a state of the art urea production plant using natural gas as feedstock within the Burrup Strategic Industrial Area (BSIA), on the Burrup Peninsula. The urea plant will have a production capacity of approximately 2 million tonnes per annum (Mtpa) on Sites C and F within the BSIA, with a causeway linking the two sites.</p> <p>The Project proposes to utilise common-user infrastructure and corridors to transfer urea for product export through the Port of Dampier.</p> <p>The Project involves piping natural gas from the nearby Woodside LNG plant to the Project site under a long term commercial off-take agreement.</p>
<b>REFERENCE:</b>	MIN-2021-0354
<b>SITE(S) TO BE IMPACTED:</b>	ID 358 (Methanol Scatter), ID 9275 (Borrow Pit 5), ID 9295 (Borrow Pit 5), ID 9296 (Borrow Pit 5 – South), ID 9401 (Snake Rock), ID 9435 (Dampier King Bay South), ID 9439 (King Bay South East), ID 9641 (Driving Lesson Site), ID 16775 (Burrup Pipeline Project Site 22), ID 18615 (DRD 136), ID 19758 (DN-01 Grinding Patch), ID 19762 (DN-05 Circular Stone), ID 19766 (DN-09 Engraving), ID 20068 (W1 – Engraving), ID 20069 (Engraving), ID 19239 (DRD 144), ID 19874 (Burrup Service Corridor 2), ID 20037 (Desalination Plant Engraving 3), ID 20038 (Desalination Plant Engraving 4) and ID 26008 (Hearson Engraving) and the Aboriginal heritage place ID 23323 (Burrup Peninsula, Murujuga).

### **CONDITIONS OF CONSENT**

That the consent holder:

1. Develop, in consultation with Murujuga Aboriginal Corporation (MAC), including the MAC Circle of Elders, a Cultural Heritage Management Plan (CHMP) prior to the commencement of ground disturbance works, identifying a clear management strategy for the salvage of Aboriginal sites ID 18615 (DRD 136), ID 19239 (DRD 144), and ID 19874 (Burrup Service Corridor 2), which is to include protection of Aboriginal sites on the Land and monitoring and management of the Aboriginal

heritage places and sites during the construction and operation of the Perdaman Urea facility.

2. Invites in writing, giving 30 days' notice, for two Murujuga Aboriginal Corporation (MAC) representatives from each of the five groups, Ngarluma, Yindjibarndi, Mardudhunera, Wong-Goo-Tt-Oo and Yaburara, to be present for ground disturbing works on the Land where it intersects with Aboriginal sites.
3. Provides an annual written report to the Registrar of Aboriginal sites advising to what extent the Purpose has impacted on all or any sites located on the Land.
4. Provides a written report to the Registrar of Aboriginal Sites within 60 days of the completion of the Purpose, advising whether and to what extent the Purpose has impacted on all or any sites located on the Land. The final report should include a detailed description of:
  - a. what extent the Purpose has impacted any Aboriginal site on the Land;
  - b. where any Aboriginal site has been impacted, whether such site has been partially or wholly impacted by the Purpose, and the level, effect and type of any such impact – preferably by the provision of photographs taken before and after the impact;
  - c. where any Aboriginal site has been subject to archaeological or cultural salvage, when and how such salvage took place, who was present at the salvage and where the material was re-located, the results of the salvage and any subsequent analysis conducted;
  - d. the results and findings of any monitoring of ground disturbing works associated with the Purpose; and
  - e. what extent the site has been remediated.



## SECTION 18 CONSENTS

### ADDITIONAL INFORMATION

The following information is provided for the guidance of the consent holder and does not constitute conditions of consent.

#### 1. Right of Review of Decision

Where a consent holder is aggrieved by a decision of the Minister made under section 18(3) of the *Aboriginal Heritage Act 1972*, including the conditions to which the consent is subject, application may be made to the State Administrative Tribunal for a review. The Tribunal's website is [www.sat.justice.wa.gov.au](http://www.sat.justice.wa.gov.au).

#### 2. Consent is Non-Transferable

Consent may be relied upon only by the named consent holder in respect of the named land. Any successor in title must give its own notice under the *Aboriginal Heritage Act 1972*.

#### 3. Traditional Knowledge Holder

Agreements reached with Traditional Owners and knowledge holders entered into on behalf of the consent holders are acknowledged and supported.

The Department of Planning, Lands and Heritage (DPLH) carries out routine audits on compliance with the conditions of consent. Failure to comply with the conditions of consent may constitute an offence under section 55 of the *Aboriginal Heritage Act 1972*.

It is recommended that the consent holder informs all employees and others engaged in the development of their obligations under the *Aboriginal Heritage Act 1972*, especially with regard to skeletal material.

Reports to the Registrar of Aboriginal Sites (Registrar) should use the Section 18 Report Back template which can be downloaded from the DPLH website at <https://www.dplh.wa.gov.au/information-and-services/aboriginal-heritage/land-use-under-the-aha/section-18-notices>.

The Registrar welcomes any additional information about Aboriginal sites within the meaning of section 5 of the *Aboriginal Heritage Act 1972*, or objects within the meaning of section 6 of the *Aboriginal Heritage Act 1972*.

#### 5. Legislation

The *Aboriginal Heritage Act 1972*, the *Aboriginal Heritage Regulations 1974* and the *State Administrative Tribunal Act 2004* may be viewed and downloaded from the Parliamentary Counsel's Office website at [www.legislation.wa.gov.au](http://www.legislation.wa.gov.au).

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## Attachment F – Perdaman Heritage Salvage Strategy

45826-HSE-PR-G-1001 Detailed Salvage Assessment for Site **ID # 18615** Heritage Artifact Retrieval and Relocation Rev 0

45826-HSE-PR-G-1002 Detailed Salvage Assessment for Site **ID # 19239** Heritage Artifact Retrieval and Relocation Rev 0

45826-HSE-PR-G-1003 Detailed Salvage Assessment for Site **ID # 19874** Heritage Artifact Retrieval and Relocation Rev 0

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## **Attachment G – MAC Consultation Letter to EPA (1) & Meeting Minutes (2) & MAC Consultation Letter Re: Perdaman Urea Project (3)**



14<sup>th</sup> April 2022

Chairman  
Perdaman Industries  
Level 17, 58 Mounts Bay Road  
PERTH WA 6000

Dear Mr. Rambal,

**Re: Perdaman Urea Project – MAC Consultation**

I am writing to you on behalf of the Murujuga Aboriginal Corporation (MAC), its board members and the Circle of Elders regarding the Perdaman Urea Project (the Project).

On the 29th and 30th March 2022, Perdaman and its EPC Contractors, held consultation meetings with the Circle of Elders and the MAC Board at the Lotteries House in Karratha.

They presented a detailed summary of the consultation process for the proposed project where they included in the presentations on design modifications applied to avoid Cultural Heritage Sites in the development envelope.

Detailed design in a presentation where design was not able to be modified to avoid Heritage sites ID18615, ID19239 and ID19874.

The Circle of Elders and the MAC Board were also offered an open discussion opportunity throughout each presentation, where the design approach was discussed and questions were able to be answered with the provision of site images, design model and 3D video of a project overview.

A commitment was made by Perdaman to further consultation meetings on the 5th, 6th and 7th of April, to be held on country to gain further understanding of the sites endorsed for salvage and relocation.

On the 5th and 6th of April 2022, Perdaman and its team again visited, meeting the Circle of Elders and the MAC board. The meetings were held near the Heritage sites ID19239, ID19874 and ID 18615, this enabled an opportunity for the Circle of Elders to see the significant design requirements needed to prepare the site and where the heritage sites would be impacted.

The proposed salvage and relocation methodology of three Heritage sites were discussed and understood by the Circle of Elders and the MAC Board of directors.

During the meeting on the 6th of April the Circle of Elders discussed the three Heritage sites and endorsed the salvage and relocation of Heritage sites ID18615, ID19239 and ID19874.

On the 7th April 2022, Perdaman held a follow up consultation meeting at Lotteries House in Karratha, this meeting was a presentation on the salvage and relocation methodology process for sections into the detailed salvage assessments.



On the 12th, 13th April 2022, Perdaman held a follow up consultation meeting at Lotteries House in Karratha, this meeting was a consultation for the inclusion of Cultural Significance and Cultural Risk sections to the detailed salvage assessments. This was an opportunity for both MAC and Perdaman to document the process and risks associated to the salvage and relocation of Aboriginal Cultural Heritage sites from a traditional owner perspective and to set a benchmark in relationships between Traditional Owners and industry.

On completion of the updates to the detailed salvage assessments for Heritage sites ID18615, ID19239 and ID19874, the Circle of Elders and MAC have endorsed the detailed salvage assessments and methodology for salvage and relocation that were presented during the meeting. (See attachment 1).

The Circle of Elders and MAC have endorsed the detailed salvage assessments and methodology for salvage and relocation that were presented during the meeting. (See attachment 1 - Heritage sites ID18615 (including all petroglyphs related to this site), ID19239 and ID19874).

As part of the consultation process, the Circle of Elders, have recognized that there are suitable sites for relocation. To maintain cultural safety, the Circle of Elders have endorsed and approved the relocation of Heritage sites ID18615 (including all petroglyphs related to this site), ID19239 and ID19874 to the Reserve 43195, a compound where other free sites are now located. Heritage Sites ID18615 (including all petroglyphs related to this site), ID19239 and ID19874. Through discussion, addition consultation meetings were scheduled for the 12th, 13th, and 14th April for the inclusion of Cultural Significance and Cultural Risk.

The Circle of Elders were asked in an in-camera session to endorse the relocation and salvage of sites as described by Perdaman over the previous days of consultation. The women deferred this discussion about site ID 18615 to the men.

As a result of this discussion, MAC have requested that Perdaman engage the services of a Marban man, to oversee the relocation of site ID18615 to ensure the cultural safety of everybody involved in the relocation process.

MAC request that Perdaman engage its services through Murujuga Aboriginal Corporation to monitor salvage and relocation actives when Perdaman is ready to relocate and salvage the agreed sites as stated above.

Kind regards,

Chief Executive Officer

Board  
Member

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## Attachment H – Section 18 Ranger Notice

## Attachment I – Site Protection Strategies

Site	General MAC comments
358	MAC agree, not in Project Area
9275	MAC agree, no action - not a site
9295	MAC agree, no action - not a site
9296	MAC agree, with continual monitoring of site during initial clearing works
9401	MAC agree - No action, not a site
9435	MAC agree, Site 9435 buffer zone overlaps the Site C Corridor zone between the Site C boundary and Burrup Road. The physical site is not located in the proposed Project area
9439	MAC agreed, the sites stone circles are considered by MAC to be man-made and are subject to ongoing research.
9597	MAC agree, with continual monitoring of site during initial clearing works
9599	MAC agree, with continual monitoring of site during initial clearing works
9641	MAC agree - No action, not a site
9755	MAC agree – no further comments
9808	MAC agree – no further comments
9809	MAC agree, with continual monitoring of site during initial clearing works
16775	Duplicate of Site ID 9599
18615	<b>REDACTED</b>
19239	MAC agree, salvage and relocation is supported with a management plan provided for the relocation process (including a designated area (Reserve 43195) for materials to be moved to) and a member of MAC and an archaeologist present to monitor relocation works,
19758	MAC agree, no action – not a site
19762	MAC agree, the man-made structure will be avoided by the proposed works
19766	MAC agree – no further comments
19874	MAC agree, salvage and relocation is supported with a management plan provided for the relocation process (including a designated area (Reserve 43195) for materials to be moved to) and a member of MAC and an archaeologist present to monitor relocation works,
19876	MAC agree, with continual monitoring of site during initial clearing works
19885	MAC agree, with continual monitoring of site during initial clearing works
20037	MAC agree, the stone circle will be avoided by the proposed works.
20038	MAC agree, with continual monitoring of site during initial clearing works

20039	MAC agree, with continual monitoring of site during initial clearing works
20040	MAC agree, with continual monitoring of site during initial clearing works
20068	MAC agree, no action – not a site
20069	MAC agree, no action – not a site
26008	MAC agree, with continual monitoring of site during initial clearing works
MAC002	MAC agree, with continual monitoring of site during initial clearing works
MAC003	MAC agree, with continual monitoring of site during initial clearing works
MAC004	MAC agree, with continual monitoring of site during initial clearing works
Thalu	Not applicable, will not be impacted.



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## Attachment J – DPLH and DWER Document Reviews

## Attachment J – DPLH Document Comments Review

### Response to Comments by the Department of Planning, Lands and Heritage (Attachment 2) on the Perdaman Cultural Heritage Management Plan.

23 February 2022

DPLH Comment	Author Response	CHMP Section where DPLH comment is addressed.
<p>A CHMP is intended to outline measures in order to manage and protect Aboriginal cultural heritage in a proposed development / activity area. It should include: <i>all the heritage values within the Project footprint.</i></p>	<p>Noted that Heritage values of the Burrup Peninsula are emphasised in this document (see Section 1.2.1.1 – Burrup Peninsula Heritage and Historic Context), noting that “The Project Area falls within the BSIA precinct set aside by the WA government for industrial development which is balanced against the <i>broader national heritage and environmental values of the region</i>” – This is to maintain broader values for World Heritage Listing.</p> <p>For heritage values within the project footprint;</p> <p>See <b>Section 1.2.1.4 – Heritage Sites and Objects within the Urea Project Development Envelope.</b> See <b>Section 1.2.1.5 – Heritage Sites within the Portion of Urea Project Development Envelope that is Coincident with the NHP.</b></p> <p>Error! Reference source not found. <b>of Section 1.2.2</b> identifies and summarises the potential impacts and associated impacting activities on heritage values within and adjacent to the PDE.</p> <p>Noted that consolidation of the provided values within the Project footprint may be required.</p>	<p>Section 1.2.1.1</p> <p>Section 1.2.1.4</p> <p>Section 1.2.1.5</p> <p><b>Error! Reference source not found.</b> of Section 1.2.2</p>
<p>outline measures to be taken before, during and after an activity in order to manage and protect Aboriginal cultural heritage in the area, including all identified sites that the parties have agreed should not be impacted and the agreed management and mitigation strategies;</p>	<p>For sites that parties have agreed should not be impacted, see <b>Table 1-2, Table 1-4 and Table 1-5 of Section 1.2.1:</b> this explains the agreed action to be implemented in order to protect the site in question.</p> <p>The activities posing the greatest risk of impact to these sites are construction related activities, hence the required actions to; a). identify the site, b). avoid the site and b) initiate process to allow salvage.</p>	<p>Table 1-2</p> <p>Table 1-4</p> <p>Table 1-5</p> <p>Table 2-1 Management Action 25, 29, 30, 7, 8, 9, and 10.</p>

	<p>Please note that the timing of the management and mitigation activities are detailed in <b>Section 2 – Table 2-1</b> of the document.</p> <p><b>Management Action 25</b> describes pre-clearance survey (identification of sites and NHP boundaries within project footprint).</p> <p><b>Management Action 29</b> describes NHP boundary demarcation process.</p> <p><b>Management Action 30</b> requires a post-clearing survey to confirm no disturbances to Heritage sites within the NHP.</p> <p><b>Management Actions 6, 7, 8 and 10</b> detail requirements of unavoidable salvage (under s.18 consent).</p> <p><b>Management Action 9</b> details the requirement to work under a GDP which provides procedures to operate in accordance with to deal with objects within the meaning of Section 6 of the AHA (“Objects”) that will be affected by works associated with the Purpose.</p>	
<p>outline protocols for compliance, dispute resolution and review procedures including any new information (relating to both new and existing sites)</p>	<p><b>See Section 2.3</b>, detailing protocols for compliance.</p> <p><b>See Section 2 (Table 2-1) – Management Action 2</b> - Establish an Aboriginal Heritage Liaison and Dispute Resolution Committee (the Liaison Committee) between MAC and Perdaman for regular meetings, to establish and maintain processes and accountability between the separate parties, <b>formed prior to the commencement of civil works</b>.</p> <p><b>See Section 3</b>, detailing adaptive management and CHMP review – however it is noted that the identification of new information regarding new and existing heritage sites will be included as a circumstance which will trigger further review (this is stated but not clearly defined).</p>	<p>Section 2.3</p> <p>Table 2-1 Management Action 2</p> <p>Section 3</p>
<p>outline the roles and responsibilities of all stakeholders for the implementation of this CHMP.</p>	<p>Responsibilities of stakeholders pertaining to the implementation of management actions and procedures (<b>Table 2-1, Section 2</b>) addressed in the ‘<b>Monitoring</b>’ column, under ‘<b>Responsibility</b>’.</p>	<p>Table 2-1</p>

<p>it is noted that this CHMP was not prepared by an Aboriginal heritage specialist.</p>	<p>The CHMP was <b>prepared by Cardno and Warren Fish</b> and submitted along with the S18 approval. Version PCF5 only added Section 2 which comprises Management Provisions and compliance against MS1180 and Section 18. It is unclear if DLPH has reviewed or seen previous version.</p>	<p>Document History (Page iv).</p>
<p>it appears the author is not experienced in developing CHMP documents</p>	<p>CHMP was prepared by Warren Fish.</p>	<p>Document History (Page iv).</p>
<p>it is unclear if MAC has contributed to the document's development.</p>	<p>The proponent is required to consult with MAC which it has continued to do so as per <b>Section 4</b> of the CHMP, and MAC correspondence provided in <b>Attachment E, H and I</b>.</p>	<p>Section 4 Attachment E, H and I</p>
<p>Having consideration to the above point, this CHMP has not set out provisions that will be implemented to avoid and/or minimise impact to heritage</p>	<p>See <b>Table 2-2</b> – Provides the Cultural Heritage Management Targets (CHMTs) (Management Targets located in <b>Table 2-1</b>) that address each objective of Condition 9-1 of MS 1180.</p>	<p>Table 2-1 Table 2-2</p>
<p>Perdaman develop an extensive CHMP that details the methodology for constructing and operating the Project to ensure that impacts to heritage are avoided, where possible, and direct and indirect impacts are minimised. <b>Currently this is not included in the CHMP.</b></p>	<p><b>Table 2-1</b> Management Actions / Targets detail the timing of when actions shall be implemented in relation to construction and operations. Check Management Actions against Ministerial Statement Cultural Heritage Objectives (Condition 9-1 – which requires ) in <b>Table 2-2</b>.</p> <p>Considerable attention has been given to the objectives requiring to ensure that impacts to heritage are avoided, where possible, and direct and indirect impacts are minimised, throughout the document – potential impacts described in <b>Section 1.2.2</b> and actions that will either AVOID or MINIMISE impacts to cultural heritage values are described in <b>Appendix 3</b>, which are aligned with further Management Actions provided in <b>Table 2-1</b>.</p> <p>“The potential impacts from associated construction activities and the mitigation measures within <b>Appendix 3</b> aid to satisfy the requirements of Condition 9-2 (3) and (4).”</p> <p>See <b>Section 2.1.2, Management Action 42</b> and <b>Figure 2-1</b> for recent inclusion of temporary fencing requirements to avoid direct impacts to heritage sites via clearing and construction.</p>	<p>Table 2-1 Table 2-2 Section 1.2.2 Appendix 3 Section 2.1.2 Management Action 42</p>

	Note that some measures to minimise or avoid impacts are addressed in other EMPs (i.e Air Quality Management Plan). This can be elaborated in the document to further address this comment where required.	
Perdaman, in consultation with MAC, has agreed to avoid all but three of the Sites that are located on the land (ID 19874, ID 18615 and ID 19239 which will be salvaged) and will be avoiding impact to all other sites – see attached <i>Summary of Perdaman Urea Project s18 Heritage Notice (Appendix A s18 Heritage Assessment _MAC Review)</i> . <b>This agreed document should be included in the CHMP as well as the methodology that will be implemented to achieve condition 9-1.</b>	Document to be included as <i>Attachment J</i> of the CHMP as per this comment.  Management Targets that address the methodology to achieve condition 9-1 is summarised in <b>Table 2-2</b> and detailed in <b>Table 2-1</b> .	Table 2-1  Table 2-2
The CHMP has not identified all the sites that are located within the site footprints, both that have been submitted to the EPA and as part of the Notice.	Can the DPLH please provide the sites that have not been identified?	
Perdaman has agreed that it will not impact the heritage values of sites that are located within the development footprint, however, has identified how this will occur/be managed, as per the requirement of condition 9-1.	(Assuming comment has typo – and suggests Perdaman has <b>not</b> identified how this will be managed as per condition 9-1).  See <b>Table 2-2 – Ministerial Compliance Cultural Heritage</b> : Displaying the Management Actions presented in <b>Table 2-1</b> which address each MS 1180 Objective of Condition 9-1.	Table 2-1  Table 2-2
As per condition 9-2, the CHPM should include a register of the consultations, recommendations, and views of MAC regarding this CHMP.	Refer to consultations in <b>Section 4</b> of the CHMP.	Section 4
Noting the 31 January 2022 letter from MAC, it is unclear if MAC and the Circle of Elders have	There is no Requirement in the MS 1180 for MAC or elder endorsement, only consultation.	Consultation Letter (Jan 31 <sup>st</sup> 2022)

<p>endorsed this particular version of the CHMP.</p>	<p>However, written evidence of MAC endorsement of this version of the CHMP <b>is provided in the Consultation Letter</b> (Jan 31<sup>st</sup> 2022) stating: “The Circle of Elders and myself (Peter Jeffries, CEO of MAC) endorse the amended CHMP and Salvage and Relocation methodology.”</p>	
<p>Section 1.6.2.9 of the CHMP states that Perdaman has requested to meet with MAC on 14, 17, 21, and 24 February 2022 “to finalise and agree the salvage and relocation work packs and to issue these documented to the nominated sub-contractor for execution in March 2022”. As such, it is considered that this document by definition cannot be a completed and endorsed CHMP, irrespective of the letter of support from MAC dated 31 January 2022 and therefore neither the EPA nor section 18 Consent conditions have not been met.</p>	<p>There is no Requirement in the MS 1180 for MAC or elder endorsement, only consultation.</p> <p>The Salvage component is not part of the CHMP, rather included for information regarding the methodology required for mitigating direct impacts – outcome of that condition (does not necessarily need to be included in the CHMP).</p> <p>Statement to meet with MAC on the dates specified under <b>Section 1.6.2.9</b> are not a conditional requirement. Not understood why this renders the endorsement by MAC nullified.</p>	
<p>The CHMP refers to the AHA section 18 consent with conditions; as such, these conditions should be included and addressed in the CHMP.</p>	<p>Section 18 consent conditions included in <b>Section 1.5 – S.18 Consent Conditions</b> and reiterated (including sections in which the conditions are addressed) in <b>Appendix 1 – Ministerial Statement (1180) Conditions &amp; S.18 Compliance</b>.</p>	<p>Section 1.5 Appendix 1</p>
<p>While it is unknown whether there is “at least six months prior to Ground Disturbing Activities”, it is also noted that Perdaman has not consulted with the Department of Planning, Lands and Heritage on a revised version of the <i>Aboriginal Heritage Management Plan</i> as stipulated in condition 9-2.</p>	<p>Currently partaking in consultation.</p>	

**05 May 2022**

Extracts from e-mail correspondence from Tanya Butler, (Director, Aboriginal Heritage Operations), to Vikas Rambal (Chairman, Perdaman) and Simon French-Bluhm (Environmental Manager, Clough).

DPLH Comment	Author Response	CHMP Section where DPLH comment is addressed.
<p>DPLH note the boundaries have been reviewed with MAC support, and requests that this information is submitted to the Department so that the Register of Places and Objects can be updated accordingly.</p> <p>Places that require updated boundaries to be provided to DPLH as soon as possible:</p> <p>ID 9296 – Part of the s18 consent.            ID 9439 – Part of the s18 consent.            ID 9597 – Not part of the s18 consent.            ID 9599 – Not part of the s18 consent.            ID 9808 – Not part of the s18 consent.            ID 9809 – Not part of the s18 consent.            ID 19876 – Not part of the s18 consent.            ID 19885 – Not part of the s18 consent.            ID 19766 – Part of the s18 consent. Note: The Register of Places and Objects has been updated to reflect the request by MAC Elders.            ID 20037 – Part of the s18 consent.            ID 20038 – Part of the s18 consent.            ID 20039 – Not part of the s18 consent. Note The Register of Places and Objects has been updated to reflect the request by MAC Elders.            ID 20040 – Not part of the s18 consent. Note: This is already reflected as a Men’s restricted site on the Register of Places and Objects.            ID 26008 – Part of the s18 consent. Note: The Register of Places and Objects has been updated to reflect the request by MAC Elders.            ID 18957 – Not part of the s18 consent</p>	<p>Noted:</p> <p>Proponent will submit the relevant information and provide spatial data following the approval of the CHMP by EPA and DPLH.</p>	<p>Not Applicable</p>
<p>There are a number of Aboriginal sites listed above that are not part of the s18 consent included in the CHPS (Att K) but there are a number of Aboriginal sites subject to the s18 consent which have not been provided in the CHPS, please ensure all 20 Aboriginal sites subject of the section 18 consent are included in the CHPS with a detailed plan for each.</p>	<p>All 20 sites referred to in the s18 consent have been included in Attachment K.</p>	<p>Attachment K</p>

<p>The below places are not on the DPLH Register of Places and Objects and as such should be provided via a Heritage Information Submission (HIS) form and a shapefile for each delineating the boundary as soon as possible.</p> <p>MAC002 – Requires a HIS and shapefile to be submitted. MAC003 – Requires a HIS and shapefile to be submitted. MAC004 – Requires a HIS and shapefile to be submitted.</p>	<p>Noted:</p> <p>Proponent will submit an HIS form and provide spatial data following the approval of the CHMP by EPA and DPLH.</p>	<p>Not Applicable</p>
<p>The relocation of Aboriginal sites ID 18615, ID 19239 and ID 19874 have the support of MAC and that a suitable location has been agreed to by the parties. I note in the documents that a date has not been set as yet and I am also aware that the area for the relocated materials to be placed may have changed from reserve #43195, if this is the case please advise of the new location, and a date of when the relocation will occur, including updated HIS forms and spatial data so the Register of places and objects can be updated accordingly.</p>	<p>The relocation site (Reserve 43195) has been determined and endorsed by MAC and Circle of Owners.</p> <p>Proponent will submit an HIS with associated spatial data following successful relocation of these sites and MAC/Circle of Elders sign off.</p>	<p>Attachment G – MAC Letter of Consultation for PUP (3).</p>





## Attachment J DWER Document Review Comments Sheet

<b>Document Title:</b>	Cultural Heritage Management Plan: Status: Confidential
<b>Revision Number:</b>	(Version 5, 4 February 2022)
<b>Statement/Condition:</b>	Ministerial Statement 1180 / Condition 9
<b>Review Date:</b>	23 February 2022

The Department of Water and Environmental Regulation (DWER) has reviewed the Cultural Heritage Management Plan Status: Confidential, (Version 5, 4 February 2022) (the Plan) against the requirements of Condition 9 in Ministerial Statement 1180 and has sought technical advice from the Department of Planning, Lands and Heritage.

The DWER considers that the Plan requires amendments before it can be approved for implementation. Please address the comments in the following table and amend the Plan accordingly.

Item No.	EMP Section No.	DWER Comments	Proponent Response
1.	Document History table	The Version Number “5” on page iv should be deleted and replaced with “PC5” in order to be consistent with the information in the Document History table on page v.	Addressed
2.	Foreword	The text “ <b>Error! Reference source not found</b> ” in the 1 <sup>st</sup> paragraph in the Foreword on page xii needs to be corrected.	Addressed
3.	Section 1.1	The text “ <b>Error! Reference source not found</b> ” in the 1 <sup>st</sup> paragraph in Section 1.1 needs to be corrected.	Addressed
4.	Section 1.1	The last sentence in the 1 <sup>st</sup> paragraph in Section 1.1 refers to Figure 1 in Attachment D. However, Figure 1 in Attachment D does not show the regional location of the project. It is also noted that there are two untitled figures in Attachment D which show the plant layout within Sites C and F. It is recommended that a figure similar to Figure 1 in Ministerial Statement 1180 be inserted into Section 1.1 of the document.	Addressed

Item No.	EMP Section No.	DWER Comments	Proponent Response
5.	Section 1.1	The text in the 2 <sup>nd</sup> sentence in the 5 <sup>th</sup> paragraph of Section 1.1 should be amended to read as follows: "The proposed location is within the Development Envelope (DE) as defined in Figure 2 in Ministerial Statement 1180.	Addressed
6.	Section 1.1	The text "Hearson's" in the 6 <sup>th</sup> bullet point in Section 1.1 should be deleted and replaced with "Hearson".	Addressed
7.	Section 1.1	The text "NHParea" in the 1 <sup>st</sup> bullet point on page 14 should be deleted and replaced with "NHP area".	Addressed
8.	Section 1.1.1	The words "to the industry best" in the 2 <sup>nd</sup> line of text in the 2 <sup>nd</sup> paragraph in Section 1.1.1 should be deleted and replaced with "to industry best practice".	Addressed
9.	Section 1.1.2	The word "Land" in the 1 <sup>st</sup> paragraph in Section 1.1.2 should be deleted and replaced with "Lands".	Addressed
10.	Section 1.1.2	The word "is" in the 2 <sup>nd</sup> paragraph in Section 1.1.2 should be deleted and replaced with "it".	Addressed
11.	Section 1.1.2	There are typographical errors in in the 3 <sup>rd</sup> , 5 <sup>th</sup> , 7 <sup>th</sup> , and 8 <sup>th</sup> bullet points on page 15.	Addressed
12.	Section 1.1.2	The last sentence in the 3 <sup>rd</sup> last paragraph in Section 1.1.2 on page 15 should be amended to also refer to the State Minister for Environment and Condition 9 in Ministerial Statement 1180.	Addressed
13.	Section 1.1.2	The words "CEO confirmed" in the last sentence on page 15 should be amended to read: "CEO of the DWER has confirmed".	Addressed
14.	Figure 1-3	The title of Figure 1-3 on page 16 appears to be partly obscured.	Addressed
15.	Section 1.1.3	The 2 <sup>nd</sup> paragraph in Section 1.1.3 appears to be incomplete as it does not make any sense.	Addressed
16.	Section 1.1.3	The reference to "Section 9 of the EPC (SCJV) Construction Environmental Management Plan (45826-HSE-PL-G-1005)" in the 3 <sup>rd</sup> paragraph in Section 1.1.3 should be deleted as a copy of this document has not been included as an attachment to the CHMP.	Addressed

Item No.	EMP Section No.	DWER Comments	Proponent Response
17.	Section 1.1.3	The words “Project Destiny” in the 4 <sup>th</sup> paragraph in Section 1.1.3 should be deleted as they are not consistent with the title of the approved project (i.e. the Perdaman Urea Project).	Addressed
18.	Section 1.1.4	The first sentence of the 3 <sup>rd</sup> paragraph on page 18 should be amended to read as follows: “The Western Australian Government has developed the Murujuga Rock Art Strategy (MRAS) which outlines a long-term framework to guide the protection of the Aboriginal rock art (petroglyphs) located on Murujuga (the Dampier Archipelago and Burrup Peninsula) from the potential impacts of airborne emissions from Industrial development in this area.” The last sentence in the 3 <sup>rd</sup> paragraph on page 18 can then be deleted to avoid duplication.	Addressed
19.	Section 1.1.4	The 7 bullet points in Section 1.1.4 on page 18 should be deleted and the text in the line of text above the 1 <sup>st</sup> bullet point should be amended to indicate that information on the scope of the MRAS is provided in Section 1.2.1.2.	Addressed
20.	Section 1.1.5	The text in the 3 <sup>rd</sup> bullet point on page 21 should be amended to refer to the current version of the NEPM Ambient Air Quality Standards as they were subject to a variation that came into force on 18 May 2021.	Addressed
21.	Section 1.1.5.1	The words “Project Destiny Urea Project” in the 1 <sup>st</sup> paragraph in Section 1.1.5.1 should be deleted and replaced with “Perdaman Urea Project” as they are not consistent with the title of the approved project (i.e. the Perdaman Urea Project).	Addressed
22.	Section 1.2.1.2	The words “from the potential impacts of industrial air emissions in the area” should be inserted at the end of the 1 <sup>st</sup> sentence in the 2 <sup>nd</sup> paragraph on page 23.	Addressed
23.	Section 1.2.1.3	There is a typographical error in the 2 <sup>nd</sup> line of text in the 7 <sup>th</sup> paragraph in Section 1.2.1.3 on page 25.	Addressed
24.	Table 1-2	There are numerous typographical errors in the 3 <sup>rd</sup> column of Table 1-2 relating to dates that need to be corrected.	Addressed
25.	Table 1-3	There is a typographical error in the 1 <sup>st</sup> line of text in the last row in Table 1-3. The two separate sections of text in this row need to be amalgamated into one paragraph.	Addressed

Item No.	EMP Section No.	DWER Comments	Proponent Response
26.	Section 1.2.1.5	The text “Table 1-3 and Table 1-3” in the 1 <sup>st</sup> paragraph of Section 1.2.1.5 should be deleted and replaced with “Tables 1-2 and 1-3”.	Addressed
27.	Table 1-4	The reference to the “IHS heritage report” in the 2 <sup>nd</sup> paragraph in the 1 <sup>st</sup> row in Table 1-4 should be deleted as it is not relevant.	Addressed
28.	Table 1-4	There is a typographical error in the last line of text in the 1 <sup>st</sup> row of Table 1-4.	Addressed
29.	Table 1-4	The last paragraph in the last row of Table 1-4 refers to the “EPC’s Construction Work Pack is presented in Attachment G”. However, the title of Attachment G is “Perdaman Heritage Salvage Strategy”. Please amend the relevant text as necessary.	Addressed
30.	Section 1.2.1.6	The words “with MAC and in response to MAC public review submission” in the 2 <sup>nd</sup> line of text in Section 1.3.1.6 should be deleted and replaced with “with the MAC and in response to the MAC’s public review submission”.	Addressed
31.	Figure 1-6	Figure 1-6 at the bottom of page 32 does not have a suitable label. Also, the word “Storage” within this figure is incomplete and looks to be out of place with the storage shed facility on the right hand side of the figure.	Addressed
32.	Table 1-6	The word “Surrounds” in the title of Table 1-6 needs to be deleted and replaced with “Surroundings”.	Addressed
33.	Table 1-6	There are typographical errors in the 1 <sup>st</sup> column of the 2 <sup>nd</sup> and 3 <sup>rd</sup> rows in Table 1-6 on page 40.	Addressed
34.	Section 1.3	There is a text formatting error above the heading for Section 1.3 on page 42.	Addressed
35.	Section 1.3	The text “ <b>Error! Reference source not found</b> ” in the 1 <sup>st</sup> paragraph of Section 1.3 needs to be corrected.	Addressed
36.	Section 1.3	The 10 bullet points in Section 1.3 on page 42 should be deleted and replaced with the actual text (including Conditions numbers) in Conditions 9-2(1) to 9-2(9) in Ministerial Statement 1180. It is noted that Condition 9-2(4) in Ministerial Statement 1180 has not been included in the above-mentioned bullet points. The proponent must ensure that the CHMP also meets the requirements of Condition 9-2(4).	Addressed

Item No.	EMP Section No.	DWER Comments	Proponent Response
37.	Section 1.5	The text “given Perdaman Urea Project” in the paragraph under the 21 <sup>st</sup> bullet point on page 44 should be amended to read as follows: “given to the Perdaman Urea Project”.	Addressed
38.	Section 1.5	There is a typographical error in the 4th last bullet point on page 44.	Addressed
39.	Section 1.5	The text “ <b>Error! Reference source not found</b> ” in the 1 <sup>st</sup> paragraph on page 45 needs to be corrected.	Addressed
40.	Section 1.6.2.1	The 1 <sup>st</sup> line of text in Section 1.6.2.1 should be re-written to make it easier to read and understand.	Addressed
41.	Table 1-7	There are numerous typographical errors in the last column of Table 1-7.	Addressed
42.	Table 1-8	There are numerous typographical errors in the last column of Table 1-8.	Addressed
43.	Section 1.6.3	The text in the 2 <sup>nd</sup> and 3 <sup>rd</sup> paragraphs of Section 1.6.3 should be re-written to make it easier to read and understand.	Addressed
44.	Section 1.6.3	The text “ <b>Error! Reference source not found</b> ” in the 3 <sup>rd</sup> bullet point in Section 1.6.3 on page 50 needs to be corrected.	Addressed
45.	Section 1.6.4	The reference to the Greenhouse Gas Management Plan in the last sentence of the 3 <sup>rd</sup> paragraph in Section 1.6.4 should be deleted as it is not relevant.	Addressed
46.	Section 1.6.5	The text in the 2 <sup>nd</sup> last bullet point in Section 1.6.5 on page 53 should be re-written as is not consistent with the information provided in the proponent’s Response to Submissions document which indicated that the Fish Thalu site was unlikely to be significantly affected by changes to tidal flows and inundation levels due to the causeway based on the outcomes of modelling that was undertaken and the design features that will be incorporated into the culverts etc.	Addressed – original text was misconstrued from the EPA Report 1705 for the potential to impact the Fish Thalu site, however the EPA assessment found it unlikely to be a material impact.
47.	Table 2-1	The word “Surrounds” in the row of Table 2-1 on page 55 needs to be deleted and replaced with “Surroundings”.	Addressed
48.	Table 2-1	The text in the last column for Management Actions 7 and 9 in Table 2-1 refers to the “Retrieval and Relocation Work Pack in “Attachment G)”. However, the title of	Addressed

Item No.	EMP Section No.	DWER Comments	Proponent Response
		Attachment G is "Perdaman Heritage Salvage Strategy". Please amend the relevant text as necessary.	
49.	Table 2-1	There is a typographical error in the 1 <sup>st</sup> paragraph in the 1 <sup>st</sup> column for Management Action 17 in Table 2-1 on page 61.	Addressed
50.	Table 2-1	The text in the last five paragraphs in the 1 <sup>st</sup> column for Management Action 32 should be amended to become bullet points under the text "The Monitoring Program must:" The last paragraph should be re-written as it doesn't appear to make sense.	Addressed
51.	Table 2-1	There is a typographical error in the 2 <sup>nd</sup> paragraph in the 1 <sup>st</sup> column for Management Action 33 in Table 2-1 on page 67.	Addressed
52.	Table 2-1	The reference to the Greenhouse Gas Management Plan in the last paragraph in the 2 <sup>nd</sup> column and the 4 <sup>th</sup> column for Management Action 34 in Table 2-1 should be deleted as it is not relevant.	Addressed
53.	Table 2-1	The reference to the Greenhouse Gas Management Plan in the 1 <sup>st</sup> paragraph in the 4 <sup>th</sup> column for Management Action 35 in Table 2-1 should be deleted as it is not relevant.	Addressed
54.	Table 2-1	The reference to the "Wesfarmers Downstream Chemical Production Facility" in the 2 <sup>nd</sup> paragraph for Management Action 35 should be deleted and replaced with "Coogee Chemicals Pty Ltd Downstream Processing Chemical Production Facility" to reflect the change of proponent for the proposal.	Addressed
55.	Table 2-1	The text "Scope 1 and Scope 3" in the 1 <sup>st</sup> paragraph in the 2 <sup>nd</sup> column for Management Action 35 should be deleted as it is not relevant to air quality.	Addressed
56.	Table 2-1	The 2 <sup>nd</sup> paragraph in the 1 <sup>st</sup> column for Management Action 37 appears to be incomplete.	Addressed
57.	Table 2-1	The words "impacts to" should be inserted prior to the word "visual" in the last line of text in the 1 <sup>st</sup> column for Management Action 38.	Addressed
58.	Table 2-1	The text in the 2 <sup>nd</sup> column for management Action 30 refers to Figure 1-6 which is inconsistent with the text in the 1 <sup>st</sup> column which refers to Figure 1-14.	Addressed (should be Figure 1-7).

<b>Item No.</b>	<b>EMP Section No.</b>	<b>DWER Comments</b>	<b>Proponent Response</b>
59.	Table 2-1	The 2 <sup>nd</sup> paragraph in the 2 <sup>nd</sup> column for Management Action 40 should be amended to refer to the Air Quality Management Plan rather than the Greenhouse Gas Emissions Management Plan.	Addressed
60.	Table 2-1	The 3 <sup>rd</sup> paragraph in the 4 <sup>th</sup> column for Management Action 40 should be amended to refer to the Air Quality Management Plan rather than the Greenhouse Gas Emissions Management Plan.	Addressed
61.	Table 2-1	There are text formatting errors in the 1 <sup>st</sup> column for Management Action 41.	Addressed
62.	Section 2.2.1.1	The 1 <sup>st</sup> sentence in the 1 <sup>st</sup> paragraph of Section 2.2.1.1 should be re-written to make it easier to read and understand.	Addressed
63.	Section 2.2.1.1	The words "Office of the" in the 3 <sup>rd</sup> line of text in the 2 <sup>nd</sup> paragraph of Section 2.2.1.1 need to be deleted.	Addressed
64.	Section 2.3	There are typographical errors in the 1 <sup>st</sup> and 2 <sup>nd</sup> bullet points in Section 2.3.	Addressed
65.	Table 2-2	The text in the 2 <sup>nd</sup> column for Conditions 9-1(2) and 9-1(3) in Table 2-2 refers to "Figure Two". However, there is no Figure Two (2) in the document. Please amend as necessary.	Addressed – Wording taken from MS 1180 thus Figure 2 refers to Figure 2 of MS 1180 (addressed in footnote of table)
66.	Section 2.3.5	There are text formatting errors (i.e. font size) in the 2 bullet points in Section 2.3.5.	Addressed
67.	Section 2.3.6.2	There is a typographical error in the 1 <sup>st</sup> line of text in Section 2.3.6.2.	Addressed
68.	Table 2-3	There is a typographical error in the 2 <sup>nd</sup> line of text in the 2 <sup>nd</sup> column for Condition 15-6 in Table 2-3.	Addressed
69.	Section 3	The word "have" in the 1 <sup>st</sup> line of text in Section 3 should be deleted and replaced with "has".	Addressed
70.	Section 3	The abbreviation "CHMPO" near the bottom of page 79 should be deleted and replaced with "CHMP".	Addressed

Item No.	EMP Section No.	DWER Comments	Proponent Response
71.	Section 4.2	The text “ <b>Error! Reference source not found</b> ” in the 2 <sup>nd</sup> paragraph in Section 4.2 needs to be corrected.	Addressed
72.	Table 4	The abbreviation “PPA” in the 3 <sup>rd</sup> row and 5 <sup>th</sup> column in Table 4 should be replaced with “Pilbara Ports Authority”.	Addressed
73.	Table 4	The words “Perdaman Project Destiny” in the 4 <sup>th</sup> row and 4 <sup>th</sup> column in Table 4 should be deleted and replaced with “Perdaman Urea Project” as they are not consistent with the title of the approved project (i.e. the Perdaman Urea Project).	Addressed
74.	Table 4	The abbreviation “PPA” in the 5 <sup>th</sup> row and 5 <sup>th</sup> column in Table 4 should be replaced with “Pilbara Ports Authority”.	Addressed
75.	Table 4	It is not clear what the abbreviation “GTEs” in the 6 <sup>th</sup> row and 5 <sup>th</sup> column in Table 4 means as it has not been defined in Section 8.	Addressed
76.	Table 4	There are text formatting errors in the 1 <sup>st</sup> column of the 12 <sup>th</sup> , 13 <sup>th</sup> , and 14 <sup>th</sup> rows in Table 4.	Addressed
77.	Table 4	There is a typographical error in the last line of text in the 5 <sup>th</sup> column and 16 <sup>th</sup> row in Table 4.	Addressed
78.	Table 4	There is a text formatting error in the 5 <sup>th</sup> column of the 18 <sup>th</sup> row in Table 4.	Addressed
79.	Table 4	There are typographical errors in the 5 <sup>th</sup> bullet point in the 4 <sup>th</sup> column and the 1 <sup>st</sup> and 3 <sup>rd</sup> bullet points in the 5 <sup>th</sup> column for the “16 May 2019” row in Table 4.	Addressed
80.	Appendix 1	There are text formatting errors in the 2 <sup>nd</sup> column for the 1 <sup>st</sup> , 2 <sup>nd</sup> , and 11 <sup>th</sup> rows in the table in Appendix 1.	Addressed
81.	Appendix 1	There is a typographical error in the 1 <sup>st</sup> bullet point for Item 4 in the “s.18 Consent Conditions” section of the table in Appendix 1.	Addressed
82.	Appendix 2	The terms “NO2”, “SO2”, “NH3”, “O3”, “PM10”, and “PM2.5” in the 3 <sup>rd</sup> column for the Air Quality section in the table in Appendix 2 should be deleted and replaced with “NO <sub>2</sub> ”, “SO <sub>2</sub> ”, “NH <sub>3</sub> ”, “O <sub>3</sub> ”, “PM <sub>10</sub> ”, and “PM <sub>2.5</sub> ”, respectively.	Addressed
83.	Appendix 3	The 5 <sup>th</sup> table on the 3 <sup>rd</sup> page in Appendix 3 should be provided with a suitable title.	Addressed



<b>Item No.</b>	<b>EMP Section No.</b>	<b>DWER Comments</b>	<b>Proponent Response</b>
84.	Appendix 3	The terms “SO2” in the 7 <sup>th</sup> bullet point in the “Degradation of heritage values” section of the 5 <sup>th</sup> table in Appendix 3 should be deleted and replaced with “SO <sub>2</sub> ”.	Addressed
85.	Appendix 3	The terms “CO2” and “CO2-e” in the 9 <sup>th</sup> bullet point in the “Degradation of heritage values” section of the 5 <sup>th</sup> table in Appendix 3 should be deleted and replaced with “CO <sub>2</sub> ” and “CO <sub>2</sub> -e”, respectively.	Addressed
86.	Appendix 3	The text in the 3 <sup>rd</sup> bullet point in the “Access to tourist and cultural areas” section of the 5 <sup>th</sup> table in Appendix 3 should be re-written to make it easier to read and understand.	Addressed
87.	Appendix 3	The reference to the “Greenhouse Gas Management Plan” in the “Construction emissions (Dust) and air quality” section of the 5 <sup>th</sup> table in Appendix 3 should be amended to only refer to the proponent’s Air Quality Management Plan.	Addressed
88.	Appendix 3	The reference to the “Greenhouse Gas Management Plan” in the 5 <sup>th</sup> bullet point in the Construction emissions and air quality impacts to rock art” section of the 5 <sup>th</sup> table in Appendix 3 should be deleted as it is not relevant.	Addressed
89.	Attachment A	The words “Project Destiny” in the heading for Attachment A and the sub-headings below the company logo should be deleted as they are not consistent with the title of the approved project (i.e. the Perdaman Urea Project). There is a typographical error in the orange coloured sub-heading referred to above.	Addressed
90.	Attachment A	All references to “Project Destiny” in the various sections in Attachment A should be deleted as they are not consistent with the title of the approved project (i.e. the Perdaman Urea Project).	Addressed
91.	Attachment A	Figure 3 in Attachment A doesn’t not have a suitable title / label.	Addressed
92.	Attachment C	There is a typographical error in the title of Attachment C.	Addressed
93.	Attachment G	The location of Attachment G in the document is incorrect (i.e. it is located after Attachment J).	Addressed
94.	Attachment I	The copy of the letter in Attachment I is unsigned. A signed version of this letter should be included.	Addressed

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## Attachment K - Aboriginal Cultural Heritage Survey

Industrial Sites C, F and Other Areas, Murujuga, Burrup Peninsula, Western Australia, 28 NOVEMBER 2019

**REDACTED**