

strategen

# **Sino Iron Project**

## **Conservation Estate Management Plan**

Prepared for  
CITIC Pacific Mining Management Pty Ltd  
on behalf of Mineralogy Pty. Ltd.  
by Strategen

October 2008



# **Sino Iron Project**

## Conservation Estate Management Plan

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### **Client: CITIC Pacific Mining Management Pty Ltd**

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Final Report	V-5	CT	JT	1 pdf	27 October 08

### **Acknowledgements**

Much of the content of this Conservation Estate Management Plan has been derived from the Conservation Estate Management Plan prepared by Maunsell Australia Pty Ltd in February 2007 for Mineralogy Pty Ltd.

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## 1. INTRODUCTION

### 1.1 PROJECT BACKGROUND

Mineralogy Pty Ltd (the Proponent) proposes to develop an iron ore mine, processing plant and port facility in the general location of Cape Preston, approximately 80 km south west of Karratha (the Sino Iron Project (the Project)). The Project has been assessed by the Environmental Protection Authority (EPA) at Public Environmental Review (PER) level. The PER (Austeel, 2000) was submitted in December 2000 and a Supplementary Environmental Review (SER) (Austeel, 2002) was submitted in February 2002 to address changes to the original proposal, and approval was granted in 2003 under Statement 635.

In 2004 the Minister for the Environment approved a change to the Project under s45c of the *Environmental Protection Act 1986* to increase iron ore mining rate to approximately 68 million tonnes per annum (Mtpa) and processing and export of:

- concentrate – approximately 20 Mtpa
- pellets – approximately 14 Mtpa
- direct-reduced/hot-briquetted iron – approximately 5 Mtpa.

#### 1.1.1 Location and environmental setting

The Project layout is shown in Figure 1, the elements of the project are described in the PER/SER, and the key Project characteristics are summarised in Schedule 1 of Statement 635. The environmental setting of the Project area encompasses marine, coastal and terrestrial environments, including the Fortescue River Floodplain, the mangrove-lined, tidal-creeks and sandy beaches at Cape Preston, and the off-shore island (e.g. Preston Island) and marine environments. The off-shore island and marine environments include areas gazetted or proposed for conservation, and include the Great Sandy Island Nature Reserve and the Proposed Regnard (formerly Cape Preston) Marine Management Area (see Section 1.2).

### 1.2 PURPOSE AND CONTENT OF THE CONSERVATION ESTATE MANAGEMENT PLAN

Mineralogy is committed to address the potential impacts of the Project port facility on the gazetted and proposed marine conservation estate, particularly Preston Island, which is within the Great Sandy Island Nature Reserve, by incorporating mitigation measures, into a Conservation Estate Management Plan (CoEsMP).

The scope of the CoEsMP is listed in Condition 15 of Statement 635:

*15-1 In the event that the port facilities at Preston Island are to be developed, the proponent, in consultation with the Department of Conservation and Land Management and the Conservation Commission of Western Australia, shall determine and report on appropriate mitigatory measures to aid the conservation effort in the vicinity of the project area, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.*

*15-2 Prior to construction of the Port facility, the Proponent shall incorporate the mitigatory measures referred to in condition 15-1 into a Conservation Estate Management Plan which addresses the following:*

- 1 the effect of the port facility on the conservation values of the Great Sandy Island Nature Reserve, of which Preston Island is a part;*

- 2 *the potential effects of the port development, including dredging, spoil dumping and causeway / bridging structures on the Cape Preston area, which is a part of the proposed Dampier Archipelago / Cape Preston Marine Conservation Reserve; and*
- 3 *mitigatory measures to address the above effects,*

*to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.*

The Proponent is preparing to construct the approved port facilities at Preston Island, triggering the obligation for this plan.

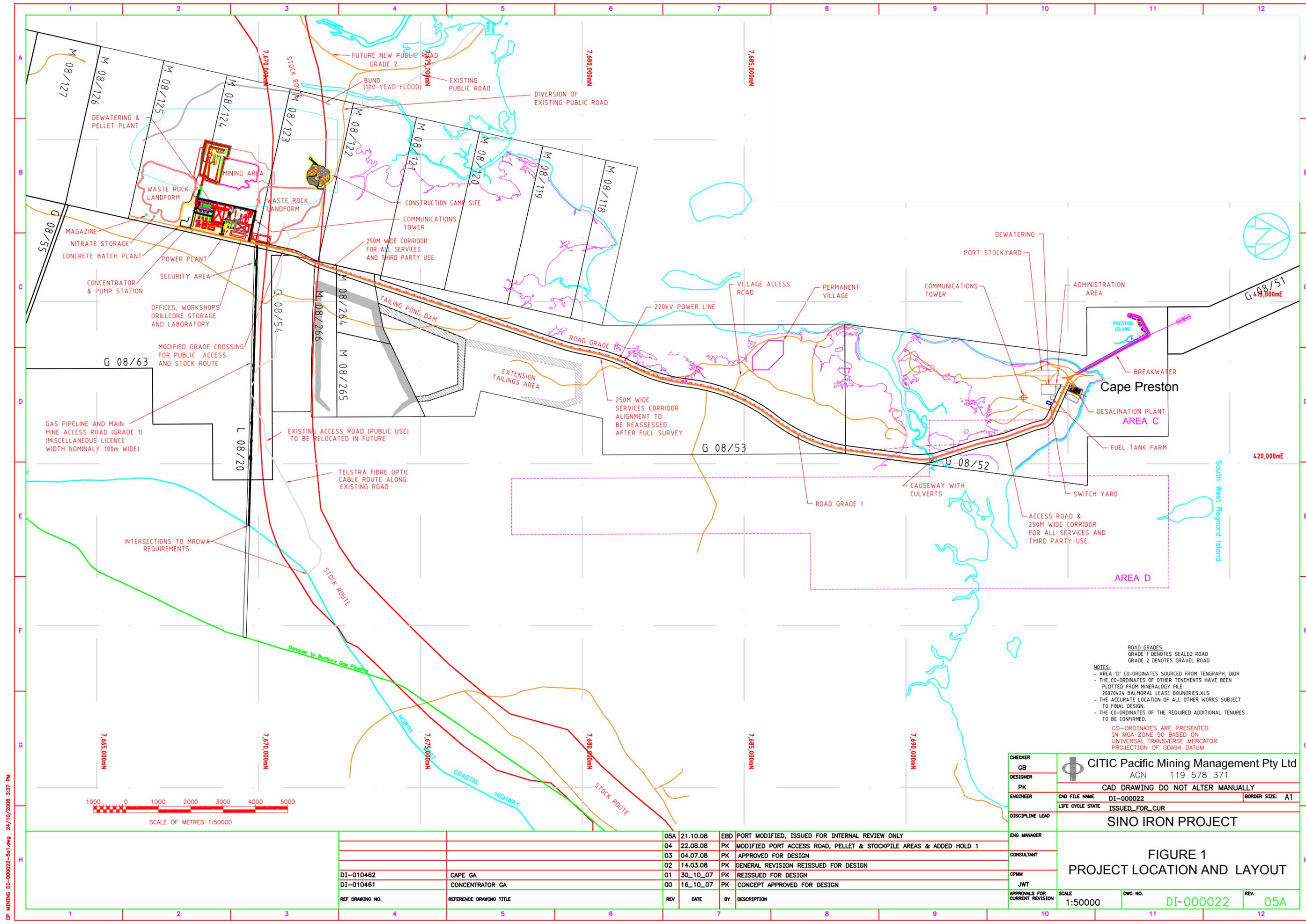
The Proponent has prepared this CoEsMP, which describes the mitigation measures and an offsets package to aid the conservation effort in the vicinity of the Project area.

The mitigatory measures and conservation initiatives were developed in consultation with the Department of Environment and Conservation (DEC) during the early drafts of the CoEsMP, prepared by Maunsell Australia Pty Ltd for Mineralogy, and were included in the April 2007 Plan prepared by Strategen/CPMM for Mineralogy.

Mineralogy and CPMM have continued to consult with DEC on the Project implementation and conservation efforts. This has included a site visit by representatives of the Environmental Management Branch of DEC on 7 October 2008 and a meeting with the EPA Chairman on 9 October 2008.

In accordance with both DEC advice on the draft CoEsMP and the EPA Guidance No.19 (Environmental Offsets, June 2007), CPMM has sought to modify the Project layout to enhance measures to avoid (Section 2) and minimise/rectify/reduce overall impacts and has prepared an offsets package (direct and contributory) for the residual impacts (Section 4).

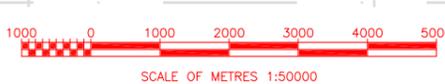
The objective of the CoEsMP is complemented by the objective of the Recreational Use Management Plan, which is to maintain public access and to develop strategies to manage the recreational activities (by employees) at both the estuary and the permanent pools of the Fortescue River.



**ROAD GRADES:**  
 GRADE 1 DENOTES SEALED ROAD  
 GRADE 2 DENOTES GRAVEL ROAD

**NOTES:**  
 - AREA 'D' CO-ORDINATES SOURCED FROM TENGRAPH, DIOR  
 - THE CO-ORDINATES OF OTHER TENEMENTS HAVE BEEN PLOTTED FROM MINERALOGY FILE: 20070724\_BALMORAL\_LEASE\_BOUNDARIES.XLS  
 - THE ACCURATE LOCATION OF ALL OTHER WORKS SUBJECT TO FINAL DESIGN.  
 - THE CO-ORDINATES OF THE REQUIRED ADDITIONAL TENURES TO BE CONFIRMED.

CO-ORDINATES ARE PRESENTED IN MGA ZONE 50 BASED ON UNIVERSAL TRANSVERSE MERCATOR PROJECTION OF GDA94 DATUM



CHECKER	GB	<b>CITIC Pacific Mining Management Pty Ltd</b> ACN 119 578 371
DESIGNER	PK	
ENGINEER	CAD FILE NAME	DI-000022
	LIFE CYCLE STATE	ISSUED_FOR_CUR
DISCIPLINE LEAD	<b>SINO IRON PROJECT</b>	
ENG MANAGER	<b>FIGURE 1</b>	
CONSULTANT	<b>PROJECT LOCATION AND LAYOUT</b>	
CPMM	SCALE	1:50000
JWT	DWG NO.	DI-000022
APPROVALS FOR CURRENT REVISION	REV.	05A

REV	DATE	BY	DESCRIPTION
05A	21.10.08	EBD	PORT MODIFIED, ISSUED FOR INTERNAL REVIEW ONLY
04	22.08.08	PK	MODIFIED PORT ACCESS ROAD, PELLET & STOCKPILE AREAS & ADDED HOLD 1
03	04.07.08	PK	APPROVED FOR DESIGN
02	14.03.08	PK	GENERAL REVISION REISSUED FOR DESIGN
01	30_10_07	PK	REISSUED FOR DESIGN
00	16_10_07	PK	CONCEPT APPROVED FOR DESIGN

REF DRAWING NO.	REFERENCE DRAWING TITLE
DI-010462	CAPE GA
DI-010461	CONCENTRATOR GA

CP MINING DI-000022-501.dwg 24/10/2008 3:37 PM



### 1.3 MARINE CONSERVATION ESTATE

Conservation initiatives in the vicinity of Cape Preston include the Great Sandy Island Nature Reserve (GSINR), which is gazetted (see Figure 2), and the Proposed Regnard Marine Management Area<sup>1</sup> (RMMA), which is yet to be gazetted (see Figure 3).

#### 1.3.1 Great Sandy Island Nature Reserve

The GSINR protects more than 30 islands off the Pilbara coast generally between Cape Preston and Onslow within an area extending generally from approximately 13 km east of Cape Preston to the mouth of the Robe River, and ranging from approximately 10 to 35 km offshore (see Figure 2). The GSINR extends to the high water mark of each island in the area and, therefore, does not include the surrounding marine waters.

The islands of the GSINR provide valuable nesting sites for migratory birds, turtles and other fauna, as they are generally free from disturbance by introduced predators.

As Preston Island is part of the GSINR, the Project proposed development of port facilities on Preston Island will directly impact upon the GSINR. However, section 24 of the *Iron Ore Processing (Mineralogy Pty Ltd) Agreement Act 2002* states:

*"The State shall ensure after consultation with any relevant local government that the Mining Leases, any Ancillary Tenements and any lands the subject of any lease licence or easement granted to the Company under this Agreement shall be and remain zoned for use or otherwise protected during the currency of this Agreement so that the activities of the Project Proponents hereunder may be undertaken and carried out without any interference or interruption by the State or any State agency or instrumentality or by any local government on the ground that such activities are contrary to any zoning by-law regulation or order."*

Plan 1 in Schedule 1 of the Act indicates that Preston Island is encompassed by the provisions of the Act. Accordingly, the stated intent of Section 24 of the Act applies to Preston Island. Consequently, the Project approved by the Minister for the Environment (Statement 635) allowed for impact on Preston Island and for the Proponent to aid the conservation effort in the Project area.

#### 1.3.2 Proposed Regnard Marine Management Area

The proposed RMMA extends to the low water mark, and includes the South West Regnard Island Conservation Area, South Eaglehawk Conservation Area and Maitland Conservation Area. The RMMA proposes the creation of a number of different zones, which include flora, fauna and mangrove conservation, aquaculture and multiple use zones. The proposed western boundary of the RMMA is approximately 3.5 km east of Cape Preston (see Figure 3). The Project will not impact upon the proposed RMMA.

#### 1.3.3 Terrestrial conservation estate

The Project will not have any impact on terrestrial conservation estate as there is no such conservation estate in, or in the vicinity of, the Project area.

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<sup>1</sup> Formally known as the 'Proposed Cape Preston Marine Management Area'

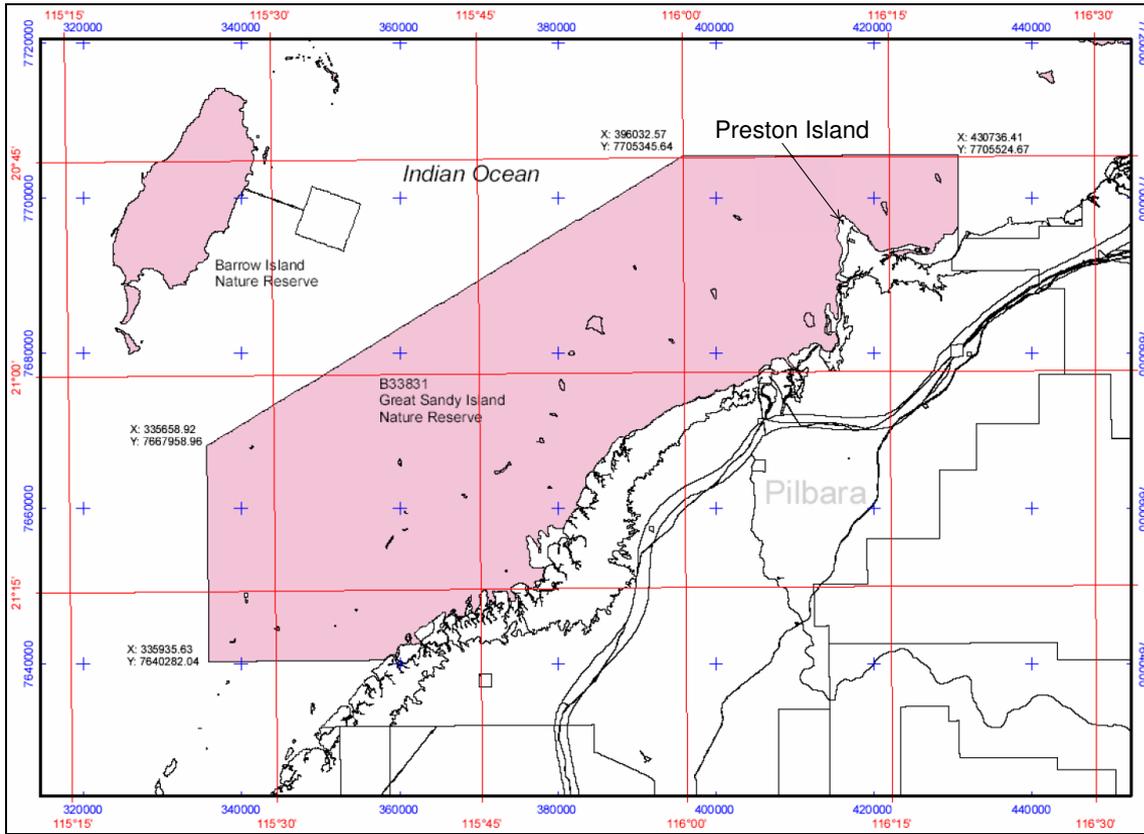


Figure 2 Great Sandy Island Nature Reserve

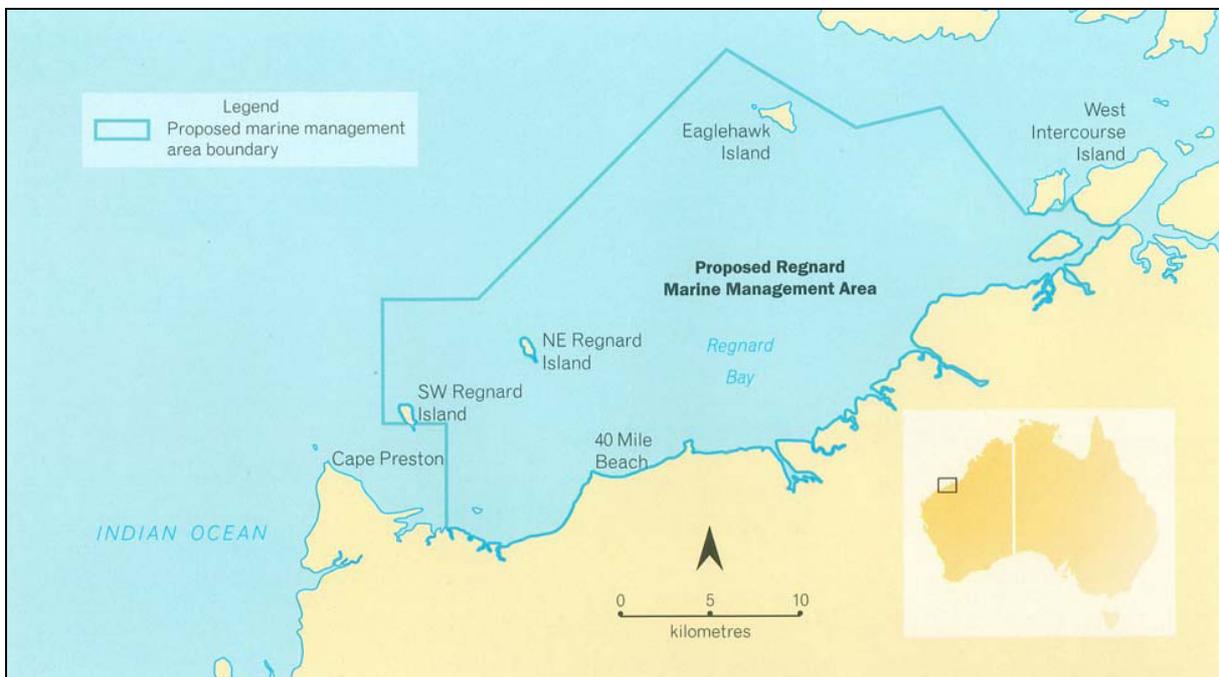


Figure 3 Proposed Regnard Marine Management Area

## 2. EFFECTS ON THE MARINE CONSERVATION ESTATE

Effects from the Project on the habitats, fauna and water quality of the marine conservation estate may arise from:

- development of the Project causeway near Preston Island and laydown area on the Island
- dredging and offshore spoil disposal
- shipping operations (e.g. from contamination by iron ore dust, TBT or hydrocarbon spills)
- desalination plant operations (seawater intake and brine disposal)
- uncontrolled or unauthorized activities by Project or contractor personnel.

The Project port includes a rock causeway between Cape Preston and the eastern edge of Preston Island and a laydown area for the marine construction and operational activities on Preston Island. The GSINR covers more than 30 islands over an area of ~297,000 ha. Preston Island is approximately 3 ha and is one of about 30 islands in the reserve. Preston Island has no sandy beach area to support turtle nesting. In Bulletin 1056 the EPA stated “On its own Preston Island is not considered to have intrinsically high conservation values. It is a small, low rocky platform with little vegetative cover. Nevertheless, this part of the nature reserve will be essentially lost to the conservation estate” (EPA, 2002). Hence the impacts of the development on the conservation values of the GSINR are not high. In summary, as no other facilities are proposed to be built in the GSINR or within the proposed RMMA, the Project will have negligible impact on the marine conservation estate.

Potential impacts of the Project on turtles and wading birds are addressed in the Project Fauna Management Plan (Strategen, 2008). Dredging operations and the potential for the port to affect water flow around Preston Island are addressed in the Project Marine Management Plan (URS, 2008). The management of marine water quality is described in the Project Marine Management Plan (URS, 2008a), Wastewater Outfall Management Plan (URS, 2008b) and Port Environmental Management Plan (URS, 2008c).

CPMM has applied the hierarchy for the management of impacts on the environment as defined by EPA Guidance No. 19 (avoid, minimise, rectify, reduce and offset). The CoEsMP includes mitigatory measures (see Section 3) and direct and contributory offsets to address the residual effects (Section 4).

### 3. MITIGATORY MEASURES

Following more detailed site surveys, the conceptual design approved in Statement 635 has been modified to avoid impacts on sensitive habitats and significant fauna (see Section 3.1), and to minimise, rectify and reduce impacts through delineation of, and access restrictions to, sensitive habitats, and restoration of disturbed environments (see Section 3.2).

#### 3.1 AVOIDANCE MEASURES

The Project final design has incorporated a number of key avoidance measures, including:

- alignment of the terrestrial end of the causeway to avoid the need for multiple transfer points for conveyor systems, leading to less likelihood of spillage and dust
- replacement of the approved small boat harbour and materials offloading facility on the west of Preston Island with a breakwater and wharf at the end of the causeway; this preserves the high value coral community west of Preston Island.

With regard to greenhouse gas emissions, CPMM is planning to build a smaller, combined cycle power station, which will initially use a significantly less amount of gas than the calculations in the Greenhouse Gas Emissions Management Plan were based upon. Whilst the power needs of the Project may be expanded in the future to the fullest extent approved in Statement 635, the Proponent is committed to implementing the full offset initiative outlined in Commitments 14 and 15 immediately, as discussed in Section 4.4.

#### 3.2 MINIMISATION, RECTIFICATION AND REDUCTION MEASURES

Key minimisation, rectification and reduction measures have been incorporated within the environmental management program and plans for the Project and include:

- facilities designed to have minimum disturbance footprints
- environmental management plans (e.g. for mangroves) that include actions to minimise adverse impacts and rectify disturbance
- contractor and employee management measures which include access restrictions to high value environmental areas (e.g. mangroves, turtle nesting and migratory bird roosting beaches)
- employee inductions include training on environmental procedures and continuous improvement to achieve the environmental goals
- inspection and incident reporting to rectify disturbance
- surveys to delineate sensitive habitats and minimise impacts
- permanent presence of on-site Environmental Advisors to implement environmental monitoring regime and procedures.

The Environmental Management Program includes staff/contractor induction, which will raise awareness of the sensitivities and precautions that should be taken when visiting areas of high conservation value in the region. The Program will establish specific requirements aimed at minimising the overall environmental impact of the Project such as:

- inductions and education to increase awareness of environmental issues that include:
  - turtle nesting locations and other sensitive areas

- 
- the potential to cause harm to marine organisms through boating activities, with emphasis on avoidance behaviour around large marine organisms such as whales, turtles and dugongs
  - bag limits for recreational fishing activities
  - appropriate use of anchors and moorings to avoid destruction of coral habitat
  - the identification of marine "no go" and "take" zones in consultation with the DEC
  - restriction of recreational and industry use of boats within creeks and near-shore waters
  - access restrictions for employees to selected beaches during sensitive periods to avoid disturbance of turtles and migratory birds.

#### 4. OFFSETS PACKAGE

The offsets package to address residual effects on the gazetted and proposed marine conservation estate include two direct offsets, a terrestrial conservation estate initiative and Mesquite control program, and two contributory offsets, tree plantation and biodiversity restoration initiative and a marine conservation estate education program. These initiatives and programs are described in the following sections and are summarised in Table 1.

**Table 1 Summary of offsets**

Program / Initiative	Actions	Timing	Funding	Consult
Terrestrial Conservation Estate Initiative	Facilitate the transfer of a total of 2,555 ha of Mardie Station identified by the "2015 Exclusion Process", and the Pastoral Lessee will waive the statutory two-year negotiation period. The Pastoral Lessee will commence selective destocking, remove watering points and construct a stock proof fence around the proposed conservation area upon acceptance of this plan.	Initiate transfer upon receipt of all marine approvals	Land value and foregone profit	DEC, DPI and PLB  PLB
Mesquite Control Program	Employment of a full time Mesquite control coordinator for Mardie Station. Development and provision of a Mesquite awareness module for the workforce induction program which include best practice control measures that are site specific and include good hygiene practices. Detailed mapping of existing Mesquite infestations on Mardie Station. Isolation of significant infestations (fencing to preclude stock, kangaroos and emus). Holding of stock from infected areas (i.e. in quarantine) before movement to un-infected areas. Regular (at least quarterly) monitoring for new infestations. Eradication of new infestations. Regular (at least quarterly) monitoring of infestations to assess effectiveness of control measures. Research into: <ul style="list-style-type: none"> <li>▪ viability of harvesting Mesquite for wood chips/biofuel;</li> <li>▪ market opportunities for Mesquite product; and</li> <li>▪ joint ventures with agribusiness companies to set up Managed Investment Scheme opportunities if the product and market are viable.</li> </ul> Rehabilitation of areas which have been cleared of Mesquite infestation to a natural ecosystem.	2009	A\$3M over 10 years	PMMC, DAFWA
Marine Conservation Estate Community Education Program	Selectively contribute to the DEC's on-going community education and interpretative program to raise community awareness of the sensitivities and precautions that are necessary when visiting the marine conservation estate in the Cape Preston region. Working with other stakeholders, including NGOs, to investigate a multi-partner approach to marine education and recreation management in the Cape Preston and Great Sandy Island Nature Reserve areas	From 2009	Within the scope of CPMM social benefit package under the State Agreement Act	DEC

Program / Initiative	Actions	Timing	Funding	Consult
Tree Plantation and Biodiversity Restoration Initiative	Restoration of sensitive habitat areas and buffer zones with native flora species. Assess opportunities for commercial plantations to assist in salinity mitigation and conservation corridors/connections, particularly in the South West agricultural region. Establishment of plantation crops within Mardie Station and in the South West agricultural region, such as blue gum, pine, sandalwood, oil mallee and other perennial plantation crops. Involvement in alternative plantation options related to achieving positive biodiversity outcomes.	Within 12 months of power station commissioning	Unspecified	DAFWA, DEC

DEC – Department of Environment and Conservation, DPI – Department of Planning and Infrastructure, PLB – Pastoral Lands Board, PMMC – Pilbara Mesquite Management Committee, DAFWA - Department of Agriculture and Food Western Australia

#### 4.1 TERRESTRIAL CONSERVATION ESTATE INITIATIVE

In 2004 the Minister for Planning and Infrastructure approved an area of approximately 2,555 ha to be excluded from Mardie Station as part of the "2015 Exclusion Process" (Figure 4). Originally an area of 5,156 ha was identified by the DEC as particularly valuable for its conservation value because of the Horseflats Land System (cracking clay soils) and related vegetation associations that are poorly represented within the conservation estate and, also, because of its contiguous nature with the Sanctuary Zone within the Proposed RMMA. However, negotiations with the Pastoral Lessee resulted in agreement to exclude an area of 2,555 ha, and DEC has negotiated to add this area to the conservation estate in 2015.

Since then, CPMM has acquired Mardie Station and, as part of the offset package, the Proponent has agreed with the Pastoral Lessee to potentially cede an additional contiguous area of 2,601 ha into the proposed conservation estate. The total area to be excluded from Mardie Station would, therefore, be that originally proposed by the DEC (i.e. 5,156 ha) (Figure 4).

The exclusion process can commence upon acceptance of this plan and, to ensure that the conservation values of this area are protected, the Pastoral Lessee has committed to implement measures such as destocking selected areas, in consultation with the Pastoral Land Board, removal of stock watering-points and to construct a stock proof fence to between the proposed conservation area and Mardie Station. This will be done on the 2,555 ha within 12 months of the Proponent being approved to commence construction of the Project port. This represents a land area ratio of around 850:1 as an offset.

The remaining 2,601 ha mentioned above is considered suitable as an offset for future expansion of the approved mining area and, subject to agreement between key stakeholders, be available for transfer upon approval of that expansion. This plan would be updated at that time to reflect that agreement.

##### **Actions**

The Pastoral Lessee, CPMM, will commence negotiations with the Minister for Planning and Infrastructure to facilitate the transfer of the entire 5,156 ha of Mardie Station to the State in 2015, and will waive the statutory two-year negotiation period.

In consultation with the Pastoral Land Board, the Pastoral Lessee will destock selected areas, remove watering points and construct a stock proof fence around the proposed conservation area as soon as practicable upon acceptance of this plan.

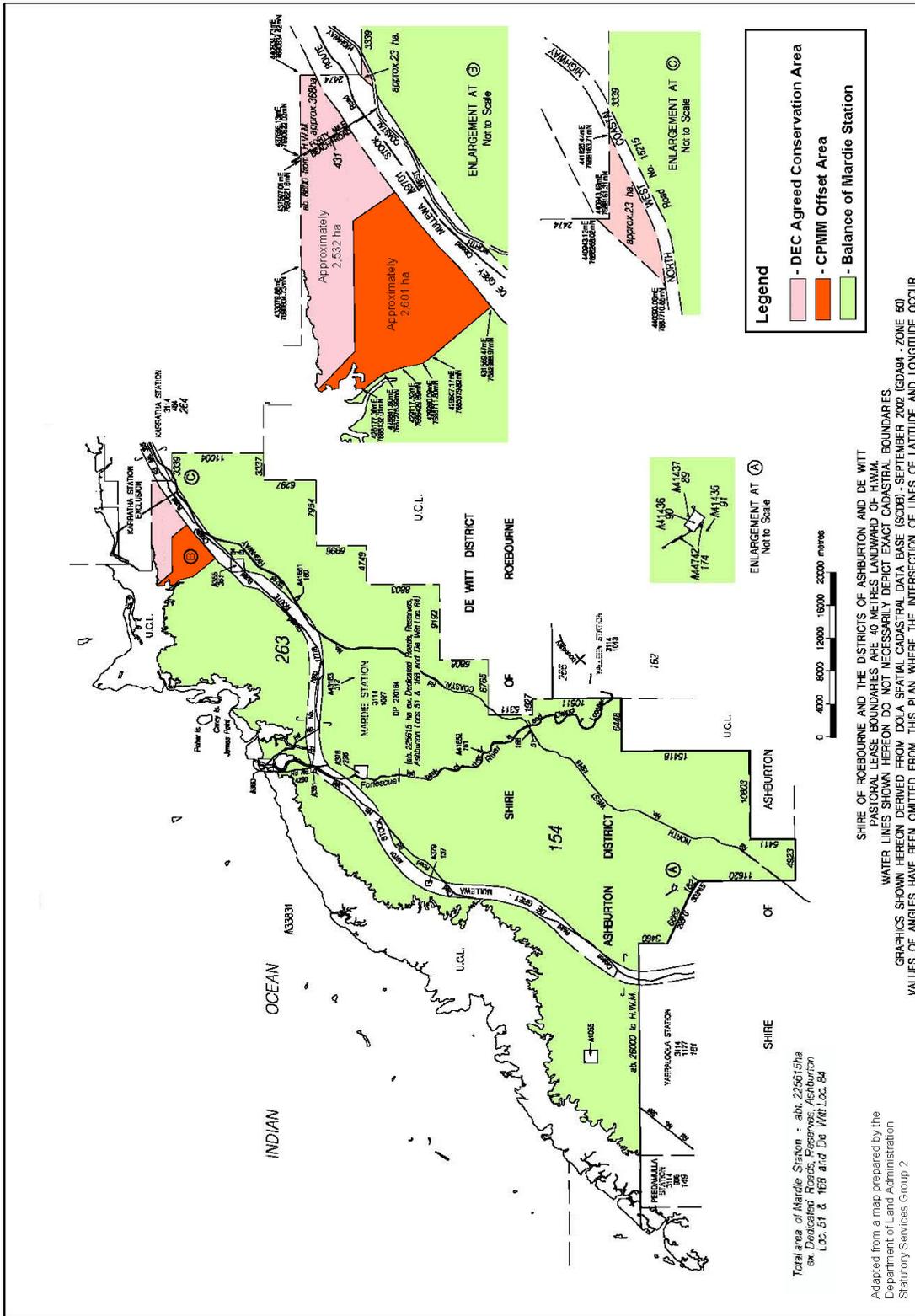


Figure 4 Pastoral lease exclusion from Mardie Station

## Outcomes

The expected outcomes of this initiative are:

- expansion and enhancement of the terrestrial conservation estate in the West Pilbara
- protection of the conservation values of a range of Pilbara vegetation and landforms, including a substantial area of Horseflats Land System (which includes cracking clay soils) that supports a range of rare, endemic and priority species of flora.

The Department of Agriculture and Food Western Australia (DAFWA) has determined that Mardie Station has over 75,000 ha of high value pastoral grazing land within the 225,615 ha Lease. Whilst the transfer of the 5,156 ha portion of Mardie Station only represents approximately 2.3 % of the total Pastoral Lease, it represents approximately 7% of the productive grazing land of Mardie Station.

## 4.2 MESQUITE CONTROL PROGRAM

### Background

Mesquite is a Weed of National Significance which is spreading throughout the West Pilbara region. The Mardie Station Mesquite infestation (approximately 150,000 ha) is recognised as the largest single core infestation in Australia. In addition to day-to-day Mesquite control and management activities, the Proponent will make A\$3,000,000 available over 10 years to supplement State and Commonwealth funding for the Mesquite Management Plan for Mardie Station and will make mining vehicles, equipment and personnel available to assist, where practicable.

### Actions

CPMM has committed to contributing approximately A\$3,000,000 over 10 years to the control of Mesquite on Mardie Station. Subject to further discussions with DAFWA and DEC, it is proposed that this Mesquite Control Program would commence in 2009 and include the following activities conducted in collaboration with the Pilbara Mesquite Management Committee (PMMC):

- employment of a full time Mesquite control coordinator for Mardie Station
- in addition to the development and provision of a Mesquite awareness module for the workforce induction program which includes site specific control measures,
- ongoing mapping of Mesquite infestations on Mardie Station
- isolation of significant infestations (e.g. fencing to preclude stock, kangaroos and emus)
- holding of stock from infected areas (i.e. in quarantine) before movement to un-infected areas
- eradication of new infestations
- monitoring of infestations to assess effectiveness of control measures
- research into:
  - viability of harvesting Mesquite for wood chips, biofuel (potential carbon credits additional to commitments in Statement 635)
  - market opportunities for Mesquite product
  - joint ventures with agribusiness companies to set up Managed Investment Scheme opportunities if the product and market are viable
- rehabilitation of areas which have been cleared of Mesquite infestation to a natural ecosystem.

## **Outcomes**

The outcomes of the Mesquite Control Program are:

- workforce awareness of Mesquite issues
- ongoing mapping of mesquite infestations
- development of integrated, site specific, best practice control measures
- significant reduction of Mesquite in the Pilbara.

Further advice on Program design and collaboration in the Program's implementation will be sought from the DEC, PMMC and DAFWA.

### **4.3 MARINE CONSERVATION ESTATE EDUCATION PROGRAM**

#### **Background**

The marine and coastal environment of the Dampier Archipelago/Cape Preston region represents a unique combination of offshore islands, intertidal and subtidal reefs, mangroves, macroalgal communities and coral reef. Recognition of the significant conservation values of the area culminated in the Indicative Management Plan for the proposed Dampier Archipelago Marine Park and Regnard Marine Management Area. These initiatives are aimed at facilitating the conservation of the biodiversity in the area and ensuring that the existing and future pressures on the values of the proposed reserves are managed within a sustainable framework.

Developing community support for the marine reserve, especially through active participation, is critical to the effective implementation of the management plan and protection of the marine environment in general. The unique array of ecological and social values within the gazetted and proposed reserves combined with their easy access proximity to regional centres provides opportunities for community education.

#### **Actions**

Recognising the previous and current work already being undertaken in this area by the DEC, the Proponent will work in consultation with DEC, to selectively contribute to the DEC's on-going community education and interpretative program to raise community awareness of the sensitivities and precautions that are necessary when visiting the marine conservation estate in the vicinity of Cape Preston.

Specifically, the Proponent local community will be informed on the sensitivities and precautions that should be taken when visiting the Project area; this can be achieved by:

- Working with other stakeholders, including NGOs, to investigate a multi-partner approach to marine education and recreation management in the Cape Preston and Great Sandy Island Nature Reserve areas
- Participation by government, corporate and community partners in the long term conservation and sustainable management of coastal recreation areas including the Fortescue River mouth and Great Sandy Nature Reserve Islands
- Investigating and supporting indigenous eco-tourism opportunities which allow visitors to the area to experience the marine environment in a responsible, sustainable and educated manner
- Investigating and supporting employee and volunteer participation in the development and implementation of monitoring, conservation and community education programs concerning the local marine environment. This program will include:

- The Traditional Owners of the area
- Local community members
- Government agencies
- Other industry in the area (future)
- Visitors to the area
- Campers and fishermen
- School groups
- Developing community education materials to assist in raising awareness of the importance of marine conservation
- Including marine conservation and fishing information in the Project site induction for all site employees and contractors and making this available to the broader community
- Providing appropriate signage adjoining sensitive areas
- Preparation of a brochure to increase awareness and understanding of conservation and management. The brochure will:
  - be provided to local tourist outlets
  - include photographs and descriptions of threatened fauna
  - include locations of critical habitats and potential implications of impacts
  - include visitor locations, access tracks and any prohibited areas
  - provide clear guidance on regulations regarding boat handling within nature reserves, such as moorings and anchorages
  - provide advice regarding appropriate 4WD behaviour with regard to protection of mangroves and native vegetation
  - provide clear information regarding bag and size limits for recreational fishing, including netting, spearfishing, coral collecting, shell fishing and aquarium fish collecting.

### **Outcomes**

The expected outcomes of these initiatives are:

- an increase in community and Traditional Owner active participation in the monitoring and management of the local marine environment
- an increase in public awareness, understanding and support for conservation and management issues in the proposed reserves and of the marine environment in general
- sustainable management and use of the local marine environment including responsible fishing and camping
- reduction in public behaviour that adversely affects the purpose of the conservation estate.

#### **4.4 TREE PLANTATION AND BIODIVERSITY RESTORATION INITIATIVE**

##### ***Background***

Within Statement 635, Mineralogy made two commitments to offset both the greenhouse gas emissions from the Project (Commitment 14) and the impact on the conservation estate (Commitment 15). One mechanism for offsetting the inevitable greenhouse gas emissions of the Project is to plant vegetation for commercial and/or conservation purposes either in the vicinity of the Project or elsewhere. One mechanism for biodiversity restoration is to rehabilitate areas within the Project area and on Mardie Station with native flora species.

The Proponent is committed to fund the establishment of plantation tree crops at the rate of 150,000 trees per annum for 10 years. CPMM has set an environmental objective for rehabilitation both within the Project area and on Mardie Station to utilise native species and to rehabilitate sensitive habitats.

##### ***Actions***

The Tree Plantation and Biodiversity Restoration Initiative may include the following actions:

- establishment of plantation crops within Mardie Station and other areas including the South West agricultural region, such as blue gum, pine, sandalwood, oil mallee and other perennial plantation crops
- assess opportunities for commercial plantations to assist in salinity mitigation and conservation corridors/connections, particularly in the South West agricultural region
- restoration of sensitive habitat areas and buffer zones, where possible, with native flora species
- involvement in alternative plantation options related to achieving positive biodiversity outcomes.

Funding for tree plantations will commence within 12 months of the commissioning of the power station. Biodiversity restoration activities will commence as part of the rehabilitation program.

## 5. IMPLEMENTATION OF THE PLAN

Mineralogy has an approved Environmental Management System (EMS) that designates the roles of 'Project Manager' and 'Manager Environment' to support its implementation. CPMM has developed its own corporate and Project specific EMS to meet the requirements of:

- Statement 635;
- other legal requirements including (*Aboriginal Heritage Act 1972, Mining Act 1978*, etc); and
- CPMM's Environmental Policy and objectives.

CPMM's Systems Controller and Manager Environment will ensure the compatibility of the Mineralogy EMS and CPMM's EMS in liaison with Mineralogy's Project Manager and Environment Manager.

The Project's Environmental Management Framework (Figure 4) describes the linkage between the requirements of Statement 635, which required the development of an EMS (Commitment 1), an Environmental Management Program (EMPgm) (Commitment 2) and a number of environmental management plans (EMPs).

This CoEsMP will be implemented under CPMM's EMS and the EMPgm.

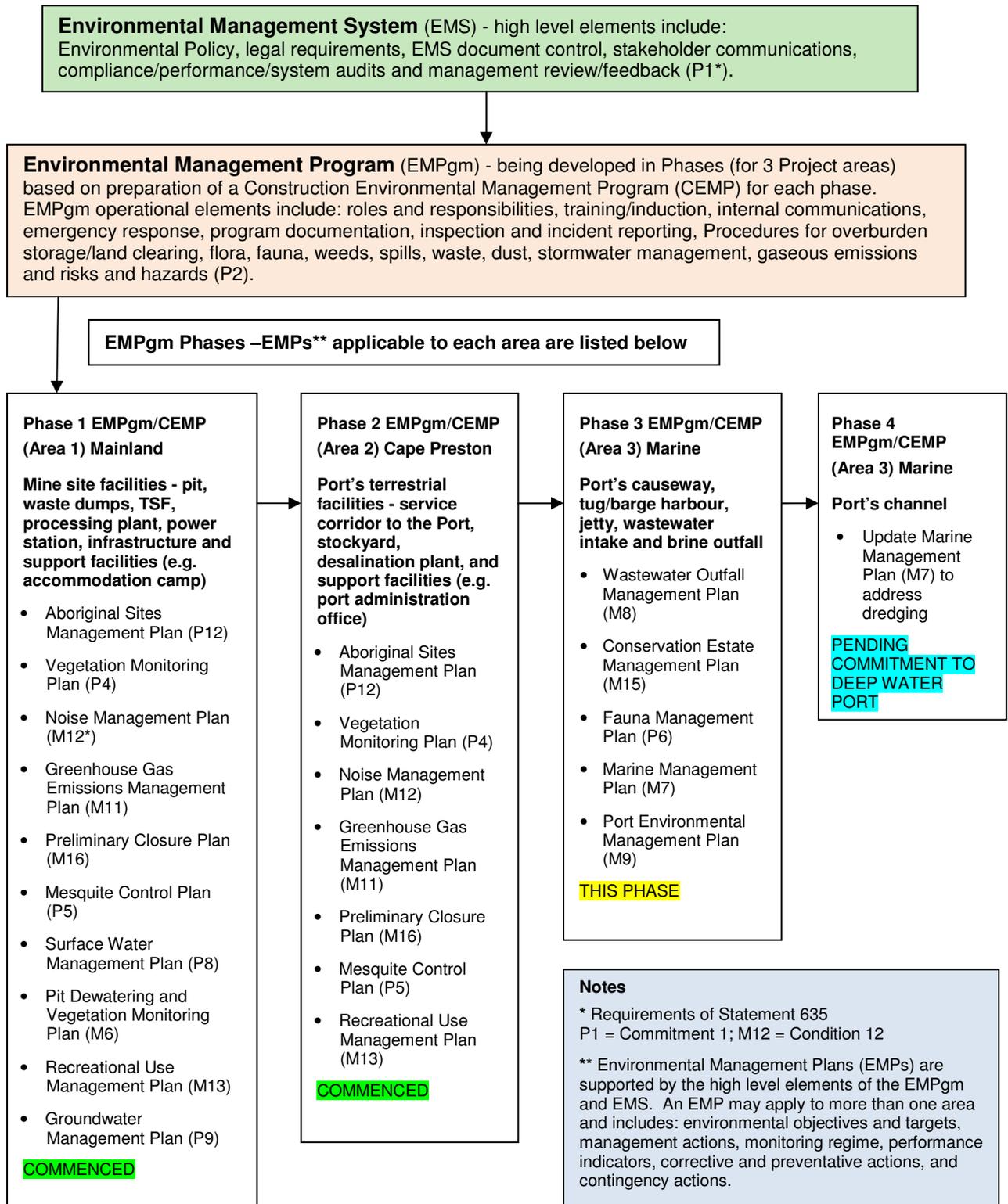
### 5.1 ENVIRONMENTAL MANAGEMENT SYSTEM ELEMENTS

The key elements of CPMM's EMS, which support the EMPgm and the FMP, include:

- environmental policy
- legal requirements
- EMS document control
- stakeholder communications
- compliance, performance and system audits
- management review/feedback.

The Project's Environmental Policy commits all CPMM personnel and its contractors to:

- minimise ecosystem disturbance
- support the principles of sustainable development and foster a waste minimisation ethic
- establish and maintain responsible standards, objectives and targets for managing environmental impacts of Project services and processes
- encourage environmental awareness and responsibility through the internal and external reporting performance
- monitor, review and audit documentation, processes and performance against recognised environmental benchmarks, address any non-conformances and strive for continual improvement
- ensure all employees and contractors accept that working according to the relevant management systems is a condition of employment
- comply with the requirements of applicable environmental legislative obligations, and be sensitive to community expectations.



**Figure 5 Environmental Management Framework**

In order to achieve these management aims, a systematic approach to environmental management has been developed in accordance with the AS/NZS ISO 14001:2004 standard. The documentation and procedures to implement the high level elements of the EMS are available to all staff on the CPMM intranet. The EMPgm and the EMPs contain the documentation and procedures to implement the operational elements of the Project's EMS.

The CoEsMP describes the mitigatory measures and offsets package required to address the Project's impacts on the proposed marine conservation estate. Implementation of the offsets has already commenced in some instances and will be actioned within the indicated time frames assuming EPA acceptance of this plan in 2008. During implementation of the CoEsMP, it may be necessary to amend the mitigation measures and offsets. Any significant changes to offset measures will be made in consultation with relevant key stakeholders.

## 6. REFERENCES

- Austeel (2000) Iron Ore Mine and Downstream Processing, Cape Preston, Western Australia. Public Environmental Review. December, 2000.
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- URS (2008b). Sino Iron Project, Wastewater Outfall Management Plan. Prepared for CPMM on behalf of Mineralogy Pty Ltd by URS. *In preparation.*
- URS (2008c). Sino Iron Project, Port Environmental Management Plan. Prepared for CPMM on behalf of Mineralogy Pty Ltd by URS. *In preparation.*