



## **Environmental Services**

Specialising in:

Acid Sulphate Soils  
Contaminated Site Assessment

Remediation Advice and Design  
Groundwater Management

**ABN 36 835 856 256**

# **SITE MANAGEMENT PLAN**

## **SAND EXTRACTION OPERATIONS**

### **“Jackson Block – Stage 1”**

### **Lot 3 Buller Road, Waroona**

PREPARED FOR:

**AMGWA Pty Ltd**

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**Environmental Services**

## DOCUMENT DETAILS

<b>Title:</b>	Site Management Plan
<b>Project Address</b>	Lot 3 Buller Road, Waroona, Western Australia.
<b>Client</b>	AMGWA Pty Ltd
<b>Job Number</b>	E0266 – 003
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<b>Status:</b>	Revision 2
<b>Synopsis:</b>	<p>This document provides details of the proposed excavation and works program for sand extraction operations within the “Jackson Block – Stage 1” at Lot 3 Buller Road, Waroona, Western Australia.</p> <p>This document has been prepared in accordance with Shire of Waroona, Extractive Industries Local Law 1999.</p>

## DOCUMENT DISTRIBUTION

Version No	Written by Date	Reviewed by Date	Issued by Date	Distributed to	Copies
Revision 2	Cameron Baldock 12/06/2015	Jodi Aitken 14/09/2015	Greg Watts 14/09/2015	AMG(WA) Pty Ltd Shire of Waroona	1 x Electronic 1 x print
Signed					

## 1 Background Information

AMGWA Pty Ltd (AMGWA) have engaged MDW Environmental Services (MDWES) to assist in the development and lodgement of their extractive industries licence application for the development of sand extraction operations to the Shire of Waroona for Lot 3 Buller Road, Waroona, herein referred to as the Site. This Site Management Plan (SMP) has been developed to outline the proposed works and excavation program that will be implemented throughout the duration of the licence in regards to sand extraction operations as per the requirements of *Local Government Act 1995*, Shire of Waroona, Extractive Industries Local Law 1999.

The extractive industry to be developed on the site is located approximately 10 km west, south-west of Waroona, on Lot 3 Buller Road. The portion of Lot 3 the subject of this SMP is located in the south-eastern corner and is denoted "Jackson Block – Stage 1" (Attachment B) and covers an area of approximately 23.15 hectares. Access to and from the sand extraction operations will be from Buller Road as detailed in Attachment C.

The area to be excavated is located within and adjacent to an existing sand pit already situated within the Jackson Block. Sand extraction operations essentially form an extension to the existing pit across the remaining area of the Jackson Block – Stage 1 area.

Vegetation at the Stage 1 site is currently a mixture of completely degraded to degraded condition, as well as some areas completely void of vegetation. Degraded and completely degraded vegetation is situated within the existing pit areas and the paddock dump (Attachment D) and is the area covered by the Jackson Block - Stage 1 works.

Please refer to MBS Environmental *Lot 3 Buller Road Waroona, Level 1 Flora and Vegetation Survey* (MBS, 2015) for complete details of flora and vegetation units identified at the Site.

Jackson Block – Stage 1 is currently undergoing assessment by the Department of Environment Regulation (DER) for a Native Vegetation Clearing Permit (~~CPS 6701/1~~), Attachment E shows the area applied for vegetation clearing under ~~CPS 6701/1~~. It should be noted that the entire application area does not contain native vegetation. A spring for a flora and vegetation survey is noted required for ~~CPS 6701/1~~.

CPS 8500/1

CPS 8500/1

## 2 Site Development

### 2.1 Phase 1 Establishment

Phase 1 involves the establishment of the excavation. The excavation will maintain a 20 m buffer from each Lot 3 boundary and a 40 m buffer from the front to Buller Road.

Removal of trees and woodland areas of the Site will be undertaken. Vegetation of this nature will be stockpiled in the south-western corner of the Site.

Top soils will be stripped to a depth of approximately 100 mm and stockpiled along the northern, western and southern boundaries of the excavation footprint.

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Within the limitations imposed by the scope of work, the assessment of the study area and preparation of this document have been undertaken and performed in a professional manner, in accordance with generally accepted practices and using a degree of skill and care ordinarily exercised by reputable environmental consultants and occupational hygienists under similar circumstances. No other warranty, expressed or implied, is made. MDWES will not be liable to update or revise the document to take into account any events, circumstances or facts occurring or becoming apparent after the date of this document.

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Acceptance of this document denotes acceptance of these terms.

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- Attachment B: Jackson Block – Stage 1 Overview Map
- Attachment C: Jackson Block – Stage 1 Vehicular Access Map
- Attachment D: Jackson Block – Stage 1 Flora Overview
- Attachment E: Jackson Block – Stage 1 CPS 6701/1 Area

Removal of topsoil will be undertaken via front end loader commencing with stripping in the central portion of the Site and progressively working topsoil into stockpiles along the boundaries.

The top soils will be maintained as on site stockpiles to be respread during rehabilitation work along the base and walls of the excavation.

## **2.2 Phase 2 Excavation Program**

Extraction of sand will occur within 12 months post approval for the remainder of the Jackson Block which is not already an existing (former) extraction pit. The pit will be developed and excavated starting at the northern boundary and progressing southwards.

It is proposed that the Site will be excavated to a finished level (FL) of 14 mAHD as per, being 2m above the highest known ground water as per Department of Water (DoW) requirements.

A calculated volume of approximately 50,000 tonnes is therefore anticipated to be extracted. Based on the predominance of Bassendean Sand as the extraction material, an estimated bulk density of 1.8 tonne per cubic metre has been applied to the estimate of material to be removed under the approval.

Excavation of the site will be completed using front end loaders. An excavator will be utilised throughout the works program to batter the sides of the excavation. Excavated material will be loaded in to trucks for transport off Site. It is estimated that the Site will accommodate between 75 – 150 trucks per day. Attachment C displays truck entry and exit points and loading area within the Site.

## **2.3 Phase 3 Rehabilitation**

Phase 3 involves the systematic rehabilitation of the excavation. Rehabilitation and revegetation of the Site will occur across the entire site at the completion of extraction operations. Rehabilitation of the site will begin within 30 days of completed soil extraction, subject to approvals for future alternative use.

# **3 Site Management Policy and Procedures**

## **3.1 Hydrocarbon and Chemical Storage**

No fuels or chemicals will be stored onsite.

### **3.1.1 Refuelling**

Fuel will be delivered to each piece of equipment on demand by a suitably licensed refuelling company. Wherever practicable refuelling will take place at a central point within the site on a bunded limestone and primer sealed pad.

A 200 litre spill kit will be kept on-site to address any unlikely spills due to fuel transfer procedures; the spill kit will also be available in the event of a hydraulic fluid leak stemming from ruptured hydraulic lines or similar from Site machinery. A small retention basin will be constructed adjacent to the refuelling zone to cater for any potential fuel spill.

### **3.1.2 Hygiene Management**

Loaders and excavators to be used on the project are to be free of any oil or hydraulic leaks and meet mine site certification standards. Equipment will be high-pressure washed prior to delivery to Site.

No on-site wash down of earth moving equipment will occur throughout the duration of the extraction operations.

Upon completion of operations and decommissioning of the site, all mobile machinery will be thoroughly high-pressure washed on the Site to remove any potential *Phytophthora Dieback* infestations prior to machinery being removed from the Site.

### **3.1.3 Drainage and Dewatering**

Onsite drainage will not be necessary for this Site. Localised geology of medium grained loose sands will provide adequate drainage for the site.

Dewatering will not be needed for this Site. All excavations are to remain 500mm above groundwater to minimise impact on surrounding wetlands and watercourses.

## **4 Potential issues**

### **4.1 Dust Nuisance**

All access roads into and out of the site will be covered with bitumen hardstand for the initial 10 – 20 metres. The truck loading and turning point within the existing pit area will be constructed out of limestone roadbase and primer sealed to minimise dust generation (Attachment C). Screening vegetation surrounding the excavation will provide adequate wind protection for the Site.

### **4.2 Noise Nuisance**

Operation hours for the site are proposed as 7 am – 5 pm Monday through Saturday. The nearest residence is approximately 1 km to the north-east of the Site and should not be impacted upon by the project due to the nature of prevailing winds in the locality of Waroona.

### **4.3 Phytophthora Dieback**

Due to the presence of *Phytophthora Dieback* disease prevalent on the Site (refer Glevan Consulting, *Lot 3 Buller Road, Waroona, Phytophthora Dieback occurrence assessment* (Glevan, 2015)) hygiene protocols (brush down or wash down) of wheels and wheel arches of trucks exiting the site will be undertaken to ensure the risk of spread of dieback off the Site is minimised.

A wheel brush down / wash station comprising rumble strip and wet sump will be constructed adjacent to the exit point of the Site and all vehicles will be required to pass through the brush down / wash station prior to exiting the Site on to Buller Road. Wash down is only to be used in wet soil conditions, otherwise dry brush down will occur only.

### **4.4 Contingencies**

Table 1 highlights potential site issues and contingency plans to address these problems and issues.

**Table 1** Potential issues and contingencies.

Item	Issue	Action
4.3.1	Community concern about environmental consequences of works	Signage informing public environmental monitoring being undertaken by MDWES; phone number on sign. Concerns recorded in a register, where possible acknowledge receipt of the community concern.
4.3.2	Contractors unaware of potential environmental issues	All contractors to undergo Site specific induction training. Induction will aim to instil environmental awareness in all personnel, sign off required.
4.3.3	Public access to Site	Site to be barricaded preventing non-authorized access.
4.3.4	Fuel & oil leak / spill	Spill kit stored on-site. Kit to be used to clean up any hydrocarbon spill. All recovered material and contaminated soil removed off-site to an appropriate waste facility.
4.3.5	Pollution event uncontained fuel leak	In the event of an uncontained fuel leak refer to Item 4.3.4. In addition The Pollution Response Unit will be notified.
4.3.6	Chemical spill	No chemicals to be stored on-site.

## 5 Contractor Responsibilities

Contractors are required to comply with the provisions of this SMP at all times.

Acceptance of the requirements of the SMP will be documented by each contractor, for each organisation on the Site Induction and Training Form.

Contractor environmental performance obligations shall be incorporated into the contractor's conditions of work for the project.

## 6 Site Induction and Training

MDWES will manage and document a Site Induction and Training Procedure. All employees and contractors will be required to undergo Site Induction Training with regard to this SMP. This induction will aim to instil environmental awareness in all personnel. All parties shall sign a Site Induction and Training Form stating their satisfactory completion of the Site Induction Training.

## 7 Public Consultation

AMGWA or MDWES will manage and document a Community Concerns Reporting procedure. Where concerns are raised by the community or other third parties in relation to the works, these concerns will be immediately forwarded to the Project Manager and if of an environmental nature, be immediately forwarded to MDWES. The community concerns will be registered, documented and where possible, acknowledge receipt of the community concern.

## 8 References

Glevan Consulting.. 2015.. *Lot 3 Buller Road, Waroona, Phytophthora Dieback occurrence assessment*, Perth, 2015.

MBS Environmental.. 2015.. *Lot 3 Buller Road Waroona, Level 1 Flora and Vegetation Survey*, Perth, 2015



## **Attachment A: Lot 3 Buller Road Site Location**

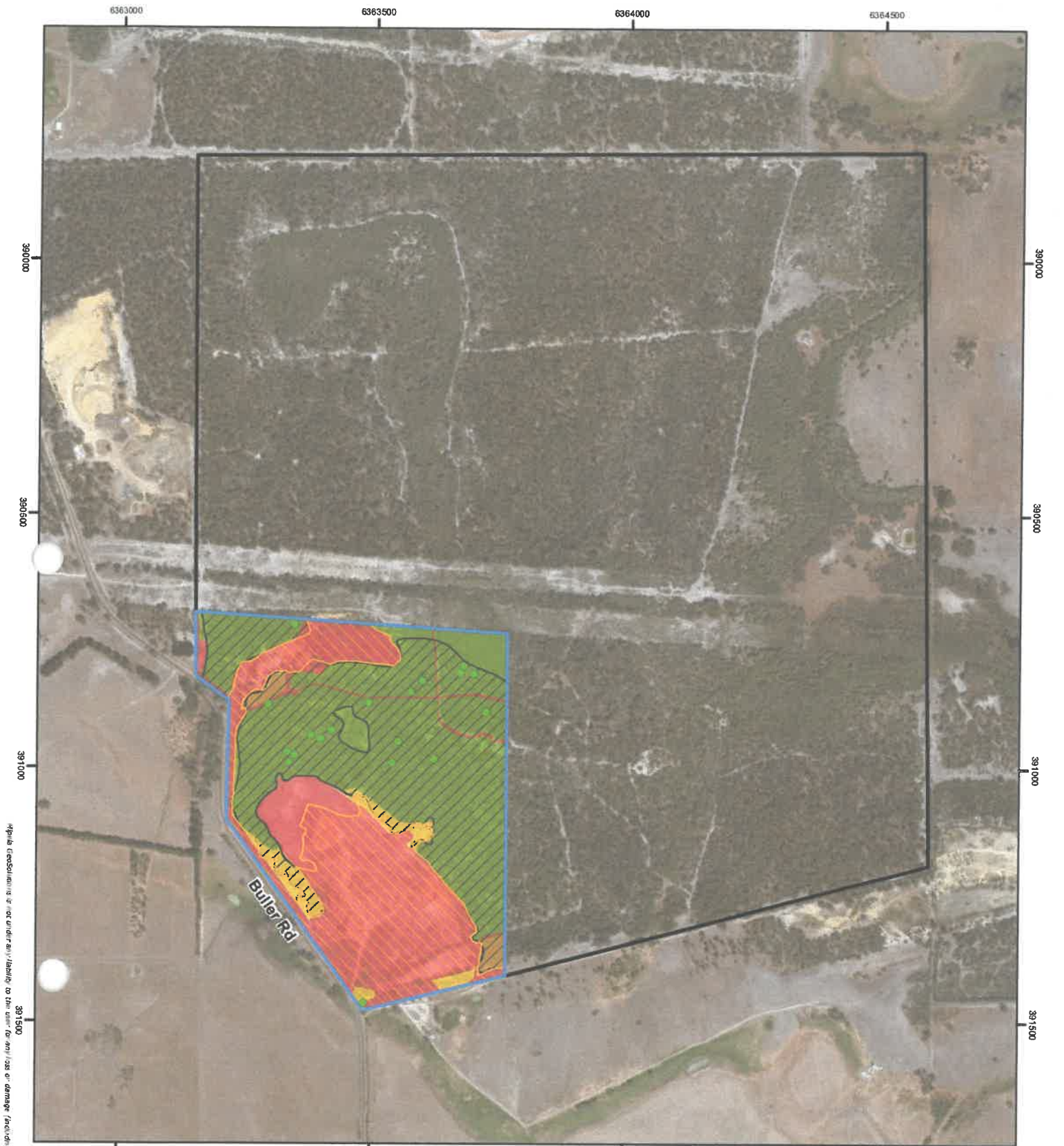


## **Attachment B: Jackson Block – Stage 1 Overview Map**

## **Attachment C: Jackson Block – Stage 1 Vehicular Access Map**

## **Attachment D: Jackson Block – Stage 1 Flora Overview**





**KD.1**  
PTY LTD

PO Box 4336  
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+61 (0) 8 9481 7880

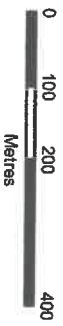


**PROJECT:** Lot 3 Buller Rd Warroona

**TITLE:** NVC Application #2

**DATE:** 11/08/2015

**SCALE:** 1:10,000 (A4) MGA Zone 50



**Legend**

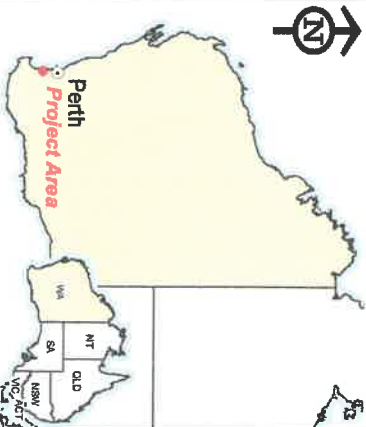
- Habitat Nesting Trees
- Jackson Block Area
- Sand Excavation Area
- 13.1 ha
- Forage Habitat Area
- Lot 3 Buller Road
- Vegetation**
- Completely Degraded
- Degraded
- Good
- Very Good - Good

**Map 15**

Source Layer Credits:  
Aerial Imagery: Geospatial Solutions, GeoEye, Earthstar Geographics,  
CNES/Airbus DS, USDA, USGS, Aero, GeoEye, AeroVista, DigitalGlobe, GeoEye,  
and the GIS User Community

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Map data resolution is 2 or under 2m. Liability to the user for any loss or damage (including consequential loss or damage) which the user may suffer resulting from the use of this map.

## **Attachment E: Jackson Block – Stage 1 CPS 6701/1 Area**



6363000

6364000

390000

390000

391000

391000

392000

392000



6363000

6364000

**KD.1**  
 P T Y L T D  
 PO Box 4336  
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**PROJECT:** Lot 3 Butler Rd Waroona  
**TITLE:** NVCF Application #2  
**DATE:** 11/08/2015



**SCALE:** 1:12,000 (A4) MGA Zone 50  
 0 50 100 200 300 400 500  
 Metres

**Legend**

-  13.1 ha Sand Excavation Area
-  Jackson Block Area (36.797ha)
-  Lot 3 Butler Road

**Map 14**

Source Layer Credits:  
 Survey: Geomatics Australia 2012 WA, SW  
 Services Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroX, GeoEye, IGN, Aeriaco, and the GIS User Community

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