2 Bulwer Street
PERTH WA 6000
T: (+61) 8 9227 2600
F (+61) 8 9227 2699
www.auroraenvironmental.com.au

ASBESTOS MANAGEMENT PLAN
WEDGE AND GREY RESERVES

Prepared For: Department of Parks and Wildlife
17 Dick Perry Avenue
KENSINGTON WA 6161

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Author:	Colin Outhwaite Manager - OHS		4 November 2016
		Signature	Date
Author:	Brad Dermody Senior Environmental Scientist		4 November 2016
		Signature	Date
Reviewed by:	Greg Milner Manager - Contaminated Sites		4 November 2016
		Signature	Date

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LIST OF ABBREVIATIONS

ACM	Asbestos-containing material. Any material, object, product or debris that contains asbestos.
AF	Asbestos Fines (soils assessments as per DoH, 2009) - includes free asbestos fibres, small fibre bundles and also ACM fragments that can pass through a 7 mm x 7 mm sieve
FA	Fibrous Asbestos (soils assessments as per DoH, 2009) - includes friable asbestos materials, such as severely weathered or disturbed ACM and asbestos in the form of loose fibrous material such as insulation products. Friable asbestos is in a condition such that it can be broken or crumbled by hand pressure.
ARCP	Asbestos Removal Control Plan
Asbestos	The asbestiform varieties of mineral silicates belonging to the serpentine or amphibole groups of rock-forming minerals, including actinolite, grunerite (or amosite) (brown asbestos), anthophyllite, chrysotile (white asbestos), crocidolite (blue asbestos) and tremolite.
Asbestos dust	airborne dust consisting of or containing a time-weighted average fibre concentration of asbestos that is in excess of the exposure standard when measured in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition [NOHSC:3003 (2005)]
Asbestos removal license	***restricted license*** means a restricted asbestos license granted under regulation 5.45B for work with non-friable ACM in quantities >10m^2 ***unrestricted license*** means an unrestricted asbestos license granted under regulation 5.45A for work with all ACM including friable.
DER	Department of Environment Regulation, Western Australia
DOH	Department of Health, Western Australia
Parks and Wildlife	Department of Parks and Wildlife, Western Australia
f/mL	Fibres per milliliter of air
Friable asbestos	Asbestos-containing material which when dry, is in a crumbled, pulverised or powder form, or can be crumbled, pulverised or reduced to powder by hand pressure.
Non-friable asbestos	asbestos-containing material that is not friable asbestos-containing material;
ha	Hectares
NOHSC	National Occupational Health and Safety Commission (reformed as the Australian Safety and Compensation Council, then Safe Work Australia).
NATA	National Association of Testing Authorities, Australia
PPE/RPE	Personal/Respiratory Protection Equipment
QC	Quality Control
SWP	Safe Work Procedure
w/w	Weight per weight. Percentage of a single material in relation to the total mixture by calculating its individual weight as a percentage of the total mixture weight.

EXECUTIVE SUMMARY

Aurora Environmental (Aurora) was commissioned by the Department of Parks and Wildlife (Parks and Wildlife) to develop an Asbestos Management Plan (AMP) for the Wedge and Grey Reserves. Both reserves are currently managed by Parks and Wildlife on behalf of the State Government. There are currently 290 licensed shack sites at Wedge and 119 at Grey which are currently occupied and used in the main for holiday purposes. The shacks are constructed of various and often recycled materials and some date back to the 1950's. Asbestos-containing materials in shacks and soils have been identified at both Wedge and Grey settlements. The Wedge and Grey reserves were also classified as being 'Possibly Contaminated - Investigation Required' in December 2009 by the Department of Environment and Conservation (DEC).

Asbestos is a carcinogen (cancer causing) and as such requirements for its use are extensively regulated in Western Australia in the form of legislation and guidance for both workplaces and generally.

In order to develop the AMP an asbestos register was produced following a site assessment in 2015 (Aurora 2015). The vast majority of shack sites (including former and current shack sites) were inspected by Aurora (predominantly visual external inspections) during the assessment with asbestos-containing materials being identified or suspected at approximately 55% of the sites which is documented in the asbestos register.

A range of asbestos-containing materials are listed in the register including some instances of friable materials but predominantly non-friable (bonded) materials. As a result, the risk of fibre release from the asbestos-containing materials identified ranged from very low to high but with only 10 instances having a high fibre release potential. Additionally, over 400 items were assessed as having a moderate fibre release potential, many of which were instances of asbestos cement debris in surface soils.

A preliminary asbestos in soil assessment, conducted during the survey of ACM at shack and waste disposal areas, revealed that approximately 360 locations were found to have potential asbestos-containing debris. Analysis of a limited number of soil samples showed the presence of asbestos fines in soil. However a Detailed Site Investigation is currently being concluded and will provide further information on the risk profile of asbestos in soils and inform Parks and Wildlife of further recommended actions.

There are legal obligations for the identification, treatment and management of asbestos-containing materials for workplaces and generally for the protection of public health, which are captured in this AMP.

1 INTRODUCTION

The recreational shacks at the Wedge and Grey settlements are located approximately 150 km and 170 km north of Perth, respectively (Figure 1). The shacks are located on two Crown Reserves which are currently managed by the Department of Parks and Wildlife (Parks and Wildlife) on behalf of the State Government.

The first shacks at Wedge and Grey were developed in the 1950's. Additional shacks were developed over time for recreational use in an unplanned and unmanaged manner using a range of recycled, reused and repurposed building materials. Most of the shack settlements along the Midwest coastline were removed during the 1990's with the Wedge and Grey settlements remaining under temporary leasing arrangements.

The Wedge reserve covers an area of approximately 213ha and contains 290 shack sites in addition to two waste disposal sites; an expired waste disposal area in one location and a currently operational waste transfer station at another location. An Aboriginal heritage site and associated buffer zone within the Wedge Reserve contains around 20 shacks and where at least three separate incidents of illegal dumping of asbestos cement sheeting have been recorded. Figure 2 - Wedge settlement.

The Grey Settlement covers an area of approximately 193ha and contains 119 shack sites. The currently operational waste transfer station is located where the original main waste disposal area was, however it covers a smaller footprint than the original area. Figure 3 – Grey Settlement.

Both reserves are managed by Parks and Wildlife on behalf of the State Government and contain 409 licensed shack sites which are currently occupied and used in the main for holiday purposes. The shacks are constructed of various and often recycled building materials which were inexpensive and easily transportable on the original rough four-wheel drive tracks. Wooden and metal structures are typically clad with either metal, wood or fibre cement materials using basic building techniques.

The Wedge and Grey reserves are a place of public access, where there are both day visitors from the general public and the shack users. Shack owners use their shacks on an irregular basis throughout the year on weekends and public holidays but more frequently from spring through to the end of autumn. A small number of shack owners live permanently on site despite the shacks being licensed for recreational use only.

The reserves are also a workplace for Parks and Wildlife Rangers who regularly patrol the reserve and monitor the shack sites, other government agencies and contractors who may enter the reserves to provide various services. There are therefore different legal requirements in relation to the management of risk associated with asbestos-containing materials on site. There is however an overarching duty of care owed by Parks and Wildlife being custodians of the reserves.

The shacks and associated structures were under a lease arrangement by Parks and Wildlife from 1995 – 2014, following which a licence was granted under Section 101 of the *Conservation and Land Management Act*, *1984.* The licences to occupy the shacks have several conditions of use, including condition 9(e)-(h) dealing with asbestos mitigation on the reserves. The Conservation and Land Management Regulation 2002 apply to both reserves.

An assessment was conducted by Aurora Environmental (Aurora) in 2015 (Aurora 2015) which involved a survey of shacks, their immediate surrounds and tips sites for the presence of asbestos-containing materials and included a limited surface soils assessment. Only 17 shacks were accessed

internally which is considered to be a significant data gap given that asbestos products were found within those which were accessed.

From that assessment, an asbestos register was developed which will be maintained by Parks and Wildlife on an ongoing basis and referred to in this AMP. A Preliminary Management Plan report detailing the initial findings of the assessment and recommended actions was developed in 2015. Parks and Wildlife subsequently set up a working group to guide the implementation of its recommendations; the Implementation Project Team. The actions arising out of the report recommendations and team meetings have been recorded in the Parks and Wildlife project management database; *TEAMWORK* with the project entitled 'Wedge and Grey Asbestos Management Plan'. Appendix 1 is the AMP Implementation Task List for this project at the time of writing. It is envisaged that the Implementation Project Team, which is made up from Parks and Wildlife representatives, including district personnel, in addition to those from the Department of Health (DoH) and assisted by external consultants as deemed necessary, will continue to guide and effect implementation of the main recommendations of the AMP, albeit that the representation on the team may change over time.

The reserves have been classified under the *Contaminated Sites Act 2003* by the Department of Environment Regulation (DER) as "Possibly Contaminated – Investigation Required". The presence of asbestos in soils is one reason for the classification, the other being the potential for groundwater contamination.

Parks and Wildlife has recently commissioned an environmental consultant to conduct a Detailed Site Investigation (DSI) of asbestos (as ACM, AF and FA) in soils and partial remediation including emu picking of ACM across both Wedge and Grey with a view to characterising and assessing risks associated with soil impacts whilst reducing the accessible surface ACM impacts. The report from that exercise will provide further recommendations which will be incorporated into the AMP and considered/actioned by the Implementation Project Team.

2 ASBESTOS - OVERVIEW

Asbestos is the term given to a group of naturally occurring mineral silicates which are prevalent in the earth's crust and are composed of fibres that do not readily break down within the human body. These include chrysotile (white asbestos), amosite (or grunerite) (brown asbestos), crocidolite (blue asbestos), anthophyllite, tremolite and actinolite. Chrysotile, amosite and crocidolite are the three main types encountered in other than naturally occurring situations due to their widespread extraction and use in a wide variety of products. Until the mid-1980's Australia was a producer of asbestos and one of the world's highest users per capita.

Asbestos was often mixed with other materials such as cement, bitumen and vinyl to enhance their properties. Such asbestos-containing materials (ACM) were used extensively in Australia due to their durability and fire and chemical resistance. Examples of ACM include thermal insulation, floor coverings, wall and roof sheeting, brake linings, insulating textiles, electrical mounting boards, fire proofing, pipes, lagging and many others.

Asbestos is a known carcinogen (cancer causing agent); inhaling asbestos fibres may cause asbestos-related disease and death. The risk of developing asbestos-related diseases, such as mesothelioma or lung cancer, from exposure to airborne asbestos fibres is known to be associated with the fibre concentration level and duration of exposure, length of time since first exposure, the fibre type, and also concurrent exposure to tobacco smoke. Not all factors are well understood, and it is not yet known why some people develop an asbestos-related disease and others, having experienced apparently similar exposures, do not. However it is clear that the risk increases with increased exposure to airborne asbestos fibres over time.

The general population is exposed to very low 'background' levels of airborne asbestos fibres contained in ambient air. Many people are also exposed to higher levels of asbestos at some time in their lives; for example, in their workplace, community or home. For most people, this kind of infrequent exposure is also unlikely to result in any ill effects. However Australia has one of the highest incidence rates of malignant mesothelioma which has been linked to both occupational and non-occupational exposures. All exposures should, therefore, be avoided where possible.

Whilst asbestos fibres can cause cancer when inhaled, there is currently no evidence that asbestos fibres present in drinking water cause cancer when ingested[1]. Similarly inhalation of aerosols from showers or irrigation systems is unlikely to present a risk from asbestos in water.

2.1 FIBRE RELEASE POTENTIAL

For there to be a health risk from asbestos, respirable fibres i.e. those small enough to enter and be retained in the lungs, must be released from the material containing asbestos, become airborne and be inhaled. The potential for an ACM to release fibres depends on a number of material properties such as asbestos content, the type of matrix used for binding the fibres together, how the exposed surface of the material is sealed and its condition. An asbestos-containing material's friability, which is related to all of these properties, is a term used to describe the potential for such material to release fibres.

[1] Reference ADWG and WHO

Friable asbestos-containing material is defined in Western Australian Legislation[2] as:

Any asbestos-containing material that, when dry:

- *is in a crumbled, pulverised or powder form; or*
- *can be crumbled, pulverised or reduced to powder by hand pressure.*

Friable asbestos-containing materials, such as thermal or acoustic insulation, usually have a high asbestos content (usually greater than ~30% and up to 100% w/w) and will readily release fibres upon minimal disturbance. Conversely non-friable products often have a much lower asbestos content (usually up to ~15% w/w) with the fibres bound within a matrix of some other material such as vinyl flooring, bitumen based products and fibre cement and are often referred to as 'bonded' ACM.

Some products such as asbestos textiles and gaskets may be non-friable or friable depending on their asbestos content and condition. This is also applicable to asbestos cement products which, when in good or average condition, are non-friable (or bonded), but when heavily weathered or fire damaged to the point where the matrix which binds the fibres breaks down or erodes; then the material potentially becomes friable.

Friable asbestos products have been commonly used in commercial and industrial settings since the late 1800's for fireproofing, soundproofing and insulation. Some friable products were also used in houses.

In Australia, asbestos cement materials were first manufactured in the 1920's and was commonly used in the manufacture of residential building materials from the mid-1940's until the late 1980's. Many residential properties built before 1990 therefore contain ACM. During the 1980's asbestos cement materials were phased out in favour of asbestos-free products. From 31 December 2003, the total national ban on manufacture, use, reuse, import, transport, storage or sale of all forms of asbestos came into force.

Materials used for the construction of shacks and associated structures would have been sourced or recycled from products used in residential, commercial and industrial settings and therefore the occurrence of ACM was expected. It also follows that, particularly in relation to fibre cement materials such as flat and corrugated sheets; non-asbestos fibre cement building materials are also prevalent due to construction of shacks or extensions and refurbishment carried out using materials manufactured after the late 1980's.

[2]Occupational Safety and Health Regulations, Reg.5.42

3 GENERAL PRINCIPLES OF THE AMP

The Wedge and Grey reserves are a workplace for Parks and Wildlife personnel and contractors and occasionally staff from other organisations such as the Department of Fire and Emergency Services (DFES), Department of Fisheries and WA Police. Shacks are licensed premises and not workplaces unless any work is carried out there. The reserves are also public open spaces where workplace legislation does not apply to the general public. However the Health (Asbestos) Regulations 1992 are applicable to members of the public in non-workplace settings.

At present the only detailed guidance on implementation of asbestos management plans is contained in delegated workplace legislation. Moreover Parks and Wildlife is an employer of staff that operates on the reserves and therefore this AMP has been developed primarily in accordance with primary workplace legislation under the WA *Occupational Safety and Health Act 1984*. It does, however, consider the currently less onerous legislation which is applicable to the general public.

The following, as documented in the Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC: 2018(2005)] hereafter referred to as the 'Management Code', are the general principles applied in developing this AMP:

- The ultimate goal is for all workplaces to be free of ACM. Accordingly, consideration will be given to the removal of ACM during renovation, refurbishment and/or maintenance, where practicable, in preference to other control measures such as enclosure, encapsulation or sealing;
- Where ACM are identified or presumed, the locations must be recorded in a register of ACM;
- A risk assessment must be conducted for all identified or presumed ACM;
- Reasonable steps must be taken to label all identified ACM;
- Control measures must be established to prevent exposure to airborne asbestos fibres and should take into account the results of risk assessments conducted for the identified or presumed ACM;
- If ACM are identified or presumed, there must be full consultation, involvement and information sharing during each step of the development of the asbestos management plan – i.e. during the identification, risk assessment and establishment of control measures;
- The identification of ACM and associated risk assessments should only be undertaken by competent persons; and
- All workers and contractors on premises where ACM are present or presumed to be present, and all other persons who may be exposed to ACM as a result of being on the premises, must be provided with full information on the occupational health and safety consequences of exposure to asbestos and appropriate control measures. The provision of this information should be recorded.

The general principles of an AMP are considered in the Management Code to be described as shown below. Considering an asbestos management plan in terms of the following three phases allows for a simplified understanding of what the AMP is required to achieve:

TABLE 1: AMP PHASES

PHASE	OBJECTIVE
The Identification Phase	Investigating the presence and location of ACM including confirmatory analysis as necessary, produce an asbestos register
The Assessment Phase	Conducting a risk assessment of the identified ACM
The Control Phase	On the basis of the risk assessment, apply controls to reduce risk to an acceptable level and implement ongoing management if ACM is to be left in-situ

With regard to the Wedge and Grey reserves it could be considered that the identification and assessment phases have been substantially completed, notwithstanding some data gaps which are primarily in relation to shack internal assessments and soils assessment. It is also considered at the time of writing that the control phase is substantially complete given the progress that Parks and Wildlife have made in implementing the preliminary management recommendations made in the initial assessment report (Aurora, 2015).

3.1 PURPOSE OF THE ASBESTOS MANAGEMENT PLAN

An asbestos management plan sets out how asbestos will be managed in order to prevent health risk of people who may come into contact with it. It should be a strategic document to assist duty holders in complying with legislative requirements and duty of care to its employees and others who may be affected by its undertaking including the general public.

The objective of this Asbestos Management Plan is to detail the controls necessary to ensure that asbestos containing materials present within the Wedge and Grey Reserves do not present a health risk to Parks and Wildlife employees, contractors and others such as emergency service personnel, lessees of shacks, their guests and the public. This includes protocols for the identification, evaluation, management and where necessary removal of asbestos containing materials in the workplace.

The Code of Practice for the Management and Control of Asbestos in Workplaces NOHSC:2018(2005)] states that *"....in-situ asbestos containing materials must be appropriately managed to ensure that the risks of exposure to airborne fibres are minimised."*

It also states that *"....The ultimate goal is for all workplaces to be free of asbestos. Where practicable, consideration should be given to the removal of asbestos containing materials during renovation, refurbishment, and maintenance, rather than other control measures such as enclosure, encapsulation or sealing."*

Also according to this Code of Practice the main elements of managing the risks of ACM in workplaces are to:

- Identify all ACM in the workplace, as far as practicable;
- Assess the risks associated with all ACM; and

- Introduce control measures to prevent, as far as practicable, the generation of, and exposure to, airborne asbestos fibres.

Strong management and control of all asbestos-containing materials is essential to prevent the well-known adverse health consequences of exposure to airborne asbestos fibres. This plan is set out to organise, advise, focus and document the required management control.

3.2 SCOPE OF THE ASBESTOS MANAGEMENT PLAN

All aspects of the AMP, from identification through the management of in-situ ACM to its eventual removal, apply to the Wedge and Grey reserves. However there are two distinct jurisdictions to which the asbestos risk management processes must apply which include:

- the workplace jurisdiction; and
- the shack licensing jurisdiction.

Whilst the identification and assessment of the hazard associated with asbestos applies to both jurisdictions; the risks and risk management strategies have some differences and similarities. The control phase of the AMP therefore addresses both jurisdictions.

3.2.1 Workplace Jurisdiction

As the Wedge and Grey reserves are a workplace for Parks and Wildlife employees, contractors engaged by Parks and Wildlife and other organisations required to work on site such as WA Police and Department of Fire and Emergency Services (DFES); the scope of the AMP must address the legal and other requirements placed on employers. Parks and Wildlife staff including Rangers, supervisors and support staff attend the site to conduct workplace tasks and for various periods of time. Also a number of shacks remain under Parks and Wildlife control and are therefore considered to be part of the workplace as they are visited by Parks and Wildlife staff. Visiting and inspecting shacks forms part of the role of some Parks and Wildlife staff and are therefore temporary workplaces. If shack licensees were to engage contractors to conduct work at the shack such as inspections or asbestos removals, the shack would then become a workplace for those contractors at that time.

3.2.2 Shack Licensing Jurisdiction

Shacks at both Wedge and Grey settlements are subject to a licence issued by Parks and Wildlife to shack owner/occupiers, with a clear set of guidelines and conditions as to how the shacks and the reserves are to be used. During normal occupancy by the licensees the shacks are mainly used for recreational purposes, although there are some shacks and associated sheds used and occupied by professional rock lobster fishers. The requirements of the Health (Asbestos) Regulations, 1992, which are currently being revised, apply to the public at large and therefore shack occupants. There are two active incorporated shack associations namely, the Wedge Island Protection Association (WIPA) and the Grey Conservation and Community Association (GCCA) representing most shack owners and with open communication channels to Parks and Wildlife.

4 LEGISLATIVE REQUIREMENTS

In brief, legislation defines asbestos (and asbestos containing material - ACM), declares it a hazardous substance and bans any new use, re-use or import of ACM into Australia.

The Wedge and Grey reserves are both workplaces for Parks and Wildlife personnel and others such as waste collection contractors. The general duty of care requirements of the *Occupational Safety and Health Act 1984 (WA)* apply in this case whereby a safe place of work must be provided and exposure to hazards controlled, as far as is reasonable practicable.

The Occupational Safety and Health Regulations 1996 (WA) require a person who is an employer or controller of a workplace to identify the presence and location of asbestos-containing materials (ACM) in the workplace, record this in a register and assess the risk arising from its presence in accordance with the Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC: 2018 (2005)]. It is also an offence, under these regulations to do any work with ACM without taking reasonable measures to prevent asbestos fibres entering the atmosphere and to carry out demolition work without first removing ACM.

The Management Code requires that the ACM be appropriately managed to ensure that the risks of exposure to airborne fibres are minimised using control measures which may include the management of ACM in-situ or its removal. It also requires that an asbestos management plan be implemented and maintained as long as ACM remain in the workplace.

Licensing requirements for persons conducting asbestos removal work, based on the type and quantity of ACM, are set out in legislation in addition to requiring that such work is conducted in accordance with relevant parts of the Code of Practice for the Safe Removal of Asbestos, 2nd Edition [NOHSC:2002(2005)], hereafter referred to as the 'Removal Code' and that persons are not exposed to asbestos dust.

The reserves are also public open spaces in addition to holding temporary licenses for current shack owners at the location of each shack which both place a duty of care on Parks and Wildlife to take reasonable steps to ensure the health and safety of the public and shack license holders.

Outside of the workplaces jurisdiction, the Health (Asbestos) Regulations 1992 (WA), in brief, make it an offence for the supply or new uses of asbestos cement products (other than maintaining, repairing or removal), in addition to handling such products without taking reasonable measures to prevent fibre release. Reasonable measures include:

- using water or other practical measures to keep airborne material containing asbestos to a minimum;
- not using any tools other than non-powered hand tools or portable power tools that incorporate dust suppression or dust extraction attachments designed to collect asbestos fibres;
- using only vacuum cleaning equipment designed to collect asbestos fibres or wetting the area before sweeping up material containing asbestos;
- not using a high pressure water jet, or compressed air, unless in a manner which adequately prevents asbestos fibres entering the atmosphere and which is approved in writing by the Executive Director, Public Health;

- ensuring, so far as is reasonably practicable, that material containing asbestos is not broken or abraded; and
- ensuring that waste material containing asbestos is disposed of in accordance with the Environmental Protection (Controlled Waste) Regulations 2004 as soon as practicable.

It is also an offence to move a dwelling built using asbestos cement unless it is not divided into more than three sections and that parts containing asbestos cement are not substantially dismantled or asbestos cement products deliberately broken. The regulations also give powers to Environmental Health Officers and other authorised persons to serve notices on the owner of asbestos containing material or premises in relation to its treatment, handling and disposal.

Control of disposal of asbestos-containing materials by such actions as separating, wrapping, labelling and informing the receiver are also requirements of the Health (Asbestos) Regulations 1992 the Occupational Safety and Health Regulations 1996 and the Environmental Protection (Controlled Waste) Regulations 2004 (WA).

4.1 ACTS AND REGULATIONS

In Western Australia the following legislation are applicable in relation to this Asbestos Management Plan:

- *The Occupational Safety and Health Act 1984*, Government of Western Australia;
- *The Environmental Protection Act 1986*, Government of Western Australia;
- *The Contaminated Sites Act 2003*, Government of Western Australia;
- The Occupational Safety and Health Regulations 1996, Government of Western Australia;
- The Environmental Protection (Controlled Waste) Regulations 2004, Government of Western Australia;
- The Health (Asbestos) Regulations 1992, Government of Western Australia;
- The Contaminated Sites Regulations 2006, Government of Western Australia.

4.2 APPROVED CODES OF PRACTICE AND GUIDANCE NOTES

In Western Australia the following codes of practice and relevant guidance are applicable in relation to this Asbestos Management Plan:

- The Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC:2018(2005)], National Occupational Health and Safety Commission, (now Safe Work Australia);
- The Code of Practice for the Safe Removal of Asbestos 2nd Edition [NOHSC:2002(2005)], National Occupational Health and Safety Commission;
- The Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition [NOHSC:3003(2005)], National Occupational Health and Safety Commission;
- Guidelines for Assessment, Remediation and Management of Asbestos-Contaminated sites in Western Australia 2009, Department of Health (WA);

- Guidance Note on Identification, Assessment and Management of Asbestos Contamination in Regional Public Areas 2011, Department of Health (WA);
- Assessment and Management of Contaminated Sites, Contaminated Site Guidelines 2014; Department of Environment Regulation (WA).
- Landfill Waste Classification and Waste Definitions (as amended 2009), Department of Environment and Conservation (WA).

4.3 UPCOMING LEGISLATION AND REVIEWS

At the time of preparing this report the model harmonised Workplace Health and Safety (WHS) laws (which aim to harmonise WHS legislation across Australia) had not been enacted by the Government of Western Australia. However, draft legislation (the Health and Safety Bill 2014) has been tabled and opened for public comment (comment period now closed).

Also the Health (Asbestos) Regulations 1992 are currently being revised and a new asbestos code of practice to support them was tabled for public comment (comment period closed) with the plan to finalise it in the 2015-16 financial year.

5 IDENTIFICATION AND ASSESSMENT

This section details the methodologies and results of the initial identification and assessment phase of the AMP. Parks and Wildlife engaged competent assessors for this part of the plan and will ensure that any future assessments are carried out by competent personnel who will be tasked to conduct such work in accordance with legislative requirements.

5.1 ASBESTOS REGISTER

An asbestos register is used to list identified ACM, assist in the assessment of risk and therefore in the requirement and prioritisation of remedial actions or ongoing management of the material in-situ. Once developed it must be maintained up to date and located where anyone intending to work on site or lessees of shacks can have access to it and be informed of the location and potential health risk associated with ACM to the extent that they may come into contact with it.

It requires ownership, maintenance and version control in order to achieve the above objectives.

The asbestos register for the Wedge and Grey reserves has been developed through a comprehensive and systematic site survey including inspection and representative sampling and analysis of suspect materials throughout the shack containing areas of the reserves. It was initially documented within the report *'Asbestos Assessment and Preliminary Management Plan'* (Aurora, 2015).

The register currently contains details of identified soil impacts. However on completion of the detailed site investigation (DSI) and surface picking of ACM; these references will be removed from the register with the updated detail presented in the DSI report.

The latest version of the register has been made available online at the Parks and Wildlife website as a pdf copy. See https://www.dpaw.wa.gov.au/management/wedge-grey. The actual register is located at the Moora District Office (Jurien Bay) where its currency is maintained with updates following new assessments or reported finds.

5.2 SURVEY METHODOLOGIES AND LIMITATIONS

The initial site assessment involved an onsite inspection looking for the presence of ACM in an around shacks and associated outbuildings. Suspect materials were identified through visual recognition by experienced surveyors and, where necessary, sampled for analysis. Samples collected were representative of the material sampled, individually identified, transported under chain of custody procedures and analysed at a laboratory which is accredited by NATA for the analysis method.

Limited samples were taken of materials either known or suspected to contain asbestos. Due to the extent of the survey and number of shacks and areas of debris involved; sampling was undertaken on a limited representative basis only. This method is commonly used in asbestos assessments whereby materials which have not been analysed are compared with materials which are known to contain asbestos to determine the likelihood of asbestos presence. In particular, the samples sent for analysis were biased towards the ones which were not easily identifiable to the surveyor as containing asbestos to reduce levels of uncertainty.

Following the sampling of a particular material type, similar appearing materials as those sampled but identified in other locations were recorded as being suspected to be the same material by referencing the relevant sample number. This method is commonly used during asbestos surveys as a

means of rationalising sample numbers and therefore cost but relies on the experience of the surveyor in the absence of confirmative sample analysis.

It should be noted that there is an inevitable uncertainty with the methodology of referencing analysed samples to other materials which haven't been analysed. For this reason such items are indicated in the register as 'suspect asbestos' or 'suspect non-asbestos' as only analysis can confirm asbestos presence.

A risk assessment of materials was conducted on the basis of the condition, type and location of the materials at the time of inspection. As non-intrusive survey techniques were employed, which is the standard methodology for occupied premises, it is possible that further ACM may be revealed during demolition or refurbishment as areas which were concealed at the time of the assessment become accessible. This point is particularly relevant where the internal spaces of shacks could not be accessed which was the case in all but 17 shacks.

The assessment was conducted in accordance with the relevant requirements of the Code of Practice for the Management and Control of Asbestos in the Workplace [NOHSC: 2018 (2005)]. The type of assessment conducted was non-intrusive and therefore could have serious limitations if considered for the purpose of refurbishment or demolition.

Parks and Wildlife will consult a competent person to ensure that any future assessments are fit for purpose, for instance where a 'pre-demolition' or 'intrusive style' assessment may be required prior to such work.

5.3 ASBESTOS IN SOIL

5.3.1 Definitions

The DoH regulates the management and remediation of asbestos on contaminated sites in Western Australia. The DoH (2009) has defined three main forms of asbestos as:

- **Asbestos Containing Material (ACM)** – Which is in sound condition, although possibly broken or fragmented, where asbestos is bound in a matrix. ACM is restricted to material that cannot pass through a 7mm x 7mm sieve.
- **Fibrous Asbestos (FA)** – Includes friable asbestos materials, such as severely weathered or disturbed ACM and asbestos in the form of loose fibrous material such as insulation products. Friable asbestos is in a condition such that it can be broken or crumbled by hand pressure.
- **Asbestos Fines (AF)** – Includes free asbestos fibres, small fibre bundles and also ACM fragments that can pass through a 7mm x 7mm sieve.

ACM usually represents a low risk to human health, however both FA and AF have the potential to generate or be associated with free asbestos fibres, which pose a greater risk of inhalation if made airborne.

5.3.2 Soil Assessment

A preliminary level of assessment has been undertaken for asbestos in soils; in two tranches. During surveys of the shack structures (in mid-2015), surface soils in an approximately 10m perimeter around each shack and at waste disposal areas were inspected for ACM fragments. The location, approximate extent and estimated concentrations of visible ACM fragments were recorded as debris in the asbestos register. There were 369 such locations identified ranging in size from small 1m^2

patches to large areas more than 50m^2 (seven locations). A limited number of surface soil samples were also collected during the shack surveys, predominantly adjacent to driplines of roofs made from ACM. Out of the 23 samples collected, four were analysed for asbestos in soil and of these three contained AF.

In March 2016, additional surface soil sampling was undertaken at the current Wedge and Grey waste disposal areas (Aurora, 2016a) for consideration of potential risks from asbestos in the form AF and FA for soil disturbing activities. Of the four samples collected from the Grey waste disposal area, three contained AF and one contained FA. Of the four samples collected from the Wedge waste disposal area, one contained AF and one contained ACM. The results triggered further assessment of air quality.

In April 2016, airborne fibre monitoring was undertaken at 13 locations at the waste disposal areas during periods of waste material removal (at Wedge) and emu picking activities (at Wedge and Grey). The analytical results from all samples were below the limit of detection. On the basis of the results and typical dust creating activities conducted; the risk of exposures to Parks and Wildlife staff, contractors and the public during normal access to the tips was considered to be very low and acceptable.

5.4 RISK ASSESSMENT

A risk assessment was conducted on all identified and suspect ACM listed in the asbestos register using a risk algorithm. This risk algorithm which takes into account material properties to deduce a risk score related to the fibre release risk potential of the material.

The risk algorithm allows for a semi-quantitative material assessment which can then be used in the assessment of health risk. A number of variables are used in this risk algorithm which is related to the properties of the ACM assessed at the time of the inspection. In addition to the material property variables, an assessment of disturbance potential, based on Aurora's understanding of the occupancy of the location where the material is situated, was also included.

Assessments of the likelihood of disturbance are only a 'snap-shot' assessment which may change regularly depending upon the occupancy of the area concerned and whether any work is planned such as renovation or soil disturbance.

5.5 KEY FINDINGS

5.5.1 Asbestos Containing Materials Identified

Asbestos-containing materials identified on site and detailed in the asbestos register include:

- Asbestos cement products including:
    - Corrugated roof, wall, formwork and fence panels;
    - Moulded products such as ridge, gable, fence capping, soak well and gutters;
    - Moulded support columns;
    - Water pipes;
    - Flat wall panels;
    - Shadowline/profiled cladding panels;
    - Indeterminate debris.

- Ironing board insulation pad;
- Bitumen electrical mounting boards;
- Vinyl floor tiles and sheet (asbestos paper backed);
- Low density board/millboard insulation gaskets;
- Rope seals to wood burner and oven doors;
- Loose textile/membrane material;
- Bitumen adhesive and sound dampener membranes to underside of sinks;
- Asbestos containing gutter deposits from asbestos roofs;
- Asbestos fines (fibre cement particles) in soil and fibrous asbestos debris (single sample) in soil; and
- Suspected asbestos roof deposits in rainwater tank sediment.

5.5.2 Friability of Asbestos Products Identified

The vast majority of the ACM identified were non-friable (or bonded material). However there were a small number of products which were either friable when manufactured or have become friable over time due to the material matrix degrading.

5.5.3 Condition of ACM Identified

Approximately 55% of the identified ACM on the register were assessed as in good condition or of minor damage/deterioration with ~12% of moderate damage/deterioration. The remainder (~33%) was assessed as exhibiting high damage or deterioration. However the vast majority of materials in this category were instances of confirmed or suspect asbestos cement debris in surface soils.

5.5.4 Exposure Scenarios

For there to be a health risk from asbestos, respirable fibres i.e. those small enough to enter and be retained in the lungs, must be released from the material containing asbestos, become airborne and be inhaled. The potential for an ACM to release fibres depends on a number of material properties such as asbestos content, the type of matrix used for binding the fibres together, how the exposed surface of the material is sealed and its condition. An ACM's friability, which is related to all of these properties, is a term used to describe the potential for such material to release fibres. Whilst asbestos fibres can cause cancer when inhaled, there is currently no evidence that asbestos fibres present in drinking water cause cancer when ingested (ADWG, 2015[3]).

Potential disturbance scenarios associated with ACM identified to date at Wedge and Grey include:

- Uncontrolled work such as refurbishment (sawing, cutting, breaking), cleaning or removal of asbestos containing materials in and around shacks;
- Gutter cleaning of stormwater run-off from asbestos roofs;
- Disturbance of surface soils which may contain asbestos fines or fibrous asbestos in soil;
- Controlled asbestos removal work in either shacks or soils;

[3] Australian Drinking Water Guidelines 6, 2011, version 3.1 March 2015, Australian Government

- Vehicle operations or earthworks in areas of surface soil impacts;
- Waste removal operations at waste transfer sites;
- Accessing shack internals where friable asbestos-containing materials are situated;
- The dumping of asbestos-containing materials on site either at the tip sites or others;
- Conducting material and soil assessments involving the sampling of potential asbestos-containing materials for analysis; and
- Bushfires where asbestos-containing materials become degraded by fire.

People potentially at risk of exposure during such scenarios includes:

- Parks and Wildlife personnel during routine visits or supervising operations;
- Emergency Services personnel;
- Contractors/consultants operating on site either conducting operations which may disturb ACM or working in close proximity to ACM disturbance work; and
- Shack occupants; and
- The public.

Exposure to airborne asbestos fibres is therefore possible where such disturbances release respirable fibres, i.e. those small enough to become airborne, be inhaled and enter the deeper gas exchange region of the lungs.

A small number of airborne fibre monitoring events were conducted during the asbestos survey in 2015 and during mobile plant and normal operations at the tip sites in 2016 (Aurora 2015 and 2016b). The results did not indicate an immediate health risk associated with those scenarios suggesting that the risk of exposure is low in occupational settings providing that asbestos is not being actively disturbed.

An activity which was later considered to be a potential exposure scenario was that of mobile plant operations at the tip sites of both Wedge and Grey. An airborne fibre monitoring programme conducted by Aurora during such operations revealed that the exposure risk to Parks and Wildlife personnel during the assessed activities was a very low and acceptable but recommended that such future soil disturbing activities using mobile plant be conducted under a safe work procedure which minimises dust creation and spread along with protecting workers and the public.

6 REMOVE OR MANAGE – DECISION PROCESS

Following the identification of asbestos-containing materials the rationale to be used to decide whether to remove or manage them in-situ will be primarily based on the risk assessment for each identified item. Also where an asbestos-containing material is to be managed in situ; decisions on what remedial works are required, if any, will need to be made. Consideration of the following two main variables will be used to assist in such decisions:

- the material's fibre release risk;
- the likelihood that the material will be disturbed, considering its accessibility, and fibres inhaled; and
- whether the material has a purpose or is surplus to requirements.

It follows for example that where an asbestos-containing material presents an immediate health risk due to having a high fibre release potential and being routinely accessible to people, short term remedial action will be required to control that risk. On the other hand asbestos-containing materials which exhibit a very low fibre release potential or are inaccessible, don't present an immediate health risk and would therefore not necessitate immediate remedial action.

When considering control options in the context of asbestos-containing materials, the standard hierarchy of controls, used for minimising risk from hazards, will be considered as shown below in the order listed. Where elimination or substitution is not possible then it is likely that a combination of the other controls will be required depending on the material type, location and risk:

- **Eliminate the hazard**

Removing asbestos is the ultimate goal but often not necessary purely on health grounds and sometimes not practicable. For many asbestos products serving a purpose and having a low fibre release potential; removal may present higher risk than maintaining in-situ. Conversely where asbestos-containing material has a high fibre release potential it will be considered for removal.

- **Substitute the hazard**

For asbestos-containing materials this is similar to *Elimination* in that the material would be removed and replaced with a non-asbestos material.

- **Isolate the hazard**

Isolating the hazard means providing a physical barrier between it and people (or sufficient distance from it). Examples may include locking up a disused shack to prevent access to friable asbestos-containing materials, covering or sealing a deteriorating asbestos-containing material with another material or paint, or using barriers and fencing to prevent access into an asbestos removal area (including asbestos in soils) by unprotected personnel.

- **Apply engineering controls**

Engineering controls are usually applied to work involving the disturbance of asbestos-containing materials such as extraction systems on power tools and negative air units attached to asbestos work enclosures in addition to the use of water and wetting agents on materials to be disturbed.

- **Apply administrative controls**

Administrative controls include procedures and protocols which assist with the application of all other controls and include *Do's and Don'ts* which either prevent or reduce the creation and spread of airborne fibres or potential exposures. Examples include establishing safe work procedures and guidance for working with asbestos-containing materials, maintaining and communicating the asbestos register, reporting new finds of asbestos-containing materials, and prohibitions on certain actions which may disturb asbestos.

- **Use personal protective equipment**.

PPE is considered to be the last line of defense, and mostly used when the risk cannot be reduced to an acceptable level by other controls, or where there is uncertainty about the risk level.

Use of PPE is not required purely on the basis of being in proximity to an asbestos-containing material as such materials don't spontaneously release fibres. However PPE is usually required when there is a disturbance of such materials and in accordance with the safe work procedure or asbestos removal control plan for that work.

The type of PPE required will be based upon the risk assessment for the asbestos disturbing works and primarily should protect the user from the inhalation of airborne fibres through the use of filtering face masks or other respiratory protective equipment (RPE). If ACM is to be handled for any reason then additional PPE such as disposable gloves and coveralls may also be required to prevent contamination of hands and clothing.

7 INITIAL RECOMMENDED ACTIONS

From the initial survey and report (Aurora, 2015) a number of actions were recommended in order to reduce airborne fibre risk. These recommendations have been rationalised and acted upon by Parks and Wildlife through the work of the Implementation Group, discussed in the introduction. Through the Implementation Group meetings the list of recommendations was further refined through a risk based prioritisation process with some placed on hold for future action. The task list from the 'Wedge and Grey Asbestos Management Plan' project can be located in *TEAMWORK* at: https://deptparksandwildlife.teamwork.com/projects/242486/tasks and the AMP Implementation Task List from this project, at the time of writing the AMP, can be found at Appendix 1.

7.1 BUILDINGS AND STRUCTURES

In relation to asbestos-containing materials in the built form in and around shacks the following formed the basis of the agreed initial remedial actions:

- All known or potential friable ACM should be removed by an asbestos removalist holding a current unrestricted asbestos removal licence, with a priority allocated to those materials identified in the asbestos register with the highest fibre release potential and in most regularly accessible locations;
- All stored or disused asbestos products should be removed from in and around shacks, such as stored asbestos cement panels, old electrical mounting boards, soak wells etc.;
- Shacks in the possession of Parks and Wildlife and confirmed as containing ACM should be considered for removal to reduce the likelihood of ACM becoming a health risk as a result of further degradation or vandalism;
- Guidance material to be provided to shack owners in relation to the risks associated with ACM along with its assessment, safe treatment, removal and disposal;
- Signage should be positioned to warn occupants and visors to the reserves of the potential to come into contact with ACM and advise not to disturb it;
- Inspections of shack internals should be conducted to better understand the risk and close the data gap.

Implementation of the above recommendations has been ongoing since listed in 2015 with the up to date Task List to be found in *TEAMWORK* as detailed in section 7.

7.2 SOILS

In relation to ACM identified in surface soils, the following formed the basis of the agreed initial remedial actions:

- Conduct regular emu picking (including raking) programmes to reduce the overall amount of ACM in surface soils, prioritising high access/trafficked areas; and
- Conducting a detailed assessment to improve confidence for determining final soil remediation measures.

Implementation of the above recommendations has been ongoing since listed in 2015 with the up to date Task List to be found in *TEAMWORK* as detailed in section 7.

7.3 OUTSTANDING ACTIONS

Work towards closing out all actions in both the buildings and soils categories will be ongoing for some time and potentially more may emerge from such as further assessments or unexpected finds. Such issues requiring actions will be added to the task list in *TEAMWORK* and managed in accordance with the AMP.

At the time of writing of the AMP the following tasks were outstanding, which will be reviewed as part of future AMP reviews:

TABLE 2: OUTSTANDING ACTIONS

ITEM	ACTION	COMMENT
1	Internal inspections of shacks for ACM and related management	Parks and Wildlife have recommended to shack owners a competent surveyor must be engaged to complete an independent assessment of their shack to determine the extent of ACM in their shack and remove high fibre release material and manage damages or high risk ACM from their shack using a licensed removalist with an unrestricted licence.
2	Management of ACM in or surrounding shacks: e.g. external cladding, such as roofs, walls and fences etc.	Ongoing management is required in accordance with this AMP and relevant guidelines.
3	Management of ACM in soils; including buried or stockpiled asbestos, ACM and AF in soils	To be managed in accordance with the recommendations of the Detailed Site Investigation conducted by Senversa, which should include the basic requirements as set out in section 10.1 of this AMP

8 ONGOING MANAGEMENT – WORKPLACE JURISDICTION

This section sets out the ongoing actions and responsibilities for the management of ACM remaining in the Wedge and Grey reserves. Given that the organisation for the management of Wedge and Grey as a workplace for Parks and Wildlife staff is somewhat separate from that for the licensing of shacks; this section and the following section are separated as appropriate.

8.1 KEY ROLES RESPONSIBILITIES

Responsibilities of various roles in Parks and Wildlife are set out so that the objectives of the Asbestos Management Plan are met and the risk managed. The Manager Employee Relations and Safety is the owner of this Asbestos Management Plan document and responsible for its maintenance, currency and availability to Parks and Wildlife personnel. Implementation of the asbestos management plan is ultimately the responsibility of Parks and Wildlife management, however specific responsibilities for implementation of parts of the plan should be made clear and are therefore shown in table 2 below.

TABLE 3: ROLES AND RESPONSIBILITIES FOR IMPLEMENTATION OF THE AMP

ROLE	RESPONSIBILITIES
District Manager, Moora District	Overall responsibility for implementing the AMP.
Parks and Visitor Services Leader, Moora District	Maintenance of the overall AMP, including coordinating reviews of the AMP and Asbestos Register. Includes additions or changes to the register and updates following reviews;
Shack Coordinator.	Provide information, as necessary, to staff on the location of the asbestos register and type of ACM present in the workplace;
PVS Coordinator.	Ensure that signage is installed and maintained at main entrances to the reserves to warn the public of the presence of asbestos and to avoid its disturbance
Shack Coordinator.	Provide information, as necessary, to contractors on the location of the asbestos register and type of ACM present in the workplace;
Shack Coordinator.	Provide information, as necessary, to other agencies (e.g. DFES, WA Police, Department of Fisheries) on the location of the asbestos register and type of ACM present in the workplace;
PVS Coordinator.	Organise asbestos awareness training to relevant Parks and Wildlife personnel who are likely to come into contact with asbestos, as deemed necessary;
Health and Safety Section	Organise training in competencies required for working in accordance with SWP's developed;
Shack Coordinator. PVS Coordinator	Ensure that contractors engaged to remove asbestos containing material have an appropriate removal licence and/or relevant competencies.
Shack Coordinator. PVS Coordinator	Ensure that all asbestos removal work is undertaken in accordance with Code of Practice requirements.
PVS Coordinator	Ensure that personnel are following correct procedures when working with or near ACM.

TABLE 3: ROLES AND RESPONSIBILITIES FOR IMPLEMENTATION OF THE AMP

ROLE	RESPONSIBILITIES
Contractors	• Complete works involving asbestos in accordance with the legislative requirements. • View and understand the asbestos register prior to the commencement of any work that may involve the disturbance of asbestos-containing materials. • Abide by the Removal Code of Practice in relation to any asbestos removal work in the built environment. • Abide by the requirements of any SWP prepared by or on behalf of Parks and Wildlife for working with asbestos in soils • Hold appropriate asbestos licences for the works they are engaged to conduct
All staff	• Participate in awareness and other training provided by Parks and Wildlife in relation to asbestos risk management; • Refer to the Asbestos Register before any work which may cause contact with an ACM; • Do not disturb ACM other than in accordance with a safe work procedure; • Report any suspected new find ACM as an event/hazard for follow up by management and inclusion in the asbestos register where applicable; • Report any identified new damage to an ACM and make the area safe to prevent exposure until remedial work can be arranged.

8.2 COMMUNICATION

Communication of the presence and location of ACM within Wedge and Grey Reserves along with relevant elements of the overall asbestos management plan to relevant staff is essential. Parks and Wildlife staff are regularly consulted regarding the identification and control of all workplace hazards.

Specifically communication that ACM may be encountered at work, the risk to personnel and the contents of the asbestos register and Asbestos Management Plan will be approached in a number of ways including:

- SITE SPECIFIC EMPLOYEE INDUCTIONS – At inductions for staff who may come into contact with ACM at the Wedge and Grey Reserves workplace, where to find the Asbestos Register and the Do's and Don'ts expected of all employees in relation to asbestos;
- CONTRACTOR ENGAGEMENT – At the point of engagement of contractors expecting to work within the Wedge and Grey reserves, information from the asbestos register, which is relevant to the contractors operations, will be provided to them. In addition any contractor conducting work which may disturb ACM will be required to provide a safe work procedure which, for asbestos removal work, will be in the form of an asbestos removal control plan[4];
- INFORMATION TO OTHER AGENCIES – Summary information regarding the presence and risk associated with asbestos-containing materials within the Wedge and Grey reserves will be provided to all other agencies that visit Wedge or Grey either on a routine or emergency basis;

[4] In accordance with the requirements of the Removal Code of Practice

- ASBESTOS REGISTER – The asbestos register is available to all Parks and Wildlife personnel via the intranet and will be used to assess the potential for ACM to be contacted or disturbed during any planned work;
- WARNING SIGNS – will be used at entrances to the reserves where ACM may be encountered by staff and the public to warn of the presence of ACM and to avoid contacting or disturbing it. Any location considered to constitute an immediate health risk, as determined by a competent person, shall be fenced off and asbestos warning signs posted. Examples of signage installed on site are shown at Appendix 2;
- TEAM MEETINGS, HEALTH AND SAFETY COMMITTEES & PRESENTATIONS - Communication of other aspects of the asbestos management plan relevant to all staff will be facilitated through internal meetings and presentations as deemed necessary. Communication of the location and content of safe work procedures will be through local training sessions within each team;
- CONSULTATION – Parks and Wildlife will ensure full consultation, involvement and information sharing occurs at all relevant personnel levels and locations of staff during implementation or review of the asbestos management plan as necessary.

8.3 COMPETENCIES AND TRAINING

The competencies of anyone who may come into contact with asbestos-containing materials or make decisions relating to its management should be considered within the Asbestos Management Plan.

Where in-house competencies are inadequate to understand the risk, provide advice and guidance on the management of asbestos, this will be sourced from outside Parks and Wildlife, from either other government departments or consultants.

Competencies of asbestos removal workers, operating in the built environment, are managed through Worksafe (WA) licensing in accordance with the Occupational Safety and Health Regulations, 1996. Parks and Wildlife will use licensed asbestos removalists as necessary for planned asbestos removal in buildings and structures.

Where in-house competencies are required for small scale asbestos removal such as removal of small amounts of non-friable asbestos cement debris; relevant operations staff are to be trained in the application of the safe work procedures covering that work which will also include basic asbestos awareness.

Competencies considered relevant to this plan include those listed below. However where in-house competencies do not meet requirements, Parks and Wildlife will engage external assistance either from other Government agencies or consultants as necessary:

TABLE 4: COMPENTENCY REQUIREMENTS

TASK	COMPETENCY
Asbestos Surveys and Register Development	• NATA Accredited Asbestos Surveyor; or • Class A Asbestos Assessor; or • P402 Qualified Asbestos Surveyor; or • Proven record of experience in surveying similar settings
Conduct asbestos in soils assessments	• A Competent environmental consultant as described by DoH (2009) with proven track record
Develop Asbestos Management Plan and related documents including SWPs	• Proven record of experience in developing such documents in similar settings
Develop and deliver asbestos awareness training to staff	• Proven record of experience in developing and delivering such documents in similar settings
Reviewing contractor's asbestos removal plans	• Competent environmental consultant as described by DoH (2009) with proven track record
Reviewing contractors asbestos in soils management plans	• Competent environmental consultant as described by DoH (2009) with proven track record
Removal of Non-Friable ACM <10m^2	• Restricted or Unrestricted Asbestos Removal Licence holder and proven record; and • In-house training in operating under a safe work procedure and basic asbestos awareness
Removal of Non-Friable ACM >10m^2	• Restricted or Unrestricted Asbestos Removal Licence holder and proven record
Removal of Friable ACM	• Unrestricted Asbestos Removal Licence holder and proven record
Supervision of earthworks involving asbestos impacted soils	• Competent environmental consultant as described by DoH (2009) with relevant experience
Airborne Fibre Monitoring events	• Competent person able to conduct sampling in accordance with NOHSC:3003(2005)[5] and issue NATA endorsed certificates of analysis
Analysis of bulk samples for asbestos content by Polarised Light Microscopy	• Laboratory with NATA accreditation to ISO/IEC: 17025 for analysis in accordance with Australian Standard 4964-2004[6]
Analysis of airborne fibre samples by Phase Contrast Microscopy	• Laboratory with NATA accreditation to ISO/IEC: 17025 for analysis in accordance with NOHSC:3003(2005)

[5] NOHSC:3003(2005) - Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres
[6] AS4964-2004 - Method for the Qualitative Identification of Asbestos in Bulk Samples

8.4 SAFE WORK PROCEDURES

A safe work procedure (SWP) is required for any work which may cause the disturbance of an asbestos-containing material. Such SWP's are to be written by the person in charge of the work. Planned work or operations at Wedge and Grey which have the potential to cause disturbance of an ACM include, but are not limited to:

- Asbestos removal from shacks and surrounds during renovation;
- Removal of disused and discarded asbestos materials;
- Earthworks in an area of asbestos impacted soils;
- Mobile plant operations in an area of impacted surface soils;
- hand picking programs for the removal of surface asbestos cement debris; and
- Disposal of asbestos waste material.

Where asbestos removal from shacks is to be conducted the SWP will be in the form of an Asbestos Removal Control Plan (ARCP) as detailed in the Removal Code of Practice[7] and will be prepared by the competent person in charge of the removal work.

Where earthworks involving asbestos impacted soils are to be conducted, the SWP will be specific to the planned soil disturbing work and be developed by the competent person in charge of the soil disturbing works.

SWPs for asbestos disturbing work should consider the following, as applicable:

- Asbestos removal boundaries, including the type and extent of isolation required and the location of any signs and barriers;
- Methods for removing the ACM and control of fibre release and spread;
- Asbestos removal equipment (spray equipment, asbestos vacuum cleaners, tools, etc.);
- Details on required enclosures (where necessary), including size, shape, structure, negative pressure exhaust units and smoke testing requirements;
- Personal Protective Equipment (PPE) to be used, including Respiratory Protective Equipment (RPE);
- Decontamination arrangements (for equipment, personnel, non-disposable PPE and the workplace etc.);
- Details of air monitoring and clearance arrangements, where necessary;
- Waste storage, and disposal arrangements; and
- Emergency plans.

Where asbestos waste is to be disposed of it must be:

- Separated from other material for disposal;

[7] NOHSC:2002(2005)

- Double bagged, wrapped in minimum 200 micron polythene bags/sheets or otherwise contained so fibres are not released when being transported;
- Labelled or marked on the package with the words 'CAUTION ASBESTOS' (or similar) in letters no less than 50 millimetres high; and
- Disposed of at a site that is licensed to accept asbestos waste.

8.4.1 Soil Disturbing Works

Although results of an airborne fibre monitoring exercise (Aurora, 2016b) indicated the health risks to be low, a safe work procedure for works involving potential disturbance of soils which may contain asbestos (i.e. at the waste disposal areas and adjacent to shacks with ACM roofs) should be considered as a precaution. Disturbing works could include earthworks, soil sampling and assessment, vegetation clearing, building construction/refurbishment, waste removal and other types of work where soils may be disturbed by vehicle or plant movements.

Whether or not a specific procedure and management is necessary will be dependent on the nature of the works and prevailing conditions in comparison to the airborne fibre monitoring exercise undertaken at the waste disposal areas in April 2016. It is considered that a decision for this should be the responsibility of the Parks and Wildlife District Manager, who may seek guidance from a suitably experienced environmental consultant and/or decide that safe work procedures should be implemented as matter of precaution in any event.

Possible control measures for managing the disturbance of soils which may contain asbestos to be documented into a safe work procedure include:

- limiting mobile plant movements or other soil disturbing activities to designated periods when active control measures can be employed;
- preventing public access to the work areas whilst mobile plant is operating or soils disturbance is likely;
- implementing dust control measures at the work areas during periods where soils may be disturbed including lightly wetting soil surfaces and minimising movement of soils (restrict speed, limit drop heights of soil, generally handle soil with care, etc.);
- application of disposable half face respirators (P2 mask) by people outside of vehicles at the waste disposal areas during potential dust creating activities;
- ensuring mobile plant vehicle cabins are enclosed (windows up and air flow re-circulated) whilst operating to disturb soils;
- safe storage, transport under the Controlled Waste Regulations 2004 and disposal of asbestos waste materials and soils as Special Waste Type 1 - asbestos in accordance with the DER guideline "*Landfill Waste Classification and Waste Definitions 1996 (as amended December 2009)*" (DER, 2009).

Case by case consideration may also be given to undertaking additional airborne fibre monitoring during large scale disturbance works, e.g. soil remediation.

8.5 EVENT RECORDING AND INVESTIGATION

An event is an occurrence which either causes harm or has the potential to do so such as accidents, incidents, near misses and hazard spotting. Parks and Wildlife has an online reporting procedure aligned with the internal guideline for reporting hazards, near misses and incidents which will be used for reporting and investigating asbestos related events. In relation to asbestos and this AMP events include the following:

- An unplanned disturbance of ACM causing airborne dust and potentially fibres which may have been inhaled;
- A planned disturbance of ACM where controls have been inadequate in controlling dust as determined through airborne fibre monitoring by a competent person;
- A new find of ACM that isn't included in the asbestos register, other than during planned asbestos assessments.

All such events will be investigated by a minimum of the location supervisor

9 ONGOING MANAGEMENT – SHACK LICENSING JURISDICTION

This section sets out the ongoing actions and responsibilities for the management of ACM remaining in the Wedge and Grey reserves in the context of the organisation around the licensing of shacks.

9.1 KEY ROLES RESPONSIBILITIES

Responsibilities of various roles in Parks and Wildlife are set out so that the objectives of the Asbestos Management Plan are met and the risk managed. The Manager Employee Relations and Safety is the owner of this Asbestos Management Plan document and responsible for its maintenance, currency and availability to shack lessees. Implementation of the asbestos management plan is ultimately the responsibility of Parks and Wildlife Management. However specific responsibilities for implementation of parts of the plan are shown in table 4 below.

TABLE 5: ROLES AND RESPONSIBILITIES FOR IMPLEMENTATION OF THE AMP

ROLE	RESPONSIBILITIES
District Manager	Maintenance of the overall AMP, including coordinating reviews of the AMP and Asbestos Register. Includes additions or changes to the register and updates following reviews;
Shack Coordinator. PVS Coordinator	Provide information, as necessary, to Shack Associations and shack owners on the location of the asbestos register and type of ACM present in and around shacks and the reserves;
District Manager Shack Coordinator.	Ensure that information regarding asbestos-containing materials in and around shacks, along with Do's and Don'ts for shack owners in relation to asbestos, is provided in lease agreements
Shack Coordinator. PVS Coordinator.	Coordinate information sharing with shack owners and the shack associations in relation to asbestos risk and its management
District Manager Shack Owners	Ensure that asbestos-cement products are not supplied or used unless already in-situ
Shack owners	Take reasonable measures to prevent fibre release whilst handling asbestos containing materials
Shack owners	Furnish Parks and Wildlife with information which they obtain in relation to asbestos-containing materials in and around shacks, to the extent that it may affect the health of Parks and Wildlife staff, contractors and/or the public, where such information is not already in the possession of Parks and Wildlife
Shack owners	Furnish Parks and Wildlife with information in relation to the assessment, removal and/or disposal of ACM from shack sites so that Parks and Wildlife can update the asbestos register accordingly.

9.2 COMMUNICATION

Communication of the presence and location of ACM within Wedge and Grey Reserves along with relevant elements of the overall asbestos management plan, to shack owners and the shack associations is necessary to ensure that all are informed of the risk associated with asbestos and precautions to be taken.

Specifically communication of the presence of ACM in and around shacks and the reserves will be approached in a number of ways including:

- ASBESTOS REGISTER – The asbestos register is available to all shack owners via the Parks and Wildlife website;
- WARNING SIGNS – will be used at entrances to the reserves where ACM may be encountered by shack owners and the public to warn of the presence of ACM and to avoid contacting or disturbing it. Any location considered to constitute an immediate health risk, as determined by a competent person, shall be fenced off and asbestos warning signs posted;
- CONSULTATION - Parks and Wildlife will ensure full consultation with shack owners and shack associations, in relation to the presence of asbestos-containing materials within the reserves and precautions required to prevent risk to health;
- CONSULT, ADVISE AND WARN – A process of application and approval is to be established by P&W for when user groups intend to enter the sites for work or recreational purposes. Such groups would include, for example, contractors, the Police, Department Fisheries Officers, Fishing Clubs, 4WD Clubs, Caravanning and Camping organisations and others such as school, university and church groups;
- LEASE AGREEMENTS - Information on the presence of asbestos-containing materials, prohibited actions and general precautions required to prevent disturbance of asbestos-containing materials is provided within lease agreements.

9.3 COMPETENCIES AND TRAINING

Section 8.3 details the competency requirements for Parks and Wildlife personnel and others in relation to the management of asbestos-containing materials at Wedge and Grey.

9.4 PROCEDURES

Reasonable measures are required to prevent fibre release and spread during any work which may cause the disturbance of an asbestos-containing material. Reasonable measures as required by the Health (Asbestos) Regulations 1992 include:

- using water or other practical measures to keep airborne material containing asbestos to a minimum;
- not using any tools other than non-powered hand tools or portable power tools that incorporate dust suppression or dust extraction attachments designed to collect asbestos fibres;
- using only vacuum cleaning equipment designed to collect asbestos fibres or wetting the area before sweeping up material containing asbestos;
- not using a high pressure water jet, or compressed air, unless in a manner which adequately prevents asbestos fibres entering the atmosphere and which is approved in writing by the Executive Director, Public Health;
- ensuring, so far as is reasonably practicable, that material containing asbestos is not broken or abraded; and
- ensuring that waste material containing asbestos is disposed of in accordance with the Environmental Protection (Controlled Waste) Regulations 2004 as soon as practicable.

Where asbestos waste is to be disposed of it must be:

- Separated from other material for disposal;
- Double bagged, wrapped in minimum 200 micron polythene bags/sheets or otherwise contained so fibres are not released when being transported;
- Labelled or marked on the package with the words 'CAUTION ASBESTOS' (or similar) in letters no less than 50 millimetres high; and
- Disposed of at a site that is licensed to accept asbestos waste.

10 ACTION PLAN

Whilst there is ACM present within the Wedge and Grey reserves the AMP will continue to be a working document which will change over time as more information comes to light and/or the risk profile changes. Reviews of the AMP may also recommend changes to the AMP. The action plan is a working plan with its priorities based on information available at any one time and will also be reviewed and priorities updated following reviews of the AMP or where new information comes to light. The current AMP Implementation Task List for the Wedge and Grey Asbestos Management Plan project is located in '*TEAMWORK*' at:
https://deptparksandwildlife.teamwork.com/projects/242486/tasks

10.1 FURTHER ASSESSMENT AND ONGOING MANAGEMENT OF ASBESTOS IN SOILS

Parks and Wildlife has commissioned an environmental consultant to undertake emu picking (including raking) of ACM fragments across the reserves. Following the completion of this exercise, areas subject to emu-picking will need to be visually assessed and the asbestos register will be updated to reflect the presence and conditions of ACM at these locations immediately following emu-picking. The environmental consultant will also conduct a Detailed Site Investigation (DSI) of shallow soils and locations where soils are found to contain asbestos (as ACM, AF or FA) will need to be added to the register with relevant details on the nature and extent of asbestos identified.

The DSI of shallow soils will be used to develop an overall soil remediation action and management plan in consultation with the DoH and a DER-accredited contaminated sites auditor to meet DoH (2009) and DER (2014) guidelines. This plan is to outline:

- the specific areas where asbestos has been identified and remains in-situ;
- the specific remediation measures which are to be implemented to remove or mitigate the potential health risks in the context of the possible exposure to asbestos;
- the specific institutional and control measures to be implemented to prevent exposure to asbestos where it cannot be removed;
- a framework for community consultation in relation to asbestos in soils; and
- the requirement for progressive updating of the asbestos register.

11 AMP CONTROL AND REVIEW

The AMP and Asbestos Register are controlled documents which will be updated only by the Parks and Wildlife Employee Relations and Safety Section and/or the Moora District Manager. An annual desktop review of the Asbestos Management Plan and Register will be conducted by the Parks and Wildlife Employee Relations and Safety Section and/or the Moora District Manager, and will include consideration of the following to the extent that they may affect the plan:

- New legislative requirements or guidance;
- Any operational changes which affect the accuracy or completeness of the plan;
- Any leasing arrangement changes which affect the accuracy or completeness of the plan;
- Outcome of any further site assessments conducted;
- Outcome of the asbestos register review;
- Event reports and outcomes;
- Outcomes of removal or remedial work conducted under SWP's; and
- Any competency gaps identified.

On the basis of the above review the list of priorities within the action plan will also be reviewed and amended as necessary.

The Asbestos Register will be updated as soon as there are significant changes affecting its accuracy and/or relevance such as:

- Following asbestos removal work;
- Upon identification of ACM which was not on the register;
- Following any actions or processes which change the condition, and therefore the risk assessment, of an ACM on the register.

The outcome of the review will advise whether re-inspections of sites containing ACM will be necessary.

12 REFERENCES

- *The Occupational Safety and Health Act 1984,* Government of Western Australia;
- *The Environmental Protection Act 1986*, Government of Western Australia;
- *The Contaminated Sites Act 2003*, Government of Western Australia;
- *The Conservation and Land Management Act 1984,* Government of Western Australia;
- The Occupational Safety and Health Regulations 1996, Government of Western Australia;
- The Environmental Protection (Controlled Waste) Regulations 2004, Government of Western Australia;
- The Health (Asbestos) Regulations 1992, Government of Western Australia;
- The Contaminated Sites Regulations 2006, Government of Western Australia;
- The Code of Practice for the Management and Control of Asbestos in the Workplace [NOHSC: 2018 (2005)];
- Code of Practice, How to Manage and Control Asbestos in the Workplace, Safe Work Australia;
- The Code of Practice for the Safe Removal of Asbestos 2nd Edition [NOHSC: 2002 (2005)];
- Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition [NOHSC:3003(2005)];
- Guidelines for Assessment, Remediation and Management of Asbestos-Contaminated sites Western Australia, Department of Health, Western Australia, 2009;
- Management of asbestos in the non-occupational environment, Environmental Health Standing Committee (enHealth), 2005, Government of Australia;
- Guidance Note on Identification, Assessment and Management of Asbestos Contamination in Regional Public Areas, Department of Health, Western Australia, 2011;
- Guidance Note on the Management of Fire Damaged Asbestos, Department of Health, Western Australia,
- Assessment and Management of Contaminated Sites, Contaminated Site Guidelines 2014; Department of Environment Regulation, Western Australia;
- Asbestos: The Survey Guide (HSG264), Health and Safety Executive, UK;
- Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)];
- Australian Drinking Water Guidelines 6, 2011, Version 3.1, March 2015, Government of Australia;
- Aurora Environmental (2015), Asbestos Assessment and Preliminary Management Plan – Wedge and Grey Settlements, Shire of Dandaragan. Report number: AP2015/155. Version 1, 10 November 2015
- Aurora Environmental (2016a), Additional Soil Sampling at Wedge and Grey Reserves, letter addressed to Parks and Wildlife dated 31 March 2016.
- Aurora Environmental (2016b), Airborne Fibre Monitoring at Wedge and Grey Tip Sites, letter addressed to the Department of Parks and Wildlife dated 5 May 2016.

FIGURES

GREY
SITE LOCATION

WEDGE
SITE LOCATION

N

0 5 10 15 20km

SCALE 1 : 425 000 at A3 (MGA)

Aurora environmental

Department of Parks and Wildlife
ASBESTOS MANAGEMENT PLAN
WEDGE AND GREY SETTLEMENTS, SHIRE OF DANDARAGAN

Figure 1

REGIONAL LOCATION

Drawn: C. Outhwaite | Date: 2 Nov 2016 | Job: DPW2016-004

Legend

- Wedge spur road
- Main vehicle thoroughfare
- Major vehicle tracks
- Minor vehicle tracks
- Walking tracks
- Rubbish tip
- Rubbish tip (closed)
- Metal dump (closed)
- Car tip (closed)
- Shacks
- 162 Shack identification numbers
- 48 Shacks associated with professional fishermen
- Unidentified shacks
- First aid point
- F Fire tenders
- W Water fill
- H Helipad

Information Sources:

This map is based on 2012 Aerial and mapping produced by the GIS Branch, Department of Parks and Wildlife.

Shack and track locations derived from Wedge Point - DIA 20051_Produced 8 February 2012_GIS Branch_DEC (MGA Zone 50, Datum: GDA94 / Job Ref: G:\Projects\Wedge Pt_GreyPt_Brabazon_Shacks\MXD\Wedge_point_DIA.mxd).

Shack identification numbers transposed from 2012 Shack Lease Plan showing shack identification numbers. Shacks not picked up on survey transposed from aerial information.

Professional Fishing Boat Mooring Zone transposed from onsite information map. Water fill, fire tenders and first aid points transposed from onsite information map. Labels derived from onsite information available.

This map was transposed from mapping undertaken as part of the planning process for the Wedge and Grey Master Plan 2000.

Access information derived from Wedge_Recreation Area_Site Analysis_Existing Land Use / October 1998 / CALM_Recreation Planning and Design Section (NB This plan is not based on accurate survey data. Information is interpreted from aerial photography. (WA3497, Run no. 5248 January 1995).

Closed track points transposed from Waypoint information received from the Shaw Family.

Infrastructure features derived from Wedge Point - DIA 20051_Produced 8 February 2012_GIS Branch_DEC (MGA Zone 50, Datum: GDA94 / Job Ref: G:\Projects\Wedge Pt_GreyPt_Brabazon_Shacks\MXD\Wedge_point_DIA.mxd). Track and shack locations need to be verified as they do not all correspond with 2008 aerial data and shack numbering plans.

Dune edge line transposed from 2008 Aerial and contour base information.

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N

0 50 100 150 200 250m

SCALE 1 : 8 000 at A3 (MGA)

SOURCE: DPaW, Dwg No. MW1205 Wedge Settlement_Base Map, 15-15-12.

Aurora environmental

Department of Parks and Wildlife
ASBESTOS MANAGEMENT PLAN
WEDGE AND GREY SETTLEMENTS, SHIRE OF DANDARAGAN

WEDGE SETTLEMENT LAYOUT

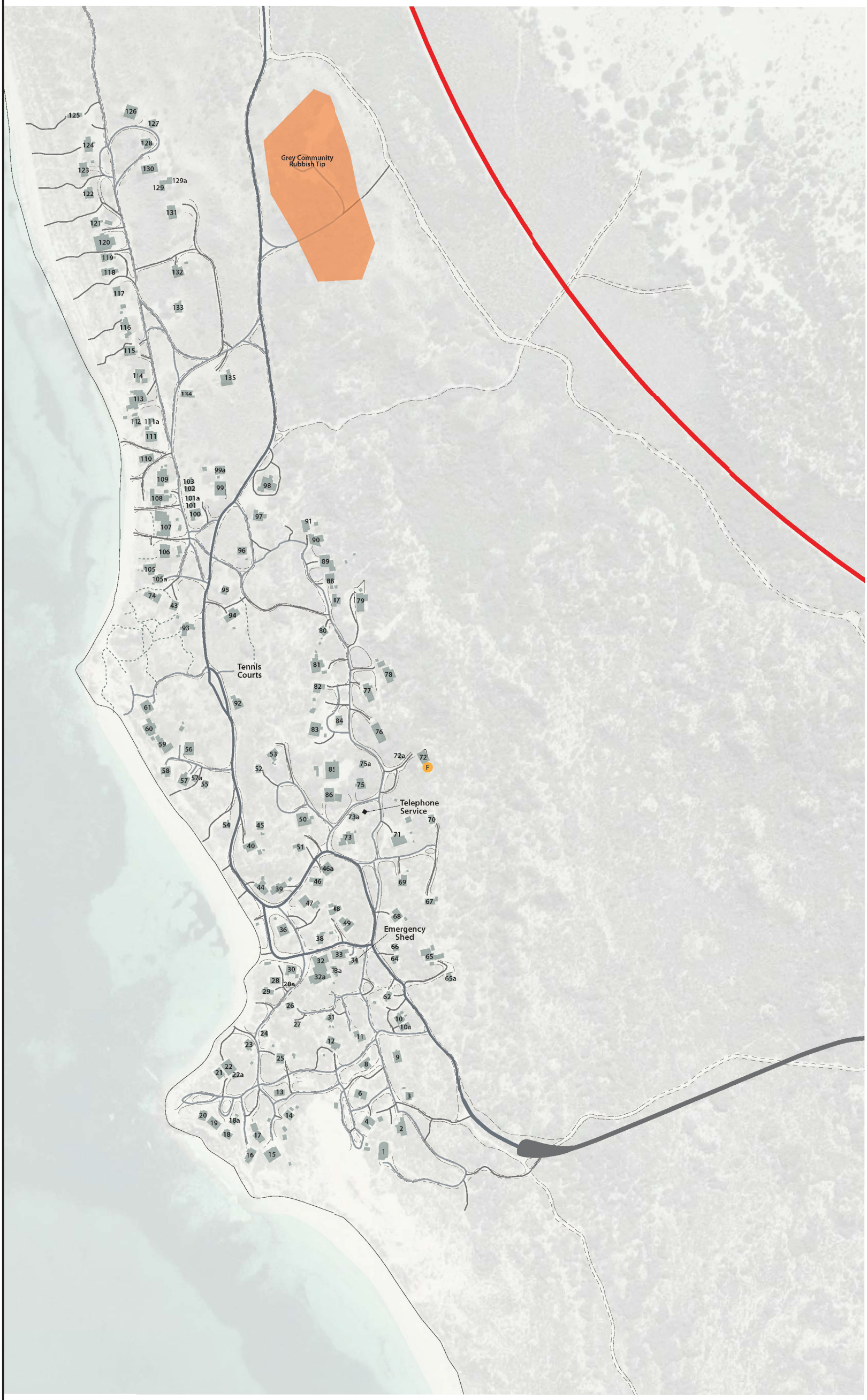
Drawn: C. Outhwaite | Date: 2 Nov 2016

Figure 2

Job: DPW2016-004

DPW2016-004_AMP_001_cc-f02.dgn

PINPOINT CARTOGRAPHICS (08) 9562 7136



Legend

- Indian Ocean Drive
- Grey Spur Road
- Main Vehicle Thoroughfare
- Major Vehicle Tracks
- Minor Vehicle Tracks
- Walking Tracks
- Fences
- Rubbish Tip
- Shacks
- 72 Shack Identification Numbers
- F Fire tender

Information Sources:

This map is based on 2012 Aerial and mapping produced by the GIS Branch, Department of Parks and Wildlife.

This map was transposed from mapping undertaken as part of the planning process for the Wedge and Grey Master Plan 2000.

Shacks not picked up on survey transposed from aerial information.

Shack Identification taken from a 2012 shack lease plan Dune edge line transposed from 2008 aerial and contour information.

Labels derived from onsite information

Access information derived from Grey_Recreation Area_ Site Analysis _Land Use / October 1998 / CALM_Recreation Planning and Design Section (NB This plan is not based on accurate survey data. Information is interpreted from aerial photography. (WA3380, Run no. 5050-April 1994). Indian Ocean Drive_Dec GIS_Midwest Sealed Roads layer.

Infrastructure features derived from Grey Point_Point_Produced 21 February 2012_GIS Branch_DEC (MGA Zone 5, Datum: GDA94 / Job Ref: G:\Projects\12011G01_WedgeGreyPts\MXD\Grey_Point.mxd).

Shack and track locations derived from Grey Point_Point_Produced 21 February 2012_GIS Branch_DEC (MGA Zone 5, Datum: GDA94 / Job Ref: G:\Projects\12011G01_WedgeGreyPts\MXD\Grey_Point.mxd). Track and shack locations need to be verified as they do not all correspond with 2008 aerial data and shack numbering plans.

Department of Parks and Wildlife

SOURCE: DPaW, Dwg No. MW1205 Grey Settlement_Base Map, 15-05-13.

Aurora environmental

Drawn: C. Outhwaite | Date: 2 Nov 2016

Department of Parks and Wildlife
ASBESTOS MANAGEMENT PLAN
WEDGE AND GREY SETTLEMENTS, SHIRE OF DANDARAGAN

GREY SETTLEMENT LAYOUT

Figure 3

Job: DPW2016-004

APPENDIX 1

TEAMWORK Implementation Task List

Wedge and Grey Asbestos Management Plan

Tasks Report

Wedge and Grey Asbestos Management Plan — Parks and Visitor Services

Generated: 31 Oct 2016 11:38

This projects sets out the tasks involved in implementing the Wedge and Grey Asbestos Management Plan

Establish Project Team

Team includes reps from Parks and Wildlife: Moora District, Health and Safety Section and PVS Division and Aurora Environmental

Active Tasks

Task	Start Date	Date Due	Responsible	Assigned By	Priority	Progress	Status
Project teams meets regularly	14 Dec (2015)	25 Nov (2016)	Anybody	Colin I.		70%	Upcoming (Started)

Communicate results of Preliminary Asbestos Assessment to stakeholders

Active Tasks

Task	Start Date	Date Due	Responsible	Assigned By	Priority	Progress	Status
Add information to web page as required	01 Jun (2016)	30 Dec (2016)	Anybody	Colin I.		50%	Upcoming (Started)

Completed Tasks

Task	Start Date	Date Due	Responsible	Assigned By	Priority	Progress	Status
Develop web page	05 Jan (2016)	04 Jul (2016)	Anybody	Colin I.		100%	Completed 06 Jul (2016) by Colin I.
Load Asbestos Register onto the web page	02 Feb (2016)	30 Mar (2016)	Anybody	Colin I.		100%	Completed 06 Jul (2016) by Colin I.
Load report: Asbestos Assessment and Preliminary Management Plan on to web page	23 Feb (2016)	01 Mar (2016)	Anybody	Colin I.		100%	Completed 06 Jul (2016) by Colin I.
Load guidance note and other information on asbestos management material on to web page	11 May (2016)	29 May (2016)	Anybody	Colin I.		100%	Completed 06 Jul (2016) by Colin I.

Prepare and install Asbestos warning signs at Wedge and Grey

Completed Tasks

Task	Start Date	Date Due	Responsible	Assigned By	Priority	Progress	Status
Signs designed and sent to signmaker	15 Dec (2015)	30 Dec (2015)	Anybody	Colin I.		100%	Completed 06 Jul (2016) by Colin I.
Signs installed	08 Jan (2016)	09 Jan (2016)	Anybody	Colin I.		100%	Completed 06 Jul (2016) by Colin I.

Management of asbestos in and around shack properties

Completed Tasks

Task	Start Date	Date Due	Responsible	Assigned By	Priority	Progress	Status
Letter to shack owners recommending removal of stored / disused ACM	02 Feb (2016)	11 Nov (2016)	Anybody	Colin I.		100%	Completed 31 Oct (2016) by Colin I.
Include advice recommending removal of high risk ACM	09 Feb (2016)	11 Nov (2016)	Anybody	Colin I.		100%	Completed 31 Oct (2016) by Colin I.
Include advice on sealing & painting unsealed ACM	09 Feb (2016)	11 Nov (2016)	Anybody	Colin I.		100%	Completed 31 Oct (2016) by Colin I.
Include advice on removal or management of asbestos roofs	09 Feb (2016)	11 Nov (2016)	Anybody	Colin I.		100%	Completed 31 Oct (2016) by Colin I.

Identify and respond to occupational health and safety issues

Completed Tasks

Task	Start Date	Date Due	Responsible	Assigned By	Priority	Progress	Status
Consultant to provide information and briefing to staff on occupational asbestos risks	08 Mar (2016)	11 Mar (2016)	Anybody	Colin I.		100%	Completed 06 Jul (2016) by Colin I.
Undertake soil samples at Wedge and Grey waste transfer stations	15 Mar (2016)	19 Mar (2016)	Anybody	Colin I.		100%	Completed 06 Jul (2016) by Colin I.
Undertake air monitoring at Wedge and Grey waste transfer stations	01 Apr (2016)	09 Apr (2016)	Anybody	Colin I.		100%	Completed 06 Jul (2016) by Colin I.
Develop Guidance Note for staff on safe practices for managing asbestos in the workplace	02 Feb (2016)	15 Apr (2016)	Anybody	Colin I.		100%	Completed 06 Jul (2016) by Colin I.

Engage an Environmental Auditor

Completed Tasks

Task	Start Date	Date Due	Responsible	Assigned By	Priority	Progress	Status

Prepare specification in conjunction with Dept of Health	09 Feb (2016)	01 Mar (2016)	Anybody	Colin I.		100%	Completed 06 Jul (2016) by Colin I.
Release RfQ and undertake assessment of proposals	02 Mar (2016)	30 Mar (2016)	Anybody	Colin I.		100%	Completed 06 Jul (2016) by Colin I.
Appoint Environmental Auditor	06 Apr (2016)	01 Nov (2016)	Anybody	Colin I.		100%	Completed 06 Jul (2016) by Colin I.

Assess shacks in possession of DPaW for removal

Active Tasks

Task	Start Date	Date Due	Responsible	Assigned By	Priority	Progress	Status
Monitor condition of possessed shacks	01 Jan (2016)	26 Mar (2017)	Anybody	Colin I.		50%	Upcoming (Started)

Completed Tasks

Task	Start Date	Date Due	Responsible	Assigned By	Priority	Progress	Status
Commence discussions with stakeholders re shack removal	01 Mar (2016)	30 May (2016)	Anybody	Colin I.		100%	Completed 06 Jul (2016) by Colin I.

Appoint contractor for Detailed Site Investigation (DSI)

Completed Tasks

Task	Start Date	Date Due	Responsible	Assigned By	Priority	Progress	Status
Prepare specification in conjunction with Dept of Health	02 Mar (2016)	10 May (2016)	Anybody	Colin I.		100%	Completed 06 Jul (2016) by Colin I.
Release RfQ and assess proposals	04 Mar (2016)	08 Apr (2016)	Anybody	Colin I.		100%	Completed 06 Jul (2016) by Colin I.
Select and notify successful proponent	12 Apr (2016)	02 Jun (2016)	Anybody	Colin I.		100%	Completed 06 Jul (2016) by Colin I.

Implement DSI

Active Tasks

Task	Start Date	Date Due	Responsible	Assigned By	Priority	Progress	Status
DER to review report and set classification level for sites	01 Nov (2016)	14 Nov (2016)	Anybody	Colin I.		0%	Upcoming (Not started)
DER to set classification level	15 Nov (2016)	30 Nov (2016)	Anybody	Colin I.		0%	Upcoming (Not started)

Completed Tasks

Task	Start Date	Date Due	Responsible	Assigned By	Priority	Progress	Status
Prepare Sampling Analysis Plan	07 Jun (2016)	08 Jul (2016)	Anybody	Colin I.		100%	Completed 31 Oct (2016) by Colin I.
Undertake soil sampling	08 Jul (2016)	12 Aug (2016)	Anybody	Colin I.		100%	Completed 31 Oct (2016) by Colin I.
Undertake raking, hand picking and removal of ACM	18 Jul (2016)	02 Sep (2016)	Anybody	Colin I.		100%	Completed 31 Oct (2016) by Colin I.
Refer Final DSI Report to Auditor	03 Oct (2016)	14 Oct (2016)	Anybody	Colin I.		100%	Completed 31 Oct (2016) by Colin I.

Prepare Asbetos Management Plan

Active Tasks

Task	Start Date	Date Due	Responsible	Assigned By	Priority	Progress	Status
Draft AMP circulated to shack owners / stakeholders	01 Sep (2016)	25 Nov (2016)	Anybody	Colin I.		0%	Upcoming (Not started)
AMP finalised & adopted by Parks and Wildlife	03 Oct (2016)	04 Nov (2016)	Anybody	Colin I.		0%	Upcoming (within 7 days) (Not started)

Completed Tasks

Task	Start Date	Date Due	Responsible	Assigned By	Priority	Progress	Status
Draft AMP prepared	01 Jun (2016)	11 Nov (2016)	Anybody	Colin I.		100%	Completed 31 Oct (2016) by Colin I.

Manage asbestos materials when dismantling or removing shacks

Active Tasks

Task	Start Date	Date Due	Responsible	Assigned By	Priority	Progress	Status
Assume suspected materials are asbestos or analyse all suspected	02 Jan (2017)	03 Jan (2017)	Anybody	Colin I.		0%	Upcoming (Not started)

Approriate removal and disposal of asbestos (ACM)

Active Tasks

Task	Start Date	Date Due	Responsible	Assigned By	Priority	Progress	Status
All ACM to be wrapped	01 Sep (2016)	31 Dec (2016)	Anybody	Colin I.		0%	Upcoming (Not started)

All ACM to be removed to licensed facility	01 Sep (2016)	31 Dec (2016)	Anybody	Colin I.	0%	Upcoming (Not started)

Generated for Colin Ingram at 11:38 31/10/2016

APPENDIX 2

Example Warning Signs and Labels

Wedge and Grey Asbestos Management Plan

EXAMPLES OF SIGNAGE ERECTED AT WEDGE AND GREY

ASBESTOS RISK AREA

Asbestos is present in this area

DANGER

Many shacks and surrounds at Wedge/Grey contain asbestos materials.

If disturbed and then inhaled asbestos fibres may cause cancer.

For your safety:

- avoid dusty situations
- do not pick up, disturb or remove asbestos materials without proper training & equipment.

Department of **Parks and Wildlife**

ASBESTOS RISK AREA

Asbestos is present in this area

DANGER

Asbestos materials have been dumped in this area.

If disturbed and then inhaled asbestos fibres may cause cancer.

For your safety:

- avoid dusty situations
- do not pick up, disturb or remove asbestos materials without proper training & equipment
- do not dump asbestos materials
- asbestos materials must be wrapped and disposed of at a licensed asbestos disposal facility.

Department of **Parks and Wildlife**

EXAMPLES OF ASBESTOS WARNING LABELS AND SIGNAGE FROM THE CODE OF PRACTICE FOR THE MANAGEMENT AND CONTROL OF ASBESTSOSTS IN WORKPLACES [NOHSC:2018(2005)]