



Asbestos Management Plan
River Road Foreshore, Shoalhaven Heads NSW

June 2019

Asbestos Management Plan
River Road Foreshore, Shoalhaven Heads NSW

19022_SCC_RRFSH_AMP_R2

June 2019

PREPARED FOR:

Samantha Walsh
Coastal Management Project Officer
Shoalhaven City Council
PO Box 42 Nowra NSW 2541

PREPARED BY:

Opterra
ABN. 28 998 369 339
65 Merrick Circuit
Kiama NSW 2533
T. 0427 835 607
E. rylan@opterra.com.au
W. www.opterra.com.au

DISCLAIMER

Reports produced by Opterra are prepared for a particular Client's objective and are based on a specific scope, conditions and limitations as agreed between Opterra and the Client. Information and/or report(s) prepared by Opterra may not be suitable for uses other than the original intended objective. No parties' other than the Client should use any information and/or report(s) without first seeking approval from Opterra.

The information and/or report(s) prepared by Opterra should not be reproduced, presented or reviewed except in full. This report has been prepared on behalf of and for the exclusive use of Opterra's Client and is subject to and issued in connection with the provisions of the agreement between Opterra and its Client. Opterra accepts no liability or responsibility whatsoever for or in respect of any use of or reliance upon this report by any third party.

DOCUMENT HISTORY AND STATUS

Revision	Status	Author	Date
R1	Final	Rylan Loemker BEnvSc (Hons) Principal Consultant	12/06/2019
R2	Final	Rylan Loemker BEnvSc (Hons) Principal Consultant	13/06/2019

DISTRIBUTION OF COPIES

Revision	Format	Issued to	Date
R1	Email/ PDF	Samantha Walsh Coastal Management Project Officer Samantha.Walsh@shoalhaven.nsw.gov.au	12/06/2019
R2	Email/ PDF	Samantha Walsh Coastal Management Project Officer Samantha.Walsh@shoalhaven.nsw.gov.au	13/06/2019

CONTENTS

INTRODUCTION.....	5
DEFINITIONS	5
Asbestos.....	5
Non-Friable Asbestos	5
Friable Asbestos.....	5
RISK ASSESSMENT OF SITE ACTIVITIES.....	6
Routine Inspections and Above Ground Works.....	6
Intrusive Ground Works.....	6
UNEXPECTED FINDS PROTOCOL	7
REMOVAL OF ASBESTOS MATERIALS.....	9
Air monitoring.....	10
Clearance Certification.....	10
CONCLUSIONS	11
LIMITATIONS.....	11

INTRODUCTION

Opterra was engaged by Shoalhaven City Council to prepare an Asbestos Management Plan (AMP) for the Shoalhaven Heads River Road Foreshore embankment works.

A site investigation was completed on 24 May 2019 where non-friable asbestos cement fragments were identified on the ground surface along the foreshore. The source of the contamination could not be identified.

The non-friable asbestos cement fragments were removed from within the following river bank ground surfaces on 30 May 2019:

- Approximately 5m x 5m area around the western marker, centred at approximate co-ordinates (WGS84) 34°51'19.3"S 150°44'22.7"E.
- Approximately 5m x 5m area around the central marker, centred at approximate co-ordinates (WGS84) 34°51'18.6"S 150°44'24.6"E.
- Approximately 5m x 5m area around the eastern marker, centred at approximate co-ordinates (WGS84) 34°51'17.9"S 150°44'26.6"E.

A clearance inspection was carried out on 30 May 2019 following the asbestos removal. It was the opinion of the inspector that as far as reasonably practicable the asbestos removal works had been completed to a satisfactory industry standard.

Whilst it is unlikely, due to the unknown nature of the contamination, residual / remnant ACM may be identified within or outside of the areas inspected due to planned works on the foreshore.

Therefore, this AMP has been prepared to educate relevant Shoalhaven City Council staff, site workers and contractors about the presence asbestos contamination at the site and assist them with management of any future site works that may disturb any unidentified ACM that may result in a risk to human health.

DEFINITIONS

Asbestos

Asbestos is the generic term for a number of naturally occurring fibrous silicate minerals. There are two major groups of asbestos:

- The Serpentine group which contains chrysotile (white asbestos); and;
- The Amphibole group which contains amosite (brown asbestos) and crocidolite (blue asbestos) as well as other less common types, such as tremolite, actinolite and anthophyllite.

The condition of asbestos materials can be identified as either **Non-friable** or **Friable**. ACM is any material or thing that, as part of its design, contain asbestos.

Non-Friable Asbestos

Non-friable or bonded asbestos products are solid and you can't crumble them in your hand—the asbestos has been mixed with a bonding compound such as cement. If non-friable asbestos is damaged or degraded it may become friable and will then pose a higher risk of fibre release.

Friable Asbestos

Friable asbestos is a material containing asbestos that when dry, is in powder form or may be crushed or pulverised into powder form using your hand. This material poses a higher risk of exposing people to airborne asbestos fibres. Friable asbestos was commonly used in industrial applications rather than the home, although loose-fill asbestos has been found in homes in NSW and the ACT, where it was sold as ceiling and wall insulation.

RISK ASSESSMENT OF SITE ACTIVITIES

Routine Inspections and Above Ground Works

Routine inspections of the areas identified above should be carried out every six months to ensure that no further contamination is uncovered. The routine inspection itself has a negligible risk of uncovering ACM at the site.

The following non-intrusive works are also unlikely to uncover ACM at the site:

- Site inspections without sampling;
- Site walkovers; and
- Any other above ground works.

No specific safety or procedural requirements, other than those required by Shoalhaven City Council or the Contractor upon entry to this site, are necessary for routine inspections and above ground works.

Intrusive Ground Works

In general, the risk of an unexpected find increases with intrusive ground works. The following activities are considered intrusive ground works:

- Excavation, relocation or removal of any embankment material;
- Trenching;
- Grading; or
- Any other intrusive works.

Site workers and contractors completing intrusive ground works shall make themselves familiar with the Unexpected Finds Protocol outlined in this AMP.

UNEXPECTED FINDS PROTOCOL

Whilst it is unlikely, due to the unknown nature of the contamination, residual / remnant ACM may be identified within or outside of the areas inspected due to planned works on the foreshore. Therefore, an unexpected finds protocol has been established in the event ACM is uncovered during intrusive ground works.

An unexpected find includes:

- More than 10 m² of non-friable asbestos observed on or below the ground surface due to erosion of embankment works (e.g. asbestos piping or sheeting fragments); and
- Suspected friable asbestos on the ground surface on or below the ground surface.

Any non-friable asbestos encountered that totals less than 10m² will still require removal, but will not require the use of licensed asbestos removal contractor. The removal less than 10m² of non-friable asbestos will still need to be completed in accordance with guidance documents listed in this AMP.

As a precautionary measure to ensure the protection of site workers and contractors and the site workers and occupants of nearby land, should an unexpected find be encountered (or any other unexpected potentially hazardous substance), the procedure summarised in Figure 1 is to be followed.

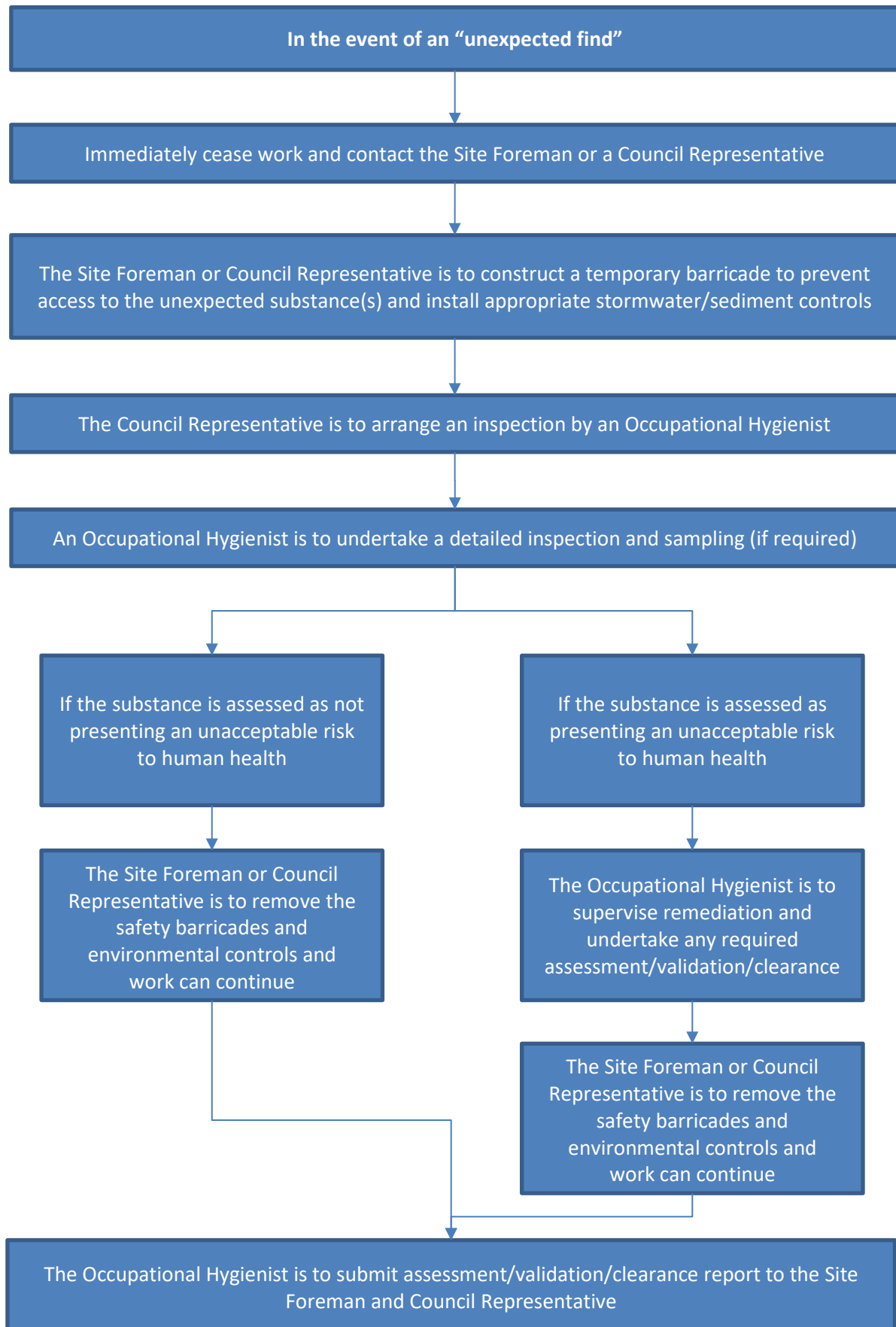
Following an unexpected find event, procedures shall be developed by Shoalhaven City Council for any future proposed intrusive ground works at the site. The procedures shall detail the requirements for site workers and contractors when completing intrusive grounds works as follows:

- Personal Protective Equipment;
- Removal of asbestos contamination (see guide below);
- Contaminated material storage and handling requirements;
- Waste transport and disposal and any requirements for licensed asbestos removal contractors;
- Human health and environmental monitoring requirements; and
- Any validation and clearance requirements.

The procedures shall be developed in accordance with the following National Guidelines and Regulations:

- *NSW Work Health & Safety Act 2011.*
- *NSW Work Health & Safety Regulation 2017.*
- *Protection of the Environment Act 1997.*
- *Protection of the Environment Operations (Waste) Regulation 2014.*
- SafeWork Australia: How to Safely Remove Asbestos, Code of Practice (COP), October 2018;
- SafeWork NSW: Code of Practice How to Manage and Control Asbestos in the Workplace September 2016;
- SafeWork NSW: Code of Practice How to Safely Remove Asbestos September 2016;
- Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibre, 2nd Edition [NOHSC: 3003 (2005)].

Figure 1. Unexpected Finds Protocol



REMOVAL OF ASBESTOS MATERIALS

The following procedures are an outline of the methodology to be used for the removal of ACM that may be identified at the site. Alternative methods of removal may be considered and must be reviewed by an Occupational Hygienist prior to the commencement of the project. These procedures are a guide only and do not override the requirements of legislation and accepted minimum standards, which apply for work involving removal of asbestos containing materials.

Contractors carrying out asbestos removal work shall prepare procedures detailing the steps they will take to comply with the requirements of this AMP. The procedures will include an overview of the methodology to be used, containment procedures and health protection methods.

Should friable ACM be identified at the site, all friable asbestos removal work shall be undertaken by a Class A licensed Asbestos Removal Contractor. All non-friable asbestos removal works greater than 10m² shall be undertaken by a Class A or Class B licensed Asbestos Removal Contractor.

Where Contractors are engaged in asbestos removal works:

- All Contractors tendering for the works will be issued with tender documents, which include this AMP and the applicable reports generated as part of any assessment undertaken;
- Prior to entering the Site to undertake works, the Contractor will provide for approval, their proposed procedures related to the works; and
- Only licensed and experienced asbestos removal Contractors will be utilised.

All asbestos removal works requiring the use of Subcontractors may require the Contractor to provide information concerning their experience, qualifications and approvals. The information sought at the time of tendering will include:

- Name of Company tendering;
- Evidence of currency of insurances (e.g. asbestos-related insurances);
- Evidence of currency of removal licences (e.g. asbestos removal licence);
- Name of on-site supervisor, and their qualification;
- Name of workers to be employed on the project and evidence that they have undergone training in removal of ACM;
- A list and details of past projects undertaken in the past six months;
- A list of referees and their contact telephone numbers;
- An Asbestos Removal Control Plan;
- JSA (Job Safety Analysis) or SWMS (Safe Work Method Statements) to be used for the asbestos removal work;
- A copy of any training records for staff; and
- Copies of health surveillance and records of medicals for employees.

Personnel undertaking asbestos removal work must be appropriately trained and competent. The following procedures will apply for all asbestos removal work undertaken by licensed Asbestos Removal Contractors:

- The Asbestos Removal Contractor is to be licensed in accordance with the *Work Health & Safety Regulation* 2017. A copy of the current license is to be furnished by the Contractor prior to the commencement of work.
- The Asbestos Removal Contractor is to apply for and supply a copy of the “Notification of Asbestos Removal Work” to SafeWork NSW prior to the commencement of the asbestos removal work and displayed in a prominent position during the asbestos removal project.
- All personnel employed by the Asbestos Removal Contractor are to be appropriately trained in asbestos removal in accordance with the requirements of the SafeWork NSW.

Procedures to be undertaken during asbestos removal works include but are not limited to those outlined below.

1. Signage is to be displayed on the Asbestos Work Area boundaries advising that asbestos removal works are being undertaken in accordance with the Code of Practice: How to Safely Remove Asbestos.
2. Appropriate precautions for working on the foreshore shall be undertaken and all Regulations and Codes of Practice observed.
3. Personnel involved in the removal of the asbestos must wear, as a minimum, approved half-face cartridge-type respirators fitted with Class P2 particulate filters¹, disposable overalls, boot covers and gloves. All PPE is compulsory and must be worn by all personnel undertaking asbestos removal.
4. Asbestos waste must be placed in 0.2mm polyethylene low-density plastic bags labelled as 'Asbestos Waste'.
5. Bags which have contained asbestos material shall not be reused.
6. Bags marked as asbestos waste shall not be used for any other purpose.
7. Bags shall not be filled more than half full, in order to minimise the risk of bag tearing / splitting and to assist in manual handling of bags. The neck end of each bag shall be twisted tightly, folded over and the neck secured in the folded position with wire ties, adhesive tape or other effective method.
8. Sealed asbestos waste bags shall be cleaned of any visible asbestos residue before being removed from the asbestos removal area.
9. All soiled PPE shall be placed into asbestos waste bags.
10. Asbestos waste and other waste are to be disposed of in the appropriate manner at an approved waste disposal facility. Permission to dispose of the asbestos waste is to be obtained from the appropriate authority prior to the commencement of work. The Asbestos Removal Contractor shall provide dumping dockets to an Occupational Hygienist.
11. Transport and final disposal of asbestos waste material shall be carried out by the Asbestos Removal Contractor in a manner, which will prevent the liberation of asbestos dust into the atmosphere. Vehicles licensed for the transportation of asbestos waste shall only be used.
12. The Asbestos Work Area will be inspected to ensure asbestos contaminated waste and debris is removed. Clearance inspections are to be carried out by an Occupational Hygienist. An Occupational Hygienist is to be accompanied by the Asbestos Removal Contractor at all times during clearance inspections.
13. A final inspection will be carried out by an Occupational Hygienist to ensure all work has been carried out and areas cleaned satisfactorily.

Air monitoring

Air monitoring should be undertaken whenever asbestos removal work is in progress. All air monitoring and clearance inspections should be carried out by an Occupational Hygienist to NATA Standards and in accordance with the Code of Practice: How to safely Remove Asbestos. Clearance inspections are to be undertaken at completion of all work and prior to the removal of the Asbestos Work Area barriers.

Clearance Certification

Clearance certification is required at the completion of all asbestos removal works which will only be considered complete and clearances issued when a visual inspection reveals no further evidence of ACM or asbestos contamination in the Asbestos Work Area. If air monitoring is undertaken, air samples must indicate a clear result of <0.01 fibres/mL.

The visual clearance inspection and air clearance monitoring are complimentary techniques and removal of the Asbestos Work Area may only proceed after both techniques give satisfactory results.

These visual inspections and air clearances shall be undertaken by an Occupational Hygienist and a Clearance Certificate provided to the Site Project Manager for major works

¹ Effective seal of respirators cannot be made over beards, long facial growth or spectacles

CONCLUSIONS

It is considered that conformance with this AMP will mitigate the potential impacts on human health and the environment during the removal of the asbestos within the site.

Opterra is to be informed if there are any changes to the remediation approach and if so, this AMP must be updated in consultation with the relevant parties.

LIMITATIONS

This report has been prepared by Opterra with all reasonable skill, care and diligence, and taking account of the manpower and resources devoted to it by agreement with the Client. Information reported herein is based on the interpretation of the assessment and has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. It is not appropriate for this report to be used for any other purpose, without prior written consent. It is also not appropriate for this report to be released to any other party (either in whole or in part) without Opterra's prior written consent. Should you wish to use this report for a purpose other than the purpose for which it was prepared, or to release this report (either in whole or in part) to any other party, please contact Opterra so that we may discuss your wishes in further detail with you.

Opterra prepared this report for the purpose set out in Objectives and as agreed to by the Client. Any advice, opinions or recommendations contained in this document should be read and relied upon only in the context of the document as a whole and are considered current to the date of this document. Any other party should satisfy themselves that the scope of work conducted and reported herein meets their specific needs. Opterra cannot be held liable for third party reliance on this document, as Opterra is not aware of the specific needs of the third party.

Please note, however, that in the event that this report is used for a purpose for which it was not prepared, and you have not obtained Opterra's prior written consent to use the report for that purpose, then neither Opterra, nor any member or employee of Opterra, accept responsibility or liability for the use of this report for that purpose.

Opterra's professional opinions are based upon its professional judgement, experience, and training. These opinions are also based upon the assessment described in this report. Opterra has limited its investigation to the scope agreed upon with its Client. Opterra believes that its options are reasonably supported by the assessment that have been done, and that those opinions have been developed according to the professional standard of care for the environmental consulting profession in this area at this time. That standard of care may change and new methods and practices of exploration, testing, analysis and remediation may develop in the future, which might produce different results. Opterra's professional opinions contained in this document are subject to modification if additional information is obtained, through further investigation, observations, or validation testing and analysis during remedial activities.

In addition, this report does not, and does not purport to, give legal advice as to your actual or potential liabilities, or draw conclusions as to whether any particular circumstances constitute a breach of relevant legislation. You will appreciate that this advice can only be given by qualified legal practitioners.

Finally, Opterra does not make any other warranty, expressed or implied, as to the professional advice contained in this report.