



GUIDANCE NOTE ON IDENTIFICATION, ASSESSMENT AND MANAGEMENT OF ASBESTOS CONTAMINATION IN REGIONAL PUBLIC AREAS

May 2011

Scope

This guidance relates to the identification, assessment and management of asbestos cement material (ACM) or debris in regional public access areas such as nature reserves, primarily resulting from squatter shack demolition. It is intended for the managers of those areas.

Background

In Western Australia some regional recreation areas have localized contamination by asbestos cement fragments from former buildings or structures, such as squatter huts. The risks resulting from this are likely to be generally low but should be managed including in accordance with the *Contaminated Sites Act 2003* and associated guidance material such as the *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia – May 2009* (the Guidelines).

Decisions about management arrangements will depend on the exposure circumstances of each site, in particular the nature and level of asbestos contamination and the degree and form of the public presence there. Larger numbers of people present on an ongoing basis with potential soil disturbance by vehicles would be a greater concern than sites that are infrequently visited or transited through.

The general approach for addressing contamination problems is to identify, assess and then manage such sites, generally in that sequence. However, if sites are already known then assessment and/or management of these may need to occur early especially if they are sites popular with the public. The more systematic process of identifying, assessing and managing unknown sites can follow as resources permit.

The following information provides detailed guidance to area managers and a summary of it is included as an Easy Guide (Attachment 1).

Some long established recreational areas will probably already have been identified as having asbestos residue due to their higher public and Government involvement. However, for other established areas it is recommended that the administering agency check whether there is any history of buildings being there, especially demolished squatter huts. Any such area should be inspected along with other locations where ACM may have been dumped or illegally disposed of.



Site Identification

Although only structures erected before the mid-1980s are likely to have contained asbestos, squatter huts may be an exception because they may have been constructed in non-approved ways from opportunity recycled materials in more recent times.

The same identification process should be applied to the less frequented potentially contaminated sites, although on a lower priority basis.

The identification of these areas could include making use of Government and Shire records, interviews and local knowledge, historical aerial photographs and if necessary visual tours of inspection.

Assessment Process

Investigators may be able to identify asbestos from experience, but confirmation is recommended by submitting representative pieces for laboratory analysis. If in doubt, the suspect material should be assumed to contain asbestos until tests prove otherwise. Representative samples can be used for analysis purposes.

Where ACM is identified in an area, it is important that it be assessed as to the area of contamination, and the amount and condition of ACM material. This can be done by systematically walking over the area (such in a grid fashion using say a 4m x 4m square) and recording the approximate boundaries of the impacted area, the main impact locations, the frequency and indicative size of fragments, and whether the material is in a poor condition i.e. friable and will crumble with hand pressure. Such material or very small fragments (e.g. 0.5 cm² chips) or evidence of pulverization are more likely to be associated with fibre release. As indicated below this asbestos should be managed as a matter of priority especially if it is likely to be disturbed.

It is also important to estimate the likelihood of disturbance to the impacted area by people and in particular, vehicles that may result in fragment damage and the release of asbestos free fibre. Soil sandiness and vegetation cover as well as erosional factors will contribute to this.

Some photographic information would be useful, especially when managing the site in conjunction with people who may not have seen it.

Risk will generally be higher for those areas associated with greater contamination especially with friable material, soil disturbance and a potentially large public presence



Public health risks associated with less visited and more isolated sites are likely to be lower and would therefore represent a lower management priority.

To assist the site inspection and assessment process a standard template suitable for modification is included as Attachment 2.

Management

The first step for any impacted site is the removal of all visible surface asbestos cement fragments. This can be achieved by hand picking and raking if practical to uncover near surface fragments.

Regardless of what initial risk rating is given to the impacted site, the implementation of management measures should aim to achieve a very low risk rating. The need for action is partly based on the estimated level of contamination in terms of asbestos fragment area in cm^2 per m^2 of visible surface. This method of determination and the related action criterion are largely indicative and so flexibility should be applied with them.

The action criterion used is 0.02% asbestos weight for weight of soil. The figure comes from the Guidelines and relates to public open spaces including parks and playing fields. This translates into an equivalent of 20 cm^2 of fragment area per m^2 of impacted surface. As an example if in a $4\text{m} \times 4\text{m}$ area of surface $3 \times 1 \text{ cm}^2$, $1 \times 6 \text{ cm}^2$ and $1 \times 20 \text{ cm}^2$ fragments were found this would equate to a total of 29 cm^2 divided by 16 (the grid area) which equals about 2 cm^2 of asbestos area per m^2 i.e. well below the action level.

If the impact is $< 20 \text{ cm}^2$ of fragment area (e.g. two $3 \text{ cm} \times 3 \text{ cm}$ fragments) per m^2 over the whole affected exposed surface (ie after camouflaging vegetation cover subtracted) and the fragments are in sound condition then this is defined as a very low risk. As well as the initial hand picking, management would consist of regular checking and removal of any emergent material. The time interval between visits would depend on the level of contamination, popularity and disturbance of the location, sandiness of the soil, vegetation cover, and erosional forces. Annual inspections would be appropriate for those sites where these factors are higher, dropping off to less frequent visits, if at all, for sites where these factors have little impact.

An additional worthwhile measure would be to make available and distribute if necessary copies of the WA Health factsheet; *Public Health and Contamination of Soil by Asbestos Cement Material – Department of Health 2010*.

If the impact is $> 20 \text{ cm}^2$ of fragment area per m^2 with the possibility of buried material or if there is any friable asbestos then WA Health should be contacted for site specific advice and also to determine whether the site should be reported to the Department of Environment and



Conservation's (DEC) Contaminated Sites Branch as possibly contaminated. If reported, the site would then be assessed and classified by DEC under the *Contaminated Sites Act 2003*.

For sites with a history of shack settlement, especially with limited information / records on the previous structures, and with disturbed sandy soils it may be difficult and costly to try to fully assess the level and extent of contamination. In the case of sites with **no friable material which are regularly visited** by the public the following management measures are recommended on an ongoing basis:

- Erection of warning signs as to the possible presence of asbestos material in the area;
- Providing a public factsheet about the asbestos in the area, (WA health can assist with preparation of these);
- Providing some type of receiving and disposal service for asbestos fragments found by the public e.g. caretaker, disposal bins, reporting phone numbers;
- Where practical, providing a surface cover for the impacted area such as vegetation, 0.1m of clean fill or hardcover; and
- Undertaking an annual hand pick of any emergent asbestos material, preferably before a primary holiday period such as before Christmas holidays.

If the asbestos material found on site is potentially **friable, or includes fibrous or free fibre** material, then more urgent action may be necessary especially if the material could be disturbed. DEC's Contaminated Sites Branch should be notified and the following management measures implemented:


- Erection of warning signs and access barriers especially to vehicles;
- Periodic removal of emergent material if practical;
- Incorporating ACM site information in other appropriate publications; and
- Extensive contamination may need a cover of a minimum of 1 m of clean fill particularly if public access restrictions are difficult or shown to be unsuccessful.

For sites where the impact is $> 20 \text{ cm}^2$ etc and public access is less common, then management can take the form of that applying to the $< 20 \text{ cm}^2$ mentioned above, albeit with annual re-inspections and the provision of the WA Health factsheet.

If the site is a formal or informal asbestos burial site then the expectation would be that the depth of clean cover would be such that incidental exposure to the public would be unlikely. If not already done, these sites should be reported to the DEC Contaminated Sites Branch. The only other management measure would be to annually check that the integrity of the surface barrier was not being compromised.

A register with up to date relevant information should be maintained of all known or potentially contaminated asbestos sites to assist in management planning.





Hand picks would normally only require the use of gloves or if the material is potentially friable then a P2 mask as well. All material should be placed in thick polythene bag no more than half filled, securely closed, labelled as asbestos and disposed of to an appropriate landfill.

If a site is reported and classified under the *Contaminated Sites Act 2003* it is possible to have the impacted area closely delineated and a separate title and classification memorial prepared specific to it and not applying to the larger site area.

Implementation of Guidance Note

This document is intended for general generic guidance. In more complex or difficult cases, especially in major public places, it may be worthwhile to develop site specific management plans.

The primary guidance document in whatever form should then be translated into local standard operating procedures for ease of implementation by the various responsible parties.

There also should be a review process to ensure that the register and plans are up to date and periodic audits to help check that the processes are being adhered to.

Useful Contacts

For advice on the content and implementation of this Guidance Note, please contact the Toxicology Branch of the Environmental Health Directorate on 9388 4999 or see http://www.public.health.wa.gov.au/3/1144/2/contaminated_sites.pm.

For information on the *Contaminated Sites Act 2003* and reporting requirements for potentially contaminated sites, contact the Department of Environment and Conservation on 1300 762 982 or visit.



Easy Guide

This is an easy reference to more detailed material contained in the body of this document.

Priority should be given to well established recreation sites, other things being equal.

Generally deal with known asbestos contamination before seeking to identify new impacts.

Site Identification

May utilize records, interviews, aerial photographs and inspection tours.

Assessment of Sites

Attachment 2 provides a site assessment template.

Assume suspect cement material contains asbestos unless analysis proves otherwise.

Take photographs to aid assessment and management.

Contamination Characterisation – Systematically walk the site estimating and recording:

- overall contamination boundaries
- main impact locations
- frequency and size of fragments
- condition of fragments

Public Exposure – Estimate and record level, likelihood and form of possible public disturbance.

Management Measures

See attached reference table of Primary Management Measures.

Implementation

Develop site specific plans if necessary and incorporate key elements into standard operating procedures. Review and audit registers and plans on a regular basis.



PRIMARY MANAGEMENT MEASURES*

(See main text for details)

	Action	Initial Handpick	Periodic Handpick	Stock Brochure	Contact Health	Warning Signs	Public Factsheet	Disposal Service	Limited Surface Cover	Deep Surface Cover	Maintain on Register
Type of Site											
ACM < 20cm ² m ²		Y	Y	Y							Y
ACM > 20cm ² m ² public		Y	Y		Y	Y	Y	Y	Y		Y
ACM> 20cm ² m ² not public		Y	Y	Y	Y						Y
Friable ACM [#]		Y	Y		Y&DEC	Y&secure	Y			Y	Y
ACM Burial Site					Y&DEC					Y	Y

* Use gloves for hand picking and P2 mask if material is potentially friable

Friable ACM may require urgent action if likely to be disturbed

Site Assessment Form – Potential Asbestos Contaminated Site

A thorough, standardised and documented initial 'walkover' survey is very important to identify and characterise any asbestos contamination on a site and so inform a clean-up strategy. This form provides one means of capturing such information and is based on Appendix V of *Management of asbestos in the non-occupational environment* (enHealth 2005). The form can be modified to suit particular user requirements.

Assessment Conducted by			
Date		Time	

Site Location - address - GPS details	

Site Description - land use - structures - vegetation cover - landform	

Impact Outline - asbestos form/type* - size range & source - condition - spread and boundaries - possible burial * based on analysis	

Walkover Details - size of grid - number of spotters - surface visibility	

Total Impact Estimate	



- total fragment area cm ²	
- total exposed surface area m ² - cm ² /m ²	
see later individual areas	

Exposure Info	
- accessibility	
- children potential	
- disturbance potential	
- soil sandiness	
- erosion potential	

Urgent Action?	
- why	
- proposed measures	

Management Proposed (based on Guidance Note)

Annotated Sketch or Site Plan attached	Yes	No
Photographs attached	Yes	No
Representative samples sent for analysis	Yes	No
Number of analytical samples		

Other Relevant Information



Site Sub-area Impacts

(to be incorporated in total site estimate above)

Impact Sub-area 1 - fragment size/number - fragment area cm^2 - exposed surface area m^2 - cm^2/m^2	

Impact Sub-area 2 - fragment size/number - fragment area cm^2 - exposed surface area m^2 - cm^2/m^2	

Impact Sub-area 3 - fragment size/number - fragment area cm^2 - exposed surface area m^2 - cm^2/m^2	

Impact Sub-area 4 - fragment size/number - fragment area cm^2 - exposed surface area m^2 - cm^2/m^2	

Impact Sub-area ... - fragment size/number - fragment area cm^2 - exposed surface area m^2 cm^2/m^2	

etc

