Asbestos Management Plan

Epping to Thornleigh Third Track Alliance
Asbestos Management Plan

Document Control

Title Asbestos Management Plan (AMP)

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<table>
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<tr>
<th>Task</th>
<th>Name</th>
<th>Position</th>
<th>Signed/Approved</th>
<th>Date</th>
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</thead>
<tbody>
<tr>
<td>ORIGINATOR</td>
<td>Lucy Havyatt</td>
<td>Environment Coordinator</td>
<td></td>
<td>03/03/16</td>
</tr>
<tr>
<td>REVIEW</td>
<td>Andrew Winter</td>
<td>Safety Manager</td>
<td></td>
<td>03/03/16</td>
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<td>REVIEW</td>
<td>Andrew Naylor</td>
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<td>03/03/16</td>
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<td>03/03/16</td>
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Details of Revisions

<table>
<thead>
<tr>
<th>Rev</th>
<th>Date</th>
<th>Description</th>
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<tr>
<td>0</td>
<td>07/06/2013</td>
<td>Initial document submission for TPD review</td>
</tr>
<tr>
<td>1</td>
<td>25/06/2013</td>
<td>Updated with Asbestos report detail (figure 8)</td>
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<tr>
<td>2</td>
<td>27/06/2013</td>
<td>Updated to reflect final draft CoA and edited following EMR review</td>
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<tr>
<td>3</td>
<td>11/07/2013</td>
<td>Updated following comments close out meeting</td>
</tr>
<tr>
<td>4</td>
<td>23/07/2013</td>
<td>Updated to reflect project determination</td>
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<tr>
<td>5</td>
<td>30/08/2013</td>
<td>Compiled for DP&amp;I review and approval</td>
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<tr>
<td>6</td>
<td>18/10/2013</td>
<td>Initial for Construction</td>
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<tr>
<td>7</td>
<td>24/02/2014</td>
<td>Removal of procedures to central location</td>
</tr>
<tr>
<td>8</td>
<td>15/03/2015</td>
<td>Annual review, updated to reflect current Organisation Chart and EPA regulator. Formatted document design in-line with Web Content Accessibility Guidelines (WCAG)</td>
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<tr>
<td>9</td>
<td>5/01/2015</td>
<td>Annual review, updated to reflect current Organisation Chart.</td>
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Figure 1 – Asbestos Management Process

**Actions to be taken**

**Appropriate Training**
- All personnel are to receive the project Safety, Health and Environment induction and training the Unexpected Discovery of Asbestos Procedure via tool box talks on a regular basis.

**Assessment of Onsite Situation**
- All locations identified as contaminated by the Phase 2 Contamination Investigation with asbestos are off limits to all non-accredited asbestos persons, pending the remediation and clearance reports.
- If previously unidentified asbestos contamination is identified the following must be adhered to:
  1. All work must cease as per the Unexpected Discovery of Asbestos Procedure and the Safety Manager notified;
  2. A suitable exclusion zones is to be established around the contaminated soil area; and
  3. Warning signs are to be erected at all entrances and exists.

**Assessment of Potential Asbestos**
- A specialist contractor to be called to correctly identify the material in consultation with NATA accredited testing laboratories and/or hygienists if necessary.
- Additional controls may be put in place as advised by the asbestos contractor to prevent further disturbance to the asbestos material while the material is being identified. Such controls may be spraying material with a sealant and/or wetting material and covering in plastic.

**Management of Asbestos**
- Safety team are to notify Work Cover as required.
- If asbestos has been positively identified and management in situ is unavailable the material shall be removed by a licensed asbestos removal contractor and transported by an EPA licensed waste transporter.
- Ensure remedial action is taken in accordance with the Goals and Limits in Section 6.
- Asbestos abatement works must be performed in accordance with all legislative requirements as a minimum unless required otherwise by Safety Management Plan. The following procedure will be adopted where removal of asbestos material is required:
  1. Area to be restricted to those completing the works and the Area to be isolated and barricaded prior to removal works commencing and signage erected;
  2. All contractors are to ensure that they have the correct PPE for the asbestos removal task, (all PPE to be sealed in bag with contaminated material and removed and disposed appropriately);
  3. Any removal work will utilise wet/damp methods only.
  4. All staff working in the affected area are to wear PPE in accordance with Hygienists Instructions (e.g. essential workers when trenching)
  5. If machine is loading / excavating material it needs to be sealed to hygienists satisfaction.
  6. If greater than 10m² of bonded asbestos is found the Class-A licensed asbestos removalist will apply for a WorkCover NSW Bonded Asbestos Removal Permit and remove the item and soil if necessary.
  7. If friable asbestos is found, the Class-A licensed asbestos removalist will apply and receive a WorkCover NSW Friable Asbestos Removal Permit
  8. All asbestos contaminated materials including PPE will be transported by an appropriately licensed transport to an appropriately licensed waste disposal facility.
  9. Waste will be tracked using the form presented in Figure 2 and records kept.

**Recommencement of Work**

Hold Point
Once clearance reports are received from the occupational hygienist, only then work can proceed.
1 Objectives

• To correctly implement measures to manage asbestos in known and unknown locations on the Epping to Thornleigh Third Track site.

• The measures detailed within this plan will ensure that the Asbestos Management Plan will be correctly managed in line with the Condition of Approval (CoA) Condition E34(d) (iv)-Asbestos Management Plan, NSW Work Health and Safety Act 2011 and the Guidelines for the Assessment, Remediation and Management of Asbestos Contaminated Sites in Western Australia (2009).
## 2 Legislation, Licences, Standards, Planning Instruments and Guidelines Applicable to the Project

Table 1 below details the legislation, licences, standards, planning instruments and guidelines considered during development of this Plan.

### Table 1: Legislation, Licences, Standards, Planning Instruments and Guidelines Applicable

<table>
<thead>
<tr>
<th>Legislation</th>
<th>Standards &amp; Guidelines</th>
<th>Planning Instruments</th>
</tr>
</thead>
<tbody>
<tr>
<td>• <strong>NSW Work Health and Safety Act 2011</strong></td>
<td>• TfNSW Standard Requirements TSR E1 – Environmental Management</td>
<td>• Project Planning Approval Dated: 17 July 2013</td>
</tr>
<tr>
<td>• <strong>Work Health and Regulation 2011 (NSW)</strong></td>
<td>• Code of Practice: How to Safely Remove Asbestos</td>
<td>• Epping to Thornleigh Environmental Impact Statement</td>
</tr>
<tr>
<td>• <strong>Rail Safety (Adoption of National Law) Act 2012</strong></td>
<td>• AS/NZS1715 Selection, Use and Maintenance of Respiratory Protective Devices.</td>
<td>• Epping to Thornleigh Submission Report and Revised Environmental Mitigation Measures (REMMs)</td>
</tr>
<tr>
<td>• <strong>Project EPL No. 20287</strong></td>
<td>• Guidelines for the Assessment, Remediation and Management of Asbestos Contaminated Sites in Western Australia (2009)</td>
<td></td>
</tr>
<tr>
<td>• <strong>Code of Practice: How to Manage and Control Asbestos in the Workplace</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3 Supporting Procedures, Forms, Checklists and Registers

• Tools that are used to support the implementation of this Plan are detailed within Table 2 below.

Table 2: Supporting Procedures, Forms, Checklists and Registers Applicable to the Project

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Form</th>
<th>Checklist</th>
<th>Register</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unexpected Discovery of Asbestos Procedure</td>
<td></td>
<td></td>
<td>GEEMIS/WRAPPS/Waste Register</td>
</tr>
</tbody>
</table>

Supporting documentation below can be found in the Waste and Resource Use Management Plan

• Waste Classification Procedure
• Waste Tracking Form
• GEEMIS/WRAPPS/Waste Register

• The supporting documents applicable to the management of vibration are provided separately on the TfNSW Website and on the Alliance’s “Our Way” management system.
4 Process

• Prior to and during construction, the management of asbestos will follow the process presented in Figure 1.
• The locations identified as contaminated in Figures 3–7 are off limits to all non-accredited asbestos persons, pending the remediation and clearance reports.

Examples of asbestos signage to be used
5 Management

5.1 Managing Asbestos

- The management of the discovery, handling and removal of asbestos is the responsibility of the Consultation Team with overview by the Safety Team.
- The Environmental Team are responsible for the tracking and appropriate disposal of asbestos;
- The project induction will include details on asbestos management;
- Ongoing training in asbestos management and the unexpected discovery of asbestos procedure will be implemented at regular intervals through the construction phase of the project;
- Asbestos associated with contamination can come in three groups
  - Asbestos contaminated material (“ACM”)
  - Fibrous Asbestos (“FA”) and
  - Asbestos Fines (“AF”).
- Asbestos fibres and numerous fragments of potentially ACM were identified at the site during the preliminary and detailed site investigations;
- All asbestos contaminated material whether identified through investigations or through unexpected discovery will be managed in one the following options in order of preference, where reasonable and feasible:
  - Management in situ, such as cement injection stabilisation, covering with clean fill etc.;
  - Treatment on site such as onsite relocation and reburial in already asbestos contaminated area of the site; and
  - Removal offsite.
- Potentially contaminated sites identified in the preliminary and detailed site investigations are currently off limits to all non-accredited asbestos persons, pending the remediation and clearance reports.
- If previously unidentified asbestos contamination is identified, the area will be managed as per the Unexpected Discovery of Asbestos Procedure;

5.2 Removing Asbestos

- All removal of verified asbestos contaminated material will be removed by a licensed asbestos removal contractor and transported by an EPA licensed waste transporter. Removal of friable asbestos must be conducted by asbestos contractors with a Class A licence and the removal of bonded asbestos with by a contractor with a Class B licence from WorkCover;
- The asbestos removal contractor must prepare a safety, health and environment work method statement (SHE&WMS), detailing the proposed work methodologies to be used in order to safely and effectively remove, enclose or encapsulate (as directed by Site Project Management) the asbestos containing materials. This SHE&WMS must be submitted to Site Project Management and/or the nominated Occupational Hygienist for review and approval prior to commencing work on site. The SHEWMs must include:
  - Work area isolation;
  - Removal methods;
  - Contamination control methods (wet methods and decontamination procedures); and
  - Health and safety procedures (respiratory protection).
• All friable asbestos material (any material that contains asbestos and is in the form of a powder or can be crumbled, pulverised or reduced to powder by hand pressure when dry) must be:
  – kept damp or sealed with PVA glue
  – collected and sealed in 200-micron thick, appropriately labelled, plastic bags
  – double wrapped in 200-micron thick plastic bags
  – in bags that weigh not more than 25 kilograms, and are less than half full
  – stored in a secure area, awaiting removal; and
  – Removed from the site as soon as practicable.

• All bonded asbestos waste must be: means any material (other than friable asbestos material) that contains asbestos.
  – Kept damp (prevent runoff water)
  – collected, labelled and sealed using appropriate plastic or leak proof containers
  – stored in labelled, plastic-lined bins that are covered, or leak-proof containers that are covered
  – placed in bins or trucks that are large enough to contain full sheets without breaking them
  – Stored in a secure area and removed from the site as soon as practicable.

• The asbestos removal contractor must give a minimum 5 days notice to WorkCover regarding the removal of asbestos and obtain a Friable Asbestos Removal Permit. This permit will be obtained prior to any work occurring on the stockpile, as the risk of identifying and removal of asbestos is likely. It should be noted that a Bonded Asbestos Removal Permit is not required when there is less than 10 m² of the material.

• Respirators used during the removal of asbestos should comply with the AS/NZS 1716 Respiratory Protective Devices and selected, used and stored in accordance with AS/NZS 1715 Selection, Use and Maintenance of Respiratory Protective Devices.

5.3 Transporting and Post Removal of Asbestos
• All asbestos waste must be transported in a covered leak-proof vehicle and must be disposed of in a manner approved by EPA and at a waste facility licensed by the EPA to accept asbestos waste;
• After completion of removal works at each location personnel must undertake the following decontamination procedures if they have been involved in removal of asbestos: remove & dispose of all PPE and wash hands, face and exposed skin areas;
• After removal works have been completed, the area must be inspected to ensure all asbestos have been removed to a satisfactory standard. The process for validation should be as follows:
  – Occupational hygienist to conduct visual inspection.
  – Occupational hygienist to take clearance dust swabs and soil samples where appropriate.
  – Occupational hygienist to conduct clearance air monitoring within work area where appropriate.
  – Occupational hygienist to conduct clearance that all equipment has been decontaminated.
• At the completion of visual inspection and sampling, the Occupational Hygienist will issue a clearance report that demonstrates that removal works have been effectively carried out. A Clearance Certificate will be issued to certify that works have been completed satisfactorily and it is safe to resume normal operations. The Occupational Hygienist will provide all waste transfer dockets for all material removed from the works.
6 Goals and limits

- Airborne exposure of asbestos should not exceed the following limits:

Table 3: Asbestos airborne Exposure limits

<table>
<thead>
<tr>
<th>Action Level (airborne asbestos fibres/ml)</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 0.01</td>
<td>Continue with control measure</td>
</tr>
<tr>
<td>Between 0.01 and 0.02</td>
<td>Review control measure</td>
</tr>
<tr>
<td>More than 0.02</td>
<td>Stop removal work and find the cause</td>
</tr>
</tbody>
</table>


- The clean up goal for contaminated land is asbestos in soil should not exceed 0.001% weight for weight (w/w) for FA and AF and should not exceed 0.05% w/w for ACM ([Western Australia Guidelines (2009)](https://www.health.wa.gov.au/wagov/cm/Asset/Asbestos/Asbestos%20Removal%20Guidelines%20(2009%29.pdf)))*
7 Monitoring

- There are three different types of air monitoring required to be completed for asbestos work; this monitoring will be undertaken by the occupational hygienist.

  1. Occupational monitoring – is measuring airborne respiratory fibres in the worker’s breathing zone and comparing it with the exposure standard. This type of monitoring is generally not carried out during removal work. The exposure standard for all types of asbestos is 0.1 fibres per millilitre of air;

  2. Control monitoring – is monitoring occurs during asbestos remediation or removal work; Any exceedances during control monitoring must follow the guidance provided by Table 3;

  3. Clearance monitoring – is monitoring that occurs clearance monitoring should be carried out following asbestos removal work. All friable asbestos removal work must have a clearance certificate at the completion of work. The clearance certificate must be completed by an occupational hygienist and the results assessed by a laboratory accredited by NATA for the test method.

- All waste will be tracked from origin to approved landfill destinations via waste tracking forms. The approved waste tracking forms will be retained to record the date of asbestos removal, and identify the licensed waste transport contractor and destination of the wastes from the worksite.
Figure 2 – Example Waste Tracking Form Proposed for Use on the Project

<table>
<thead>
<tr>
<th>M2 Upgrade Material Transfer Form</th>
<th>N885 / Docket No.</th>
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<tr>
<td><strong>Step 1. Description of Material (M2 to fill out)</strong></td>
<td></td>
</tr>
<tr>
<td>1. General Description</td>
<td></td>
</tr>
<tr>
<td>Spill</td>
<td>Asbestos</td>
</tr>
<tr>
<td>Mulch</td>
<td>Asphal</td>
</tr>
<tr>
<td>2. Waste Contained in:</td>
<td></td>
</tr>
<tr>
<td>Haulage</td>
<td>Truck</td>
</tr>
<tr>
<td>3. Approximate Quantity:</td>
<td>Tonnes</td>
</tr>
<tr>
<td>4. If material is Pre-Classified circle appropriate box below. If material is <strong>not</strong> Pre-Classified contact EC to classify.</td>
<td></td>
</tr>
<tr>
<td>VENM</td>
<td>General Solid</td>
</tr>
<tr>
<td>ENM</td>
<td>General Solid</td>
</tr>
</tbody>
</table>

**VENM** - Visual inspection undertaken to determine VENM material and no mixing of other spill types: **Yes** [ ]
VENM - Material corresponds to what VENM Certificate - #

**ENM** - Visual inspection undertaken to determine ENM material and no mixing of other spill types: **Yes** [ ]
ENM - Material corresponds to what ENM Certificate - #

**Step 2. Producer of Waste (M2 to fill out)**

<table>
<thead>
<tr>
<th>Discipline:</th>
<th>Roads/ Structures/ STUFF</th>
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<tbody>
<tr>
<td>2. Channage:</td>
<td>Gate Number:</td>
</tr>
<tr>
<td>3. Cost Code Number:</td>
<td></td>
</tr>
<tr>
<td>4. M2 Personnel (person authorising load leaving)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signature</td>
<td>Date</td>
</tr>
</tbody>
</table>

**Step 3. Waste Carrier (Truck Driver)**

| Company Name | Truck Rego No. | |
|--------------|----------------|
| Name | Signature | Date |

**Instructions:**
All sections of this Waste Transfer Form must be completed.

**Step 4. Waste Disposal Facility / Location**

| Disposal Location/Name | Volume (m³ or T) | |
|------------------------|------------------|
| Date Received | Time |

Name | Signature |

*White Copy* – Signed and retained by Truck Driver for record purposes
*Pink Copy* – Waste Facility to attach weighbridge / waste docket & invoice and return to M2 Upgrade
*Blue Copy* – Retained by the M2 Upgrade for record purposes
8 Reporting

- When the asbestos is positively identified the Safety team are to notify WorkCover as required.
- The asbestos removal contractor must give a minimum 5 days notice to WorkCover regarding the removal of asbestos and obtain a Friable Asbestos Removal Permit.
- Transport of New South Wales will be advised of the incident as per the Incident reporting process.
- An asbestos register is to be maintained by the safety team to document known locations of asbestos on the site and for continuing maintenance of the site in the future in accordance with WorkCover NSW requirements.
- Details of asbestos removed off-site are to be recorded on the GEEMIS/WRAPPS/Waste Register by the Environmental Coordinator.
- All monitoring required by the EPL will be posted on the Leighton Contractors website as holder of the EPL.
- Further reporting will be in line with Sections 8.4 and 8.6 of the CEMP.
9  Incidents and Non-Conformances

- Environmental non-conformances for the project will be managed as per the process detailed within Section 8.5 of the CEMP.
- Incidents will be managed as outlined within Section 9 of the CEMP.
10 Reviewing

- A management review of the Asbestos Management Plan will be undertaken to ensure its continuing suitability, adequacy and effectiveness. Reviews will include assessing opportunities for improvement and the need for changes to the system. The management reviews will occur:
  - On an annual basis to ensure its continuing effectiveness
  - Within 1 month following a major (Class 1) incident
  - Where an audit recommends a review
  - Where there are repeat non-conformances and these are not closed out within the agreed timeframe
  - As otherwise determined by the Safety Manager.

Figure 3 Map of known asbestos locations Ch 25.200
Figure 4: Map of known asbestos locations Ch 26.600

Figure 5: Map of known asbestos locations Ch 27.800
Figure 5 Map of known asbestos locations Ch 27.800
Figure 6 Map of known asbestos locations Ch 26.200
Figure 7 Map of known asbestos locations Ch 26.700

**LEGEND**
- Green triangle: Borehole Location with Piezometer
- Orange circle: Potential ACM
Figure 8 Map of Known asbestos locations between Ch25.766 and 26.80

Legend for Figure 8
Subject Area 1 – Asbestos Cement debris
Subject Area 2 – Asbestos Cement debris
Subject Area 3 – Building Materials
Subject Area 4 – Asbestos Cement conduit
Subject Area 5 – Asbestos Cement debris
Subject Area 6 – Asbestos Cement debris
Subject Area 7 – Asbestos Cement debris
Subject Area 8 – Asbestos Cement debris
Subject Area 9 – Asbestos Cement debris